



## THE COUNTY OF GALVESTON

**RUFUS G. CROWDER, CPPO, CPPB**  
PURCHASING AGENT

**GWEN MCLAREN, CPPB**  
ASST. PURCHASING AGENT

COUNTY COURTHOUSE  
722 Moody (21<sup>st</sup> Street)  
Fifth (5<sup>th</sup>) Floor  
GALVESTON, TEXAS 77550

January 14, 2021

**PROJECT NAME:** Willow Bayou/Avenue L Drainage  
**SOLICITATION NOS:** ITB #B211024  
**RE:** ADDENDUM #1

To All Prospective Bidders:

The following information is being provided to aid in preparation of your bid submittal(s):

**AMENDED PURPOSE:**

Documents were altered post bid meeting due to statements and question proposed by contractors for clarifications on the contract book and the plan set.

**Reference:** Contract Documents – Bid Form  
**Replace:** Section III-Bid Form with Section III-Bid Form marked ADDENDUM NO. 1

**Reference:** Contract Documents  
**Replace:** Specification - 1400 from Technical Specifications with 1400 marked ADDENDUM NO. 1

**Reference:** Contract Documents  
**Add:** Specification - 2271 Broken Concrete Rip-Rap marked ADDENDUM NO. 1

**Reference:** Contract Documents  
**Add:** Specification - 2401 Dewatering and Drainage of Excavation marked ADDENDUM NO. 1

**Reference:** Contract Documents  
**Add:** Letter from Texas Parks and Wildlife

**Reference:** Plan Set  
**Replace:** Sheets 2, 8, 10, 11, & 13 in the Plan set with the sheets marked ADDENDUM NO. 1

- Reference:** Question– The Bid docs on civcast does not have specs. Will the spec book be added?  
**Answer:** The list of specs in the contract book is only the LJA specified specifications all other specs are TxDoT specs and can be found on their website. The TxDOT referenced specs can be located on the bid form .
- Reference:** Question– There does not appear to be a bid item for the 24",30", and 36" HDPE that are called out on the plans. Is the called-out HDPE pipe actually intended to be RCP?  
**Answer:** The bid form and Specification 1400 have been edited to have both types of pipes. The plans have also been corrected with the referenced type pipe.
- Reference:** Question– Will the contractor need to provide a field office for the owner's use for the duration of this project?  
**Answer:** No, a field office is not needed.
- Reference:** Question– Regarding plan sheet 10 of 33, at station 22+38.61 (111' Right), a proposed Hoover gate is called out. There does not appear to be a bid item for this gate. Is a new gate required here, or is a previously installed gate being relocated to this location as indicated in bid item number 21?  
**Answer:** A bid item was added for the gate.
- Reference:** Question– There are manholes shown on the plans on 8, 10, and 11, however, there does not appear to be a bid item for these manholes. Under what bid item are these manholes intended to be paid?  
**Answer:** A bid item was added for the storm manholes.
- Clarification:** The Geotech Report is located in the back of the contract document and can be used to locate the water table for the area.
- Clarification:** All Dirt will become property of the contractor for all excavation and needs to be dumped and disposed of properly. It shall not be taken anywhere within the County without a permitted site or approval from the County of Galveston.
- Clarification:** Rip-Rap is a supplemental item and not expected to be used within this contract. It shall be bid to establish prices but has been removed from the profile on the plan set.
- Clarification:** Well Point Dewatering has been added to the contract if needed for the entire length of the 11' x 6' box and if needed will be paid for.
- Clarification:** An additional asphalt - remove and replace was added as an alternate item that is to be used on a as needed basis for a 5-foot strip of road repair along the 11-foot x 6-foot box culvert.
- Clarification:** Also, temporary construction matting is going to be needed to be placed within the work zone on the road for the entirety of the project to protect the road from surface damage from construction machinery and equipment. A bid item was added.

Please send bid submittals to:  
**Galveston County Purchasing Agent**  
**Attention: Rufus G. Crowder, CPPO CPPB**  
**722 Moody, Fifth (5<sup>th</sup>) Floor**  
**Galveston, Texas 77550**

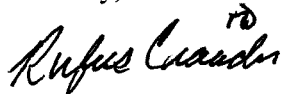
As a reminder, all questions regarding this proposal must be submitted in writing to:

Rufus G. Crowder, CPPO CPPB  
Galveston County Purchasing Agent  
722 Moody, Fifth (5<sup>th</sup>) Floor  
Galveston, Texas 77550  
E-mail: [purchasing.bids@co.galveston.tx.us](mailto:purchasing.bids@co.galveston.tx.us)

If you have any further questions regarding this bid, please address them to Rufus Crowder, CPPO CPPB, Purchasing Agent, via e-mail at [purchasing.bids@co.galveston.tx.us](mailto:purchasing.bids@co.galveston.tx.us), or contact the Purchasing Department at (409) 770-5371.

Please excuse us for any inconvenience that this may have caused.

Sincerely,

A handwritten signature in black ink that reads "Rufus Crowder". The signature is written in a cursive style. Above the letter "d" in "Crowder", there is a small handwritten mark that looks like "rd".

Rufus G. Crowder, CPPO CPPB  
Purchasing Agent  
Galveston County

**BID PROPOSAL**  
**WILLOW BAYOU / AVENUE L DRAINAGE**

BASE BID ITEM No.	SPEC No.	DESCRIPTION (1)	APPROX. QTY.	UNITS	UNIT PRICE IN WORDS (2)	UNIT PRICE	TOTAL AMOUNT
1	104	Existing Asphalt, Concrete, and Gravel Excavation (including driveways), to Finished Grade, including Base Material, Complete in Place	870	SY	_____ Dollars _____ Cents	\$ _____	\$ _____
2	110	Cut / Excavation for Ditch Finished Grade, Placement and Compaction to 95% Standard Procter Density, Removal of Excess Off Site, Complete in Place	39,765	CY	_____ Dollars _____ Cents	\$ _____	\$ _____
3	132	Embankment for Ditch Finished Grade, Placement and Compaction to 95% Standard Procter Density, Complete in Place	4,695	CY	_____ Dollars _____ Cents	\$ _____	\$ _____
4	465	Remove Existing Culverts 36-Inch or Less, Complete in Place	655	LF	_____ Dollars _____ Cents	\$ _____	\$ _____
5	460	24-Inch Reinforced Concrete Pipe, ASTM C-76, Class III, Complete in Place	305	LF	_____ Dollars _____ Cents	\$ _____	\$ _____
6	460	30-Inch Reinforced Concrete Pipe, ASTM C-76, Class III, Complete in Place	25	LF	_____ Dollars _____ Cents	\$ _____	\$ _____

