

LOUISIANA UNIFORM PUBLIC WORK BID FORM

TO: Jefferson Parish Purchasing Department
200 Derbigny Street Suite 4400
Gretna, Louisiana 70053

(Owner to provide name and address of owner)

BID FOR: New Drainage Pump Station and
Drainage Improvements for Elise Avenue
Public Work Project Number 2009-009-DR
Bid No. 50-112381

(Owner to provide name of project and other identifying information)

The undersigned bidder hereby declares and represents that she/he; a) has carefully examined and understands the Bidding Documents, b) has not received, relied on, or based his bid on any verbal instructions contrary to the Bidding Documents or any addenda, c) has personally inspected and is familiar with the project site, and hereby proposes to provide all labor, materials, tools, appliances and facilities as required to perform, in a workmanlike manner, all work and services for the construction and completion of the referenced project, all in strict accordance with the Bidding Documents prepared by: Shaw Coastal, Inc. a CB&I Company and dated: DECEMBER, 2014.
(Owner to provide name of entity preparing bidding documents.)

Bidders must acknowledge all addenda. The Bidder acknowledges receipt of the following **ADDENDA:** (Enter the number the Designer has assigned to each of the addenda that the Bidder is acknowledging) ADD. # 1 DATED 03-04-15 ADD. # 2 DATED 03-05-15
ADD. # 3 DATED 03-05-15

TOTAL BASE BID: For all work required by the Bidding Documents (including any and all unit prices designated "Base Bid" * but not alternates) the sum of:

~~FOUR MILLION FIFTY SEVEN THOUSAND FOUR HUNDRED SIXTY EIGHT~~ Dollars (\$ 4,057,468.00)
~~DOLLARS AND NO CENTS~~

ALTERNATES: For any and all work required by the Bidding Documents for Alternates including any and all unit prices designated as alternates in the unit price description.

Alternate No. 1 *(Owner to provide description of alternate and state whether add or deduct)* for the lump sum of:

N/A Dollars (\$ n/a)

Alternate No. 2 *(Owner to provide description of alternate and state whether add or deduct)* for the lump sum of:

N/A Dollars (\$ n/a)

Alternate No. 3 *(Owner to provide description of alternate and state whether add or deduct)* for the lump sum of:

N/A Dollars (\$ n/a)

NAME OF BIDDER: FLEMING CONSTRUCTION COMPANY, L.L.C.

ADDRESS OF BIDDER: 23 EAST AIRLINE DRIVE
KENNER, LA 70062

LOUISIANA CONTRACTOR'S LICENSE NUMBER: 935

NAME OF AUTHORIZED SIGNATORY OF BIDDER: A. THOMAS MORA, JR.

TITLE OF AUTHORIZED SIGNATORY OF BIDDER: MEMBER

SIGNATURE OF AUTHORIZED SIGNATORY OF BIDDER **: 

DATE: 03-10-2015 A. THOMAS MORA, JR., MEMBER

* The Unit Price Form shall be used if the contract includes unit prices. Otherwise it is not required and not included with the form. The number of unit prices that may be included is not limited and additional sheets may be included if necessary.

** If someone other than a corporate officer signs for the Bidder/Contractor, a copy of a corporate resolution authorizing the signature and a copy of the signature authorization shall be required for submission of bid. Failure to include a copy of the appropriate signature authorization shall result in the rejection of the bid unless bidder has complied with La. R.S. 38:2212(A)(1)(c) or RS 38:2212(O).

BID SECURITY in the form of a bid bond, certified check or cashier's check as prescribed by LA R.S. 38:2212(A)(1)(c) shall be a part of this bid.

**LOUISIANA UNIFORM PUBLIC WORK BID FORM
UNIT PRICE FORM**

TO: Jefferson Parish Purchasing Department
200 Derbigny Street Suite 4400
Gretna, Louisiana 70053

(Owner to provide name and address of owner)

BID FOR: New Drainage Pump Station and
Drainage Improvements for Elise Avenue
Public Work Project Number 2009-009-DR
Bid No. 50-112381

(Owner to provide name of project and other identifying information)

UNIT PRICES: This form shall be used for any and all work required by the Bidding Documents and described as unit prices. Amounts shall be stated in figures and only in figures.

DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ CLEARING AND GRUBBING				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
201-01-00100	1	LUMP SUM	5,000.00	5,000.00
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ REMOVAL OF STRUCTURES AND OBSTRUCTIONS				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
202-01-00100	1	LUMP SUM	15,500.00	15,500.00
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ REMOVAL OF ASPHALT PAVEMENT				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
202-02-02020	276	SQUARE YARD	20.00	5,520.00
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ REMOVAL OF REINFORCED CONCRETE ARCH PIPE (18"X30" RCPA)				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
202-02-32140	234	LINEAR FOOT	30.00	7,020.00
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ REMOVAL OF REINFORCED CONCRETE PIPE (48" RCP)				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
202-02-32141	106	LINEAR FOOT	50.00	5,300.00
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ REMOVAL OF PORTLAND CEMENT CONCRETE PAVEMENT				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
202-02-32500	404	SQUARE YARD	30.00	12,120.00
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ GENERAL EXCAVATION				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
203-01-00100	1108	CUBIC YARD	40.00	44,320.00
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ CLASS II BASE COURSE (12" THICK) (STONE)				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
302-02-06100	431	SQUARE YARD	35.00	15,085.00
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ TRAFFIC MAINTENANCE AGGREGATE (VEHICLE MEASUREMENT)				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
402-01-00100	35	CUBIC YARD	40.00	1,400.00
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ PORTLAND CEMENT CONCRETE PAVEMENT (9" THICK)				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
601-01-00300	66	SQUARE YARD	150.00	9,900.00

DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ PORTLAND CEMENT CONCRETE PAVEMENT (7" THICK)			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
601-02-00500	338	SQUARE YARD	125.00	42,250.00
DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ STORM DRAIN PIPE (72" RCP)			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
701-03-01160	47	LINEAR FOOT	670.00	31,490.00
DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ STORM DRAIN PIPE (42" EQUIVALENT) (31"X51" RCPA)			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
701-04-01100	223	LINEAR FOOT	325.00	72,475.00
DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ GUARD RAIL (SINGLE THRIE BEAM) (6'-3" SPACING)			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
704-01-01020	103	LINEAR FOOT	55.00	5,665.00
DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ GUARD RAIL END TREATMENT (FLARED)			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
704-11-00100	4	EACH	2,300.00	9,200.00
DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ CONCRETE WALK (4" THICK)			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
706-01-00100	57	SQUARE YARD	95.00	5,415.00
DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ CONCRETE DRIVE (6" THICK)			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
706-02-00100	77	SQUARE YARD	85.00	6,545.00
DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ INCIDENTAL CONCRETE PAVING (5" THICK)			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
706-03-00200	31	SQUARE YARD	90.00	2,790.00
DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ HANDICAP CURB RAMP			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
706-04-00100	5	EACH	3,300.00	16,500.00
DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ CONCRETE BARRIER CURB			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
707-01-00200	21	LINEAR FOOT	38.00	798.00
DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ MOUNTABLE CONCRETE CURB			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
707-01-00300	286	LINEAR FOOT	25.00	7,150.00
DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ RIP-RAP (55 LB, 36" THICK)			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
711-01-04020	77	SQUARE YARD	450.00	34,650.00
DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ TEMPORARY SIGNS AND BARRICADES			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
713-01-00100	1	LUMP SUM	35,000.00	35,000.00

DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ SLAB SODDING (BERMUDA GRASS)				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
714-01-00100	13	SQUARE YARD	26.00	338.00
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ SLAB SODDING (ST. AUGUSTINE)				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
714-01-00600	267	SQUARE YARD	10.00	2,670.00
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ BEDDING MATERIAL (#57 LIMESTONE)				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
726-01-00100	70	CUBIC YARD	115.00	8,050.00
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ MOBILIZATION AND DEMOBILIZATION				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
727-01-00100	1	LUMP SUM	334,000.00	334,000.00
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ HYDRO-SEEDING				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
739-01-00100	0.15	ACRE	2,800.00	420.00
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ CONSTRUCTION LAYOUT				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
740-01-00100	1	LUMP SUM	13,000.00	13,000.00
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ STEEL SHEET PILE WALL (PZC-28)				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
803-03-00128	5225	SQUARE FOOT	45.00	235,125.00
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ TIMBER PILE NONCOASTAL TREATMENT (CLASS B)				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
804-02-00100	2970	LINEAR FOOT	10.50	31,185.00
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ CLASS A CONCRETE (SUMP/ BAR SCREEN)				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
805-01-00100	230	CUBIC YARD	1,990.00	457,700.00
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ CLASS A CONCRETE (GENERATOR SLAB)				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
805-01-00101	14	CUBIC YARD	1,330.00	18,620.00
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ CLASS A CONCRETE (HEADWALL)				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
805-01-00102	16	CUBIC YARD	650.00	10,400.00
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ PRECAST CONCRETE BOX CULVERTS - 10' x 5'				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
805-12-02100	50	LINEAR FOOT	1,365.00	68,250.00
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ JP TYPE 3 CATCH BASIN				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
NS-001	2	EACH	13,800.00	27,600.00

DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ CAST-IN-PLACE CONCRETE JUNCTION BOX #01				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
NS-002	1	EACH	666,500.00	666,500.00
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ CAST-IN-PLACE CONCRETE JUNCTION BOX #02				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
NS-003	1	EACH	28,500.00	28,500.00
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ CAST-IN-PLACE CONCRETE JUNCTION BOX #03				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
NS-004	1	EACH	30,000.00	30,000.00
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ ACCESS MANHOLE WITH COVER AND FRAME				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
NS-005	5	EACH	700.00	3,500.00
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ DEWATERING OPERATIONS				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
NS-006	1	LUMP SUM	46,000.00	46,000.00
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ TEMPORARY DAMS AND RAINFALL RUNOFF STORM WATER DIVERSION				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
NS-007	1	LUMP SUM	6,000.00	6,000.00
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ EXPLORATORY EXCAVATION				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
NS-008	2	EACH	850.00	1,700.00
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ 40 CFS PUMP VERTICAL AXIAL FLOW DRAINAGE PUMP & APPURTENANCES				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
NS-009	2	EACH	300,000.00	600,000.00
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ 60 CFS PUMP VERTICAL AXIAL FLOW DRAINAGE PUMP & APPURTENANCES				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
NS-010	1	EACH	380,000.00	380,000.00
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ GENERATOR 500 KW PRIME				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
NS-011	1	LUMP SUM	241,000.00	241,000.00
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ WROUGHT IRON FENCE WITH CHAINWALL				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
NS-012	180	LINEAR FOOT	235.00	42,300.00
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ 6-FOOT DOUBLE GATES FOR WROUGHT IRON FENCE (6-FOOT HEIGHT)				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
NS-013	1	EACH	7,500.00	7,500.00
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ 36X36 ACCESS HATCH				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
NS-014	2	EACH	4,500.00	9,000.00

DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ ELECTRICAL WORK				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
NS-015	1	LUMP SUM	64,000.00	64,000.00
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ EXISTING WROUGHT IRON (REMOVE AND REINSTALL)				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
NS-016	113	LINEAR FOOT	44.00	4,972.00
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ 610 STONE (6" THICK)				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
NS-017	80	SQUARE YARD	27.00	2,160.00
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ BAR (TRASH) RACK				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
NS-018	1	LUMP SUM	30,000.00	30,000.00
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ HANDRAIL				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
NS-019	32	LINEAR FOOT	155.00	4,960.00
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ PIPE CASING PENETRATION THROUGH SHEETPILE				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
NS-020	1	EACH	10,800.00	10,800.00
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ SAW CUTTING PORTLAND CEMENT CONCRETE PAVEMENT				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
NS-021	305	LINEAR FOOT	9.00	2,745.00
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ STANDBY PERSONNEL				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
NS-022	150	HOUR	245.00	36,750.00
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ HYDRO GATE HEAVY DUTY FLAP GATE (MODEL 50) 60X48				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
NS-023	1	EACH	23,000.00	23,000.00
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ 30" DUCTILE IRON DISCHARGE PIPING AND FITTINGS				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
NS-024	1	LUMP SUM	22,600.00	22,600.00
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ 24" DUCTILE IRON DISCHARGE PIPING AND FITTINGS				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
NS-025	1	LUMP SUM	57,000.00	57,000.00
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ TEMPORARY RETAINING STRUCTURE (TRS)				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
NS-026	1	LUMP SUM	251,500.00	251,500.00
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ RELOCATION OF EXISTING SIGN				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
NS-027	1	LUMP SUM	2,000.00	2,000.00
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ WROUGHT IRON FENCE				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
NS-028	43	LINEAR FOOT	195.00	8,385.00

DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ ENVIRONMENTAL PROTECTION			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
NS-029	1	LUMP SUM	6,500.00	6,500.00
DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ PLUG EXISTING PIPE TO BE ABANDONED			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
NS-030	3	EACH	200.00	600.00
DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ MOTOR CONTROL CENTER			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
NS-031	1	LUMP SUM	425,000.00	425,000.00
DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ DAM REMOVAL AND REPLACEMENT			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
NS-032	2	EACH	3,800.00	7,600.00
DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ SCADA POLE AND SCADA COMPONENTS			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
NS-033	1	LUMP SUM	4,500.00	4,500.00
DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ VIDEO INSPECTION - SANITARY SEWER			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
S-906	550	LINEAR FOOT	6.00	3,300.00
DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ DUCTILE IRON PIPE (6")			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
W-206	40	LINEAR FOOT	98.00	3,920.00
DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ DUCTILE IRON PIPE (8")			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
W-208	110	LINEAR FOOT	155.00	17,050.00
DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ GATE VALVE (6")			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
W-406	1	EACH	1,000.00	1,000.00
DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ GATE VALVE (8")			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
W-408	1	EACH	1,500.00	1,500.00
DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ TRANSITIONAL COUPLING (6")			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
W-806	1	EACH	290.00	290.00
DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ TRANSITIONAL COUPLING (8")			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
W-808	2	EACH	300.00	600.00
DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ DUCTILE IRON FITTINGS			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
W-901	857	POUNDS	5.00	4,285.00

Wording for "DESCRIPTION" is to be provided by the Owner.
All quantities are estimated. The contractor will be paid based upon actual quantities as verified by the Owner

BID BOND

KNOW ALL MEN BY THESE PRESENTS that we, the undersigned,

Fleming Construction Company, L.L.C.

as PRINCIPAL, and

Liberty Mutual Insurance Company

as SURETY, are held and firmly bound unto the Parish of Jefferson, hereinafter called the "OWNER", in the penal sum of:

Five Per Cent of Amount Bid ---

DOLLARS (\$ 5% of Bid) lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the Principal has submitted the accompanying Bid dated March 10, 2015, for :

**NEW DRAINAGE PUMP STATION AND DRAINAGE IMPROVEMENTS FOR ELISE AVENUE
Public Works Project No. 2009-009-DR**

NOW, THEREFORE, if the Principal shall not withdraw said Bid within the period specified therein after the opening of the same or, if no period be specified, within forty-five (45) days after the said opening, and shall within the period specified therefor or, if no period be specified, within twelve (12) days after the prescribed forms are presented to him for signature, enter into a written Contract with the Parish in accordance with the Bid as accepted, and give bond with good and sufficient surety or sureties, as may be required, for the faithful performance and proper fulfillment of such Contract; or in the event of the withdrawal of said Bid within the period specified, or the failure to enter into such Contract and give such bond within the time specified, if the Principal shall pay the Parish the difference between the amount specified in said Bid and the amount for which the Parish may procure the required work or supplies, or both, if the latter be in excess of the former, then the above obligation shall be void and of no effect, otherwise, to remain in full force and virtue.

IN WITNESS WHEREOF, the above bounded parties have executed this instrument under their several seals this 10th day of March, 2015, the name and corporate seal of each corporate party being hereto affixed and these presents signed by its undersigned representative, pursuant to authority of its governing body.

BID BOND (continued)

In Presence of:

(Individual Principal)

(Business Address, including Zip Code)

(Partnership)

(SEAL)

(Business Address, including Zip Code)

ATTEST:

Debbie B. Clement

DEBBIE B. CLEMENT, SECRETARY

BY: _____

Fleming Construction Company, L.L.C.

(Corporate Principal)

23 East Airline Drive, Kenner, LA 70062

(Business Address, including Zip Code)

BY: A. Thomas Mora, Jr.

AFFIX CORPORATE SEAL

A. THOMAS MORA, JR., MEMBER

ATTEST:

Susan D. England

Liberty Mutual Insurance Company

(Corporate Surety)

8350 N. Central Expressway, Suite 850, Dallas, TX 75206

(Business Address, including Zip Code)

BY: Rita G. Gulizo

AFFIX CORPORATE SEAL

Rita G. Gulizo, Attorney-in-Fact

Countersigned: Rita G. Gulizo

BY: _____

Attorney-in-Fact*

State of Louisiana

LA Agent License No. 225819

THIS POWER OF ATTORNEY IS NOT VALID UNLESS IT IS PRINTED ON RED BACKGROUND.

This Power of Attorney limits the acts of those named herein, and they have no authority to bind the Company except in the manner and to the extent herein stated.

Certificate No. 6716027

American Fire and Casualty Company
The Ohio Casualty Insurance Company

Liberty Mutual Insurance Company
West American Insurance Company

POWER OF ATTORNEY

KNOWN ALL PERSONS BY THESE PRESENTS: That American Fire & Casualty Company and The Ohio Casualty Insurance Company are corporations duly organized under the laws of the State of New Hampshire, that Liberty Mutual Insurance Company is a corporation duly organized under the laws of the State of Massachusetts, and West American Insurance Company is a corporation duly organized under the laws of the State of Indiana (herein collectively called the "Companies"), pursuant to and by authority herein set forth, does hereby name, constitute and appoint, Michael F. Tubbs; Rita G. Gulizo; Susan D. Zapalowski

all of the city of New Orleans, state of LA each individually if there be more than one named, its true and lawful attorney-in-fact to make, execute, seal, acknowledge and deliver, for and on its behalf as surety and as its act and deed, any and all undertakings, bonds, recognizances and other surety obligations, in pursuance of these presents and shall be as binding upon the Companies as if they have been duly signed by the president and attested by the secretary of the Companies in their own proper persons.

IN WITNESS WHEREOF, this Power of Attorney has been subscribed by an authorized officer or official of the Companies and the corporate seals of the Companies have been affixed thereto this 18th day of September, 2014.



American Fire and Casualty Company
The Ohio Casualty Insurance Company
Liberty Mutual Insurance Company
West American Insurance Company

By: David M. Carey
David M. Carey, Assistant Secretary

STATE OF PENNSYLVANIA ss
COUNTY OF MONTGOMERY

On this 18th day of September, 2014, before me personally appeared David M. Carey, who acknowledged himself to be the Assistant Secretary of American Fire and Casualty Company, Liberty Mutual Insurance Company, The Ohio Casualty Insurance Company, and West American Insurance Company, and that he, as such, being authorized so to do, execute the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

IN WITNESS WHEREOF, I have hereunto subscribed my name and affixed my notarial seal at Plymouth Meeting, Pennsylvania, on the day and year first above written.



COMMONWEALTH OF PENNSYLVANIA
Notarial Seal
Teresa Pastella, Notary Public
Plymouth Twp., Montgomery County
My Commission Expires March 26, 2017
Member, Pennsylvania Association of Notaries

By: Teresa Pastella
Teresa Pastella, Notary Public

This Power of Attorney is made and executed pursuant to and by authority of the following By-laws and Authorizations of American Fire and Casualty Company, The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company which resolutions are now in full force and effect reading as follows:

ARTICLE IV – OFFICERS – Section 12. Power of Attorney. Any officer or other official of the Corporation authorized for that purpose in writing by the Chairman or the President, and subject to such limitation as the Chairman or the President may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Corporation to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact, subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Corporation by their signature and execution of any such instruments and to attach thereto the seal of the Corporation. When so executed, such instruments shall be as binding as if signed by the President and attested to by the Secretary. Any power or authority granted to any representative or attorney-in-fact under the provisions of this article may be revoked at any time by the Board, the Chairman, the President or by the officer or officers granting such power or authority.

ARTICLE XIII – Execution of Contracts – SECTION 5. Surety Bonds and Undertakings. Any officer of the Company authorized for that purpose in writing by the chairman or the president, and subject to such limitations as the chairman or the president may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Company by their signature and execution of any such instruments and to attach thereto the seal of the Company. When so executed such instruments shall be as binding as if signed by the president and attested by the secretary.

Certificate of Designation – The President of the Company, acting pursuant to the Bylaws of the Company, authorizes David M. Carey, Assistant Secretary to appoint such attorneys-in-fact as may be necessary to act on behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations.

Authorization – By unanimous consent of the Company's Board of Directors, the Company consents that facsimile or mechanically reproduced signature of any assistant secretary of the Company, wherever appearing upon a certified copy of any power of attorney issued by the Company in connection with surety bonds, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

I, Gregory W. Davenport, the undersigned, Assistant Secretary, of American Fire and Casualty Company, The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company do hereby certify that the original power of attorney of which the foregoing is a full, true and correct copy of the Power of Attorney executed by said Companies, is in full force and effect and has not been revoked.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this 10th day of March, 20 15.



By: Gregory W. Davenport
Gregory W. Davenport, Assistant Secretary

Not valid for mortgage, note, loan, letter of credit, currency rate, interest rate or residual value guarantees.

To confirm the validity of this Power of Attorney call 1-610-832-8240 between 9:00 am and 4:30 pm EST on any business day.

CORPORATE RESOLUTION

EXCERPT FROM MINUTES OF MEETING OF THE BOARD OF DIRECTORS OF
FLEMING CONSTRUCTION COMPANY, L.L.C.

INCORPORATED.

AT THE MEETING OF DIRECTORS OF FLEMING CONSTRUCTION COMPANY, L.L.C.
INCORPORATED, DULY NOTICED AND HELD ON JULY 31, 2013,
A QUORUM BEING THERE PRESENT, ON MOTION DULY MADE AND SECONDED. IT
WAS:

RESOLVED THAT A. THOMAS MORA, JR., BE AND IS HEREBY
APPOINTED, CONSTITUTED AND DESIGNATED AS AGENT AND ATTORNEY-IN-
FACT OF THE CORPORATION WITH FULL POWER AND AUTHORITY TO ACT ON
BEHALF OF THIS CORPORATION IN ALL NEGOTIATIONS, BIDDING, CONCERNS
AND TRANSACTIONS WITH THE PARISH OF JEFFERSON OR ANY OF ITS AGENCIES,
DEPARTMENTS, EMPLOYEES OR AGENTS, INCLUDING BUT NOT LIMITED TO, THE
EXECUTION OF ALL BIDS, PAPERS, DOCUMENTS, AFFIDAVITS, BONDS, SURETIES,
CONTRACTS AND ACTS AND TO RECEIVE ALL PURCHASE ORDERS AND NOTICES
ISSUED PURSUANT TO THE PROVISIONS OF ANY SUCH BID OR CONTRACT, THIS
CORPORATION HEREBY RATIFYING, APPROVING, CONFIRMING, AND ACCEPTING
EACH AND EVERY SUCH ACT PERFORMED BY SAID AGENT AND ATTORNEY-IN-
FACT.

I HEREBY CERTIFY THE FOREGOING TO BE
A TRUE AND CORRECT COPY OF AN
EXCERPT OF THE MINUTES OF THE ABOVE
DATED MEETING OF THE BOARD OF
DIRECTORS OF SAID CORPORATION, AND
THE SAME HAS NOT BEEN REVOKED OR
RESCINDED.



SECRETARY-TREASURER

JACK D. FLEMING, II, MANAGER/MEMBER

03-10-2015

DATE



FURTHER CONSTRUCTION TO IMPROVE DRAINAGE AT LA 3152 & LA 3139 (PHASE 3C)
BID PROPOSAL NO. 50-112381
ADDENDUM NO. 1
MARCH 4, 2015
PAGE 1 of 4

ADDENDUM NO. 1

DATE: MARCH 4, 2015

PROJECT:

**NEW DRAINAGE PUMP STATION AND DRAINAGE IMPROVEMENTS FOR ELISE AVENUE
JEFFERSON PARISH DEPARTMENT OF PUBLIC WORKS
DPW PROJECT NO. 2009-009-DR
BID PROPOSAL NO. 50-112381**

Sealed bids will be received until the hour of 2:00 PM, local time on TUESDAY, MARCH 10, 2015 in the Purchasing Department, Suite 4400, Jefferson Parish General Government Building, located at 200 Derbigny Street, Gretna, Louisiana, 70053, and publicly opened upon completion of administrative tasks for the following:

**JEFFERSON PARISH
NEW DRAINAGE PUMP STATION AND DRAINAGE IMPROVEMENTS FOR ELISE AVENUE
PUBLIC WORKS PROJECT NUMBER 2009-009-DR**

ADDENDUM ITEMS

- 1: The Louisiana Uniform Bid Rider Form has been revised and is attached to this addendum. The attachment shall govern and replace any previous editions.

- 2: Special Provision SP. 52 –“CRITICAL WORK & LIQUIDATED DAMAGES” has been modified to clarify that the Contractor shall be required to pay full amount of liquidated damages, and will not be permitted to pay an hourly rate for liquidated damages. The attached page SP-13 and SP-14 shall govern and replace any previous editions.

- 3: Special Provision SP. 55 –“UNIDENTIFIED OBSTRUCTION TO BE REMOVED” has been added to page SP-14 and attached to this addendum. The attached page SP-14 shall govern and replace any previous editions.

- 4: Special Provision SP.56 –“ENTERGY DE-ENERGIZING AND WORK WITHIN EXISTING CLEARANCES” has been added to page SP-14 and attached to this addendum. The attached page SP-14 shall govern and replace any previous editions.

- 5: The description for Item NS-024 in the Louisiana Uniform Public Work Bid Form has been revised to read: “30” Ductile Iron Discharge Piping and Fittings”. The attached Uniform Public Work Bid Form shall govern and replace any previous editions.

6: Plan sheets 24, 25, and 27 have been modified to reflect the change in pipe diameter from 36" to 30". The attached plan sheets shall govern and replace any previous editions.

7: There are notes on the plan sheets that say sawcutting pavement shall be at no direct pay, but there is a pay item NS-021 "Sawcutting Concrete Pavement" – 305LF.

Note 2 on Plan sheet 6 shall be revised to read:

"2. SAW-CUT EDGE OF ALL PAVEMENT TO FULL DEPTH (PAY ITEM NS-021). REFER TO JP STANDARD TYPICAL ROADWAY DETAILS ON SHEETS 202-204."

Saw cutting for Concrete Pavement will be paid under item NS-021 – "SAW CUTTING PORTLAND CEMENT CONCRETE PAVEMENT" per Linear Foot, as indicated on the Plans.

All pavement removal for Plan sheet 5 shall be removed to the nearest joint and saw-cut at NO DIRECT PAY, as indicated on Note. 3 of Plan sheet 5.

8: Are the TRS sheet pile to remain in place or do they get pulled?

The TRS for the sump shall be designed by a licensed Louisiana Professional Engineer. The TRS may be left in place at Contractors option.

The required timber sheeting for drainage pipes and junction boxes shall be cut 3' below finished grade of roadway and left in place, as indicated on the plans and Jefferson Parish Standard Details.

9: Please clarify whether or not bedding stone for pipe, junction boxes and precast box culverts will be measured for payment. SP.51 says this stone will not be measured for payment, but notes on the typical sections on plan sheets 7 and 8 say otherwise.

Bedding for all pipes will be paid for as indicated on the plans and Technical Specifications. Excavation for new pipe, however, shall be NO DIRECT PAY, and shall be included with the pipe installation. An updated page SP-13 with a revised SP.51 is attached to this addendum and shall govern and replace any previous editions.

10: Pump suppliers are telling me that there is a 5-6 month lead time on delivery of the pumps, this would mean delivery of the pumps would exceed the Critical Date Milestone as stated in SP.52 of August 6, 2015. Will the Parish reconsider this Critical date as far as liquidated damages are concerned?

Please refer to SP. 54 "NOTICE TO PROCEED AND SHOP DRAWING SUBMITTAL". Jefferson Parish will grant a partial notice to proceed to the Contractor, in order to review shop drawings and submittals prior to execution of the Contract. The Critical date and liquidated damages shall remain as stated in SP. 52.

11: Please confirm your quantity on item 805 01-00100 Class A Concrete (Sump/Bar Screen Box). I took off 261 cy which is about 86cy more than plan quantity. The LSSRB pays for over runs in quantity, so am I to assume that since this project is referencing that spec, Jefferson Parish will also pay for the over run in quantity, in the case that you don't change plan qty?

The quantity for item 805-01-00100 was recalculated. A revised Louisiana Uniform Public Work Bid Form is attached to this addendum and shall govern and replace any previous editions. Sheet 2 of the plans has been revised and is attached to this addendum and shall govern and replace any previous editions.

The Louisiana Standard Specifications for Roads and Bridges are part of this project. In the event that a quantity is more than the estimated quantity, the Contractor will be paid for the over quantity using the Contractor unit price. As stated in the Louisiana Uniform Public Work Bid Form, page PF-7, "All quantities are estimated. The contractor will be paid based upon actual quantities as verified by the Owner."

12: SP.51 is confusing to me. It says excavation regarding the banks of the canal will be by truck measure, sump pit and bar box excavation will be measured by theoretical section. Is both the canal excavation/shaping and the excavation for the pump station sump combined to the 201-01-00100 General Excavation pay item?

The excavation for the sump pit, bar box, and the banks of the canal shall all be paid under item 201-01-00100 – "GENERAL EXCAVATION" per cubic yard. The quantity for the canal banks excavate shall be measured by truck, whereas the sump pit and bar box excavate will be measured by theoretical section.

13: The TRS sheets are to be removed upon backfilling of the station?

Refer to Item 7 of this Addendum No. 1.

14: Will the Contractor be required to pay any Entergy Fees, outside of permits?

No, as long as work is carried out in accordance with the specifications for the job, the Contractor will not be responsible for Entergy fees as stated in the Special Provisions.

15: Who is required to fuel the generator once complete? I understand the Contractor is required for fuel to perform testing.

FURTHER CONSTRUCTION TO IMPROVE DRAINAGE AT LA 3152 & LA 3139 (PHASE 3C)
BID PROPOSAL NO. 50-112381
ADDENDUM NO. 1
MARCH 4, 2015
PAGE 4 of 4

The Contractor shall provide fuel to perform testing. Once the project has been accepted, Jefferson Parish will fuel the generator tank.

16: Is the Contractor required to provide the scada pole? If so, please provide a detail.

Yes, the Contractor shall fully furnish and install the scada pole and all its components. The Jefferson Parish SCADA Division Pump Specifications have been added to the specifications as "Appendix I" and Technical Specifications Section 53 – "SCADA POLE AND SCADA COMPONENTS" have been added to the Technical Specifications as page TS-123. Page TS-123 is attached to this addendum and shall be included with the specifications. A pole detail has been included in Plan sheet 27, which is attached to this addendum and shall govern and replace any previous editions.

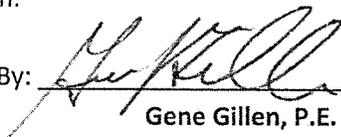
A new pay item has been included for all SCADA related work as pay item NS-033 "SCADA POLE AND SCADA COMPONENTS" per LUMP SUM. An updated Louisiana Uniform Public Work Bid Form is attached to this addendum and shall govern and replace any previous editions.

17: Can you please provide a budget for this project?

All Contractors shall make a public records request through Jefferson Parish for the Engineer's Opinion of Probable Costs.

18: The Pre-Bid Meeting Sign-In sheet is attached to this addendum.

This addendum is issued prior to receipt of bids to provide for clarifications or modifications in plans and specifications. Acknowledgement of this Addendum shall be made and the cost of the work as modified by the addendum shall be used by the Contractor in arriving at his proposal price. The addendum must be acknowledged on the bid form.

By:  Date: March 4, 2015
Gene Gillen, P.E.

IMPORTANT NOTICE TO ALL BIDDERS – BID REQUIREMENTS

Vendors may submit electronic bids with no fee for submission by using Central Auction House. Vendors may visit www.purchasing.jeffparish.net for further information and for link to Central Auction House or visit them directly at www.jeffparishbids.net. By submitting a bid, vendor agrees to comply with all provisions of Louisiana Law as well as compliance with the Jefferson Parish Code of Ordinances, Louisiana Code of Ethics, as published on <http://ethics.la.gov> and applicable Jefferson Parish ethical standards.

As per LA R.S. 38:2212(A)(3)(c)(ii), the bid form shall contain Bid Security or Bid Bond, Acknowledgment of Addenda, Base Bid, Alternates, Signature of Bidder, Name, Title and Address of Bidder, Name of Firm or Joint Venture Corporate Resolution or other appropriate signature authorization, if required, Louisiana Contractors License Number, and on public works projects where unit prices are utilized, a section on the bid form where the unit price utilized in the bid shall be set forth; however, unit prices shall not be utilized for the construction of building projects, unless the unit price is incorporated into the base bid or alternates. Other documentation required shall be furnished by the low bidder within ten calendar days after the bid opening. Such documentation shall be supplied as originals (no copies).

All such required information or documentation not provided with the bid must be provided by the low bidder within 10 calendar days after the bid opening (originals only, no copies). Failure to provide said information and documentation within 10 calendar days after bid opening shall be grounds to declare the bid non-responsive. This information and documentation includes, but is not limited to, the Public Works Bid Affidavit, current W-9 Form and Tax Identification number (if currently not registered as a Parish vendor), and proof of insurance. However, the payment and performance bonds must be supplied by the successful bidder upon contract signing.

Contractor's Louisiana License shall be in the following category (to be determined and filled in by the department): **HEAVY CONSTRUCTION**.

Bidder agrees that this bid shall be good and may not be withdrawn for a period of forty-five (45) calendar days after the scheduled closing time for receiving bids. In the event the Owner issues the Letter of Award (copy of adopted resolution awarding bid by Jefferson Parish Council) during this period, the bid accepted shall continue to remain binding until the execution of the Contract.

Attached hereto is the Public Works affidavit which must be provided by the low bidder as an original (not copy) within 10 calendar days after bid opening. This affidavit must be completed, signed and notarized. Failure to do so will cause bid to be rejected.

Low Bidder will execute the formal agreement and will deliver a Performance Bond or Bonds for the faithful performance of the Contract.

Bid Security, in the sum of five percent (5%) of the total bid price (Base Bid and any Alternates), is to become the property of the Owner in the event the successful bidder fails or refuses to execute the Contract or fails to produce performance and payment bonds upon contract signing. If submitting a bid online, vendors must submit an electronic bid bond through the respective online clearinghouse bond management system(s) as indicated in the electronic bid Solicitation on Central Auction House. No scanned paper copies of any bid bond will be accepted as part of the electronic bid submission.

Further, upon receiving a notice to proceed, the Bidder agrees that all work shall be completed as follows (to be determined and filled in by the department): Substantial completion: 300 (three hundred) calendar days after notice to proceed; Final acceptance: within 30 days of issuance of Substantial Completion, but not exceed 330 (three hundred thirty) calendar days after notice to proceed.

Further, as per Resolutions 113646 and 113647, the Bidder agrees to pay, as liquidated damages, the sum of (to be determined and filled in by the department): four hundred dollars (\$400.00) as follows for: (1) each consecutive calendar day after the agreed date of completion that the work remains substantially incomplete, or (2) each consecutive calendar day after substantial completion that the work has not been finally completed. The Bidder also agrees to pay, as liquidated damages, the sum of: one thousand dollars (\$1000.00) for each consecutive calendar day after August 6, 2015 that critical work (as specified in SP.52 and in the plans) is not completed. Further, the Bidder also agrees to pay, as liquidated damages, the sum of: two thousand five hundred dollars (\$2500.00) for each consecutive calendar day after the allotted construction time (as specified in SP.52 and in the plans) for the drainage work required crossing W. Metairie Ave.

In addition to and not in lieu of the per diem liquidated damages, Owner shall also be entitled to recover from Contractor or Contractor's Surety additional liquidated damages as detailed in Resolutions 113646 and 113647. These additional liquidated damages may include, but are not limited to the following, in the amounts and for each of the items identified in the Supplementary Conditions (to be determined and filled in by the department):

- (1) Extended architectural and/or engineering fees \$ 265/day;
- (2) Extended Resident Project Representative fees \$ 420/day;
- (3) Extended construction management fees \$ N/A;
- (4) Extended Owner's overhead and personnel expenses \$ 265/day; and
- (5) Owner's other costs directly related to the delay in completion beyond the Contract Times.

In addition to liquidated damages, in accordance with Section 6.02, "Labor; Working Hours," whenever Contractor's work requires inspections in excess of the budgeted amount for inspection, Contractor shall reimburse Owner for the additional costs incurred by the Owner with respect to inspection of the contracted project provided the additional costs for inspections are above the budgeted amount for the contracted project.

For this project, the Project Representative Services, in accordance with the terms of the Engineer's agreement with the Owner, provides that the average hourly rate to be charged for resident inspection for this construction project is \$ 65.75 and the reasonable budget for such inspections is \$ 150,000 (the overtime rates shall be \$ 78.90 per hour). The cost of inspection in excess of this budgeted amount shall be assessed against Contractor's progress payments, all in accordance with LSA R.S. 38:2216(L)(2).

It shall be the duty of every parish officer, employee, department, agency, special district, board, and commission; and the duty of every contractor, subcontractor, and licensee of the parish, and the duty of every applicant for certification of eligibility for a parish contract or program, to cooperate with the inspector general in any investigation, audit, inspection, performance review, or hearing pursuant to this chapter. Every parish contract and every bid, proposal, application or solicitation for a parish contract, and every application for certification of eligibility for a parish contract or program shall contain a statement that the corporation, partnership, or person understands and will abide by all provisions of this chapter.

LOUISIANA UNIFORM PUBLIC WORK BID FORM

TO: Jefferson Parish Purchasing Department
200 Derbigny Street Suite 4400
Gretna, Louisiana 70053
(Owner to provide name and address of owner)

BID FOR: New Drainage Pump Station and
Drainage Improvements for Elise Avenue
Public Work Project Number 2009-009-DR
Bid No. 50-112381
(Owner to provide name of project and other identifying information)

The undersigned bidder hereby declares and represents that she/he; a) has carefully examined and understands the Bidding Documents, b) has not received, relied on, or based his bid on any verbal instructions contrary to the Bidding Documents or any addenda, c) has personally inspected and is familiar with the project site, and hereby proposes to provide all labor, materials, tools, appliances and facilities as required to perform, in a workmanlike manner, all work and services for the construction and completion of the referenced project, all in strict accordance with the Bidding Documents prepared by: Shaw Coastal, Inc. a CB&I Company and dated: DECEMBER, 2014.
(Owner to provide name of entity preparing bidding documents.)

Bidders must acknowledge all addenda. The Bidder acknowledges receipt of the following **ADDENDA:** (Enter the number the Designer has assigned to each of the addenda that the Bidder is acknowledging) _____

TOTAL BASE BID: For all work required by the Bidding Documents (including any and all unit prices designated "Base Bid" * but not alternates) the sum of:
_____ Dollars (\$ _____)

ALTERNATES: For any and all work required by the Bidding Documents for Alternates including any and all unit prices designated as alternates in the unit price description.

Alternate No. 1 *(Owner to provide description of alternate and state whether add or deduct)* for the lump sum of:
N/A Dollars (\$ _____)

Alternate No. 2 *(Owner to provide description of alternate and state whether add or deduct)* for the lump sum of:
N/A Dollars (\$ _____)

Alternate No. 3 *(Owner to provide description of alternate and state whether add or deduct)* for the lump sum of:
N/A Dollars (\$ _____)

NAME OF BIDDER: _____
ADDRESS OF BIDDER: _____

LOUISIANA CONTRACTOR'S LICENSE NUMBER: _____
NAME OF AUTHORIZED SIGNATORY OF BIDDER: _____
TITLE OF AUTHORIZED SIGNATORY OF BIDDER: _____
SIGNATURE OF AUTHORIZED SIGNATORY OF BIDDER **: _____
DATE: _____

* The Unit Price Form shall be used if the contract includes unit prices. Otherwise it is not required and need not be included with the form. The number of unit prices that may be included is not limited and additional sheets may be included if needed.

** If someone other than a corporate officer signs for the Bidder/Contractor, a copy of a corporate resolution or other signature authorization shall be required for submission of bid. Failure to include a copy of the appropriate signature authorization, if required, may result in the rejection of the bid unless bidder has complied with La. R.S. 38:2212(A)(1)(c) or RS 38:2212(O) .

BID SECURITY in the form of a bid bond, certified check or cashier's check as prescribed by LA RS 38:2218.A is attached to and made a part of this bid.

**LOUISIANA UNIFORM PUBLIC WORK BID FORM
UNIT PRICE FORM**

TO: Jefferson Parish Purchasing Department
200 Derbigny Street Suite 4400
Gretna, Louisiana 70053

(Owner to provide name and address of owner)

BID FOR: New Drainage Pump Station and
Drainage Improvements for Elise Avenue
Public Work Project Number 2009-009-DR
Bid No. 50-112381

(Owner to provide name of project and other identifying information)

UNIT PRICES: This form shall be used for any and all work required by the Bidding Documents and described as unit prices. Amounts shall be stated in figures and only in figures.

DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ CLEARING AND GRUBBING			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
201-01-00100	1	LUMP SUM		

DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ REMOVAL OF STRUCTURES AND OBSTRUCTIONS			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
202-01-00100	1	LUMP SUM		

DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ REMOVAL OF ASPHALT PAVEMENT			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
202-02-02020	276	SQUARE YARD		

DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ REMOVAL OF REINFORCED CONCRETE ARCH PIPE (18"X30" RCPA)			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
202-02-32140	234	LINEAR FOOT		

DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ REMOVAL OF REINFORCED CONCRETE PIPE (48" RCP)			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
202-02-32141	106	LINEAR FOOT		

DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ REMOVAL OF PORTLAND CEMENT CONCRETE PAVEMENT			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
202-02-32500	404	SQUARE YARD		

DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ GENERAL EXCAVATION			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
203-01-00100	1108	CUBIC YARD		

DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ CLASS II BASE COURSE (12" THICK) (STONE)			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
302-02-06100	431	SQUARE YARD		

DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ TRAFFIC MAINTENANCE AGGREGATE (VEHICLE MEASUREMENT)			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
402-01-00100	35	CUBIC YARD		

DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ PORTLAND CEMENT CONCRETE PAVEMENT (9" THICK)			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
601-01-00300	66	SQUARE YARD		

DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ PORTLAND CEMENT CONCRETE PAVEMENT (7" THICK)			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
601-02-00500	338	SQUARE YARD		
DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ STORM DRAIN PIPE (72" RCP)			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
701-03-01160	47	LINEAR FOOT		
DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ STORM DRAIN PIPE (42" EQUIVALENT) (31"X51" RCPA)			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
701-04-01100	223	LINEAR FOOT		
DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ GUARD RAIL (SINGLE THRIE BEAM) (6'-3" SPACING)			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
704-01-01020	103	LINEAR FOOT		
DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ GUARD RAIL END TREATMENT (FLARED)			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
704-11-00100	4	EACH		
DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ CONCRETE WALK (4" THICK)			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
706-01-00100	57	SQUARE YARD		
DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ CONCRETE DRIVE (6" THICK)			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
706-02-00100	77	SQUARE YARD		
DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ INCIDENTAL CONCRETE PAVING (5" THICK)			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
706-03-00200	31	SQUARE YARD		
DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ HANDICAP CURB RAMP			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
706-04-00100	5	EACH		
DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ CONCRETE BARRIER CURB			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
707-01-00200	21	LINEAR FOOT		
DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ MOUNTABLE CONCRETE CURB			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
707-01-00300	286	LINEAR FOOT		
DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ RIP-RAP (55 LB, 36" THICK)			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
711-01-04020	77	SQUARE YARD		
DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ TEMPORARY SIGNS AND BARRICADES			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
713-01-00100	1	LUMP SUM		

DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ SLAB SODDING (BERMUDA GRASS)				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
714-01-00100	13	SQUARE YARD		

DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ SLAB SODDING (ST. AUGUSTINE)				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
714-01-00600	267	SQUARE YARD		

DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ BEDDING MATERIAL (#57 LIMESTONE)				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
726-01-00100	70	CUBIC YARD		

DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ MOBILIZATION AND DEMOBILIZATION				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
727-01-00100	1	LUMP SUM		

DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ HYDRO-SEEDING				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
739-01-00100	0.15	ACRE		

DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ CONSTRUCTION LAYOUT				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
740-01-00100	1	LUMP SUM		

DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ STEEL SHEET PILE WALL (PZC-28)				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
803-03-00128	5225	SQUARE FOOT		

DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ TIMBER PILE NONCOASTAL TREATMENT (CLASS B)				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
804-02-00100	2970	LINEAR FOOT		

DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ CLASS A CONCRETE (SUMP/ BAR SCREEN)				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
805-01-00100	230	CUBIC YARD		

DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ CLASS A CONCRETE (GENERATOR SLAB)				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
805-01-00101	14	CUBIC YARD		

DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ CLASS A CONCRETE (HEADWALL)				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
805-01-00102	16	CUBIC YARD		

DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ PRECAST CONCRETE BOX CULVERTS – 10' x 5'				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
805-12-02100	50	LINEAR FOOT		

DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ JP TYPE 3 CATCH BASIN				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
NS-001	2	EACH		

DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ CAST-IN-PLACE CONCRETE JUNCTION BOX #01				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
NS-002	1	EACH		
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ CAST-IN-PLACE CONCRETE JUNCTION BOX #02				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
NS-003	1	EACH		
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ CAST-IN-PLACE CONCRETE JUNCTION BOX #03				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
NS-004	1	EACH		
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ ACCESS MANHOLE WITH COVER AND FRAME				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
NS-005	5	EACH		
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ DEWATERING OPERATIONS				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
NS-006	1	LUMP SUM		
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ TEMPORARY DAMS AND RAINFALL RUNOFF STORM WATER DIVERSION				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
NS-007	1	LUMP SUM		
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ EXPLORATORY EXCAVATION				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
NS-008	2	EACH		
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ 40 CFS PUMP VERTICAL AXIAL FLOW DRAINAGE PUMP & APPURTENANCES				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
NS-009	2	EACH		
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ 60 CFS PUMP VERTICAL AXIAL FLOW DRAINAGE PUMP & APPURTENANCES				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
NS-010	1	EACH		
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ GENERATOR 500 KW PRIME				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
NS-011	1	LUMP SUM		
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ WROUGHT IRON FENCE WITH CHAINWALL				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
NS-012	180	LINEAR FOOT		
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ 6-FOOT DOUBLE GATES FOR WROUGHT IRON FENCE (6-FOOT HEIGHT)				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
NS-013	1	EACH		
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ 36X36 ACCESS HATCH				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
NS-014	2	EACH		

DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ ELECTRICAL WORK				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
NS-015	1	LUMP SUM		
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ EXISTING WROUGHT IRON (REMOVE AND REINSTALL)				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
NS-016	113	LINEAR FOOT		
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ 610 STONE (6" THICK)				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
NS-017	80	SQUARE YARD		
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ BAR (TRASH) RACK				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
NS-018	1	LUMP SUM		
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ HANDRAIL				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
NS-019	32	LINEAR FOOT		
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ PIPE CASING PENETRATION THROUGH SHEETPILE				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
NS-020	1	EACH		
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ SAW CUTTING PORTLAND CEMENT CONCRETE PAVEMENT				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
NS-021	305	LINEAR FOOT		
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ STANDBY PERSONNEL				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
NS-022	150	HOUR		
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ HYDRO GATE HEAVY DUTY FLAP GATE (MODEL 50) 60X48				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
NS-023	1	EACH		
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ 30" DUCTILE IRON DISCHARGE PIPING AND FITTINGS				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
NS-024	1	LUMP SUM		
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ 24" DUCTILE IRON DISCHARGE PIPING AND FITTINGS				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
NS-025	1	LUMP SUM		
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ TEMPARARY RETAINING STRUCTURE (TRS)				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
NS-026	1	LUMP SUM		
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ RELOCATION OF EXISTING SIGN				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
NS-027	1	LUMP SUM		
DESCRIPTION: <input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ WROUGHT IRON FENCE				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
NS-028	43	LINEAR FOOT		

DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ ENVIRONMENTAL PROTECTION			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
NS-029	1	LUMP SUM		
DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ PLUG EXISTING PIPE TO BE ABANDONED			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
NS-030	3	EACH		
DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ MOTOR CONTROL CENTER			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
NS-031	1	LUMP SUM		
DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ DAM REMOVAL AND REPLACEMENT			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
NS-032	2	EACH		
DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ SCADA POLE AND SCADA COMPONENTS			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
NS-033	1	LUMP SUM		
DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ VIDEO INSPECTION – SANITARY SEWER			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
S-906	550	LINEAR FOOT		
DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ DUCTILE IRON PIPE (6")			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
W-206	40	LINEAR FOOT		
DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ DUCTILE IRON PIPE (8")			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
W-208	110	LINEAR FOOT		
DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ GATE VALVE (6")			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
W-406	1	EACH		
DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ GATE VALVE (8")			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
W-408	1	EACH		
DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ TRANSITIONAL COUPLING (6")			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
W-806	1	EACH		
DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ TRANSITIONAL COUPLING (8")			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
W-808	2	EACH		
DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ___ DUCTILE IRON FITTINGS			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
W-901	857	POUNDS		

Wording for "DESCRIPTION" is to be provided by the Owner.