ITEM No.	SPEC No.	DESCRIPTION (1)	APPROX. QTY.	UNITS	UNIT PRICE IN WORDS (2)	UNIT PRICE	TOTAL AMOUNT
7	460	42-Inch Reinforced Concrete Pipe, ASTM C-76, Class III, Complete in Place	80	LF	_____ Dollars _____ Cents	\$ _____	\$ _____
8	480	11-Foot by 6-Foot Reinforced Concrete Box Culvert, ASTM C-1433, and Including Concrete Safety End Treatment, Complete in Place	1,465	LF	_____ Dollars _____ Cents	\$ _____	\$ _____
9	SS 4122	24-Inch HP Storm Pipe, Pipe conforms to TXDOT SS Item 4122, AASHTO M330, ASTM F2881 Type S, Complete in Place	70	LF	_____ Dollars _____ Cents	\$ _____	\$ _____
10	SS 4122	30-Inch HP Storm Pipe, Pipe conforms to TXDOT SS Item 4122, AASHTO M330, ASTM F2881 Type S, Complete in Place	80	LF	_____ Dollars _____ Cents	\$ _____	\$ _____
11	SS 4122	36-Inch HP Storm Pipe, Pipe conforms to TXDOT SS Item 4122, AASHTO M330, ASTM F2881 Type S, Complete in Place	35	LF	_____ Dollars _____ Cents	\$ _____	\$ _____
12	465	Concrete Storm Manhole (4-Foot Diameter), Complete in Place	3	EA	_____ Dollars _____ Cents	\$ _____	\$ _____
13	472	Type "E" Inlet, Complete in Place	9	EA	_____ Dollars _____ Cents	\$ _____	\$ _____
14	PLANS Sht # 27	Junction Box "A-1", Complete in Place	1	LS	_____ Dollars _____ Cents	\$ _____	\$ _____

ITEM No.	SPEC No.	DESCRIPTION (1)	APPROX. QTY.	UNITS	UNIT PRICE IN WORDS (2)	UNIT PRICE	TOTAL AMOUNT
15	PLANS Sht # 27	Junction Box "A-2", Complete in Place	1	LS	_____ Dollars _____ Cents	\$ _____	\$ _____
16	PLANS Sht # 27	Junction Box "A-3", Complete in Place	1	LS	_____ Dollars _____ Cents	\$ _____	\$ _____
17	205	6-Inch Stabilized Sub-Grade (Manipulation), Complete in Place	525	SY	_____ Dollars _____ Cents	\$ _____	\$ _____
18	360	6-Inch Reinforced Concrete Pavement for Driveways (Minimum 5.5 Sacks per Cubic Yard), Complete in Place	35	SY	_____ Dollars _____ Cents	\$ _____	\$ _____
19	340 250	2-Inch Asphalt Surface, Including 8-Inch Thick Asphalt Base, Gr. 2, PG-64, Per TXDOT Item 292, and 3-Inch Thick HML Surface Coarse, Type "D" per TXDOT Item 340, Complete in Place	165	SY	_____ Dollars _____ Cents	\$ _____	\$ _____
20	400	Cement Stabilized Sand, Complete in Place	64	TON	_____ Dollars _____ Cents	\$ _____	\$ _____
21	LJA Spec. 2223	Replace Existing Gravel Driveway, Complete in Place	680	SY	_____ Dollars _____ Cents	\$ _____	\$ _____
22	491	Concrete Slope Paving For Drainage with Toe Walls and all Appurtenances, Complete in Place	855	SY	_____ Dollars _____ Cents	\$ _____	\$ _____

ITEM No.	SPEC No.	DESCRIPTION (1)	APPROX. QTY	UNITS	UNIT PRICE IN WORDS (2)	UNIT PRICE	TOTAL AMOUNT
23	500	Remove and Replace Existing Signs, Complete in Place		EA	_____ Dollars _____ Cents	\$ _____	\$ _____
24	550	Remove & Dispose of Barbed Wire Fence including Posts and Gates, Complete in Place		L	_____ Dollars _____ Cents	\$ _____	\$ _____
25	556	Install New Barbed Wire Fence, 4-strand, including T-Posts, Complete in Place	2.5	LF	_____ Dollars _____ Cents	\$ _____	\$ _____
26	PLANS Sht # 10	Install Hoover Fence Company 4-foot by 16-foot H-Series, Galvanized Double Tubular Barrier Gate or Equal, Including Gate Posts, Complete in Place	1	LS	_____ Dollars _____ Cents	\$ _____	\$ _____
27	165	Turf Establishment, Hydromulch Seeding, Complete in Place	5.5	AC	_____ Dollars _____ Cents	\$ _____	\$ _____
28	713	SWPPP, Reinforced Filter Dam, Installed, Maintained, And Removed, Complete in Place	135	LF	_____ Dollars _____ Cents	\$ _____	\$ _____
29	741	SWPPP, Area Inlet Protection Barrier, Installed, Maintained, And Removed, Complete in Place	7	EA	_____ Dollars _____ Cents	\$ _____	\$ _____

ITEM No.	SPEC No.	DESCRIPTION (1)	APPROX. QTY.	UNITS	UNIT PRICE IN WORDS (2)	UNIT PRICE	TOTAL AMOUNT
30	PLANS Sht # 4	SWPPP, Reinforced Filter Dam, Installed, Maintained, And Removed, Complete in Place	180	LF	_____ Dollars _____ Cents	\$ _____	\$ _____
31	724	Stabilized Construction Exit, Complete in Place	1	LS	_____ Dollars _____ Cents	\$ _____	\$ _____
32	PLANS Sht # 33&34	Traffic Control Plan, Complete in Place	1	LS	_____ Dollars _____ Cents	\$ _____	\$ _____
33	LJA Spec. 1584	Project Identification Sign, Complete in Place	1	LS	_____ Dollars _____ Cents	\$ _____	\$ _____