All quantities are estimated. The contractor will be paid based upon actual quantities as verified by the Owner

5. Maximum construction vehicle speed is 20 MPH on residential streets, unless posted less than 20 MPH.

SP.47 SEWER LINES TIE-IN

All required tie-ins to sewer lines by the Contractor shall be made during low-flow times and must always avoid peak-flow times. In general, the Contractor shall execute any tie-in work during the night time, provided prior approval from the Engineer and the Owner.

SP.48 NIGHT WORK

Any construction work that is required during the night time shall be made provided prior approval from the Engineer and the Owner. Any night work will require a minimum of 48 hours notification. All lighting for night work shall be provided by the Contractor at NO DIRECT pay.

SP.49 CONTRACT TIME

All work designated on the Plans and in the Specifications shall be functional and substantially complete in accordance with the specifications within three hundred (300) consecutive calendar days from the date specified in the "Notice to Proceed" as the starting date for the contract time. Final acceptance of the project shall be no more than 30 calendar days following issuance of substantial completion.

The following are anticipated adverse weather days that the Contractor shall include in each month of his calendar day construction schedule:

January	10 days	April	7 days	July	6 days	October	3 days
February	9 days	May	5 days	August	5 days	November	7 days
March	8 days	June	6 days	September	4 days	December	7 days

SP.50 BEDDING MATERIAL

All bedding material will be by truck measure

SP.51 GENERAL EXCAVATION

Excavation regarding of the banks of the canal will be by truck measure. Sump pit and bar box excavation will be measured by theoretical section. Pipe excavation will be at no direct pay and will be included in the pipe pay item.

SP.52 CRITICAL WORK & LIQUIDATED DAMAGES

The Contractor shall be responsible of having completed all critical work, including all demolition, headwall, structural, sump, drainage crossings, furnishing and installing pump, motors and electrical equipment, and any heavy duty work required, by August 6, 2015. For any critical work as specified above or set forth by the Engineer, the Contractor shall pay, as liquidated damages, the sum of one thousand dollars (\$1,000.00) for each consecutive calendar day after August 6, 2015 that critical work is not completed. Refer to Plan Sheet 3 for Critical Work Items.

The Contractor shall be responsible of completing the installation of the 72" RCP crossing W. Metairie Ave. and restoring roadway to normal traffic patterns in 2.5 calendar days (between the hours of Friday 6 PM to Monday 6 AM). The Contractor shall pay, as liquidated damages, the sum of two thousand five hundred (\$2500.00) for each consecutive calendar day after Monday 6 AM that the work is not completed. If the Contractor has not completed the work by 6 AM, the

Contractor will be responsible to pay liquidated damages in the full amount. The Contractor will not be able to pay an hourly rate of liquidated damages.

SP.53 DISPOSAL OF MATERIAL CLASSIFIED AS DRAINAGE EXCAVATION

All drainage excavation materials shall be disposed of and graded off-site by the Contractor at an approved site designated by the Owner. Materials to be excavate may be contaminated with hydrocarbons. The materials shall be transported and disposed of at the designated site within a twenty-five (mile) radius of the project as specified by the engineer. Refer to section 3 Excavation and Embankment for additional requirements. This material can be used to blanket side slopes within the canal. All cost associated with the disposal and grading of this material shall be borne by the Contractor. No separate payment will be made for disposal and grading of drainage excavation material.

The Contractor shall at all-time keep roadway used by him for haul, free from accumulation of waste materials, dirt, and other debris caused by his construction operation.

The Contractor shall provide a dozer and operator at the designated site to spread excavated material which shall be provided at NO DIRECT PAY.

SP.54 NOTICE TO PROCEED AND SHOP DRAWING SUBMITTAL

The successful Low Bidder is authorized to submit shop drawings, submittals and order materials for the construction of the project once any related shop drawings are approved upon adoption of the Resolution accepting the bid and his receipt of a partial Notice to Proceed. In addition, a full Notice to Proceed with construction will be issued in accordance with the applicable provisions of the Contract Documents. The Contract time of 330 calendar days will commence on the effective date of the full notice to Proceed.

SP.55 UNIDENTIFIED OBSTRUCTION TO BE REMOVED

The Contractor shall be required to fully remove an obstruction located in the corner of West Metairie Ave. and Elise Ave. that is within the trench zone. The obstruction has not been fully identified; however, it appears to be a circular planter or manhole. The Contractor shall be responsible of the removal of said obstruction and all work shall be carried in accordance with Section 02 – “REMOVAL OF STRUCTURES AND OBSTRUCTIONS” and included in pay item 202-01-00100.

SP.56 ENERGY DE-ENERGIZING AND WORK WITHIN EXISTING CLEARANCES

Entergy will allow temporary de-energizing of the lines along West Metairie Avenue and Elise Avenue. The Contractor will need to coordinate with Entergy once the lines need to be de-energized. All de-energizing will be limited (Entergy estimated about 7 days, but will be coordinated with Contractor). Contractor will be required to install sheet piles by splicing and welding the sheets. Contractor will be required to work within existing clearances. The Contractor will be required to support the existing power pole in the corner of West Metairie Ave. and Elise Ave. during trenching.

Entergy requires that any request for de-energization be submitted a minimum of three (3) weeks prior to any required de-energization. The Contractor shall be responsible for any de-energization requests.

TECHNICAL SPECIFICATIONS

SECTION 53

SCADA POLE AND COMPONENTS

53.01 GENERAL

The work under this section consists of furnishing all materials, and labor to install a SCADA pole and all necessary SCADA components. All work under this section shall be performed in accordance with **APPENDIX I** - "*Jefferson Parish SCADA Division – Drainage Pump Station Specifications*". This work shall be performed in accordance with the applicable sections of the *Louisiana Standard Specifications for Roads and Bridges*, 2006 Edition, and latest revisions, and as amended herein.

53.02 SCADA POLE

The Contractor shall furnish and install a SCADA pole as indicated on the plans. The SCADA pole shall be 71' long and shall be embedded into the ground 11' as shown on the Plans. The Pole shall be a Class IV Southern Pine (SYP) wood and shall be CCA treated with 0.6 pounds per cubic foot (pcf or #/cf).

53.03 SCADA COMPONENTS

The Contractor shall furnish and install all necessary SCADA components in accordance with **APPENDIX I** - "*Jefferson Parish SCADA Division – Drainage Pump Station Specifications*".

53.04 MEASUREMENT

Measurement for all work under this section shall be made on a LUMP SUM basis.

53.05 PAYMENT

Payment will be made under:

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>UNIT</u>
NS-033	SCADA POLE AND SCADA COMPONENTS	LUMP SUM

END OF SECTION

APPENDIX I

JEFFERSON PARISH SCADA DIVISION

DRAINAGE PUMP STATION SPECIFICATIONS

Revised 2/5/2013

Addendum No. 1
Bid No. 50-112381

PART I- GENERAL

1.01 THE REQUIREMENT

A. General: THE CONTRACTOR shall furnish, install, and place into service a Programmable Logic Controller (PLC), to perform the specified monitoring, communications, alarm, control, and reporting functions the OWNER's Supervisory Control and Data Acquisition (SCADA) System as described in the summary of work, all in accordance with the requirements of the Contract Documents.

B. System Supplier: Due to the critical and complex nature of the supplier who has already been prequalified to bid as CONTRACTOR for this project, and as listed in the Invitation to Bid.

1.02 RELATED WORK SPECIFIED ELSEWHERE

A. Electrical work specified hereunder shall conform to the requirements of this section and the applicable requirements of Section entitled "Electrical General Provisions."

B. Mechanical work specified hereunder shall conform to the requirements of this section and the applicable requirements of the section entitled "Instrumentation Piping, Tubing and Valves."

1.03 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

A. Without limiting the generality of other requirements of these Specifications, all work specified herein shall conform to or exceed the applicable requirements of the referenced documents to the extent that the requirements therein are not in conflict with the provisions of this section; provided, that where such documents have been adopted as a code or ordinance by the public agency having jurisdiction, such code or ordinance shall precedence.

1.04 CONTRACTOR SUBMITTALS

A. General: All submittals shall be made in accordance with the applicable general requirements of the Specification Section entitled "Contractor Submittals." Where drawings and data are specified to be produced thru CAD, word processing, or other software program, one (1) tape or disk copy (as appropriate) shall be submitted initially, and two (2) copies of the final version shall be furnished with printed copies

B. Shop Drawings: The CONTRACTOR shall submit to the ENGINEER shop drawings of all equipment before fabrication in accordance with provisions of the Contract Documents. Should an error be found in a shop drawing during installation or start up of equipment, the correction, including any field changes found necessary, shall be noted on the drawing and

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submitted finally as part of the "Record Drawings" prior to acceptance of the WORK. All drawings provided shall be produced using PC based drawing program compatible with Jefferson Parish computers. All shop drawings shall be checked by the CONTRACTOR before submittal for review by the ENGINEER. These drawings and data shall be submitted as a complete package at one time (except allowed early submittals on major equipment and long lead delivery items) and shall include:

1. Complete systems diagrams.
2. Drawings shall show definitive wiring interconnection diagrams for each site. These diagrams shall show and identify each component of each system and shall which components require a nominal 117-volt, 60 Hertz power source. These diagrams shall be prepared in accordance with ANSI/ISA S.5.4
3. Data sheets shall be included for each component together with a technical product brochure or bulletin. These data shall show: The component name as used on project drawings and in these Specifications, manufacturer's model number or other identifying product designation, the project site to which it applies, input and output characteristics, functional and operational descriptions sufficient to show conformance to the specification requirements, requirements for electric power, specifications for ambient operating conditions, and details on materials of construction.
4. Arrangement and construction drawings for control panels and equipment boxes, enclosures, and cabinets shall show dimensions, identification of all components, preparation and finish data, nameplates, and the like.
5. Any and all modifications made to existing measurement and control circuits, equipment, and wiring shall be shown on the SCADA site wiring diagrams including references to appropriate OWNER drawings.
6. Installation, mounting, and anchoring details shall be shown for all components and assembles to be field mounted, including access requirements, conduit connections, or entry details.
7. Complete and detailed bills of material.

C. Technical Manuals: The CONTRACTOR shall furnish a complete set of manuals describing the operations and maintenance requirements of the complete PLC. The operations manuals shall describe each feature and function of the system in a step by step tutorial fashion. The maintenance manuals shall include complete system trouble-shooting guides and explain fully the use and application of diagnostic programs, as well as all relevant manufacture's maintenance and calibration instruction sheets. All manuals written for this contract shall be produced using the word processing program furnished with the system software or Word

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Version 6. To allow for different levels of use and area of application, separate manuals shall be furnished as follows:

4. Maintenance Manual - Instrumentation: This manual shall provide complete information for the maintenance, repair, replacement, calibration, etc. for all of the instrumentation furnished under this contract. This shall include the final settings and calibration point records developed during the check out calibration of the system.
5. Maintenance Manual- PLCs/Interfaces: This manual shall provide complete information for the maintenance, repair, replacement, calibration etc. for all the PLCs and interfaces furnished under this contract. This shall include the final settings and calibration point records developed during the check out complete instructions in the use of diagnostic programs for trouble shooting these units to the circuit card level, as well as instructions in loading application programs, system resets, initialization, etc.
7. Maintenance Manual- Radios: This manual shall provide complete information for the maintenance, repair, replacement, calibration, etc. for all of the radio equipment furnished under this contract. This shall include complete instructions in the use of testing and diagnostic programs for the radio system.

D. Quality Control Test Procedures and Forms: The CONTRACTOR shall submit a complete set of test procedures and forms that will be used in conjunction with the quality assurance program as specified herein.

E. Spare Parts Lists: The recommended spare parts list for the equipment furnished under this section shall be annotated to indicate which items, if any, are furnished as a part of this contract.

1.05 QUALITY ASSURANCE

A. Factory Tests: Prior to installation, the complete system, including peripherals and communication equipment of the PLCs, shall be assembled, connected, and all software loaded for a full functional test of the integrated system. Test procedures shall be developed by the system supplier to show that the integrated system hardware and software is fully operational and in compliance with the requirements of the Contract Documents. Attention is directed to the Specification Section entitled "Equipment Testing and System Startup" for additional requirements relative to this test.

B. Installation Supervision: The system supplier shall furnish services and technical information as necessary to insure that the equipment furnished by him is installed in a proper and satisfactory manner. These services shall include, but not be limited to, providing the installing contractor with information and direction prior to commencement of the installation work, periodic inspection during the construction period, answering of all questions regarding

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the installation and hookup, and a complete check of the completed installation and hookup, and a complete check of the completed installation to insure that it is in conformance with the requirements of the equipment and the Contract Documents.

C. Calibration: The system supplier shall furnish the services of a trained technician to perform a complete system calibration. This shall provide that those components having adjustable features are set for the specific conditions and applications, and that the components and systems are within the specified limits of accuracy. Defective elements which cannot achieve proper calibration or accuracy, either individually or within the system or subsystem, shall be replaced. A complete record of the calibration checks and adjustments shall be made and delivered to the ENGINEER upon completion of the system calibration.

D. Testing: System shall be exercised through operational tests in the presence of ENGINEER in order to demonstrate achievement for the specified performance. Attention is directed to the Specification Section entitled "Equipment Testing and System Startup" for additional requirements relating to testing.

1.06 ACCEPTANCE TEST

A. General: After start-up has been completed, the PLC will be given an acceptance test. The complete system must run continuously for 30 consecutive days. During this period all system functions shall be exercised, and any interruption and accompanying component, subsystem, or program failure shall be logged for cause of failure, as well as time of occurrence and duration of each failure. The CONTRACTOR shall provide a competently trained technician or programmer on call during all normal working days from the start of the acceptance test until final acceptance of the system.

C. Failures: Failures shall be classified as either major or minor. A minor failure would be a small and non-critical component failure which can be corrected by operators. This occurrence shall be logged but shall not be reason enough for stopping the test and shall not be grounds for non-acceptance. However, should the same or similar component failure occur repeatedly, this may be considered as grounds for non-acceptance. Failure of one printer, or of one CRT display shall be considered a minor failure providing all functions can be provided by backup equipment (alternate printers and CRT's) and repairs can be made and equipment returned to service within 3 working days. A major failure shall be considered to have occurred when a component, subsystem, or program fault causes a halt in operation of the system and/or re-initiate operation of the system. A major failure shall cause termination of the acceptance test. When the causes of a major failure have been corrected, a new acceptance test shall be started.

D. Technician Report: Each time a technician is required to respond to a system malfunction he or she must complete a report which shall include details concerning the nature of the complaint or malfunction. When such a failure or malfunction occurs which clears itself or which the operator on duty is able to work but no report is written, then a major failure shall be considered to have occurred.

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1.07 INTERFACE AND USE OF EXISTING EQUIPMENT AND SYSTEMS

A. General: The installation and operation of the SCADA system incorporates extensive existing equipment, including instrumentation and control circuits, PLC's, Distributed Control and PLC treatment plant control systems, radio antenna and masts, and a variety of these items without replacement (except for where specifically allowed or directed) and as described below.

B. Instrumentation and Control Circuits: The instrumentation and control circuits that are to be directly connected to the SCADA system, have been inventoried and are summarized in the appendices and drawings, including signal ranges and levels, isolation, contact ratings, etc. The CONTRACTOR shall be responsible for providing all interpose relays, isolators, convertors, etc. that are required to make this existing equipment compatible with the SCADA system. The CONTRACTOR shall also be responsible for proper wiring and connections to this equipment, including control operations. The CONTRACTOR shall not be responsible for the condition, calibration, or performance of this existing equipment. However, the CONTRACTOR shall make notes of all such conditions, etc. during the check out and startup phases of this contract.

C. PLCs: At locations where these PLCs exist and, due to the design requirements of this contract, the required I/O exceeds the capability of the PLC, the CONTRACTOR shall add an I/O board.

D. Radio Antennae and Masts: The remote site antennas are 10db gain yagi, located as shown on the Drawings. The CONTRACTOR shall be responsible for any RF cables and/or connectors, as required for a complete and operable system.

E. Miscellaneous Items: Miscellaneous items such as cables, connections, etc. are not necessarily shown or specified. All such items needed to provide a complete and operable system shall be furnished under the requirements of this contract.

F. Power Supplies: All equipment shall be designed to operate on 115 VAC utility power. The power will be provided thru the OWNER's existing UPS system. All power supplies, converters, isolators, etc. necessary for the proper operation of this equipment shall be furnished with the equipment.

G. Racks and Cabinets: All equipment shall be mounted in appropriate racks or enclosures.

H. Racks, Cabinets and Furniture: All equipment shall be mounted in or on appropriate racks, enclosures, or furniture. Furniture shall include operator station desks with swivel/tilt CRT mounts, lockable computer and keyboard housings (as required), and paper handling facilities for alarm printers, for each master operators station and sub-master computers furnished.

I. Racks and Cabinets: All equipment shall be mounted in appropriate racks or enclosures.

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PART 2- PRODUCTS

2.01 PROGRAMMABLE LOGIC CONTROLLERS (PLC)

A. General: The PLC to be installed at each remote station shall be a Control Microsystems SCADAPack 357, Part No. P357-1A00-AB00, with the capability to: accept digital and analog inputs, produce digital and analog outputs, perform local control and data manipulation functions, transmit measured and calculated valves and status/alarm signals to the central computer system, receive command signals and configuration data from the central computer, and perform all other functions required to meet the specified performance and functional requirements of the integrated system. Each PLC shall be furnished with all necessary power supplies, processors, memory, process I/O cards, serial communication ports, modems, etc. to meet its specified functions, requirements and environmental conditions.

B. CPU: The CPU for each PLC shall be a 32-bit ARM7 microcontroller with a minimum 32 MHz clock.

C. ROM: ROM memory shall be furnished with each PLC as necessary and shall contain the OS and routines for diagnostics, process I/O, communications, control functions, etc. It is required that all functions and routines that may be used in the configured system be held in ROM to be called as necessary. All PLCs of the same manufacturer shall utilize the same ROM chips.

D. RAM: A minimum of 4MB of SRAM memory shall be furnished with each PLC. RAM memory shall hold the specific configuration for each site, measuring and control constraints and set points, real time I/O data etc. Additional memory shall be furnished where necessary. RAM memory shall have a battery backup to maintain memory for at least 30 days with all power to the PLC disconnected.

E. Clock and Calendar: A hardware clock and calendar unit shall be furnished with each PLC. It shall be accessible to the communication, monitoring, and control routines to allow these to operate on a clock time base. PLCs will be year 2000 compliant.

F. Watching Timer: Each PLC shall be furnished with a watchdog timer unit to monitor its operation. The timer is to be reset periodically by the CPU and, if it times out, a restart interrupt shall be generated.

G. Communication Ports and Modems: Each PLC shall be furnished with three serial Communication ports, as required. Each connected port, as shown on the Drawings for each PLC application, shall be furnished with a suitable interface card, modem (as required), and line protection units. Each port shall support selectable baud rates of 9600, 19200, 38400, 57600, and 115200, and shall be set to run at the rate specified or shown. Port connections to analog and digital radio systems, leased and switched telephone lines, computers and operations stations (portable), and remote I/O racks, shall be supported and provided as specified or

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shown.

H. I/O System: Each PLC shall be furnished with process I/O cards, etc. as necessary to interface to the process equipment and instrumentation. The exact I/O to be furnished with each PLC shall be as specified in the EXECUTION portion of this Specification Section. Local I/O cards shall utilize parallel port connections to the PLC, where as remote I/O cards and/or racks shall utilize a serial port link to the PLC. I/O may be provided thru fixed configuration, single board units, or thru expandable card and rack systems, as appropriate and required to meet each site I/O requirement. All inputs and outputs shall be optically isolated to 1500v minimum. Analog inputs shall have a common mode rejection of 75db and a normal mode rejection of 50db at 60 Hz. A/D and D/A converters shall be 12 bit minimum (including sign). The PLC shall be capable of powering the analog transmitters and the dry contact digital inputs. Dry contact outputs shall be rated at least 1 amp continuously with interposing relays furnished as necessary where higher amperages are required.

I. Sub-PLC's: For sites with very low I/O point count (i.e., canal level and rain gauge sites), PLC's with one analog and four digital points are acceptable. These units do not require control capabilities but must perform all normal communication functions. These stations will be identified in writing by the Engineer.

J. Power Supply System: The PLC and Radio Transceiver shall be designed to operate on 115 VAC 60 Hz primary power. The power supply system shall be suitably sized for the quantity of I/O and racks furnished. The power supply system shall consist of a Puls Dimension C-Series Power Supply, Part # CS5.241, and a Puls Dimension U-Series DC-UPS, Dual Output, Part # UB10.245, with a Power Sonic 26Ah battery, Part # PS12260, capable of powering the PLC and Radio Transceiver for a minimum of 2 hours.

K. Enclosures: The PLCs shall be housed in NEMA 4x fiberglass enclosures of appropriate size as specified or shown on the drawings. Each enclosure shall include a 115 VAC circuit breaker on the incoming line, a duplex GFI outlet, and a internal heater with thermostat. The enclosures shall also house all communication modems, etc., to be furnished at each remote site. The enclosures shall have flanges for wall mounting, hinged front door with neoprene gasket and a plan holder on inside of front door and a removable interior mounting panel for components. The interior of each enclosure including the mounting panel shall be finished with white enamel. Enclosures shall be as manufactured by Stahlin Non-Metallic Enclosures or approved equal.

2.02 RADIO COMMUNICATIONS

A. General: The radio system operates on 4 adjacent 12.5 KHz channel splits in the 928-952 MHz band. The central station transceivers operate thru antennas at the EOC tower.

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B. Diagnostics: The radio system shall be furnished with internal diagnostic capabilities. Each remote station radio shall have diagnostics module with an RS232 interface to a PC or hand-held diagnostic module. This shall include loop back diagnostics of the remote radios.

D. Path Design: The paths between the existing site at the EOC and each of the PLC sites have been checked for line-of-sight clearance. Antenna heights have been selected for the PLC sites which will provide clearance over all local obstructions. However, at several sites it was not possible to provide the desired path clearance. These sites are designated as “problem” or “potential problem” sites in that section of these specifications titled, “Antenna Support Details.” It shall be the responsibility of the Contractor to install the equipment at these sites and attempt to obtain satisfactory signal levels by adjusting the PLC antenna orientation and/or height. If satisfactory signal levels cannot be obtained, the matter shall be referred to the ENGINEER for resolution.

E. Path Fade Margins: Worst case fade margins have been calculated from the master station site to the most distant PLC site and from the same PLC site back to the master station site, The results show that a calculated fade margin of 41.67 Db is obtainable from the master the PLC, and 39.67 Db from the PLC to the master. These fade margins are based upon a receiver sensitivity of -110 Dbm based upon a 1×10^{-6} BER. It shall be the responsibility of the CONTRACTOR to furnish and install the radio system so that actual measured fade margin on each path is no worse than -3 Db below the calculated margins.

G. Technical Specifications: The R.F. equipment furnished under these specifications shall meet or exceed all current FCC requirements for point-to-multipoint radio systems and shall also meet or exceed the following minimum specifications. The R.F. equipment shall be capable of operation on the above listed adjacent 12.5 KHz channels without degradation.

H. Transmission: The R.F. transmitters shall be directly frequency modulated by a built-in digital modem from the digital data stream furnished by the SCADA computer. The R.F. receivers shall provide a digital data stream to the SCADA computer.

I. Transmitters:

Power Output (at duplexer output)	+39.0 Dbm
Frequency Stability	1.5 PPM
Modulation Deviation	± 3.0 KHz
Duty Cycle	Continuous

J. Receivers:

Receiver Sensitivity (10 to -6 BERT)	-110 Dbm
Frequency Stability	1.5 PPM
Modulation Acceptance	± 3.0 KHz

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K. PLC Radio Specifications: The radio assembly shall be a GE MDS SD9-C-ES for each PLC site. It shall consist of a non-protected transmitter, receiver, power supply and digital modem capable of operating in the 928 to 952 MHz band. Each assembly shall be capable of transmitting and receiving digital data at a rate of 9600 Baud over a 12.5 KHz FCC assigned channel. These units shall also meet the following requirements:

1. Each R.F. assembly shall be capable of operation at full performance specifications between -30 and +60 degrees centigrade with a relative humidity of 95% measured at +40 degrees centigrade.
2. Each R.F. assembly shall operate from a D.C. power system furnished and installed as a part of the overall PLC installation. Battery tapping of 24 volt power systems to obtain 12 volts will not be permitted.
3. Each R.F. assembly shall be enclosed in a sturdy metal housing suitable for mounting on the back plate of the PLC enclosure with stainless steel hardware in such a manner as to permit easy removal of the radio assembly for service and/or replacement.
4. The antennas for all PLC sites shall be a Yagi Directional Antenna, Part # DB499-K, meeting the following specifications:

Frequency Range	890 to 960 MHz
Forward Gain	10 Dbd
Front-to-Back Ratio	20 Db
VSWR	1.5 to 1.0 Maximum
Polarization	depend on location
Impedance	50 Ohms
Horizontal Beamwidth	60 Degree (half power point)
Input Power	50 Watts
Wind Rating	150 MPH Survival (no ice)
Lightning Protection	Direct Ground
Input Connector	Type "N", Female

5. Mounting brackets shall be steel and shall be hot-dip galvanized after fabrication. All mounting hardware shall be stainless steel. It is important to note that the external diameter of the top of the aluminum poles required at certain sites is approximately 4". It shall be the responsibility of the CONTRACTOR to furnish stainless steel hardware capable of mounting the antennas to these poles:

6. Antennas at sites with metal support poles shall be mounted so that the metal antenna support pole extends over the top of the antenna by a minimum of six inches (6"). Antennas at sites with wooden support poles shall be installed so that the 2" aluminum mast at the top of the pole extends over the top of the antenna by a minimum of 6".

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7. Dual antennas at PLC sites shall be installed one above the other on the station antenna support. Antennas shall be separated vertically by a minimum of 18 inches. The upper antenna shall be mounted in accordance with the criteria given in Item 4 above.

8. Transmission lines at all PLC sites shall be Andrew Corporation Heliac Type LDF4-50A ½" diameter foam dielectric coaxial cable or approved equal. The coaxial cable shall be encased in a black polyethylene outer jacket. Connectors shall be Andrew Corporation Type "N" male, Part # AND-L4TNM-PS. "Pigtails", where required, shall be fabricated by the CONTRACTOR from RG-214/U coaxial cable and Type "N" connectors. UHF type connectors will not be permitted. It shall be the responsibility of the CONTRACTOR to determine the exact length of transmission line required at each PLC site.

8. Transmission lines installed at sites having metal antenna support poles shall be run inside of the poles. Connection of the transmission line to the antenna and to the radio equipment shall be made through the use of "pigtails" of the appropriate length. Connection of the upper end of the transmission line to the "pigtail" shall be made within the junction box installed on the top of the pole. Connection of the lower end of the transmission line to the "pigtail" shall be made within the PLC enclosure.

9. Installation of transmission lines at sites where existing hand rails, light stanchions and similar structures are to be used as antenna supports shall be accomplished in accordance with good installation practices. Transmission lines shall be routed from the PLC enclosure to the antenna in a neat and orderly manner and shall be secured using Andrew Corporation Type 43211 stainless steel hangers or approved equal. Hangers shall be spaced no more 3'0" apart. Hangers shall be installed using stainless steel banding straps, stainless steel beam clamps, concrete anchors with stainless steel hardware or such other fasteners as may be appropriate.

10. Installation of transmission lines within major drainage pump stations shall be accomplished by routing the cable from the PLC enclosure to the antenna along building structural members. Care shall be exercised to ensure that transmission line is not routed near engine exhausts. Every effort shall be made to keep transmission line runs as short as practical. Transmission line shall be secured using Andrew Corporation Type 43211 stainless steel hangers or approved equal. Hangers shall be spaced no more than 3'0" apart and shall be installed using stainless steel beam clamps complete with stainless steel hardware.

11. All transmission lines shall be grounded at both the upper and lower ends. Grounding shall be accomplished through the use of Andrew Corporation Type 204989 grounding kits or approved equal.

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12. Grounding of the upper end of transmission lines at sites utilizing aluminum antenna support poles shall be done within the junction box installed at the top of the pole. The actual ground connection shall be made to the interior of the junction box using stainless steel hardware.

13. Grounding of the upper end of transmission lines at sites utilizing wooden antenna support poles shall be made just above the point where the transmission line enters the aluminum conduit. The actual grounding shall be made to the #6 ground wire. After the grounding kit is installed on the transmission line jacket shall be resealed using a two-part tape system. Each layer of tape shall be sealed by coating with Scotchkote or approved equal.

14. Grounding of the lower end of all transmission lines shall be accomplished within the PLC enclosure. Actual grounding shall be done at a common ground provided within the enclosure.

N. Manufacturer: Radio equipment shall be as manufactured by General Electric Microwave Data Systems.

2.03 INSTRUMENTATION

A. Ultrasonic Level Transmitters Blind Type (Feet, Cairo Datum) Tanks, Canals: Ultrasonic level transmitters shall be 2 wire loop powered devices with a NEMA 4X enclosure with PVDF transducer. Power input of 12-28 VDC and output signal 4-20mA made relative to selected range and temperature compensation. Ultrasonic Level Transmitters shall be Flowline, Model LU28-01 with analog output or equal. The general purpose two-wire ultrasonic transmitter provides non-contact level measurement up to 24.6 feet. The CONTRACTOR shall provide the services of a registered land surveyor to establish sensor elevations at each site and set all displays to read "Feet, Cairo Datum."

B. Digital Process Meter (Feet, Cairo Datum) Drainage Pumping Stations: Meter will be used in conjunction with the ultrasonic level transmitter to provide a digital readout to the pump station operator of the ultrasonic level transmitter reading at the station. Meter will be an industrial-grade microprocessor-based digital process meter with the following features: accepts 4-20 mA process signal and displays this signal in engineering units on a minimum 4½ digit display; type 4X , NEMA 4X front panel; isolated 4-20 mA transmitter output. Digital process meter shall be Precision Digital Loop-Powered Indicator, Model PD683-0K0. The CONTRACTOR shall provide the services of a qualified technician to calibrate the meter to read the correct reading in "Feet, Cairo Datum."

C. Submersible Pressure Transmitter (Feet, Cairo Datum) Tanks, Canals: Submersible Pressure Transmitters shall be two wire transmitters with the following features: Power input of 10-36 VDC, output signal of 4-20 ma, and a range of 0 to 30' feet. Accuracy shall $\pm 0.1\%$ FS at

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constant temperature, $\pm 0.2\%$ over 35° to 70°F range. Submersible Pressure Transmitters shall be Global Water WL400, or equal. The CONTRACTOR shall provide the services of a registered land surveyor to establish sensor elevations at each site and set all displays to read "Feet, Cairo Datum."

D. Rain Gauges Pulse Type (Inches): Rain Gauges shall be tipping bucket type with the following features: Reed switches, constructed of corrosion resistant materials, debris collecting screen over funnel, 0.1 second closure of switch on activation, 1 tip per 0.01 inch. Accuracy shall be $\pm 0.5\%$ at 0.5-inch/hr. Rain gauge shall be Met One Instruments Rain Gauge, Model No. 370, (funnel diameter of 8 inches, standard calibration of 0.01 inches, optional calibration of 0.2 or 0.25 mm) or equal.

E. Pressure Transmitters Gauge Type (Pisg): Pressure Transmitters shall be two wire devices with the following features: 4-20 made output, NEMA 4 enclosure, continuously adjustable zero and span adjustments, and range as required by the application. Process connection shall be $\frac{1}{4}$ " FNPT and shall be constructed out of 17-4 PH stainless steel. Displays shall read in psig. Pressure transmitters shall be Endress Hauser Cerebar S PMP71-ABC1P61RAAMU00GI, or equal. Set zero and span as indicated by the application.

F. Current Transmitters: Current transmitters shall be two-wire donut type devices with the following features: isolated 4-20 made output, current overload protection, supply reversal protection. Accuracy shall be $\pm 1\%$ of full scale. Ranges shall be as specified below. Current transmitters shall be Phoenix Contact Model MCR-SL-S-100-I-LP, MCR-SL-S-200-I-LP, or MCR-SL-S-400-I-LP, or equal.

1. DC Current Transmitters: Current transmitter/isolators shall be used where indicated to provide signal conditioning and isolation, and to provide additional current loop capacity where required. Input range shall be 4-20 ma. Output shall be 4-20 ma into 250 ohms. Linearity shall be $\pm 0.5\%$ of full scale. Unit shall be provided installed in a galvanized steel housing suitable for use in a Class 1 Group C & D, Division 2 hazardous areas with threaded hubs and screw cover. Moore Industries No. SCX/4-20 ma/4_20 ma/5.5 DC/RFEX, or equal.

2. Signal Isolator: 4-20 ma input/4-20 ma output. 117 vac/60 Hz Power, Standard enclosure. Moore Industries: Model No. SCT/4-20/4-20 ma/117 vac/00 STD.

G. Voltage Monitors:

1. Three-Phase Monitors-New: Three-phase voltage monitor shall be a solid state device capable of sensing phase loss, phase reversal, and phase unbalance in a three-phase electrical circuit. Upon any of these three conditions it shall drop out a relay to show that a phase failure has occurred. The device shall also have the following features: adjustable setting for low voltage, adjustable delay for automatic reset

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adjustable time delay to prevent nuisance alarms, ABS plastic case, DPDT output contacts. Repeat accuracy shall be $\pm 0.5\%$ of setpoint. Three-phase voltage monitors shall be Time Mark Model 265, or equal.

Install in existing switchgear or new Marshalling Box as indicated on the drawings. Provide individual pull-out fuses, or appropriate voltage rating, for each phase. Observe all NEC rules and regulations for taps at existing feeders. Must be installed so that power outage only is detected and not generator testing periods.

H. Speed Sensors:

1. Speed sensors shall be comprised of a magnetic pickup and a machined steel split sensing gear for installation at the Engine drive shaft. The split sensing gear shall be provided with the correct quantity of teeth to provide magnetic pickup output in the range of 300-1000 Hz. Magnetic pickups shall be passive type and installed to provide 30 v peak-to-peak output minimum.

CONTRACTOR shall provide split gears specially machined to fit the specific application on engine shafts up to 14 inches in diameter and shall verify each pump shaft size prior to machining. Split gears shall be installed, on the "pump" side of all gearboxes, couplings, clutches, etc. to provide positive indication of pump rotation.

The output of the magnetic pickup shall be connected directly to a high speed counter input at the PLC. The CONTRACTOR shall compute all scaling factors and shall provide all configurations to display pump speed in RPM to the satisfaction of the OWNER.

CONTRACTOR shall submit all proposed speed sensor catalog information, showing equipment selected, to the OWNER for review prior to purchase of any equipment.

I. Position Indicators-Limit Switches:

Where indicated in the drawings and in the Appendices, limit switches shall be provided in existing electrical switchgear to indicate when main bus tie and generator circuit breakers or manual main switches are in the fully closed position. Switches shall be rate 5A, 120 vac minimum.

Whenever possible. CONTRACTOR shall provide the electrical switchgear manufacturer's standard accessory equipment and install at the existing switchgear in an approved manner. Verify the exact requirements at each site with the switchgear manufacturer.

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Note: All due care shall be taken by the CONTRACTOR to coordinate all work on existing switchgear with the OWNER to ensure that the entire switchgear is deenergized during installation of new limit switches.

J. Intrusion/Unauthorized Entry Alarms:

1. Door/Window Entry Switches: Switch shall be magnetic type suitable for use on steel doors, UL rated for Central Station direct wire circuits, SPDT 50 ma minimum contact rating at 130 v. Switch shall be epoxy sealed in the switch housing. Sentrol 1078 series or approved equal.

Connect switches singly or by zone to the PLC as indicated on the drawings. Consult with OWNER to determine zone names for configuration purposes. All wiring shall be installed in raceways as specified in section, "Electrical General Provision."

2. Motion Detector (Short Range): Motion detectors shall be FCC certified and shall use a combination of microwave and passive infrared beams to provide coverage over a 40-foot range with a final beam width of 40 feet. Detectors shall have the following features: 10.5 to 16 vdc power supply, alarm relay (NC) and tamper switch (NC) rated 0.5A at 100 vdc, center band frequency of 10.5 GHz, RFI immunity up to 100 watts within 10 feet from all mobile bands 27-100 MHz, PIR fields of view (dual elements), 9 long range, 6 intermediate 3 longer, 3 under, adjustable sensitivity in 2-4 steps in field of view, automatic temperature compensation. C&K Systems Inc. Model No. DT-440S, or equal.

Install and set field of view as recommended by manufacturer and as required by the OWNER. Connect alarm relay and tamper contact in series and to the PLC as an individual discrete input. All wiring shall be installed in raceways as specified in section, "Electrical General Provisions."

All security switches will be connected to give one signal to SCADA system. Provide with 12 vdc power supply with battery backup capacity as recommended by sensor manufacturer.

3. Motion Detector (Long Range): Motion detectors shall be similar in all respects to YA-002 above except range up to 120 feet with 10-foot beam spread. Alarm contact shall be form C, 2 amps at 100 vdc. C&K Systems Inc. Model No. 8100S with 12 vdc power supply and battery backup.

K. Interposing Relays: Interposing relays shall be electro-mechanical relay with octal-type plug termination with the following features: indicator lamp, silver-cadmium oxide contacts rated for 10 amps and UL recognized. Relays shall be Potter & Brumfield KRPA-11AN-120V with No. 27E122 base or equal/Install in new marshalling Boxes or as indicated on the drawings or in the Appendices.

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L. 120 VAC Discrete Inputs: 120 vac signals from existing equipment shall be connected to the PLC as indicated on the drawings and in the Appendices. Inputs shall be wired into terminal boxes within the Marshalling Box and from the Marshalling Box to the PLC. All wiring shall conform to section, "Electrical General Provisions."

M. Dry Contact Discrete Inputs: All available existing and new telemetry contacts shall be connected to the PLC as shown on the drawings and in the Appendices. Contacts shall be wired to terminal blocks with the Marshalling Box and from the Marshalling Box to the PLC. All wiring shall conform to section, "Electrical General Provisions."

2.04 SPARE PARTS, SUPPLIES, TOOLS AND TEST EQUIPMENT

A. General: It is intended that sufficient spare parts and supplies necessary to support one year's operation and all tools and test equipment necessary to troubleshoot and maintain the system shall be furnished with the system.

B. Spare Parts: As a minimum, the spare parts listed below shall be furnished. No spare parts for the central, sub-master, and portable computers are required to be furnished under this contract.

1. PLCs: One of each type of circuit boards furnished with the PLCs shall be furnished. A complete set of ROM chips shall also be furnished.
2. I/O Isolators, Converters, etc.: One spare unit shall be furnished for each type signal converter, isolator, interposing relay or the I/O interface device furnished with the system.
3. Instrumentation: One spare unit for each instrument type provided (as listed in the previous sub-section) shall be furnished.

PART3—EXECUTION

3.01 INSTALLATION

A. General: The CONTRACTOR shall employ installers who are skilled and experienced in the installation and connection of all PLC elements, instruments, accessories and assemblies furnished. Mechanical and electrical work shall be performed as specified in the applicable sections of Divisions 15 and 16, respectively.

B. Wire Marking: Each signal and control circuit conductor connected to a given electrical point shall be designated by a single unique number which shall be shown on all shop drawings. These numbers shall be marked on all conductors at every terminal using white numbered wire

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markers which shall be permanently marked heat-shrink plastic.

C. Mounting and Connection: The CONTRACTOR shall install and connect all field-mounted components and assemblies under the criteria imposed by the equipment manufacturer and the system supplier. The installation personnel shall be provided with a final reviewed copy of the shop drawings and data.

D. Technical Assistance: The CONTRACTOR shall provide a trained technical field representative to instruct installation personnel on any and all equipment installation requirements. Thereafter, the technical field representative shall be readily available to answer questions and supply clarification when needed by installation personnel.

E. Final Checks: After all installation and connection work has been completed, the technical field representative shall check it all for correctness, verifying polarity of electric power and signal connections, making sure all process connections are free of leaks, and all other similar details. The technical field representative shall certify in writing to the ENGINEER that each loop and system has been checked out and that all discrepancies has been corrected by the installation personnel.

3.02 SCADA RADIO SYSTEM INSTALLATION

A. General: Installation of all radio equipment which will provide the communication links for the Jefferson Parish SCADA system shall be performed in accordance with manufacturer's recommendations, with good and accepted microwave and radio installation practices and with these specifications. All miscellaneous installation material, tools and test equipment shall be suitable for the tasks to be performed. All work shall be performed by qualified personnel experienced in the trade involved.

B. PLC Radio Installation: Each PLC radio shall be installed on the metal back-plate of its associated PLC enclosure using stainless steel hardware. Radios shall be installed so that they may readily be removed for repair or replacement.

C. D.C. Power Wiring: All D.C. power wiring used to connect PLC radio equipment to the PLC D.C. power source shall be a two-conductor cable with stranded copper AWG #14 conductors. The conductor with red insulation shall be used for the positive supply and conductor with black insulation shall be used for the negative return (ground.)

D. Grounding: The case of each PLC radio shall be grounded to the PLC station ground using a bare solid AWG #6 ground connector. Burndy Type KA one-hole copper grounding lugs shall be used to connect the equipment to the ground conductor. Crimp or solder type lugs will not be permitted. Brass or stainless steel bolts, nuts and washers shall be used to connect the lugs to the equipment.

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E. Data and Control Wiring: Data and control wiring between PLC radio and the PLC shall conform to EIA RS-232-C specifications.

3.03 ENCLOSURE SIGNAL AND CONTROL CIRCUIT WIRING

A. Calibration: All instruments and systems provided shall be calibrated after installation, in conformance with the component manufacturer's instructions. This shall provide that those components having adjustable features are set carefully for the specific conditions and applications of this installation, and insure that components and/or systems are within the specified limits of accuracy. Defective elements which cannot achieve proper calibration or accuracy, either individually or within a system, shall be replaced. This calibration work shall be accomplished by appropriately experienced technical field representatives. The CONTRACTOR shall certify in writing to the ENGINEER that, for each loop and system, all calibrations have been made and that all instruments are ready to operate. The contractor shall provide a complete record of all calibrations, adjustments, and settings.

B. Proof of Conformance: The burden of proof of conformance to specified accuracy and performance is on the CONTRACTOR. The CONTRACTOR shall supply necessary test equipment and technical personnel if called upon to prove accuracy and/or performance, at no separate additional cost to the OWNER, wherever reasonable doubt or evidence of malfunction or poor performance may appear.

C. Testing: All systems shall be exercised through complete operational tests in the presence of the ENGINEER in order to demonstrate achievement of the specified performance. Operational tests depend upon completion of work specified elsewhere in these Contract Documents. The scheduling of tests shall be coordinated by the CONTRACTOR among all parties involved so that the tests may proceed without delays or disruption by uncompleted work.

D. Start-up: When all equipment and systems have been assessed by the CONTRACTOR to have been successfully carried through complete operational tests with not less than a minimum of simulation, and the ENGINEER concurs in this assessment, switchover and system start-up can follow. Only one site at a time will be taken off line. At each site the existing controls will be disconnected and the new controls will be connected and start-up for that site will be performed. When all control and other functions are made fully operational at that site, work at the next scheduled site may begin.