**TOTAL AMOUNT BASE BID ITEMS** \_\_\_\_\_  
(Items 1 thru 33)



ITEM No.	SPEC No.	DESCRIPTION (1)	APPROX. QTY.	UNITS	UNIT PRICE IN WORDS (2)	UNIT PRICE	TOTAL AMOUNT
<b>SUPPLEMENTARY BID ITEMS</b>							
34	360	"Extra" Class A Concrete, As Directed by Owner's Representative, Complete in Place	250	CY	_____ Dollars _____ Cents	_____ \$	(Minimum bid \$100.00) _____ \$
35	LJA Spec. 2223	"Extra" Crushed Limestone Bedding, As Directed by Owner's Representative, Complete in Place	50	CY	_____ Dollars _____ Cents	_____ \$	(Minimum bid \$25.00) _____ \$
36	440	"Extra" Reinforcing Steel, As Directed by Owner's Representative, Complete in Place	2,500	LB	_____ Dollars _____ Cents	_____ \$	(Minimum Bid \$1.00) _____ \$
37	PLANS Sht #2	Select Fill, Compacted per ASTM D698, As Directed by Owner's Representative, Complete in Place	2,000	CY	_____ Dollars _____ Cents	_____ \$	(Minimum Bid \$10.00) _____ \$
38	460	36-inch Reinforced Concrete Pipe, ASTM C-76, Class III, As Directed by Owner's Representative, Complete in Place	25	LF	_____ Dollars _____ Cents	_____ \$	(Minimum Bid \$80.00) _____ \$
39	SS 4122	42-Inch HP Storm Pipe, Pipe conforms to TxDOT SS Item 4122, AASHTO M330, ASTM F2881 Type S, As Directed by Owner's Representative, Complete in Place	35	LF	_____ Dollars _____ Cents	_____ \$	(Minimum Bid \$65.00) _____ \$

ITEM No.	SPEC No.	DESCRIPTION (1)	APPROX. QTY.	UNITS	UNIT PRICE IN WORDS (2)	UNIT PRICE	TOTAL AMOUNT
40	POLY LOK	12-Inch by 12-Inch Yard Drain, Including 4-Inch Schedule 40 Pipe up to 30 feet, As Directed by Owner's Representative, Complete in Place	10	EA	_____ Dollars _____ Cents	_____ \$ _____	_____ \$ _____
(Minimum Bid \$400.00)							
41	162	Turf Establishment, Full Sodding, Complete in Place	15,000	SY	_____ Dollars _____ Cents	_____ \$ _____	_____ \$ _____
(Minimum Bid \$3.00)							
42	223	Flyash for 8-Inch Stabilized Sub-Grade (6% by Dryweight) (48 lb/sy), Complete in Place	5	TON	_____ Dollars _____ Cents	_____ \$ _____	_____ \$ _____
(Minimum Bid \$100.00)							
43	220	Lime for 6-Inch Stabilized Sub-Grade (6% by Dryweight) (27 lb/sy), Complete in Place	5	TON	_____ Dollars _____ Cents	_____ \$ _____	_____ \$ _____
(Minimum Bid \$100.00)							
44	472	Type "A" Inlet, Complete in Place	1	EA	_____ Dollars _____ Cents	_____ \$ _____	_____ \$ _____
(Minimum Bid \$3,250.00)							
45	LJA Spec. 2555	2-Inch and smaller Waterline, Augered Construction (PVC, AWWA C-900, DR-18), Including Sections of Ductile Iron (AWWA C-151, Class 350) (as necessary), Complete in Place	150	LF	_____ Dollars _____ Cents	_____ \$ _____	_____ \$ _____
(Minimum Bid \$35.00)							

ITEM No.	SPEC No.	DESCRIPTION (1)	APPROX. QTY.	UNITS	UNIT PRICE IN WORDS (2)	UNIT PRICE	TOTAL AMOUNT
46	LJA Spec. 2555	6-Inch Waterline (PVC, AWWA C-900, DR-18) with Ductile Iron Fittings, Open Cut, Joint Restraints (as necessary), Including Sections Ductile Iron (AWWA C-151, Class 350) (as necessary) and Offsets as Shown on Plans, All Depths, Complete in Place	150	LF	_____ Dollars _____ Cents	\$(_____) \$ _____	(Minimum Bid \$30.00)
47	LJA Spec. 2555	6-Inch Waterline, Augered Construction (PVC, AWWA C-900, DR-18), Including Sections of Ductile Iron (AWWA C-151, Class 350) (as necessary) as Shown on Plans All Depths, Complete in Place	150	LF	_____ Dollars _____ Cents	\$(_____) \$ _____	(Minimum Bid \$35.00)
48	LJA Spec. 2555	8-Inch Waterline (PVC, AWWA C-900, DR-18) with Ductile Iron Fittings, Open Cut, Joint Restraints (as necessary), Including Sections Ductile Iron (AWWA C-151, Class 350) (as necessary) and Offsets as Shown on Plans, All Depths, Complete in Place	150	LF	_____ Dollars _____ Cents	\$(_____) \$ _____	(Minimum Bid \$30.00)

ITEM No.	SPEC No.	DESCRIPTION (1)	APPROX. QTY.	UNITS	UNIT PRICE IN WORDS (2)	UNIT PRICE	TOTAL AMOUNT
49	LJA Spec. 2555	8-Inch Waterline, Augered Construction (PVC, AWWA C-900, DR-18), Including Sections of Ductile Iron (AWWA C-151, Class 350) (as necessary) as Shown on Plans All Depths, Complete in Place	150	LF	_____ Dollars _____ Cents	_____ \$ _____	(Minimum Bid \$35.00) \$ _____
50	LJA Spec. 2401	Well Point Dewatering System, Installed, Operated, and Removed, Complete in Place	1,500	LF	_____ Dollars _____ Cents	_____ \$ _____	(Minimum Bid \$25.00) \$ _____
51	LJA Spec. 2271	Concrete Rip-Rap (Stone Erosion Protection) (18" Thick), Complete in Place	855	SY	_____ Dollars _____ Cents	_____ \$ _____	(Minimum Bid \$25.00) \$ _____

**TOTAL AMOUNT SUPPLEMENTARY BID ITEMS** \_\_\_\_\_  
(Items 34 thru 51)

ITEM No.	SPEC No.	DESCRIPTION (1)	APPROX. QTY.	UNITS	UNIT PRICE IN WORDS (2)	UNIT PRICE	TOTAL AMOUNT
<b>ALTERNATE BID ITEMS</b>							
52	360	Existing Asphalt Excavation , to Finished Grade, including Base Material, Complete in Place	815	SY	_____ Dollars _____ Cents	\$ _____	\$ _____
53	400	Cement Stabilized Sand, Complete in Place	2250	TON	_____ Dollars _____ Cents	\$ _____	\$ _____
54	440	2-Inch Asphalt Surface, Including 8-Inch Thick Asphalt Base, Gr. 2, PG-64, Per TXDOT Item 292, and 3-Inch Thick HMHL Surface Coarse, Type "D" per TXDOT Item 340, Complete in Place	815	SY	_____ Dollars _____ Cents	\$ _____	\$ _____
55	440	Protective Temporary Road Matting, Placement and Removal, Complete in place	1	LS	_____ Dollars _____ Cents	\$ _____	\$ _____