3.04 SCADA RADIO SYSTEM TESTING

A. General: Prior to installation of the SCADA radio equipment, the CONTRACTOR shall assemble all major items of equipment acquired under these specifications at a single location and test the equipment as an operating system. After all equipment has been installed, placed in operation and optimized, the CONTRACTOR shall conduct final system test. Should, at any time during pre-installation or final system testing, any item of equipment or the equipment

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operating as a system fail to meet specifications, it shall be the responsibility of the CONTRACTOR at his sole expense to repair or replace any or all equipment causing said failure.

B. Pre-installation Testing: Prior to installation of the radio equipment at the various sites, the CONTRACTOR shall assemble all equipment at a single site and shall test each radio assembly for proper operation. Upon successful completion of equipment testing, the equipment shall be tested as an operating system.

C. R.F. Equipment Testing: The following measurements shall be made, recorded and compared to normal readings on each R.F. assembly prior to system testing to ensure that all equipment meets published specification:

Operating Voltages
 Transmitter Frequency
 Transmitter Output Power (at output of duplexer)
 Transmitter Deviation
 Receiver Local Oscillator Frequency

Receiver Sensitivity (10 to -6 BER)
 Protection System Operation (master radios only)

B. Additional Requirements: Any power supplies, signal isolators, convertors, interposing relays, etc., that are necessary to make existing signals and equipment compatible with the PLC I/O system, shall be furnished and installed as a part of this Contract.

3.05 DATA BASE CONFIGURATION

A. Listed References: The analog and digital data base inputs and outputs specified above are to be configured for this system. Points specified as future shall be included in the configured data base and blocked out.

B. Additional Requirements: Any other data base points that are required to perform specified control, display, or reporting functions shall be included in the configured data base. Also included shall be the following standard calculation points:

1. For each electric pump that motor current is being monitored, pumping power usage shall be calculated at the PLC. Where voltage is not being measured, an inserted valve shall be used.
2. For the drainage system pumps, pump flow shall be calculated at the PLC, based on measured suction and discharge head and a pump curve to be furnished later. For engine drive pumps, a speed factor shall be included.

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3. Rain totals shall be multiplied by an area factor to calculate total rain volume. These shall be summed for East Bank and four separate West Bank totals.

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Addendum No. 1
Bid No. 50-112381

PART 1—GENERAL

1.01 THE REQUIREMENT

A. The CONTRACTOR shall furnish and install all piping systems shown and specified, in accordance with the requirements of the Contract Documents. Each system shall be complete with all necessary small steel piping, stainless steel tubing copper tubing, fittings, hangers, supports, anchors, expansion joints, flexible connectors, valves, welding, accessories, heat tracing, insulation, lining and coating, testing, disinfection, excavation, backfill and encasement, to provide a complete functional installation of the piping system in accordance with the requirements of the contract document. The WORK under this section is associated with the installation of instruments in existing vessels and/or piping systems.

1.02 RELATED WORK SPECIFIED ELSEWHERE

- A. Contract Submittals.
- B. Earthwork.
- C. Instrumentation & Control.

1.03 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

A. Codes: All codes, as referenced herein are specified in Section entitled “Reference Standards.”

B. Commercial Standards:

ANSI/ASME B16.3	Malleable Iron Threaded Fittings Class 150 and 300.
ANSI/ASME B1.20.1	Pipe Threads, General Purpose (inch)
ANSI/ASME D1.1	Structural Welding Code.
ANTM A 307	Specification for Carbon Steel Externally Threaded Standard Fasteners
ASTM A 325	Specification for High Strength Bolts for Structural Steel Joints.
ANSI/ASME B16.15	Cast Bronze Threaded Fittings, Classes 125 & 250.
ANSI B16.22	Wrought Copper and Copper Alloy Solder Jolt Pressure Revised 2/5/2013

	Fittings.
ANSI/NFPA 70	National Electric Code.
ASRM A 53	Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated Welded and Seamless.
ASTM A120	Specification for Pipe, Steel, Black and Hot-Dipped. Zinc-Coated Welded and Seamless.
ASTM A312	Specifications for Seamless & Welded Austenitic Stainless Steel Pipe.
ANSI'ASME B31.1	Power Piping.
ASTM A106	Specifications for Zinc (Hot Galvanized) Coating on Products.
ASTM B88	Specifications for Seamless Copper Water Tube.

1.04 CONTRACTOR SUBMITTALS

A. For the material and equipment items supplied under the provisions of this section, the CONTRACTOR shall submit copies of the manufacturer's product specifications and performance details according to the requirements of Section entitled, "Contractor Submittals" and "Instrumentation and Control."

1.05 QUALITY ASSURANCE

A. Tests: After installation, all lines shall be checked for leaks. All leaks shall be repaired.

B. Welding Requirements: All welding procedures used to fabricate pipe shall conform to the requirements of ANSI B31.1.

C. Welder Qualifications: All welding shall be done by skilled welders, welding operators, and tackers who have had adequate experience in the methods and materials to be used. Welders shall be qualified under the provisions of ANSI/AWS D1.1 and with the requirements of Section IX of the ASME Boiler and Pressure Vessel Code, and by an independent local, approved testing agency not more than 6 months prior to commencing work on the pipeline. Machines and electrodes similar to those used in the WORK shall be used in qualification tests. The CONTRACTOR shall furnish all material and bear the expense of qualifying welders.

1.06 MATERIAL DELIVERY, STORAGE, AND PROTECTION

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A. All piping materials, fittings, valves, and accessories shall be delivered in a clean and undamaged condition and stored off the ground, to provide protection against oxidation caused by ground contact. All defective or damaged materials shall be replaced with new materials.

1.07 CLEANUP

A. After completion of the work, all remaining pipe cuttings, joining and wrapping materials, and other scattered debris, shall be removed from the site. The entire piping system shall be handed over in a clean and functional condition.

PART 2--PRODUCTS

2.01 SMALL STEEL PIPE

A. Steel pipe in sizes of 6 inches in diameter and smaller shall be galvanized type shall conform to the requirements of ASTM A120, and shall be schedule 40 or 80. Connections shall be threaded (NPT) and shall be in accordance with ANSI/ASME B1.20.

2.02 STAINLESS STEEL TUBING

A. Stainless steel tubing shall be type 316 with a minimum wall thickness of 0.035 inch and conform to ASTM A 312.

2.03 COPPER TUBING

A. Copper Tubing shall conform to the requirements of AATM B88 and shall by Type K.

2.04 FITTING

A. Fittings for galvanized steel pipe shall be of 300 lbs galvanized malleable iron with threaded (NPT) ends.

B. Stainless steel tube fittings shall be Type 316, compression type (nut and furrule) manufactured by Swagelok or equal.

C. Thread-o-lets shall be standard weight ASTM A181 grade 1 fitting.

2.05 SUPPORT

A. Code Compliance: All piping and tubing systems and their connections to equipment shall be properly supported to prevent undue deflection vibration, and stresses on piping, equipment, and structures. All supports and parts there of shall conform to the requirements of ANSI/ASME B31.1, except as supplemented or modified by these Specifications.

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B. Structural Members: Wherever possible, pipes and tubes shall be attached to structural members. Where it is necessary to frame members between existing members, such supplementary member shall be provided by the CONTRACTOR at no additional cost to the OWNER. All supplementary members shall be in accordance with the requirements of the building code and the American Institute of Steel Construction.

C. Support Spacing: Supports for piping and tubing with the longitudinal axis in approximately a horizontal position shall be spaced to prevent excessive sag bending and shear stresses in the piping, with special consideration given where components such as valves, impose concentrated loads. The suggested maximum spacing of supports is 6-feet for 1-inch or smaller in diameter of pipe or tube.

D. Hangers: Pipe and tube hangers shall be capable of supporting the pipe and tubes in all conditions of operation. They shall allow for free expansion and contraction of the piping, and shall prevent excessive stress on equipment. All hangers shall have a means of vertical adjustment after erection. Hangers shall be designed so that they cannot become disengaged by any movement of the supported pipe. Hangers subject to shock, seismic disturbances, or thrust imposed by the actuation of safety valves, shall include hydraulic shock suppressors. All hanger rods shall be subject to tensile loading only.

E. Hangers Subject to Horizontal Movements: At hanger locations where lateral or axial movement is anticipated, suitable linkage shall be provided to permit such movement. Where horizontal pipe movement is greater than ½ inch, or where the hanger rod deflection from the vertical is greater than 4 degrees from the cold to the hot position of the pipe, the hanger rod and structural attachment shall be offset in such a manner that the rod is vertical in the hot position.

F. Spring-Type Hangers: Spring-type pipe hangers shall be provided for piping, subject to vibration or vertical expansion and contraction, such as engine exhausts and similar piping. All spring-type hangers shall be sized to the manufacturer's printed recommendations and the loading conditions encountered. Variable spring supports shall be provided with means to limit misalignment, buckling, eccentric loading, or to prevent overstressing of the spring and with means to indicate at all times the compression of the spring. The support shall be designed for a maximum variation in supporting effort of 25-percent for the total travel resulting from thermal movement.

G. Thermal Expansion: Wherever expansion and contraction of piping is expected, a sufficient number of expansion loops or joints shall be provided, together with the necessary rolling or sliding supports, anchors, guides, pivots, and restraints. They shall permit the piping to expand and contract freely in directions away from the anchor points and shall be structurally suitable to withstand all loads imposed.

H. Heat Transmission: Support hangers, anchors, and guides shall be so designed and insulated that excessive heat will not be transmitted to the structure or to other equipment.

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I. Free-standing Piping: Free-standing pipe connections to equipment, like chemical feeders, pumps, etc., shall be firmly attached to fabricated steel frames made of angles, channels, or I-beams anchored to the structure. Exterior, free-standing overhead piping shall be supported on fabricated pipe stands, consisting of pipe columns anchored to concrete footings, with horizontal, welded steel angles and U-bolts or clamps, securing the pipe.

J. Stock Part: Where not specifically shown or detailed, designs, generally accepted as exemplifying good engineering practice, using stock or production parts, shall be utilized wherever possible. Such parts shall be locally available, new, of best commercial quality, designed and rated for the intended purpose.

K. Galvanizing: All steel support shall be blast-cleaned after fabrication and hot-dip galvanized in accordance with ASTM123.

2.06 VALVES

A. All valves shall be 150 lbs bronze gate valves with solid wedge disc rising stem, union bonnet and screwed ends. Valves shall be Crete Figure 431-UB or equal.

PART 3--EXECUTION

A. Cleaning: Before assembly all parts, piping and tubing shall be thoroughly cleaned of dirt, foreign particles, threading residues etc. The CONTRACTOR shall exercise good cleaning practice prior to assembly.

B. Assembly: All threaded joints shall be wrapped with teflon tape sealant prior to final connection.

C. Installation: All piping and tubing shall be installed plumb and parallel to building lines. Where necessary the CONTRACTOR shall slope all drain lines. Air and gas pipes shall be sloping to low point and provided with 150 lbs drain trap.

Pipe and tube hangers and supports shall be fabricated and installed by experienced welders and fitters, using the best welding procedures available. Fabricated supports shall be neat in appearance without sharp corners, burrs, and edges.

Pipe and tube supports and hangers shall be positioned in such a way as to produce an orderly, neat piping system. All hanger rods shall be vertical, without offsets. Hangers shall be adjusted to line up groups of pipes at the proper grade for drainage and venting, as close to ceilings or roofs as possible, without interference with outer work.

-END OF SECTION-

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Addendum No. 1
Bid No. 50-112381

SECTION 16050-ELECTRICAL GENERAL PROVISIONS

PART 1—GENERAL

1.01 THE REQUIREMENT

A. The CONTRACTOR shall take into consideration at all times the multi-site nature of the work and shall provide all tools, supplies, materials, equipment, and all labor necessary for the furnishing, construction, installation, testing, and operation of all electrical work and appurtenant work necessary to provide a complete unified and operable system, all in accordance with the requirements of the Contract Documents.

B. The provisions of this Section shall apply to all electrical items specified in the various Sections of Division (16) of these Specifications, except where otherwise specified or shown in the Contract Documents.

1.02 EXISTING EQUIPMENT

A. At various sites, as indicated in the Contract Documents, existing sensors, equipment and PLC's are presently installed and connected to an existing system. Under this Contract remove or reuse existing equipment as indicated.

B. Verify with the ENGINEER on the disposition of all items and wiring to be removed. Deliver all removed equipment to locations in Jefferson Parish as directed.

C. Repair, patch and refinish surfaces to the satisfaction of the ENGINEER where existing equipment is removed.

1.03 RELATED WORK SPECIFIED ELSEWHERE

A. Computer Monitoring and Control System.

B. Project Closeout.

C. Earthwork for Buried Work.

1.04 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

A. All work specified herein shall conform to or exceed the applicable requirements of the referenced portions of the following recognized standards and codes to the extent that provisions thereof are not in conflict with other provisions of these specifications.

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A. Codes and Standards:

National Electrical Code (NEC)
 Standards and Practices for Instrumentation
 Instrument Society of America (ISA)
 Institute of Electrical and Electronics Engineers (IEEE)
 National Electrical Contractors Association (NECA)
 Underwriters Laboratories (UL)
 American National Standards Institute (ANSI)

B. Government Standards:

FS WW-C-581E Conduit, Metal, Rigid, and Intermediate; and Coupling, Elbow,
 and Nipple, Electrical Conduit, Steel, Zinc Coated.

C. Commercial Standards:

ANSI C80.1-1983 Rigid Steel Conduit, Zinc Coated, Specification for.
 ANSI Z55.1-67 Gray Finishes for Industrial Apparatus and Equipment.
 ANSI/UL 467-84 Grounding and Bonding Equipment, Safety Standard For.
 IPCEA S-61-402 Thermoplastic-Insulated Wire and Cable for the Transmission
 and Distribution of Electrical Energy.
 IPCEA S-19-81 Rubber-Insulated Wire and Cable for the Transmission and
 Distribution of Electrical Energy.

E. All Equipment furnished by the CONTRACTOR shall be listed by and shall bear the label of Underwriters' Laboratories, Incorporated, (UL) or of an independent testing laboratory acceptable the local Code enforcement agency having jurisdiction.

F. The construction and installation of all electrical equipment and materials shall comply with all applicable provisions of the OS Safety and Health Standards (29CFR1910 and 29CFR1926, as applicable). State Building Standards, and applicable local codes and regulations.

1.05 DRAWINGS

A. The drawings provided as part of the Contract Documents are diagrammatic and show typical requirements applicable to many types of sites and locations. The CONTRACTOR shall allow in its bid, procurement, installation and testing work for variations in sites dimensions, layout, ease of access, and construction utilities available at the various sites. In no case will extra payments be made to the CONTRACTOR because of site variations.

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B. The CONTRACTOR shall submit complete material lists for the work of this Section. Such lists shall state manufacturer and brand name of each item or class of material. The CONTRACTOR shall also submit shop drawings for all grounding work not specifically shown.

C. Shop drawings are required for materials and equipment listed in other sections. Shop drawings shall provide sufficient information to evaluate the suitability of the proposed material or equipment for the intended use, and for compliance with these Specifications.

D. Catalog data shall be submitted to supplement all shop drawings. Catalog custom bulletins, brochures, or the like or photocopies of applicable pages thereof shall be submitted for mass produced, non-custom manufactured material. These catalog data sheets shall be stamped to indicate the project name, applicable Specification section and paragraph, model number, and options. This information shall be marked in spaces designated for such data in the stamp.

E. Materials and Equipment Schedules: The CONTRACTOR shall deliver to the ENGINEER a complete list of all materials, equipment, apparatus, and fixtures which it proposes to use. The list shall include sizes, names of manufacturers, catalog numbers, and such other information required to identify the items.

F. Record Drawings: In addition to the Record Drawings as part of the record drawing requirements specified in Section entitled Contractor Submittals" the CONTRACTOR shall show depths and routing of all concealed below-grade electrical installations. Said set of record drawings shall be available to the ENGINEER during construction.

1.06 QUALITY ASSURANCE

A. Field Control of Location and Arrangement: Location and arrangement of outlets, conduit runs, equipment, and other items shall be determined by the CONTRACTOR in the field based on the physical size and arrangement of equipment, finished elevations, and other obstructions.

B. All conduit and equipment shall be installed in such a manner as to avoid all obstructions and to preserve head room and keep openings and passageway clear. Where the Drawings do not indicate exact locations, such locations shall be obtained from the ENGINEER. Where equipment is installed without instruction and must be moved, it shall be moved without additional cost to the OWNER.

C. Workmanship: All materials and equipment shall be new and shall be installed in accordance with printed recommendations of the manufacturer which have been reviewed by the ENGINEER. The installation shall be accomplished by workmen skilled in this type of work and installation shall be coordinated in the field with other trades so that interferences are avoided.

D. All work, including installation, connection, calibration, testing, and adjustment, shall be

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accomplished by qualified, experienced personnel working under continuous, competent supervision. The completed installation shall display competent work, reflecting adherence to prevailing industrial standards and methods.

E. Protection of Equipment and Materials: The CONTRACTOR shall provide adequate means for and shall fully protect all finished parts of the materials and equipment against damage from any cause during the progress of the work and until acceptable by the ENGINEER.

F. All materials and equipment, both in storage and during construction, shall be covered in such a manner that no finished surfaces will be damaged, marred, or splattered with water foam, plaster, or paint. All moving parts shall be kept clean and dry.

G. The CONTRACTOR shall replace or have refinished by the manufacturer, all damaged material or equipment including face plates of panels and enclosures, at no expense to the OWNER.

H. Tests: The CONTRACTOR shall make all tests required by the ENGINEER or other authorities having jurisdictions. All such tests shall be performed in presence of the ENGINEER. The CONTRACTOR shall furnish all necessary testing equipment and pay all costs of tests, including all replacement parts and labor necessary due to damaged resulting from damaged equipment or from test and correction of faulty installation. The following testing shall be accomplished:

1. Testing for the ground resistance value specified under ‘Grounding,’ herein.
2. Insulation resistance tests as specified under ‘Wire and Cable,’ herein.

I. Standard test reports for mass-produced equipment shall be submitted along with the shop drawing for such equipment. Test reports on testing specifically required for individual pieces of equipment shall be submitted to the ENGINEER for review prior to final acceptance of the project.

J. Any test failure shall be corrected in a manner satisfactory to the ENGINEER.

1.07 CLEANUP

A. In addition to the requirement of “Cleanup” in Section entitled, “Project Closeout,” All parts of the materials and equipment shall be thoroughly cleaned. Exposed parts shall be thoroughly clean of cement, plaster and other materials. All oil and grease spots shall be removed with a non-flammable cleaning solvent. Such surfaces shall be carefully wiped and all cracks and corners scraped out.

B. During the progress of the work the CONTRACTOR shall clean the premises and shall leave the premises and all portions of the site free of debris.

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PART 2--PRODUCTS

2.01 GENERAL

A. All equipment and materials shall be new, shall be listed by UL, FM or CSA and shall bear the appropriate label, where such requirements apply. All equipment and materials shall be the products of experienced manufacturers. Similar items in the project shall be products of the same manufacturer. All equipment and materials shall be of industrial grade and standard of construction; shall be of sturdy design and manufacture; and shall be capable of reliable, trouble-free service.

2.02 GROUNDING

A. General: All components of the grounding electrode system shall conform to the applicable requirements of National Electrical Code Article 250.

B. Grounding cable shall be copper and shall be sized in accordance with Code requirements when sizes are not specifically called for in the Contract Documents.

2.03 RACEWAYS AND CONDUITS

A. RACEWAYS: Raceway shall be rigid steel conduit, ¾-inch trade size minimum, unless shown otherwise. Rigid steel conduit shall be full weight mild steel hot-dip galvanized and bichromate coated inside and outside after galvanizing. All steel conduits installed in direct contact with earth and in concrete slabs on grade shall be corrosion-protected. Corrosion-protected conduit shall be left exposed until inspected and accepted by the ENGINEER.

Exceptions

1. All exposed conduit and fittings provided shall be PVC coated rigid steel conduit. Conduit shall be coated inside and out, Robroy Industries, Plasti-bond Rod or approved equal.

2. Ground conductors shall be run in Schedule 40 PVC conduit below grade and in rigid aluminum conduit above grade. Provide suitable rigid/PVC adapter at transition points.

B. Flexible metallic conduit shall be fabricated from galvanized interlocked steel strip. Liquid-tight flexible metallic conduit shall have an extruded PVC covering of the flexible steel conduit. Flexible conduit shall be American Brass, Anaconda, Electroflex, or equal.

2.04 WIRE AND CABLE

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A. Conductors: All Conductors including ground conductors shall be copper. Insulation shall bear the manufacturer's trademark, type voltage rating, and conductor size. Wire and cable shall be products of Anaconda, General Cable, General Electric, Okonite, Triangle, or equal.

B. Control wire shall be stranded, coated copper, machine tool grade Type MTW, UL approved. Conductors AWG #14 and larger shall have 3/64-inch thick insulation. Wire shall be rated at 600 volts at 60°C.

C. Multiconductor cable shall be rated at 600-volts and shall consist of AWG #14 stranded copper conductors individually insulated with 20 mils of polyethylene, a polyester film tape and an overall 10-mil jacket of PVC. Multiconductor cable shall be identified either by IPCEA color coding or ink imprinting.

D. Shielded cable shall consist of 2 or 3 AWG #18, stranded, tinned-copper conductors, as shown, individually insulated with 25 mils of polyethylene and a 100-percent aluminum foil tape, AWG #20 tinned copper drain wire, all under a 30-mil PVC jacket. Color coding shall be red-black, or red-black-clear. The shield shall be continuous and shall be grounded only at the receiver.

E. Direct burial and exposed cable shall be provided only where indicated on the drawings and shall be type MC with continuous seal welded copper-free aluminum sheath and overall PVC jacket. Conductors shall be as for shielded cable in 2.04.D above with individual shielded twisted pairs or triads as indicated. Okonite type CLX-SP-OS or equal by Rockbestos or Dekorun.

F. Terminations: Compression connectors shall be Burndy "Hi Lug, Thomas & Betts "Shure Stake", or equal/ threaded connectors shall be split bolt type of high strength copper alloy.

G. Spring connectors (wire nuts) shall be 3M "Scotch Lok", Ideal Wing Nuts; or equal.

H. Pre-insulated fork tongue lugs shall be "Thomas & Betts' RC Series. Burndy, or equal.

I. General purpose insulating tape shall be Scotch No. 33, Plymouth "Slipknot", or equal. High temperature tape shall be polyvinyl by Plymouth, 3M, or equal.

2.05 BOXES AND COVERS

A. Junction and pull boxes for interior and exterior surface mounting shall be cast galvanized steel with exterior mounting lugs, threaded hubs and cast galvanized covers.

B. Where cast boxes are required outdoors for pull or junction boxes, they shall have neoprene

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gasket covers and 316 stainless steel screws.

C. PLC/Radio and Marshalling Boxes: shall be sized to suit initial equipment with space for 50 percent future additional devices and terminal blocks. Boxes shall be NEMA 4X stainless steel for outdoor applications and all sewage lift stations regardless of location. Boxes shall be NEMA 12 gasket indoors except as noted above. Supply all enclosures with continuous piano hinge door, exterior mounting lugs and steel interior mounting plate finished in white enamel.

2.06 CONDUIT FITTINGS

A. General: Fittings shall comply with the same requirements as the raceway with which they will be used. Fittings having a volume less than 100 cubic inches for use with rigid steel conduit, shall be cast galvanized steel, with galvanized steel covers and neoprene gaskets. Provide PVC coated fittings at the Marrero Sewage Treatment Plant only.

B. Insulated bushings shall be galvanized malleable iron with insulating ring, similar to 0-z Type BLG, equivalent types by T & B, Steel City, Efcor, Gedney, or equal.

C. Insulated grounding bushings shall be galvanized malleable iron with insulating ring and with ground lug, such as O-Z Type BLG, equivalent types by T & B, Steel City, Efcor, or equal.

D. Erickson couplings shall be used at all points of union between ends of rigid steel conduits which cannot be coupled. Running threads and threadless couplings shall not be used. Couplings shall be 3-piece type such as Appleton Type EC, equivalent types such as manufactured by T & B, Steel City, Efcor Gedney, or equal.

E. Liquid-tight fittings shall be similar to Appleton Type ST, equivalent types such as manufactured by Crouse Hinds, T&B, Efcor Gedney, or equal

F. Hubs for threaded attachment of steel conduit to all outdoor enclosures and NEMA 4 indoor enclosures shall be similar to Appleton Type HUB, equivalent types such as manufactured by T & B, Efcor, Myers Scrutite, or equal

G. Transition fittings to mate steel to PVC conduit, and PVC access fitting, shall be as furnished or recommended by the manufacturer of the PVC conduit.

2.07 ELECTRICAL IDENTIFICATION

A. Conductor and Equipment Identification: Conductor and equipment identification devices shall be either imprinted plastic-coated clock marking devices such as manufactured by Brady, Thomas Betts, or equal, or shall be heat-shrink plastic tubing imprinted split-sleeve markers cemented in place, or equal.

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B. Identification Tape (Buried): Identification tape for protection of buried installation shall be a 6 inch wide green polyethylene tape imprinted "CAUTION-ELECTRIC UTILITIES BELOW".

PART 3--EXECUTION

3.01 POWER SUPPLIES

A. Radio/PLC Boxes and Marshalling Boxes: Generally, the CONTRACTOR is responsible for locating existing panelboards and determining the availability of spare branch circuits for connection of 120VAC power to the new equipment. Use spare branch circuits wherever possible, properly sized 15A or 20A, single pole, 120VAC (or 240 VAC in some cases) and install all required raceways and wiring to suit power requirements of equipment installed. Where no spare branch circuit exists add new circuit breakers to suit existing panelboards and as required to comply with equipment requirements.

B. Remote Operator Terminals (Sub-masters): These items are generally located in existing station control rooms or offices with commercial grade electrical systems and outlets. Use existing outlets wherever possible or add surface mounted 125 VAC duplex 20A grounding type receptacles to existing circuits. Verify existing circuit capacity and loading prior to installation. Use materials and methods to match existing.

C. Uninterruptible Power Supplies (UPS): Where existing UPS systems are easily accessible, connect all 120/240 VAC equipment to the UPS. Verify loading with OWNER prior to connection.

3.02 GROUNDING

A. Equipment Ground: Ground continuity throughout the facility shall be maintained by installing an electrically-continuous metallic raceway system or a non-metallic raceway with a grounding conductor when non-metallic raceway is permitted in the Contract Documents. Metallic raceway shall be installed with double lock nuts or hubs at enclosures. Non-metallic raceway containing d-c conductors operating at more than 50 volts to grounding conductor either bare, or green if insulated. Such conductor shall be bonded to terminal and intermediate metallic enclosures.

B. PLC Ground: Provide a new ground electrode and insulated grounding conductor run in non-magnetic conduit for each PLC installation. This ground shall be used solely for signal and PLC input/output grounding purposes and shall be isolated from other system and equipment grounds.

C. Metal equipment platforms which support any electrical equipment shall be bonded to the nearest ground bus or to the nearest switchgear ground bus. This grounding requirement is in addition to the raceway grounding required in the preceding Paragraph "A", herein.

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D. Connection to ground electrodes and ground conductors shall be bolted pressure type where exposed. Bolted connectors shall be assembled wrench-tight.

E. Fittings: Insulated grounding bushings shall be employed for all grounding connections to steel conduits in switchboards, in motor control centers, in pull boxes, and elsewhere where conduits do not terminate at a hub or a sheet metal enclosure.

F. Where insulated bushings are required, they shall be installed with double lock-nuts.

G. Shield Grounding: Shield instrumentation cable shall be grounded at one end only; this shall be at the "receiving" end of the signal carried by the cable, unless shop drawings indicate that the shield shall be grounded at both ends. Termination of each shield drain wire shall be on its own terminal screw. All of these terminal screws at the receiving end shall be jumped with No. 16 solid tinned bare copper wire; connection to ground shall be accomplished with a No. 12 green insulated conductor to the PLC isolated ground described above.

3.03 RACEWAY AND CONDUITS

A. Raceway General: Raceway systems shall be electrically and mechanically complete before conductors are installed. Bends and offsets shall be smooth and symmetrical, and shall be accomplished with tools designed for the purpose intended. Factory elbows shall be used for all ¾-inch conduits. Bends in larger sizes of metallic conduit shall be accomplished by field bending or by the use of factory elbows.

B. Flexible liquid-tight conduit shall be used for the connection of equipment such as motors, transformers, instruments valves or pressure switches subject to vibration or movement during normal operation or servicing. Flexible conduit may be used in length up to a maximum of 18 inches.

3.04 WIRES AND CABLES

A. Conductors: Conductors shall not be pulled into race until the raceway system has been freed of moisture and debris.

B. Conductors shall be hand pulled. Wire pulling lubricant, where needed shall be UL approved. Wire in panels, cabinet and gutters shall be neatly grouped using nylon tie straps, and shall be fanned out to terminals.

C. Terminations: The CONTRACTOR shall provide, install, and terminate the conductors required to interconnect control and instrumentation equipment specified in any section of these specifications excepts as may be otherwise specified in other sections.

D. Control conductors shall not be spliced and shall be terminated only terminal strips of

Revised 2/5/2013

vendor furnished and existing equipment. Control conductors are defined as conductors operating at 120-volts or less in circuits that indicate equipment status or that control the electric energy delivered to a power consuming devices.

E. Solid conductors shall be terminated at equipment terminal screws with proper care that conductor is tightly wound around screw and does not protrude beyond screw head. Stranded conductors shall be terminated directly on equipment box lugs making sure that all conductor strands are confined within lug. Use fork-tongue lugs where equipment box lugs have not been provided.

F. Control devices, such as solenoid operated valves, which are normally supplied with conductor pigtail, shall be terminated using spring connectors.

G. Shielded cables shall be installed with outer jacket and shield tape cut back no more than 6 inches from terminations and dressed with heat shrink tubing or lapped insulating tape so that only conductors and drain wire protrude and cut end of jacket and shield are concealed.

3.05 BOXES AND COVERS

A. Outlet boxes shall be used as junction boxes wherever possible. Where separate pull boxes are required they shall have screw covers. Outdoor boxes shall be provided with gasket covers and treaded hubs. Indoor boxes shall be painted

3.06 EQUIPMENT ANCHORING

A. Freestanding or wall-hung equipment shall be anchored in place by methods that will meet seismic requirement in the area where project is located. Wall-mounted panels that weigh more than 500 pounds or which are within 18 inches off the floor shall be provided with fabricated steel support pedestal(s). Pedestals shall be of welded steel angle sections hot-dip galvanized after fabrication. If the supported equipment is a panel or cabinet and enclosed with removable side plates, it shall match supported equipment is physical appearance and dimension.

B. Anchoring methods and leveling criteria specified in the printed recommendations of the equipment manufacturers are a part of the work of this Contract.

3.07 CONDUCTOR AND EQUIPMENT IDENTIFICATION

A. The completed electrical installation shall be provided with adequate identification to facilitate proper control of circuits and equipment and to reduce maintenance effort.

B. The CONTRACTOR shall assign to each control and instrumentation wire and cable a unique identification number. Said numbers shall be assigned to ass conductors having common terminals and shall be shown on all shop drawings. Identification numbers shall appear within 3 inches of conductor terminals. "Control" shall e defined as any conductor used

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for alarm, annunciator or signal purposes or any connect switch or relay contacts or any relay coils.

C. All 120-volt system feeder and branch circuit conductors shall be color coded: Phase black and Neutral-white. Color coding and phasing shall be consistent throughout the site, but bars at panel boards, switchboards, and motor control centers shall be connected Phase A-B-C, top to bottom, or left to right acing connecting lugs.

D. General purpose a-c control conductors shall be pink. General purpose d-c control conductors shall be blue.

E. All spare conductors shall be terminated on terminal screws and shall be identified with a unique number as well as with destination.

-END OF SECTION-

Revised 2/5/2013

Addendum No. 1
Bid No. 50-112381



JEFFERSON PARISH DEPT. OF PUBLIC WORKS
 DRAINAGE IMPROVEMENTS FOR EUSE AVENUE

SUMMARY OF ESTIMATED QUANTITIES

CB&I Coastal, Inc.
 The Marine Centre, 2424 Eastern Ave.,
 Suite 450 Metairie, LA 70001
 PHONE (504) 832-4878 FAX 504-832-4897

DATE	NOVEMBER 2014
BY	H.R.A.
CHECKED	S.F.L.
APPROVED	C.S.C.
DATE	NOVEMBER 2014
BY	H.R.A.
CHECKED	S.F.L.
APPROVED	C.S.C.

ITEM NO.	DESCRIPTION	UNITS	QUANTITY
201-01-00100	CLEARING AND GRUBBING	LS	1.0
202-01-00100	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	LS	1.0
202-02-00200	REMOVAL OF ASPHALT PAVEMENT	SY	276.0
202-02-32100	REMOVAL OF REINFORCED CONCRETE ARCH PIPE (18"x30"RCPPA)	LF	234.0
202-02-32210	REMOVAL OF REINFORCED CONCRETE PIPE (18" RCP)	LF	106.0
202-02-32500	REMOVAL OF PORTLAND CEMENT CONCRETE PAVEMENT	SY	404.0
203-01-00100	GENERAL EXCAVATION	CY	1,108.0
302-02-06100	CLASS II BASE COURSE (12" THICK) (STONE)	SY	431.0
402-01-00100	TRAFFIC MAINTENANCE AGGREGATE (VEHICLE MEASUREMENT)	CY	35.0
601-01-00300	PORTLAND CEMENT CONCRETE PAVEMENT (9" THICK)	SY	66.0
601-02-00500	PORTLAND CEMENT CONCRETE PAVEMENT (7" THICK)	SY	336.0
701-03-01160	STORM DRAIN PIPE (22" EQUIVALENT RCP) (31"x51" REPA)	LF	47.0
704-01-01020	GUARD RAIL (SINGLE THIRTEEN BEAM) (5'-3" SPACING)	LF	228.0
706-01-00100	CONCRETE WALK (4" THICK)	EA	4.0
706-02-00100	CONCRETE DRIVE (6" THICK)	SY	37.0
706-03-00000	INCIDENTAL CONCRETE PAVING (5" THICK)	SY	77.0
706-04-00100	HANDICAP CURB RAMP	EA	3.0
707-01-00200	CONCRETE BARRIER CURB	EA	2.0
711-01-00200	ROUNDABLE CONCRETE CURB	LF	346.0
711-01-00200	817-60R (15 LB. 36" THICK)	LS	1.0
714-01-00100	TEMPORARY SIGNS AND BARRICADES	SY	13.0
714-01-00600	524S SODDING (BENNING GRASS)	SY	26.0
720-01-00100	REINFORCEMENT (REINFORCING BARS)	CY	70.0
720-01-00100	REINFORCEMENT (REINFORCING BARS)	LS	1.0
720-01-00100	REINFORCEMENT (REINFORCING BARS)	ACRE	0.15
720-01-00100	CONSTRUCTION LAYOUT	LS	1.0
720-01-00100	STEEL SHEET PILE WALL (PZC-28)	SY	5,225.0
804-02-00100	TANNER HOLE MONOCOASTAL TREATMENT (CLASS B)	LF	2,970.0
805-01-00100	CLASS A CONCRETE (SUMP/BANK SCREEN)	CY	246.0
805-01-00100	CLASS A CONCRETE (GENERATION SLAB)	CY	14.0
805-01-00100	CLASS A CONCRETE (HEADWALL)	CY	16.0
805-12-02100	PRECAST CONCRETE BOX CULVERTS - 10' x 5'	EA	50.0
805-001	IP TYPE SLATCH BASIN	EA	2.0
805-002	CAST-IN-PLACE CONCRETE JUNCTION BOX #02	EA	1.0
805-003	CAST-IN-PLACE CONCRETE JUNCTION BOX #02	EA	1.0
805-004	CAST-IN-PLACE CONCRETE JUNCTION BOX #03	EA	1.0
805-005	ACCESS MANHOLE WITH COVER AND FRAME	EA	5.0
805-006	DEWATERING OPERATIONS	LS	1.0
805-007	TEMPORARY DAMS AND BAINFALL RUNOFF STORM WATER DIVERSION	LS	1.0
805-008	EXPLOSION EXCAVATION	EA	2.0
805-009	40 CFS PUMP VERTICAL AXIAL FLOW DRAINAGE PUMP & APPURTENANCES	EA	2.0
805-010	60 CFS PUMP VERTICAL AXIAL FLOW DRAINAGE PUMP & APPURTENANCES	EA	1.0
805-011	GENERATOR 500 KW PRIME	LS	1.0
805-012	WROUGHT IRON FENCE WITH CHAINWALL	LF	180.0
805-013	6-FOOT DOUBLE GATES FOR WROUGHT IRON FENCE (6-FOOT HEIGHT)	EA	1.0
805-014	36x36 ACCESS HATCH	EA	2.0
805-015	ELECTRICAL WORK	LS	1.0
805-016	EXISTING WROUGHT IRON FENCE (REMOVE AND REINSTALL)	LF	113.0
805-017	610 STONE (6" THICK)	SY	66.0
805-018	BAR (TRASH) RACK	LS	1.0
805-019	HANDRAIL	LF	32.0
805-020	PIPE CASING PENETRATION THROUGH SHEETPILE	EA	1.0
805-021	SAW CUTTING PORTLAND CEMENT CONCRETE PAVEMENT	LF	305.0
805-022	STANDBY PERSONNEL	HOURL	156.0
805-023	HYDRO GATE HEAVY DUTY FLAP GATE (MODEL 501 600x48)	EA	1.0
805-024	30" DUCTILE IRON DISCHARGE PIPING AND FITTINGS	LS	1.0
805-025	24" DUCTILE IRON DISCHARGE PIPING AND FITTINGS	LS	1.0
805-026	TEMPORARY RETAINING STRUCTURE (TR5)	LS	1.0
805-027	RELOCATION OF EXISTING SIGN	LS	1.0
805-028	WROUGHT IRON FENCE	LF	45.0
805-029	ENVIRONMENTAL PROTECTION	LS	1.0
805-030	PLUG EXISTING PIPE TO BE ABANDONED	EA	3.0
805-031	MOTOR CONTROL CENTER	LS	1.0
805-032	DAM REMOVAL AND REPLACEMENT	EA	2.0
805-033	SCADA POLE AND SCADA COMPONENTS	LS	1.0
805-034	VIDEO INSPECTION - SANITARY SEWER	LF	550.0
805-035	DUCTILE IRON PIPE (6")	LF	110.0
805-036	CAST IRON PIPE (6")	LF	110.0
805-037	GATE VALVE (6")	EA	1.0
805-038	GATE VALVE (6")	EA	1.0
805-039	TRANSITIONAL COUPLING (6")	EA	1.0
805-040	TRANSITIONAL COUPLING (6")	EA	1.0
805-041	DUCTILE IRON FITTINGS	LS	857.0

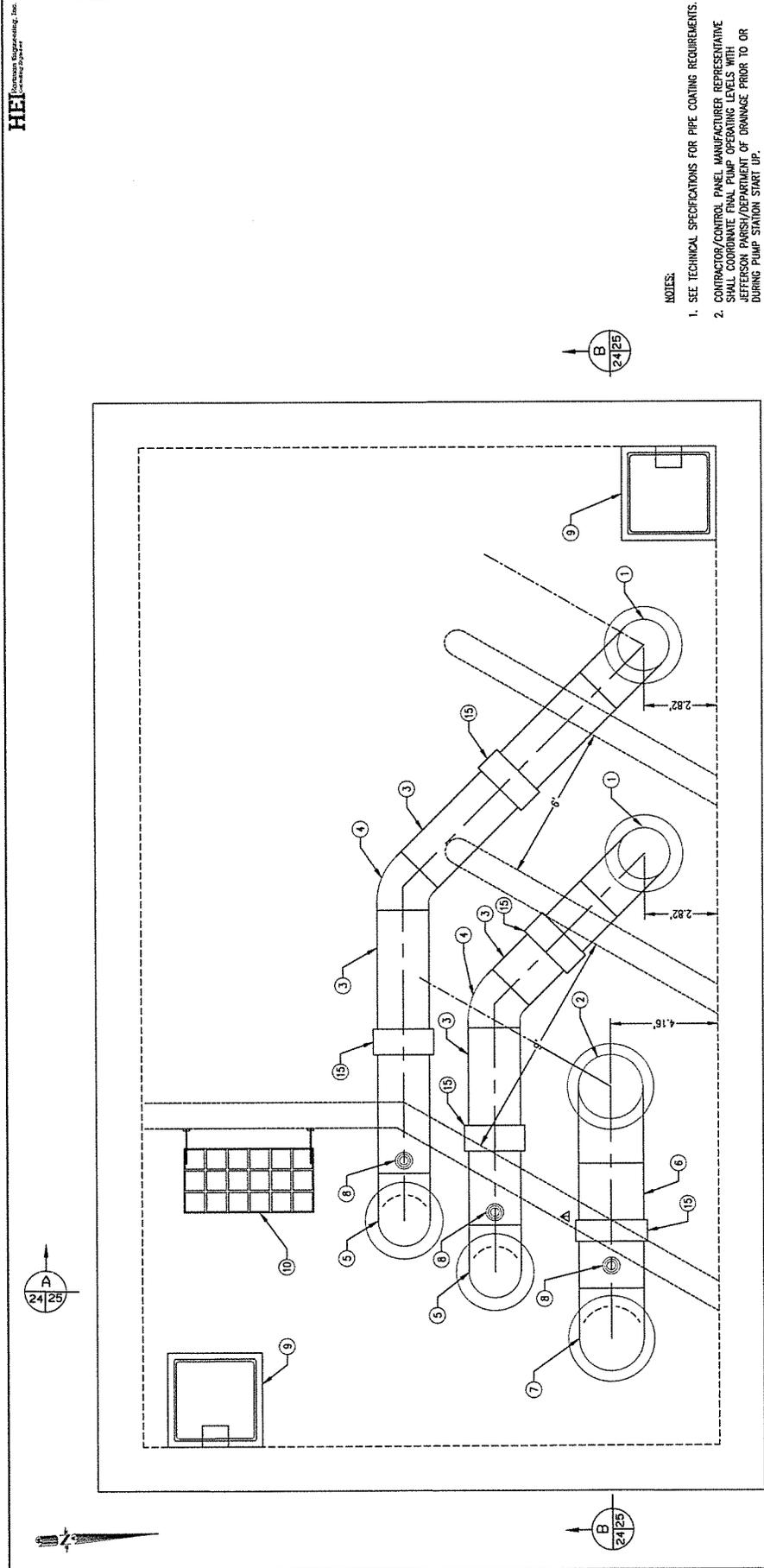


JEFFERSON PARISH DEPT. OF PUBLIC WORKS
 NEW DRAINAGE PUMP STATION AND
 DRAINAGE IMPROVEMENTS FOR EUSE AVENUE
 MECHANICAL SITE PLAN

Shaw Coastal, Inc.
 (A CORP. COMPANY)
 The Midtown Centre, 2424 Ederborn Ave.,
 SUITE 430 METairie, LA 70001
 PHONE (504) 832-4878/FAX 504-832-4897

REVISION	DATE	DESCRIPTION
R.M.F.	NOVEMBER, 2014	
E.M.C.		
S.C.C.		
R.M.F.		

NO.	DATE	APPROVAL NO.	REVISION DESCRIPTION
1	02/14/15		
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- NOTES:
- SEE TECHNICAL SPECIFICATIONS FOR PIPE COATING REQUIREMENTS.
 - CONTRACTOR/CONTROL PANEL MANUFACTURER REPRESENTATIVE SHALL COORDINATE FINAL PUMP OPERATING LEVELS WITH JEFFERSON PARISH/DEPARTMENT OF DRAINAGE PRIOR TO OR DURING PUMP STATION START UP.