**TOTAL AMOUNT ALTERNATE BID ITEMS** \_\_\_\_\_  
(Items 52 thru 55)

**TOTAL AMOUNT BASE BID ITEMS  
AND SUPPLEMENTARY BID ITEMS** \_\_\_\_\_  
(Items 1 thru 51)

**TOTAL AMOUNT BASE BID, SUPPLEMENTARY BID, AND  
ALTERNATE BID ITEMS** \_\_\_\_\_  
(Items 1 thru 55)

**ITEM 1400**

**MEASUREMENT AND PAYMENT**

MEASUREMENT AND PAYMENT: It is the intent of the Proposal and of the General and Supplementary Conditions that the total bid, as submitted, shall cover all work required by these Contract Documents and the Plans. All costs in connection with the work, including the furnishing of all materials, appliances, equipment, supplies and all appurtenances; providing all construction equipment and tools; and performing all necessary labor to fully complete the work shall be included in the unit prices in the Proposal. No item of work that is required by the Contract Documents for the proper and successful completion of the Contract will be paid for outside of or in addition to the prices submitted to the Proposal. All work not specifically set forth in the Proposal as a pay item shall be considered a subsidiary obligation of the Contractor and all costs in connection therewith shall be included in the prices named in the Proposal.

The method of measurement and basis of payment shall be as stipulated in the following subparagraphs:

1. Existing Asphalt, Concrete, and Gravel Excavation; Bid Items 1:

Measurement shall be "Per Square Yard". The unit price shall be full compensation for furnishing all labor, tools, equipment, supplies, and incidentals necessary to complete the work; including roadway, driveway, destruction, excavation, saw cutting, shaping and finishing, salvaging, transporting, and removing material, as required.

2. Cut / Excavation for Ditch Finished Grade; Bid Item 2:

Measurement shall be "Per Cubic Yard". The unit price shall be full compensation for furnishing all labor, tools, equipment, supplies, and incidentals necessary to complete the work, including excavating or blading onsite material from ditch and proposed roadway to establish a finished grade on spoil location sheet as called out in plans, and reach compaction to 95% by Standard Procter Density. The surplus suitable material shall be placed as shown in plans as described by Owner's Representative.

3. Embankment for Fill Purposes, Bid Item 3:

Measurement shall be “Cubic Yard” of in-place material. The unit price shall be full compensation for materials, labor, and appurtenances for delivery and installation of extra embankment as required to raise and establish a finished grade as called out on plans, and reach compaction of 95% standard proctor density, as directed by the Owner’s Representative.

4. Remove Existing Culverts 36-Inch or Less, Bid Item 4:

Measurement shall be “Per Linear Foot”. Payment shall be full compensation for supplying all materials to remove existing culvert, and labor to place haul offsite as directed by the engineer.

5. 24-Inch Reinforced Concrete Pipe, ASTM C-76, Class III; Bid Item 5:

Measurement shall be “Per Linear Foot”. The unit price shall be full compensation for furnishing and installation of storm sewers of size contained in the bid form including excavation and embedment as required, backfilling, finish grading, ditch grading to drain, clean-up and all appurtenances including concrete collars per detail, and work required for the complete placement of proposed storm sewers.

6. 30-Inch Reinforced Concrete Pipe, ASTM C-76, Class III; Bid Item 6:

Measurement shall be “Per Linear Foot”. The unit price shall be full compensation for furnishing and installation of storm sewers of size contained in the bid form including excavation and embedment as required, backfilling, finish grading, ditch grading to drain, clean-up and all appurtenances including concrete collars per detail, and work required for the complete placement of proposed storm sewers.

7. 42-Inch Reinforced Concrete Pipe, ASTM C-76, Class III; Bid Item 8:

Measurement shall be “Per Linear Foot”. The unit price shall be full compensation for furnishing and installation of storm sewers of size contained in the bid form including excavation and embedment as required, backfilling, finish grading, ditch grading to drain, clean-up and all appurtenances including concrete collars per detail, and work required for the complete placement of proposed storm sewers.

8. 11-Foot by 6-Foot Reinforced Box Culvert (ASTM C850), Including Slope Paving and Backfill; Bid Item 8:

Measurement shall be “Per Linear Foot” along the centerline of box sewer without deductions for manholes and inlets, from start to the line terminus. The unit price shall be full compensation for layout, trenching and incidentals thereto, saw-cutting, cement stabilized bedding, Concrete Safety End Treatment as shown in Plans, boxes and fitting materials, box placement, embedment and backfill to existing surface elevations, connections, trench backfill maintenance, clean-up and all incidental work required for the complete contract not specifically included in another payment item.

9. 24-Inch HP Pipe, TxDOT SS Item 4122, AASHTO M330; Bid Item 9:

Measurement shall be “Per Linear Foot”. The unit price shall be full compensation for furnishing and installation of storm sewers of size contained in the bid form including excavation and embedment as required, backfilling, finish grading, ditch grading to drain, clean-up and all appurtenances including concrete collars per detail, and work required for the complete placement of proposed storm sewers.

10. 30-Inch HP Pipe, TxDOT SS Item 4122, AASHTO M330; Bid Item 10:

Measurement shall be “Per Linear Foot”. The unit price shall be full compensation for furnishing and installation of storm sewers of size contained in the bid form including excavation and embedment as required, backfilling, finish grading, ditch grading to drain, clean-up and all appurtenances including concrete collars per detail, and work required for the complete placement of proposed storm sewers.

11. 36-Inch HP Pipe, TxDOT SS Item 4122, AASHTO M330; Bid Item 11:

Measurement shall be “Per Linear Foot”. The unit price shall be full compensation for furnishing and installation of storm sewers of size contained in the bid form including excavation and embedment as required, backfilling, finish grading, ditch grading to drain, clean-up and all appurtenances including concrete collars per detail, and work required for the complete placement of proposed storm sewers.

12. Standard Concrete Storm Manhole; Bid Items 12:

Measurement shall be “Per Each”. Payment shall be full compensation for a 4-foot to 6-foot diameter manhole 0 to 8 feet deep, well point watering, per details on plans if necessary, complete in place concrete units including cone, rings, frame and cover, accessories, embedment, and backfill per details shown on Plans.



13. Type "E" Inlet; Bid Item 12:

Measurement shall be "Per Each". The unit price shall be full compensation for furnishing and installation of type "E" inlet including excavation and embedment as required, backfilling, finish grading, ditch grading to drain, clean-up and all appurtenances including concrete collars per detail, and work required for the complete placement of proposed type "E" inlet.

14. Junction Box; Bid Items 14, 15, and 16:

Measurement shall be "Per Lump Sum." The unit price shall be full compensation for layout, materials, installation of materials necessary, excavation, disposal of waste, seal slabs, access inlet with solid cover, forming, steel placement, placement of concrete, connections to all existing and proposal storm sewer, and appurtenances as shown on the Plans and/or Details, embedment and backfill, finish grading, clean-up, and all appurtenances necessary to complete the work, complete in place.

15. 6-Inch Stabilized Sub-Grade (Manipulation); Bid Item 17:

Measurement shall be "Per Square Yard". The unit price shall be full compensation for furnishing all labor, tools, equipment, supplies, and incidentals necessary to complete the work, including salvaging and reshaping the existing base material and subgrade to obtain the required alignment and grade of the proposed pavement; spreading, blading and shaping of any material brought to the project from a stockpile; spreading and blading of the lime/flyash to obtain a uniform application; lime/flyash stabilization; mixing, sprinkling, blading, shaping and rolling of the base material and subgrade to obtain the required Standard Proctor Density and all manipulations, labor, tools, equipment necessary to complete the work.

16. 6-Inch Reinforced Concrete Pavement (5.5 Sacks per Cubic Yard); Bid Item 18:

Measurement shall be "Per Square Yard". The unit price shall be full compensation for shaping and fine grading the roadbed, including furnishing and applying all water required; for furnishing, loading and all freight and royalty involved; for mixing, placing, finishing and curing all concrete mix; for furnishing all materials for and placing longitudinal, warping, expansion, sawed control and contraction joints, and load transmission units, and joint filler material in proper position; for coating steel bars where required by plans, for furnishing and placing all reinforcing steel; and for all manipulations, labor, equipment, appliances, tools, traffic provisions and incidentals necessary to complete the work.

17. 2-Inch Asphaltic Concrete Surface; Bid Item 19:

Measurement shall be "Per Square Yard". The unit price shall be for furnishing and placement of all materials including prime coat, 8-inch asphalt base grade-2 PG-64, per TXDOT Item 292, 3" thick HMHL surface coarse, type "D" per TXDOT Item 340, and required equipment and labor. Pavement shall be for repaired areas where removal was required for construction. Saw-cutting and excavation of existing area to be repaired is incidental to this item. Pavement replacement shall not exceed the areas shown on the details. Other damaged areas shall be repaired at Contractor's expense.

18. Cement Stabilized Sand, 2.0 Sacks per Ton; Alternate Bid Item 20:

Measurement shall be "Per Ton". Payment shall be full compensation for supplying all materials to deliver cement stabilized sand, labor to place cement stabilized sand as directed by the Owner's Representative.

19. Replace Existing Gravel Driveway; Bid Item 21:

Measurement shall be "Per Square Yard." The unit price shall be full compensation for the replacement of the driveway, as necessary to like or better conditions including bedding and backfill, and all incidental work required for a complete installation.

20. Reinforced Concrete Slope Paving with Toe Walls, Weep Holes, and All Appurtenances; Bid Item 22:

Measurement shall be "Per Square Yard". Payment shall be full compensation for furnishing and applying all water required; for furnishing, loading and all freight and royalty involved; for mixing, placing, finishing and curing all concrete mix; for furnishing all materials for and placing all reinforcing steel; and for all manipulations to place a drainage structure.

21. Remove & Replace Existing Sign, Bid Item 23:

Measurement shall be "Per Each." Unit price shall be full compensation for removal and replacement of existing sign, cleanup, appurtenances, and any incidentals necessary to complete the work.

22. Remove & Dispose of Barbed Wire Fence including Posts and Gates, Bid Item 24:

Measurement shall be "Per Linear Foot." Unit price shall be full compensation for removal and replacement of existing barbed wire fence including posts and gates, cleanup, appurtenances, and any incidentals necessary to complete the work.

23. Install New Barbed Wire Fence, 4-strand, including T-Posts; Bid Item 25:

Measurement shall be "Per Linear Foot." Unit price shall be full compensation for installation of a new 4-strand barbed wire fence including T-posts, reinstallation of existing gate and gate posts, cleanup, appurtenances, and any incidentals necessary to complete the work.

24. Install New 4-foot by 16-foot, H-Series, Galvanized Double Tubular Barrier Gate or equal, Including Gate Posts; Bid Item 26:

Measurement shall be "Per Lump Sum." Unit price shall be full compensation for installation of a new 4-foot by 16-foot galvanized gate, reinstallation of gate and gate posts, cleanup, appurtenances, as shown in plans, and any incidentals necessary to complete the work.

25. Turf Establishment, Hydromulch Seeding; Bid Item 27:

Measurement shall be "Per Acre". The unit price shall be full compensation for furnishing all labor, tools, equipment, supplies, and incidentals necessary to complete the work, including the establishment of hydromulch seeding in accordance with the specifications and plans, complete in place.

26. SWPPP Reinforced Filter Fabric Barrier; Bid Item 28:

Measurement shall be "Per Linear Foot". The unit price shall be full compensation for supplying the reinforced filter fabric barrier, installation of the barrier, maintenance of barrier with removal of solids build up on upstream side, and removal of barrier at the end of construction, finish grading, clean-up, and all incidental work.

27. SWPPP Area Inlet Protection Barrier; Bid Item 29:

Measurement shall be "Per Each". The unit price shall be full compensation for supplying gravel bags for each area inlet, installation of gravel bags, maintenance of barrier with removal of solids build up on upstream side, and removal of barrier at the end of construction, finish grading, clean-up, and all incidental work.

28. SWPPP Reinforced Filter Dam; Bid Item 30:

Measurement shall be "Per Linear Foot". The unit price shall be full compensation for supplying the reinforced filter dam, installation of the barrier, maintenance of dam with removal of solids build up on upstream side, and removal of dam at the end of construction, finish grading, clean-up, and all incidental work.