ITEM NO.	DESCRIPTION	SIZE
1	VERTICAL MIXED FLOW PUMP	125 HP
2	VERTICAL MIXED FLOW PUMP	200 HP
3	D.I. PIPE FLANGE X FLANGE	24"
4	45° D.I. BEND	24"
5	90° D.I. BEND	24"
6	D.I. PIPE FLANGE X FLANGE	30"
7	90° D.I. BEND	30"
8	AIR RELEASE VALVE	2"
9	ACCESS HATCH	36" X 36"
10	FLAP GATE	5' X 3'
11	D.I. FLOOR FLANGE THIMBLE	30"
12	D.I. FLOOR FLANGE THIMBLE	24"
13	SUCTION COLUMN & BELL	24"
14	SUCTION COLUMN & BELL	30"
15	PIPE SUPPORT	24" OR 30"

MECHANICAL SITE PLAN
 SCALE: 1" = 2'-0"

PUMP ON SCHEDULE:
 PUMP 1 OR 2 ON @ 7.5' (PUMP 1 & 2 WILL ALTERNATE START UP ROLES)
 PUMP 3 ON @ 8.5'
 PUMP 1 OR 2 ON @ 9.0'

PUMP OFF SCHEDULE:
 PUMP 1 OR 2 OFF @ 8.5'
 PUMP 3 OFF @ 7.5'
 PUMP 1 OR 2 OFF @ 6.00'



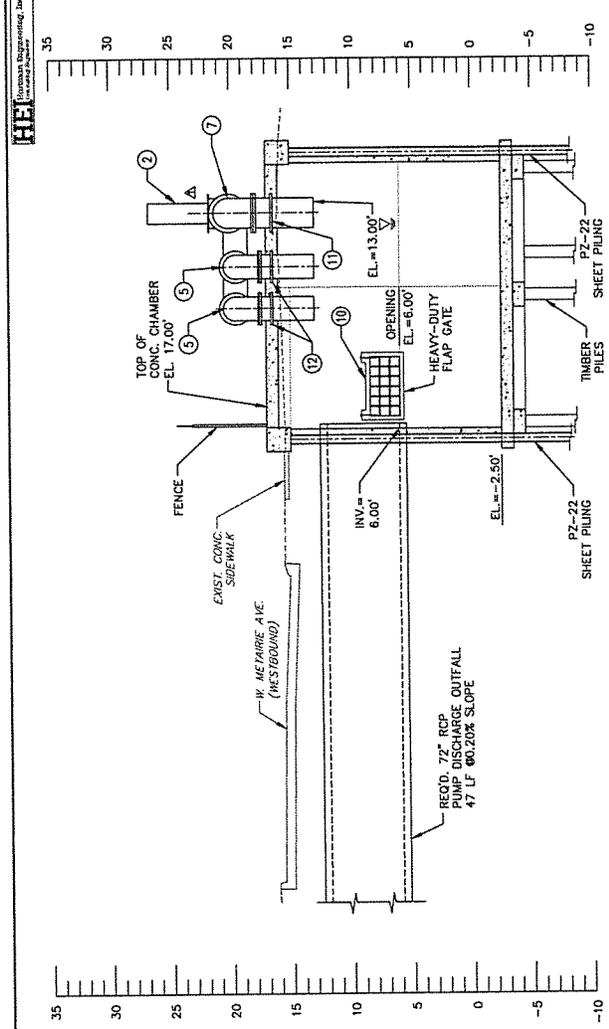


JEFFERSON PARISH DEPT. OF PUBLIC WORKS
 NEW DRAINAGE PUMP STATION AND
 DRAINAGE IMPROVEMENTS FOR EUSE AVENUE
 MECHANICAL CROSS SECTIONS

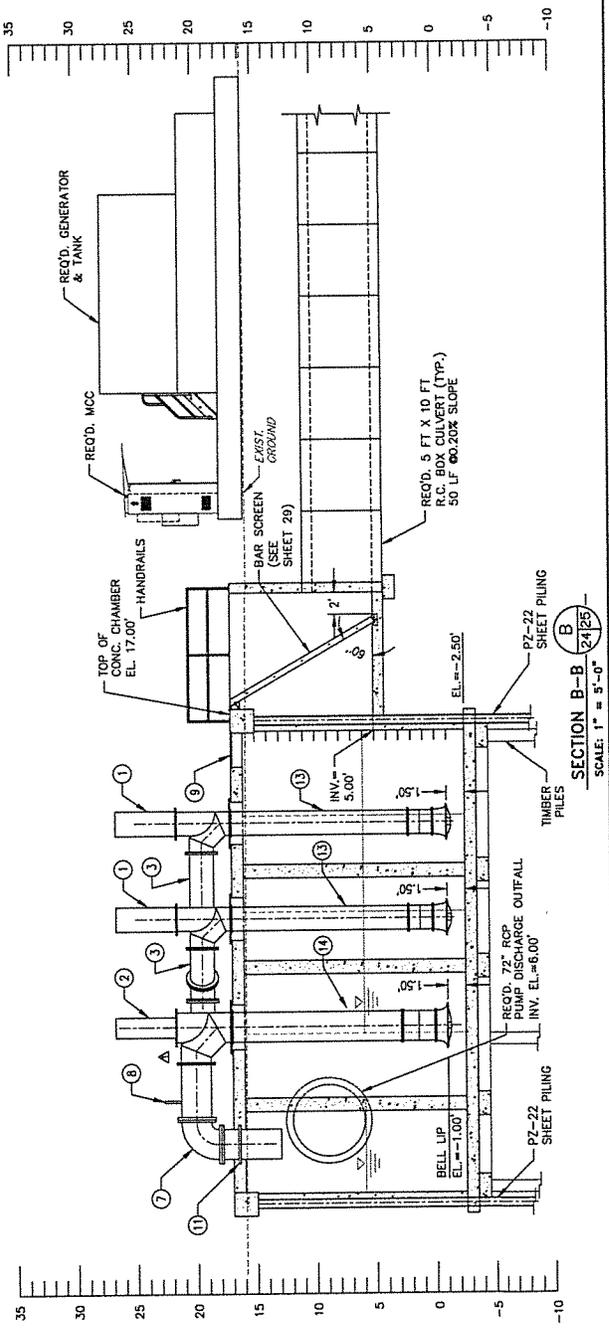
Shaw Coastal, Inc.
 The Metairie Centre, 2424 Esplanade Ave.,
 Suite 430 Metairie, LA 70001
 PHONE (504) 832-4878/FAX 504-832-4897

DESIGNED	R.M.F.
CHECKED	S.C.S.
DATE	NOVEMBER 2014
DATE	NOVEMBER 2014

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SECTION A-A
 SCALE: 1" = 5'-0"



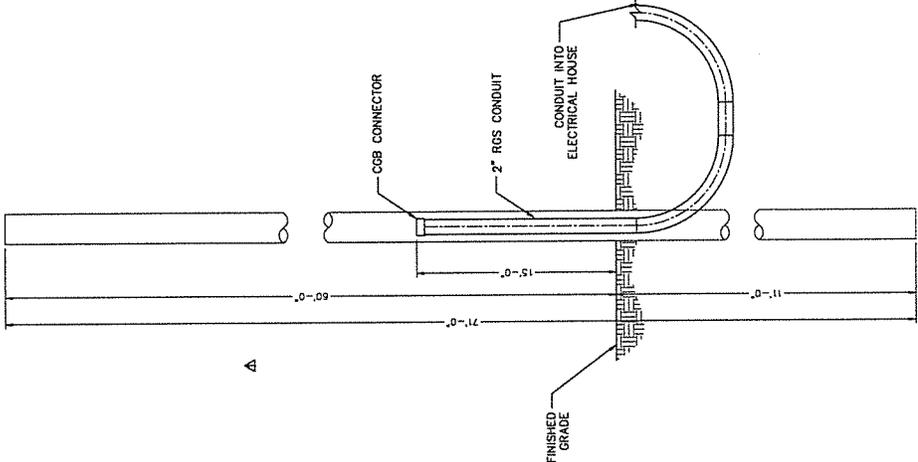
SECTION B-B
 SCALE: 1" = 5'-0"

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JEFFERSON PARISH DEPT. OF PUBLIC WORKS
 DRAINAGE IMPROVEMENTS FOR EUSE AVENUE
 NEW DRAINAGE PUMP STATION AND
 PIPE DETAILS

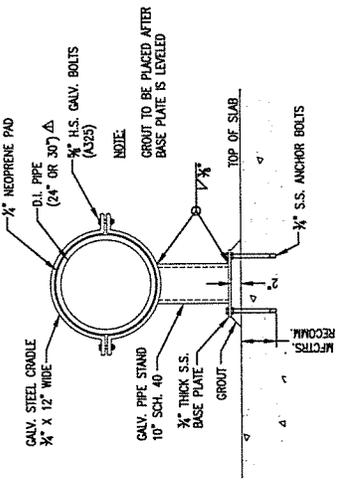
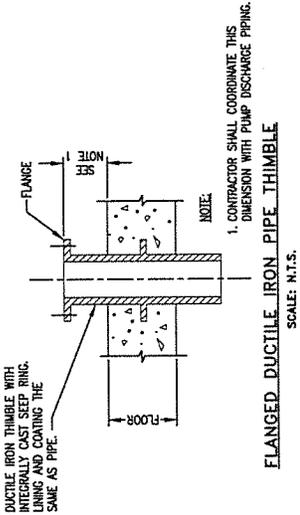


Shaw Coastal, Inc.
 (A CCA COMPANY)
 The Metairie Centre, 2424 Eschborn Ave.,
 Metairie, LA 70001
 PHONE (504) 882-4878 FAX 504-832-4897



63 TREATED TIMBER SCADA POLE (ELEVATION)
 SCALE: NOT TO SCALE

SCADA POLE NOTES:
 1. SUPPLY 2" CONDUIT AND CGB CONNECTOR UP TO 15 FT. ABOVE GROUND AND INTO NEW ELECTRICAL HOUSE.
 2. POLE TREATMENT 0.6#/CF OF CCA FOR STRUCTURAL POLES.



PRE-BID CONFERENCE
SIGN IN SHEET

DATE: FEBRUARY 26, 2015

BID 50-00112381

NEW DRAINAGE PUMP STATION AND DRAINAGE IMPROVEMENTS FOR ELISE AVENUE

NAME	COMPANY NAME & ADDRESS	PHONE & FAX NUMBER	E-MAIL ADDRESS
1) Misty A. Camardelle	Purchasing Department 200 Derbigny Street Gretna, LA 70054	504-364-2683 504-364-2693	mcamardelle@jeffparish.net
2) Bruce Duhan	Shavers Whittle Const P O Box 1448 Mandeville, LA	985-626-7673	bduhan@swelle.net w.evans@swelle.net
3) Melissa Clouatre	ETEC 7731 Office Park Blvd Baton Rouge, LA	225-295-1200	mclouatre@etec-sales.com
4) JOHN SIMONEAUX	LOU-CON INC. 3100 E ST Bernard Merry LA. 70075	504-271-3431 504 271-1184	micreqt.persson@yellow.com
5) BRIAN BAUDIER	COMMAND CONSTRUCTION 3206 N TORREBULL METairie LA 70002	504 887-8795 FAX 504 887-8906	STACITE COMMAND INDUSTRIES .com
Oscar Perez	Associated Pump & Supply 9094 Park Ave Houma La 70363	985-881-7077 985-381-6060	oscar@associatedpump.com

NAME	COMPANY NAME & ADDRESS	PHONE & FAX NUMBER	E-MAIL ADDRESS
7) MARC BOUDET	MWI 33 NW 2nd St Deerfield Beach, FL 33441	954-426-1500 954-426-1582	MarcB@mwicorp.com
8) Ryan Foster	Hartman Engineering 527 W. Esplanade Ave.	504-466-5667 504-466-6166	foster@hartmaneng.com
9) Charlie Geitkin	6 East 3rd St. Cycle Construction Kenner, LA	(504) 467-1444 (504) 467-1222	cgeitkin@cycleconstruction.com
10) Brett Aichart	Southern Services and Equipment 321 Bayou Rd St. Bernard 70085	504-682-8800 504-682-8810	brett@sse-la.com
11) ADAM SMITH	FLEMING CONSTRUCTION CO, LLC 23 EAST AIGLINE DR, KENNER LA 70002	504-464-4000	asmith@flemco.net
12) Clayton Davigle	Hard Rock 2305 L and A RD Met LA 70001	504-635-1050	CDavigle@HardRockConst.com
14) Matthew Dufrene	Stewart & Stevenson 1400 Destrehan Ave Harvey, LA 70128	504-310-6522 504-559-5311	m.dufrene@ssss.com

NAME	COMPANY NAME & ADDRESS	PHONE & FAX NUMBER	E-MAIL ADDRESS
15) GREG NANKMAN	SON BROS SON BROS	504 821 2400	gmnankm@bolsbro.com
16) Vincent Saladino	Bok Bros.	504-821-2400	vsa@bokbros.com
17) Jeremy Vuljain	M.R. Pittman Group	504-733-3040	jeremy@mrpittman.com
18) Robert Dale	JP Dinsinger	504 736 6252	bdale@jeffparish.com
19) Vuong Nguyen	JPDD	504-736-6730	vuonguyen@jeffparish.com
20) Gene Gillen	CB&I	504-832-4878	gene.gillen@cabi.com

NAME	COMPANY NAME & ADDRESS	PHONE & FAX NUMBER	E-MAIL ADDRESS
21) Agustin Rega	CIB&I	(504) 832-4878	agustin.rega@cibi.com
22) Denise Ashley	Jeff Parish Capital Projects Suite 906	(504) 736-6779 (504) 736-6739	Dashailey @ JEFFPARISH.NET
23) NATHAN LANDRY	DURA HEAVY CONSTRUCTION	504-737-3205 504-737-3905	NLANDRY @ DURRHC.COM
24)			
25)			
26)			



NEW DRAINAGE PUMP STATION AND DRAINAGE IMPROVEMENTS FOR ELISE AVENUE
BID PROPOSAL NO. 50-112381
ADDENDUM NO. 2
MARCH 5, 2015
PAGE 1 of 4

ADDENDUM NO. 2

DATE: MARCH 5, 2015

PROJECT:

**NEW DRAINAGE PUMP STATION AND DRAINAGE IMPROVEMENTS FOR ELISE AVENUE
JEFFERSON PARISH DEPARTMENT OF PUBLIC WORKS
DPW PROJECT NO. 2009-009-DR
BID PROPOSAL NO. 50-112381**

Sealed bids will be received until the hour of 2:00 PM, local time on TUESDAY, MARCH 10, 2015 in the Purchasing Department, Suite 4400, Jefferson Parish General Government Building, located at 200 Derbigny Street, Gretna, Louisiana, 70053, and publicly opened upon completion of administrative tasks for the following:

**JEFFERSON PARISH
NEW DRAINAGE PUMP STATION AND DRAINAGE IMPROVEMENTS FOR ELISE AVENUE
PUBLIC WORKS PROJECT NUMBER 2009-009-DR**

ADDENDUM ITEMS

- 1: Page TS-72 General Requirements Paragraph C: The approved manufacturers list has been revised. The current approved manufacturers are: Caterpillar, Cummins/Onan, Generac, Kohler, and MTU Onsite Energy. The revised page TS-72 is attached to this addendum and shall govern and replace any previous editions.
- 2: Page TS-92 Paragraph 44.05 Measurement: The first paragraph of 44.05 has been revised. The measurement description has been revised. The revised page TS-92 is attached to this addendum and shall govern and replace any previous editions.
- 3: Page TS-92 Paragraph 44.06 Payment: The first paragraph of 44.06 has been revised. The payment description has been revised. The revised page TS-92 is attached to this addendum and shall govern and replace any previous editions.
- 4: Page TS-92 Bid Item No. NS-024 Description: The description of Bid Item No. NS-024 has been revised. The revised page TS-92 is attached to this addendum and shall govern and replace any previous editions.

5: Page TS-108: The approved manufacturer list and approval process has been revised. The approved manufacturers are: Fairbanks Morse Model 24"-8411-1 stage / 30"-8411-1 stage, Allis Chalmers, Patterson or approved equal. The revised page TS-108 is attached to this addendum and shall govern and replace any previous editions.

6: Page TS-111: Table 11215-1A has been revised. The revised page TS-111 is attached to this addendum and shall govern and replace any previous editions.

7: Page TS-112: Table 11215-1B has been revised. The revised page TS-112 is attached to this addendum and shall govern and replace any previous editions.

8: Plan Sheet 205: The Jefferson Parish Sewer Standard Detail has been updated. Plan sheet 205 has been revised and attached to this addendum. The attached plan sheet 205 shall govern and replace any previous editions.

9: Is there a cutoff date for pump manufacturer for pre-approval prior to the bid date?

Approved manufacturer list and approved equal process have been revised. Please see specification revisions below and attached to this addendum.

10: Will the parish provide a list of pre-approved pump manufacturers for this job?

Yes. The current revised list is included in the attached specification revisions.

11: Why is a prime rating required for this generator? An Automatic Transfer Switch is being utilized for this project with the generator terminated to the emergency side which indicates a standby application.

Generator shall be rated 500KW Stand-By, not Prime.

12: EPA requires that all prime power applications comply with Tier IV emissions for CI engines. Please clarify if this is truly a prime application that is required to meet these emission standards.

Prime Power rating is not required. It shall be Stand-By.

13: Section 41.02 MATERIALS, D Engine, 1. Requires a 1476 cubic-inch engine rated at 1135 hp. This size engine would be capable of producing over 840 kW instead of the specified 500 kW. The engine submitted for approval is rated to make the specified power and be able to start loads as requested in the specifications. This engine is rated at 1,281 cubic-inches and 752 hp. Since power is expressed two ways in this specification, which is required to be met, horse power or kW?

Engine requirement shall be based on 500 KW only. Please disregard cubic inch / HP requirement.

14: Section 41.02 MATERIALS, D Engine, 2. specifies the air cleaner and the fuel filter in the same paragraph. These may need to be separated. Please clarify.

Specification is acceptable as is. Please note that air cleaner and fuel filter requirements are included in this paragraph.

15: Section 41.02 Accessories, M, SUB-BASE FUEL STORAGE TANK, calls for the fuel tank to be constructed of aluminized steel. Would a standard steel tank be acceptable? Stainless steel is also available for a substantial price adder. If these are not acceptable, please specify a manufacturer of a generator sub-base fuel tank that utilizes aluminized steel construction.

A corrosive protected steel alternate will be considered via a full submittal process.

16: Do you require a UL rating for the sub-base fuel tank?

Yes. A UL rating is required for the sub-base fuel tank.

17: Sheet 31 of the project drawings shows the ATS to be located within the generator enclosure. Would it be acceptable to locate the ATS outside the generator enclosure as in other typical applications?

The auto-transfer switch shall be integral part of the generator in the same enclosure.

18: If the ATS must be located within the generator enclosure, would it be acceptable to provide a NEMA 1 enclosure for the ATS instead of the specified NEMA 3R?

NEMA 1 is acceptable.

19: The Contractor shall include the geotextile fabric for the joints of the Reinforced Concrete Box Culverts, and payment shall be made under item 805-12-02100 – "PRECAST CONCRETE BOX CULVERTS – 10'x5'". Geotextile fabric for the bedding material shall be included with the bedding material and will be at NO DIRECT PAY.

20: Note No. 6 on Plan sheet 7 shall be revised to read:

"PAYMENT FOR EXCAVATION, SHEETING AND BRACING SYSTEM, TEMPORARY LIGHTING FOR NIGHT WORK, GEOTEXTILE FABRIC, BACKFILL, JOINT MATERIAL, LABOR, EQUIPMENT, AND SHIPPING SHALL BE INCLUDED IN THE COST PER LINEAR FOOT OF 726-01-00100."

NEW DRAINAGE PUMP STATION AND DRAINAGE IMPROVEMENTS FOR ELISE AVENUE
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21: The callout on Plan sheet 22 calls out for a 78"x1/2" thick steel casing which is incorrectly called out. The plans have all accounted for the 86" outside diameter of the Reinforced Concrete Pipe. The steel casing has been incorrectly called out. The steel casing for the 72" RCP required shall be a 92" I.D. x 1/2" Thick Steel casing. Page TS-49 has been revised and is attached to this addendum. The revised page TS-49 shall govern and replace any previous editions.

22: The header for all sheets for the previously issued Addendum No. 1 was incorrect, and referenced a different project. The Correct header for Addendum No. 1 shall read as follows:

*NEW DRAINAGE PUMP STATION AND DRAINAGE IMPROVEMENTS FOR ELISE AVENUE
BID PROPOSAL NO. 50-112381
ADDENDUM NO. 1
MARCH 4, 2015
PAGE # of #*

This addendum is issued prior to receipt of bids to provide for clarifications or modifications in plans and specifications. Acknowledgement of this Addendum shall be made and the cost of the work as modified by the addendum shall be used by the Contractor in arriving at his proposal price. The addendum must be acknowledged on the bid form.

By:  Date: March 5, 2015
Gene Gillen, P.E.

TECHNICAL SPECIFICATIONS

SECTION 35

PIPE CASING PENETRATION THROUGH SHEETPILE

35.01 DESCRIPTION

This work consists of furnishing and placing 72" RCP pipe through the sheet pile headwall as indicated on the plans. The 72" RCP will be wrapped in a steel casing filled with non-shrinking grout. The steel casing will be welded to the PZC-28 sheet piles.

35.02 MATERILAS

Materials for the pipe casing penetration through sheet pile is a geotextile fabric class 'C' which will cover the whole apparatus to make sure loose soil does not infiltrate the joint. A strap will hold the geotextile fabric class "C" to the 92" pipe case. The 92" inch inner diameter steel casing will be filled with non-shrinking grout between it and the 72" RCP pipe. All pipe casing work shall be done as shown in the plans or as directed by the Engineer.

35.03 MEASUREMENT

Measurement for the pipe casing penetration turn sheet pile shall be made by EACH.

35.04 PAYMENT

Payment for the items under this section will be made under:

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>UNIT</u>
NS-020	PIPE CASING PENETRATION THROUGH SHEETPILE	EACH

END OF SECTION

TECHNICAL SPECIFICATIONS

SECTION 41

GENERATOR 500 KW PRIME

41.01 DESCRIPTION

SCOPE OF WORK

- A. This section shall consist of providing a packaged electrical power system and associated controls with all required accessories as specified and shown on the plans. The equipment supplier must be the authorized distributor for each component of the products specified herein. The work includes the furnishing of all labor, materials, equipment, test, and training to provide a complete and workable power system, including the generator set and generator set controls, the transfer switch and transfer switch controls. It is the intent of these specifications to have a single source responsibility for the generator set, and transfer switch.
- B. Any and all exceptions to the published specifications shall be subject to the approval of the engineer.
- C. The electrical power system shall be finished by a single manufacturer who shall be responsible for the design, coordination, and testing of the complete system.
- D. The equipment shall be produced by a manufacturer who has produced this type of equipment for a period of at least 10 years.
- E. The generator system shall be produced by a manufacturer who is ISO 9001 certified for the design, development, production, installation, and service of their complete product line.

GENERAL REQUIREMENTS

- A. It is the intent of this specification to secure an electrical power system that has been tested during design verification, production and at the final job site. All finished equipment shall be of the latest commercial design and will be complete with all of the necessary accessories. The equipment supplied shall meet the requirements of the National Electrical Code, along with all applicable local codes and regulations. All equipment shall be new and of current production of a national firm that manufactures generator sets and controls, transfer switches, switchgear, and assembles the generator sets as a complete and coordinated system. There will be one source responsibility for warranty, parts, and service through a local representative with factory-trained servicemen.
- B. The generator shall be Underwriter's Laboratories (UL) Listed under UL2200 Standard for Safety Stationary Engine Generator Assemblies. The generator shall also conform to the requirements of the following:
- C. Approved manufacturers – Caterpillar, Cummins/Onan, Generac, Kohler, and MTU Onsite Energy.
- D. NFPA 110 – Standard for Emergency and Standby Power Systems

the Contractor and he will be held responsible for correction of any unsatisfactory work resulting from improperly prepared surfaces.

- B. All sandblasted or pickled metal surfaces (shop and field) shall be primed the same day before the surfaces have a chance to rust or become contaminated. Any surface previously sandblasted which cannot be painted or coated the same day shall be completely reblasted.
- C. The exterior surfaces of all ductile iron pipe and fittings to be placed below the ground shall be washed down to remove all dirt and foreign matter from the standard asphaltic coating.

PAINTING

Exposed ductile iron piping specified in this Section shall be painted with a finished coat and color in strict accordance with Section 30 "Protective Coating" of these Specifications.

44.05 MEASUREMENT

Measurement for 30" Ductile Iron Pipe and Fittings installed will be on a lump sum basis for all pipe, fittings, pipe supports and incidentals required for a complete installation. All costs are to be included in the contractor's lump sum price for the item installed in-place.

Measurement for 24" Ductile Iron Pipe and Fittings installed will be on a lump sum basis for all pipe, fittings, pipe supports and incidentals required for a complete installation. All costs are to be included in the contractor's lump sum price for the item installed in-place.

44.06 PAYMENT

Payment shall be made paid at the lump sum price shown on the bid form for the item "30" DUCTILE IRON DISCHARGE PIPING AND FITTINGS" and will constitute full compensation for furnishing, hauling and installing the pipe as indicated on the plans in accordance with the Plans and Specifications.

Payment shall be made paid at the lump sum price shown on the bid form for the item "24" DUCTILE IRON DISCHARGE PIPING AND FITTINGS" and will constitute full compensation for furnishing, hauling and installing the pipe as indicated on the plans in accordance with the Plans and Specifications.

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>UNIT</u>
NS-024	30" DUCTILE IRON DISCHARGE PIPING AND FITTINGS	LUMP SUM
NS-025	24" DUCTILE IRON DISCHARGE PIPING AND FITTINGS	LUMP SUM

****END OF SECTION****

- A. The pumping units required under this section shall be complete including suction barrels and pumps with proper alignment and balancing of the individual units. All parts shall be so designed and proportioned as to have liberal strength, stability, and stiffness and to be especially adapted for the service to be performed. Ample room for inspection, repairs and adjustment shall be provided.
- B. All necessary anchor bolts, nuts and washers shall be furnished by the contractor for installation by the Contractor. Anchor bolts, nuts and washers shall be 316 stainless steel. A molybdenum disulfide anti-seize agent shall be supplied for use with all stainless steel bolts.
- C. Stainless steel nameplates giving the name of the manufacturer, the rated capacity, head, speed and all other pertinent data shall be attached to each pump, motor variable frequency drive and control panel.