29. Stabilized Construction Exit, Bid Item 31:

Measurement shall be "Per Each". Payment shall be full compensation for supplying the stabilized construction exit, installation of the stabilized construction exit, maintenance of stabilized construction exit and removal of stabilized construction exit, at the end of construction, finish grading, clean-up, and all incidental work.

30. Traffic Control Plan During Construction; Bid Items 32:

Measurement shall be "Per Lump Sum". The unit price shall be full compensation for furnishing traffic control plan needed for milling, proof rolling, forming and concrete activities as necessary. Roadways are to be open to local traffic. The unit price shall include furnishing, installation, and removal of signs and/or barricades as necessary, and the use of flagmen to assist in traffic control during working hours.

31. Project Sign, Bid Item 33:

Measurement shall be "Per Lump Sum". The unit price shall be full compensation for furnishing all labor, tools, equipment, supplies and incidentals necessary to complete the work, including the placement of sign, as directed by the engineer for the duration of the project and then removed at projects end, complete in place.

**SUPPLEMENTARY ITEMS**

32. "Extra" Class A Concrete, As Directed by Owner's Representative; Supplemental Bid Item 34:

Measurement shall be "Per Cubic Yard". Payment shall be full compensation for supplying all materials to deliver class A concrete, labor to place class A concrete as directed by the Owner's Representative.

33. "Extra" Crushed Limestone Bedding, As Directed by Owner's Representative; Supplemental Bid Item 35:

Measurement shall be "Per Cubic Yard". Payment shall be full compensation for supplying all materials to deliver crushed limestone bedding, labor to place crushed limestone bedding as directed by the engineer.

34. “Extra” Reinforcing Steel, As Directed by Owner’s Representative; Supplemental Bid Item 36:

Measurement shall be “Per Pound” of in-place material. The unit price shall be full compensation for materials, labor and appurtenances for delivery and installation of extra reinforcing steel as directed by the Owner’s Representative. Installation of supplemental materials shall be done so as directed by the Owner’s Representative and approved by the Engineer.

35. Select Fill, Compacted per ASTM D698, As Directed by Owner’s Representative; Supplemental Bid Item 37:

Measurement shall be “Per Cubic Yard”. Payment shall be full compensation for supplying all materials to deliver select fill and follow recommendations based on Geotest Engineering, Inc. Geotechnical Report for Bel Road, labor to place select fill as directed by the Owner’s Representative.

36. 36-Inch Reinforced Concrete Pipe, ASTM C-76, Class III; As Directed by Owner’s Representative; Supplemental Bid Item 38:

Measurement shall be “Per Linear Foot”. The unit price shall be full compensation for furnishing and installation of storm sewers of size contained in the bid form including excavation and embedment as required, backfilling, finish grading, ditch grading to drain, clean-up and all appurtenances including concrete collars per detail, and work required for the complete placement of proposed storm sewers.

37. 42-Inch HP Pipe, TxDOT SS Item 4122, AASHTO M330; As Directed by Owner’s Representative; Supplemental Bid Item 39:

Measurement shall be “Per Linear Foot”. The unit price shall be full compensation for furnishing and installation of storm sewers of size contained in the bid form including excavation and embedment as required, backfilling, finish grading, ditch grading to drain, clean-up and all appurtenances including concrete collars per detail, and work required for the complete placement of proposed storm sewers.

38. 12-Inch by 12-Inch Storm Yard Drain, As Directed by Owner’s Representative; Supplemental Bid Item 40:

Measurement shall be “Per Each”. The unit price shall be full compensation for furnishing and installation of inlet including excavation and embedment as required, backfilling, finish grading, grading to drain, clean-up and all appurtenances including, and work required for the complete placement of proposed inlet. Includes Polylok drainage pipe of appropriate size buried and backfilled from centerline of ditch to inlet. [www.drainagedirect.com](http://www.drainagedirect.com), Part Number PDB-12KIT

39. Turf Establishment, Full Sodding; Bid Item 41:

Measurement shall be "Per Square Yard". Payment is to be full compensation for the establishment of turf by sodding in accordance with the Specifications in locations specified by the Owner's Representative.

40. Flyash for 8-Inch Stabilized Sub-Grade (6% by Dryweight), As Directed by Owner's Representative; Supplemental Bid Item 42:

Measurement shall be "Per Ton". The unit price shall be full compensation for furnishing all labor, tools, equipment, supplies and incidentals necessary to complete the work, including supplying and placing lime to be utilized.

41. Lime for 6-inch Stabilized Sub-Grade (6% by Dryweight), As Directed by Owner's Representative; Supplemental Bid Item 43:

Measurement shall be "Per Ton". The unit price shall be full compensation for furnishing all labor, tools, equipment, supplies and incidentals necessary to complete the work, including supplying and placing lime to be utilized.

42. Type "A" Inlet, As Directed by Owner's Representative; Supplemental Bid Item 44:

Measurement shall be "Per Each". The unit price shall be full compensation for furnishing and installation of type "A" inlet including excavation and embedment as required, backfilling, finish grading, ditch grading to drain, clean-up and all appurtenances including concrete collars per detail, and work required for the complete placement of proposed type "A" inlet.

43. Waterline, Open Cut, As Directed by Owner's Representative; Supplemental Bid Items 46 and 48:

Measurement shall be "Per Linear Foot" along centerline of pipe without deductions for valves and fittings, from start to line terminus. The unit price shall be full compensation for layout, clearing and grubbing, trenching and incidentals thereto, bank sand bedding, pipe and fitting materials, steel pipe sections (as applicable), pipe placement, thrust blocking and normal backfill to existing grade, testing, disinfection, connections, joint restraints, trench backfill, maintenance, clean-up, trench dewatering, and all incidental work required for the complete contract not specifically included in another payment item.

44. Waterline in Augered Construction, As Directed by Owner's Representative;  
Supplemental Bid Items 45, 47, and 49:

Measurement shall be "Per Linear Foot" along centerline of pipe from start to the augered terminus. The unit price shall be full compensation for layout, grade, clearing and grubbing, boring and jacking of pipe and incidentals thereto, bedding, carrier pipe and materials, pipe placement, fittings, thrust blocking and normal backfill to existing surface elevations, connections, joint restraints, bore pit dewatering, testing, disinfection, trench backfill maintenance, and all incidental work.

45. Well Point Dewatering System, Installed, Operated and Removed; As Directed by  
Owner's Representative; Supplemental Bid Item 50:

Measurement shall be "Per Linear Foot". Payment shall be full compensation for supplying all materials and pumping equipment necessary, for the purpose of dewatering any excavated trench at any depth, or to gain access to any necessary installation necessary for the completion of the work in the contract, and all appurtenances for a complete dewatering system complete in place. This item is only to be paid for during open cut construction for the pipe and/or box culvert if needed.

46. Concrete Rip-Rap (Stone Erosion Protection); As Directed by Owner's Representative;  
Supplemental Bid Item 51:

Measurement shall be "Per Square Yard." The unit price shall be full compensation for furnishing all labor, tools, equipment, supplies and incidentals necessary to complete the work, including layout, supply and installation of concrete rip-rap, trenching and incidentals thereto, in accordance with layouts and details on plans and specifications, complete in place.

#### **ALTERATE ITEMS**

47. Existing Asphalt Excavation; Alternate Bid Item 52:

Measurement shall be "Per Square Yard". The unit price shall be full compensation for furnishing all labor, tools, equipment, supplies, and incidentals necessary to complete the work; including roadway, destruction, excavation, saw cutting, shaping and finishing, salvaging, transporting, and removing material, as required.

48. Cement Stabilized Sand, 2.0 Sacks per Ton; Alternate Bid Item 53:

Measurement shall be "Per Ton". Payment shall be full compensation for supplying all materials to deliver cement stabilized sand, labor to place cement stabilized sand as directed by the Owner's Representative.

49. 2-Inch Asphaltic Concrete Surface; Alternate Bid Item 54:

Measurement shall be "Per Square Yard". The unit price shall be for furnishing and placement of all materials including prime coat, 8-inch asphalt base grade-2 PG-64, per TXDOT Item 292, 3" thick HMHL surface coarse, type "D" per TXDOT Item 340, and required equipment and labor. Pavement shall be for repaired areas where removal was required for construction. Saw-cutting and excavation of existing area to be repaired is incidental to this item. Pavement replacement shall not exceed the areas shown on the details. Other damaged areas shall be repaired at Contractor's expense.

50. Protective Road Mats; Alternate Bid Item 55:

Measurement shall be "Per Lump Sum". Payment shall be full compensation for supplying the mats, installation of the mats, maintenance of the mats and removal of the mats, at the end of construction, finish grading, clean-up, and all incidental work.



**ITEM 2271**

**BROKEN CONCRETE RIP-RAP**

I. GENERAL

A. Scope

This section governs for the furnishing and placing of layers or courses of broken concrete rip-rap, to the lines, grades and depths shown on the Plans and/or Exhibits.

B. Related Work (if utilized in this project)

1. Item 1400 - Measurement and Payment
2. Item 2102 - Clearing and Grubbing
3. Item 2210 - Site Grading

II. MATERIALS

A. Provide rip-rap consisting of broken concrete or stone blocks. Provide rip-rap consisting of dense, durable and hard material which is free from cracks, seams and other defects which would increase deterioration from handling and natural causes.

B. Block Shape and Dimensions

1. Provide rip-rap blocks in cubic form, rather than elongated (flat) shapes.
2. The minimum thickness of each block shall be 6-inches.
3. No more than 25 percent of the blocks may have a length greater than 2 ½ times the width or thickness. No block length shall exceed 3 times the width or thickness.

C. Provide rip-rap well graded and conforming to tables attached to this specification.

D. Do not provide spalls, fragments, and chips exceeding 5 percent by weight. The

dimension and shape limitations do not apply to this portion of the rip-rap.

- E. Where broken concrete is used, cut exposed metal, including rebar and wire mesh, flush with the surface of the block prior to placing the rip-rap.

### III. EXECUTION

- A. Excavate the channel or slope to receive rip-rap.
- B. Trim and dress the channel bottom and side slopes to proper lines and grade prior to placing concrete. Engineer will inspect prepared section prior to concrete placement.
- C. Rip-Rap Placement
  1. Rip-rap shall meet gradation and quality requirements prior to placement.
  2. Place rip-rap to slopes, lines, and grades as shown on Plans and/or Exhibits to establish a well graded mass of rip-rap without voids.
  3. Install rip-rap mat to thickness as shown on Plans and/or Exhibits, with a minimum mat thickness as shown on the gradation tables in this specification.
  4. Place rip-rap in one course (lift) across the channel bottom, then up the side slopes. Place rip-rap in such a manner to avoid displacement or damage to the prepared surface or geotextile. Place rip-rap to avoid segregation of particle sizes. Place rip-rap as close to final position as possible.
  5. Place rip-rap blocks in close contact, well graded and free from pockets of small stones or clusters of large stones. Elongated rip-rap blocks shall be well distributed throughout the rip-rap mat. Individual oversized blocks are not permitted. These shall be broken to specified size or removed and replaced with rip-rap within the gradation limits. Surface irregularities shall be minimal.
  6. Avoid dropping rip-rap from such a height as to cause breakage or to damage geotextile (if used).
  7. Prevent mixture or incorporation of dirt or other materials with the rip-rap during placement.
  8. Rip-rap may be placed by hand or machine as long as specified

requirements are met.

9. Fill spaces between larger rip-rap blocks with spalls and smaller blocks of the largest feasible size to form a compact mass. Do not place spalls and small blocks in place of larger size blocks.

TABLE 1

RIP-RAP GRADATION NO. 1

Percent Lighter by Weight	Stone Weight <u>Lbs.</u>		Volume <u>Cubic Ft (2)</u>		Cubical Shape <u>Ft (Each Side)</u>		Spherical Shape <u>Ft (Dia.)</u>	
	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper
	<u>Limit</u>	<u>Limit</u>	<u>Limit</u>	<u>Limit</u>	<u>Limit</u>	<u>Limit</u>	<u>Limit</u>	<u>Limit</u>
100	180	265	1.20	1.77	1.06	1.21	1.31	1.50
50	80	110	0.53	0.73	0.81	0.90	1.01	1.12
15	40	60	0.27	0.40	0.64	0.74	0.80	0.91

Notes:

1. The theoretical cube and sphere size is presented for guidance only. Paragraph 2.01 shall control rip-rap shape and dimensions.
2. Volume is based on 150 pcf, unit weight.
3. Rip-Rap Gradation No. 1 is to be used where an 18-inch thick rip-rap mat is noted on the Plans and/or Exhibits.
4. Provide an 18-inch thick mat, minimum, for Rip-Rap Gradation No. 1.