PUMPS

A. General

- 1. The pumps shall be of the vertical axial flow type.
- 2. The pumps shall be built to standard dimensions such that parts will be interchangeable between like units and the same manufacturer shall supply all units.
- 3. The pumps shall be manufactured by Fairbanks Morse Model 24"-8411-1 stage / 30"-8411-1 stage, Allis Chalmers, Patterson or approved equal. All products must meet the detailed requirements of this Specification.

B. Performance Requirements:

- 1. When operating at the maximum output speed of the motor, each pump shall have a characteristic performance curve, which meets all the minimum conditions listed in Table 11215-1A/B. The pumps and drive motors shall be capable of operating satisfactorily under the full range of conditions as defined by Table 11215-1A/B. See section 1.04 C for pump Qualifications that must be met.
- 2. Maximum motor speeds shall not exceed that listed in Table 11215-1A/B. to satisfy the specified hydraulic duty requirements. The pump design speed shall be the maximum output speed of the motor furnished, when operating at the pump's design capacity and head at 60 Hertz on utility power (full motor speed).
- 3. With the pumping units operating at full motor speed, the maximum brake horsepower required by the pumps shall not exceed the maximum horsepower listed in Table 11215-1A/B. If the pumping units require more than the maximum horsepower listed in Table 11215-1A/B. at the motor output shaft at any full motor speed operation point between primary and secondary discharge head, they will be rejected.

4. Non Witnessed Certified Factory Tests:

- a. Factory testing in accordance with the standards of the Hydraulic Institute shall be required for all pumps
- b. Certified pump performance curves shall be submitted, including head, capacity, brake horsepower, and pump efficiency for each pump supplied. Data shall be provided to indicate the NPSH required by the pumps when operating at full speed at the minimum head system conditions listed in Table 11215-1A/B.
- c. Prior to conducting a pump test, notification of such test and a list of test equipment and test procedures shall be forwarded to the Engineer at least fifteen (15) working days before the scheduled test date. All electronic transducers, meters, gauges, and other test instruments shall be calibrated in accordance with the frequency listed in the Hydraulic Institute Standards. Copies of calibration data shall be provided.

3. All motors shall be built in accordance with latest NEMA, IEEE, ANDI and AFBMA standards where applicable.
4. Motors shall conform to all requirements stipulated in this section.
5. The motors shall be compatible with the pumps.
6. "Motors shall conform to the NEMA Premium Efficiency Electric Motor Program. Motors must meet or exceed the nominal energy efficiency levels listed in NEMA standards publication MG 1-2006, tables 12-12 and 12-13."
7. Motor Bearings shall have an average B-10 life rating of 100,000 hours in accordance with AFBMA lift and thrust values.

Table 11215-1A
PUMPING UNIT DESIGN REQUIREMENTS

Item	Design Conditions
Maximum Motor Speed (rpm)	705
Motor to be Supplied (hp)	125 Hp motor
Enclosing tube size and schedule (minimum)	3.50 inch/sch80/316SS
Minimum Bowl thickness (inches)	0.563
Column and Discharge Size (inches)	24" / 24"
Minimum Pump Shaft Diameter (inches)	2.188"
Pump Shut-Off Head at Design Speed (feet)	---
Pump Bowl BEP, flow/Head/eff	20,000 gpm@15.7 feet@80%
Run out Capacity (gpm)	22,000
Minimum TDH at Run out Capacity (feet)	10.50
Minimum Bowl Efficiency at Run out Capacity (%)	71%
Design Capacity (gpm)	18,000
Minimum TDH at Design Capacity (feet)	18.29
Minimum Bowl Efficiency at Design Capacity (%)	79%
Secondary Capacity (gpm)	17,200
Minimum TDH at Secondary Capacity (feet)	20.9
Minimum Bowl Efficiency at Secondary Capacity (%)	74%
Maximum NPSHR at Design Capacity (feet)	24
Minimum eye area (in ²)	369
Minimum bowl weight - 1st stage (lbs)	1300
Maximum Bell diameter	41.00"
Minimum line shaft diameter - inches	1.938"

Table 11215-1B
PUMPING UNIT DESIGN REQUIREMENTS

Item	Design Conditions
Maximum Motor Speed (rpm)	590
Motor to be Supplied (hp)	200 Hp motor
Enclosing tube size and schedule (minimum)	5.00 inch/sch80/316SS
Minimum Bowl thickness (inches)	0.563
Column and Discharge Size (inches)	30" / 30"
Minimum Pump Shaft Diameter (inches)	2.688"
Pump Shut-Off Head at Design Speed (feet)	---
Pump Bowl BEP, flow/Head/eff	29,000 gpm@17.1 feet@82%
Run out Capacity (gpm)	34,000
Minimum TDH at Run out Capacity (feet)	9.00
Minimum Bowl Efficiency at Run out Capacity (%)	70%
Design Capacity (gpm)	27,000
Minimum TDH at Design Capacity (feet)	18.33
Minimum Bowl Efficiency at Design Capacity (%)	80%
Secondary Capacity (gpm)	24,200
Minimum TDH at Secondary Capacity (feet)	24.0
Minimum Bowl Efficiency at Secondary Capacity (%)	73%
Maximum NPSHR at Design Capacity (feet)	24
Minimum eye area (in ²)	583
Minimum bowl weight - 1st stage (lbs)	1900
Maximum Bell diameter	51.50"
Minimum line shaft diameter - inches	2.188"

46.03 REQUIREMENTS

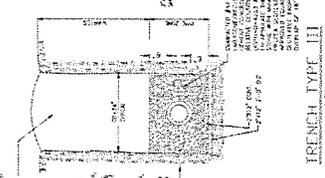
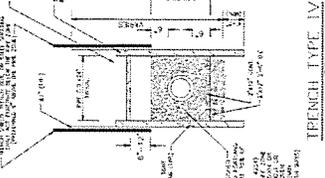
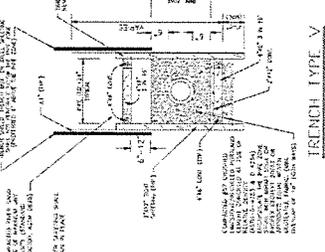
INSTALLATION

- A. Install the motors per manufacturer's installation instructions.
- B. Install motor baseplate in accordance with the pump and motor manufacturer's recommendations.
- C. Visual and Mechanical Inspection
 - 1. Inspect for physical damage.
 - 2. Compare equipment nameplate information with single line diagram and report any discrepancies.
 - 3. Inspect for proper mounting, grounding, connection, and lubrication.
 - 4. Inspect for unusual mechanical or electrical noise or signs of overheating during initial test run.
- D. Perform a rotation test to ensure proper shaft direction.
- E. Measure running current and evaluate relative to load conditions and nameplate full load amperes.

SEWERAGE TRENCH TYPE VS. DEPTH SCHEDULE

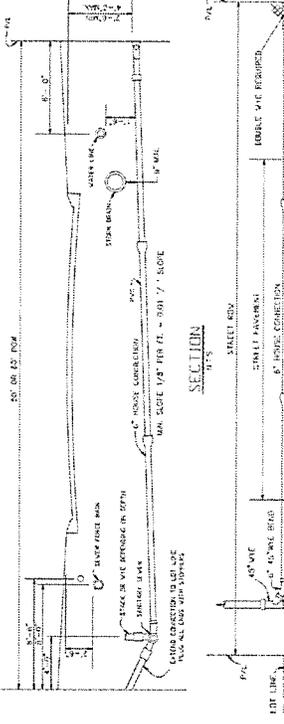
DEPTH (FT)	TYPE	DEPTH (FT)	TYPE
1	I	11	VI
2	I	12	VI
3	I	13	VI
4	I	14	VI
5	I	15	VI
6	I	16	VI
7	I	17	VI
8	I	18	VI
9	I	19	VI
10	I	20	VI
11	II	21	VI
12	II	22	VI
13	II	23	VI
14	II	24	VI
15	II	25	VI
16	II	26	VI
17	II	27	VI
18	II	28	VI
19	II	29	VI
20	II	30	VI
21	III	31	VI
22	III	32	VI
23	III	33	VI
24	III	34	VI
25	III	35	VI
26	III	36	VI
27	III	37	VI
28	III	38	VI
29	III	39	VI
30	III	40	VI
31	IV	41	VI
32	IV	42	VI
33	IV	43	VI
34	IV	44	VI
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36	IV	46	VI
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38	IV	48	VI
39	IV	49	VI
40	IV	50	VI
41	V	51	VI
42	V	52	VI
43	V	53	VI
44	V	54	VI
45	V	55	VI
46	V	56	VI
47	V	57	VI
48	V	58	VI
49	V	59	VI
50	V	60	VI

- NOTES:**
1. ONLY APPROVED MATERIALS SHALL BE ALLOWED FOR SPECIAL, SPECIAL, AND FOUNDATION CONSTRUCTION.
 2. ALL TRENCH TYPES SHALL BE CONSTRUCTED TO THE TYPE OF APPROVED MATERIALS AND UNLESS SHOWN OTHERWISE TO THE CONTRARY.
 3. THE CONTRACTOR SHALL MAINTAIN AND UNLESS SHOWN OTHERWISE TO THE CONTRARY, THE TYPE OF APPROVED MATERIALS SHALL BE MAINTAINED THROUGHOUT THE LIFE OF THE PROJECT.
 4. ALL TRENCH TYPES SHALL BE CONSTRUCTED TO THE TYPE OF APPROVED MATERIALS AND UNLESS SHOWN OTHERWISE TO THE CONTRARY, THE TYPE OF APPROVED MATERIALS SHALL BE MAINTAINED THROUGHOUT THE LIFE OF THE PROJECT.
 5. ALL TRENCH TYPES SHALL BE CONSTRUCTED TO THE TYPE OF APPROVED MATERIALS AND UNLESS SHOWN OTHERWISE TO THE CONTRARY, THE TYPE OF APPROVED MATERIALS SHALL BE MAINTAINED THROUGHOUT THE LIFE OF THE PROJECT.



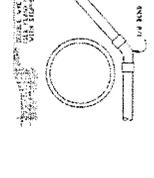
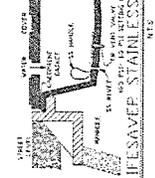
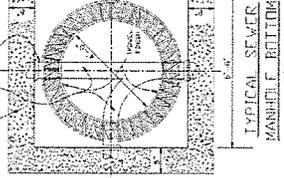
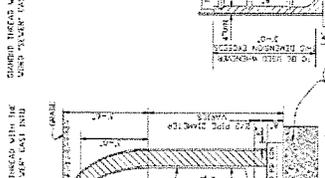
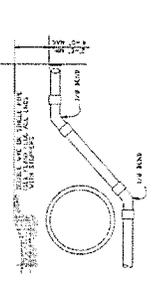
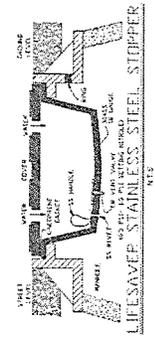
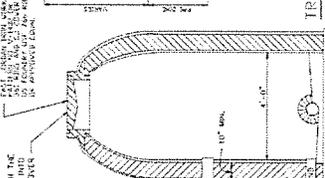
SANITARY SEWER STANDARD TRENCH DETAILS

THESE SPECIFICATIONS AND BRACING SHOWN ABOVE ARE MIN. REQUIREMENTS TO MAINTAIN THE WIDTH OF THE EXCAVATED TRENCH AND TO MAINTAIN THE INTEGRITY OF THE SEWER FOUNDATION, BEDDING AND BACKFILL. SWEETING AND BRACING TO BE THE RESPONSIBILITY OF THE CONTRACTOR. REFER TO HIS SUBMITTAL.



PVC SDR 26, ASTM D3034 TYPICAL SEWER HOUSE CONNECTION REQUIREMENT AND UTILITY LOCATIONS

PIPE FOR HOUSE CONNECTION SHALL CONFORM TO SAME MATERIAL TYPE USED IN MAIN LINE.



JEFFERSON PARISH DEPARTMENT OF ENGINEERING

SEWER STANDARD DETAIL

PROJECT NO. 14-000000-0000
 SHEET NO. 1 OF 1
 DATE: 11/11/14
 DRAWN BY: [Name]
 CHECKED BY: [Name]

NEW DRAINAGE PUMP STATION AND DRAINAGE IMPROVEMENTS FOR ELISE AVENUE
BID PROPOSAL NO. 50-112381
ADDENDUM NO. 3
MARCH 5, 2015
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ADDENDUM NO. 3

DATE: MARCH 5, 2015

PROJECT:

**NEW DRAINAGE PUMP STATION AND DRAINAGE IMPROVEMENTS FOR ELISE AVENUE
JEFFERSON PARISH DEPARTMENT OF PUBLIC WORKS
DPW PROJECT NO. 2009-009-DR
BID PROPOSAL NO. 50-112381**

Sealed bids will be received until the hour of 2:00 PM, local time on TUESDAY, MARCH 10, 2015 in the Purchasing Department, Suite 4400, Jefferson Parish General Government Building, located at 200 Derbigny Street, Gretna, Louisiana, 70053, and publicly opened upon completion of administrative tasks for the following:

**JEFFERSON PARISH
NEW DRAINAGE PUMP STATION AND DRAINAGE IMPROVEMENTS FOR ELISE AVENUE
PUBLIC WORKS PROJECT NUMBER 2009-009-DR**

ADDENDUM ITEMS

1: The Contractor is required to provide all temporary traffic signs and barricades, as detailed in the Technical Specifications Section 13, for the one lane closure of West Metairie Avenue along the canal; eastbound and westbound direction. These lanes shall be closed for all sheet pile driving, headwall work, slope pavement, riprap, incidental paving, and guard rail installation. The Contractor shall submit Traffic Control plans designed by a licensed Louisiana Professional Engineer for review to the Engineer and Jefferson Parish Public Works Traffic Engineering Divisions. All work shall be included under pay item 713-01-00100 – "TEMPORARY SIGNS AND BARRICADES".

This addendum is issued prior to receipt of bids to provide for clarifications or modifications in plans and specifications. Acknowledgement of this Addendum shall be made and the cost of the work as modified by the addendum shall be used by the Contractor in arriving at his proposal price. The addendum must be acknowledged on the bid form.

By: Date: March 5, 2015
Gene Gillen, P.E.

July 31, 2013

CERTIFICATION
FLEMING CONSTRUCTION CO., L.L.C.

It is hereby certified that a special meeting of the Members of Fleming Construction Co., L.L.C. was held at its registered offices on July 31, 2013. All members were present. All members waived notice of the meeting in writing.

It was resolved:

1. That Jack D. Fleming II, Manager and Member of Fleming Construction Co., L.L.C., be authorized to sign any and all contracts, agreements and bid bonds in the name of Fleming Construction Co., L.L.C.
2. That Jana Fleming Katz, Member of Fleming Construction Co., L.L.C., be authorized to sign any and all contracts, agreements and bid bonds in the name of Fleming Construction Co., LLC.
3. That A. Thomas Mora, Jr., Member of Fleming Construction Co., L.L.C., be authorized to sign any and all contracts, agreements and bid bonds in the name of Fleming Construction Co., L.L.C.
4. That Joe O. Malley, Member of Fleming Construction Co., L.L.C., be authorized to sign any and all contracts, agreements and bid bonds in the name of Fleming Construction Co., L.L.C.

Being no further business, the meeting was adjourned.

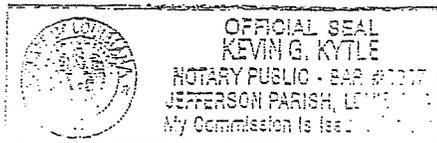
FLEMING CONSTRUCTION CO., L.L.C.

By: Jack D. Fleming II
Jack Fleming II
Manager

Witness: Debbie B. Clement

SWORN TO AND SUBSCRIBED BEFORE ME,
THIS 5TH DAY OF AUGUST, 2013

[Signature]



Jack D. Fleming II, Manager and Member
422 Atherton Drive
Metairie, LA 70005

Jana Fleming Katz, Member
67 Colonial Club Dr.
Harahan, LA 70123

A. Thomas Mora, Jr., Member
141 Rex Drive
River Ridge, LA 70123

Joe O. Malley, Member
467 Sam Smith Rd.
Poplarville, MS 39470



FLEMING CONSTRUCTION CO., L.L.C.

PAVING & PIPE CONTRACTORS SINCE 1953 LOUISIANA LICENSE NO. 935

Fleming Construction Co., L.L.C. has and is presently performing numerous projects throughout the Greater New Orleans area.

The following is a list of the same:

Sewerage & Water Board of New Orleans - Contract #8116

Sewerage & Water Board of New Orleans - Contract #2093

Sewerage & Water Board of New Orleans - Contract #3610

Sewerage & Water Board of New Orleans - Contract #3819

Jefferson Parish Elmwood Park Subdivision Sewerage Improvements -
SCIP Contract No. C5583 (Proposal No. 50-86879)

Jefferson Parish Canal 7 Drainage Improvements at Chateau Blvd. and Joe
Yenni Blvd. - DPW Project No. 2006-002-DR

Jefferson Parish Water Point Repair - Contract #50-90166

Jefferson Parish Sewer Point Repair - Contract #C5834

Jefferson Parish Concrete Streets Maintenance - Contract #50-75967

Jefferson Parish Utility Cuts - Contract #50-73543

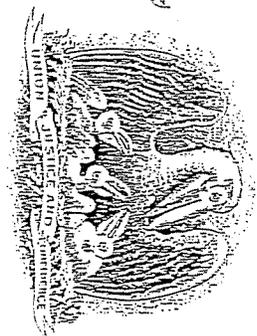
City of Kenner - Concrete Maintenance and Small Jobs

City of Gretna

Numerous Streets and Paved Areas Throughout Louisiana

FLEMING CONSTRUCTION CO., L.L.C.

SEAL OF THE STATE OF LOUISIANA



State Licensing Board for Contractors

This is to Certify that:

FLEMING CONSTRUCTION COMPANY, L.L.C.
23 East Airline Drive
Kenner, LA 70062

is duly licensed and entitled to practice the following classifications:
BUILDING CONSTRUCTION; HEAVY CONSTRUCTION; HIGHWAY, STREET AND BRIDGE
CONSTRUCTION; MUNICIPAL AND PUBLIC WORKS CONSTRUCTION



Expiration Date: October 25, 2015

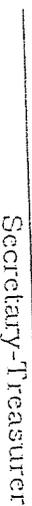
License No: 935

Witness our hand and seal of the Board dated,
Baton Rouge, LA 26th day of October 2012


Director


Chairman

This License Is Not Transferrable


Secretary-Treasurer



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Related Links:

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Licensing Board's Online Database

Search Results - Contractor Detail

Business Name: ✓ FLEMING CONSTRUCTION COMPANY, L.L.C.
Mailing Address: 23 East Airline Drive
 Kenner, LA 70062
Phone Number: (504) 464-4000
Fax Number: (504)464-4036
Email Address: jkatz@flemco.net
Website:

Active Licenses

Lic#	Type	Status	Effective	Expiration	First Issued
935	Commercial License Certificate	LICENSED	10/26/2012	10/25/2015	10/25/1956

Classifications:

Class	Qual Party	Valid Parishes
BUILDING CONSTRUCTION	J Fleming	ALL
BUILDING CONSTRUCTION	Jack Fleming II	ALL
HIGHWAY, STREET AND BRIDGE CONSTRUCTION	J Fleming	ALL
HIGHWAY, STREET AND BRIDGE CONSTRUCTION	Jack Fleming II	ALL
✓ HEAVY CONSTRUCTION	J Fleming	ALL
HEAVY CONSTRUCTION	Jack Fleming II	ALL
MUNICIPAL AND PUBLIC WORKS CONSTRUCTION	J Fleming	ALL
MUNICIPAL AND PUBLIC WORKS CONSTRUCTION	Jack Fleming II	ALL

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Louisiana State Licensing Board For Contractors
 2525 Quail Drive ~ Baton Rouge, LA 70808
 Phone: (225) 765-2301 ~ Fax: (225) 765-2431
[Employee Login](#)

Site design & maintenance by Keith A. Hobbs, LLC

**Request for Taxpayer
Identification Number and Certification**

Give Form to the
requester. Do not
send to the IRS.

Print or type See Specific Instructions on page 2.	Name (as shown on your income tax return) FLEMING CONSTRUCTION CO., L.L.C.	
	Business name/disregarded entity name, if different from above	
	Check appropriate box for federal tax classification (required): <input type="checkbox"/> Individual/sole proprietor <input type="checkbox"/> C Corporation <input type="checkbox"/> S Corporation <input type="checkbox"/> Partnership <input type="checkbox"/> Trust/estate <input checked="" type="checkbox"/> Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=partnership) ▶ C <input type="checkbox"/> Exempt payee <input type="checkbox"/> Other (see instructions) ▶	
	Address (number, street, and apt. or suite no.) 23 E. AIRLINE DRIVE City, state, and ZIP code KENNER, LA 70062	Requester's name and address (optional)
List account number(s) here (optional)		

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on the "Name" line to avoid backup withholding. For individuals, this is your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the Part I instructions on page 3. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN* on page 3.

Note. If the account is in more than one name, see the chart on page 4 for guidelines on whose number to enter.

Social security number								
			-			-		
Employer identification number								
7	2	-	0	4	8	1	9	7
8								

Part II Certification

Under penalties of perjury, I certify that:

- The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me), and
- I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding, and
- I am a U.S. citizen or other U.S. person (defined below).

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions on page 4.

Sign Here	Signature of U.S. person ▶	Date ▶ 12-21-2012
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General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Purpose of Form

A person who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) to report, for example, income paid to you, real estate transactions, mortgage interest you paid, acquisition or abandonment of secured property, cancellation of debt, or contributions you made to an IRA.

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN to the person requesting it (the requester) and, when applicable, to:

- Certify that the TIN you are giving is correct (or you are waiting for a number to be issued).
- Certify that you are not subject to backup withholding, or
- Claim exemption from backup withholding if you are a U.S. exempt payee. If applicable, you are also certifying that as a U.S. person, your allocable share of any partnership income from a U.S. trade or business is not subject to the withholding tax on foreign partners' share of effectively connected income.

Note. If a requester gives you a form other than Form W-9 to request your TIN, you must use the requester's form if it is substantially similar to this Form W-9.

Definition of a U.S. person. For federal tax purposes, you are considered a U.S. person if you are:

- An individual who is a U.S. citizen or U.S. resident alien,
- A partnership, corporation, company, or association created or organized in the United States or under the laws of the United States,
- An estate (other than a foreign estate), or
- A domestic trust (as defined in Regulations section 301.7701-7).

Special rules for partnerships. Partnerships that conduct a trade or business in the United States are generally required to pay a withholding tax on any foreign partners' share of income from such business. Further, in certain cases where a Form W-9 has not been received, a partnership is required to presume that a partner is a foreign person, and pay the withholding tax. Therefore, if you are a U.S. person that is a partner in a partnership conducting a trade or business in the United States, provide Form W-9 to the partnership to establish your U.S. status and avoid withholding on your share of partnership income.