TABLE 2

RIP-RAP GRADATION NO. 2

Percent Lighter by Weight	Stone Weight Lbs.		Volume Cubic Ft (2)		Cubical Shape Ft (Each Side)		Spherical Shape Ft (Dia.)	
	Lower Limit	Upper Limit	Lower Limit	Upper Limit	Lower Limit	Upper Limit	Lower Limit	Upper Limit
	100	260	640	1.73	4.27	1.20	1.62	1.49
50	130	200	0.87	1.33	0.95	1.10	1.18	1.37
15	40	150	0.27	1.00	0.64	1.00	0.80	1.24

Notes:

1. The theoretical cube and sphere size is presented for guidance only. Paragraph 2.01 shall control rip-rap shape and dimensions.
2. Volume is based on 150 pcf, unit weight.
3. Provide a 24-inch thick mat, minimum, for Rip-Rap Gradation No. 2.

**ITEM 2401**

**DEWATERING AND DRAINAGE OF EXCAVATION**

**I. GENERAL**

**A. Scope**

This section provides for furnishing all labor, materials, equipment, power, incidentals and for performing all operations necessary to dewater, drain, and maintain excavations and foundation beds as necessary for construction of structures and appurtenances. Maintain surface drainage, eliminate seepage from excavation or other work and protect work against rising waters and floods and repair of any resulting damage.

**B. Contractor's Responsibility**

Contractor shall have sole responsibility for dewatering systems and for all loss or damage resulting from partial or complete failure of protective measures, except as otherwise provided in the general and supplementary conditions of this manual.

**C. Submittals**

1. If requested, submit shop drawings and manufacturers data for proposed equipment and procedure. Do not start dewatering or other foundation drainage until the requested data has been submitted and reviewed.
2. Equipment Supplier: With submittals, provide the name of the supplier of well point or other foundation drainage equipment.

**D. Related Work (if utilized in this project)**

1. Division 2, Site Work
  - a. Item 1541 - Trench Safety Systems
  - b. Item 2220 - Structural Excavation and Backfill

**II. MATERIALS**

The necessary equipment and material for the dewatering and drainage systems shall be selected by contractor and submitted to the engineer for review.

### III. EXECUTION

#### A. Dewatering Excavations

1. Furnish, install, operate, and maintain all necessary pumping for dewatering the various parts of the work and for maintaining free of water the foundations and such other parts of the work as required for construction operations and as required for inspections and safety.
2. Continue dewatering in all required areas until the concrete structure, the trench, the embankment, and scour protection have been completed for the excavation or to another designated level.
3. Provide a uniform diameter for each pipe drain run constructed for dewatering. Remove the pipe drain when it has served its purpose. If removal of the pipe is impractical, provide grout connections at 50-foot intervals and fill the pipe with clay grout or cement and sand grout when the pipe has served its purpose.
4. After completion of construction at the site, remove the drainage equipment and dispose of any material not needed.

#### B. Requirements for Well Points

1. Well points, where used, must be furnished, installed, and operated by a reputable contractor regularly engaged in this business and approved.
2. Submit the design of the well point system for review. Pre-drain by well point vacuum method.
3. Install sufficient piezometers to show that all trench excavation in sandy material is pre-drained prior to excavation.
4. Well points may be omitted for portions of underdrains or other trenches, only where auger borings and piezometers show that the soil is pre-drained by an exterior system.

#### C. Duration of Drainage

1. In areas where concrete is to be placed, carry out the foundation drainage, so that the required lowering of the water table will be effected prior to placing reinforcing steel. Keep foundation beds free from water to be same levels for 3 days after pouring concrete.
2. Operate pumps to keep each underdrain system drained to the approximate level of the top of the lowest pipe of the system until the removal or flooding of cofferdams.

D. Protection of Structures

Provide adequate protection for all structures to avoid damage to concrete.

E. Repair of Damage

Contractor shall have full responsibility for all loss and damage due to flood, rising water, or seepage in any part of the work. Repair any damage to partially completed work from these or other causes.



# Mark Henry

County Judge  
County of Galveston

Galveston County Courthouse  
722 Moody Avenue, Galveston, Texas 77550

Tyler Drummond  
Chief of Staff

Dianna Martinez  
Office Coordinator

Linda Bilotta Liechty  
Administrative Assistant

March 11, 2019

Ms. Rachel Lange  
Texas Parks and Wildlife Department  
4200 Smith School Road  
Austin, Texas 78744

RE: Galveston County Willow Bayou/Avenue L Drainage - DRS010052-4014.4.3  
ERR # B-08-DI-48-0001 - DRS010052 - 10-5052-000-5028

Dear Ms. Lange:

Below is our response to your comment letter dated November 28, 2018:

#### GENERAL CONSTRUCTION RECOMMENDATIONS

**Recommendation:** TPWD recommends the judicious use and placement of sediment control fence to exclude wildlife from the construction area. In many cases, sediment control fence placement for the purposes of controlling erosion and protecting water quality can be modified minimally to also provide the benefit of excluding wildlife access to construction areas. The exclusion fence should be buried at least six inches and be at least 24 inches high. The exclusion fence should be maintained for the life of the project and only removed after the construction is completed and the disturbed site has been revegetated. Construction personnel should be encouraged to examine the inside of the exclusion area daily to determine if any wildlife species have been trapped inside the area of impact and provide safe egress opportunities prior to initiation of construction activities.

**BEST MANAGEMENT PRACTICES WILL BE FOLLOWED AND MONITORED TO CONTROL SEDIMENT AND HELP EXCLUDE WILDLIFE FROM THE AREA.**

**Recommendation:** For soil stabilization and/or revegetation of disturbed areas within the proposed project area, TPWD recommends erosion and seed/mulch stabilization materials that avoid entanglement hazards to snakes and other wildlife species. Because the mesh found in many erosion control blankets or mats pose an entanglement hazard to wildlife TPWD recommends the use of no-till drilling, hydromulching and/or hydroseeding rather than erosion control blankets or mats due to a reduced risk to wildlife. If erosion control blankets or mats will be used, the product should contain no netting or contain loosely woven, natural fiber netting in which the mesh design allows the threads to move, therefore allowing expansion of the mesh openings. Plastic mesh matting should be avoided.



EROSION AND SEED/MULCH STABILIZATION MATERIALS THAT AVOID ENTANGLEMENT HAZARDS TO SNAKES AND OTHER WILDLIFE SPECIES WILL BE UTILIZED FOR SOIL STABILIZATION AND/OR REVEGETATION OF DISTURBED AREAS WITHIN THE PROPOSED PROJECT AREA.

WHEN POSSIBLE, THE USE OF NO-TILL DRILLING, HYDROMULCHING AND/OR HYDROSEEDING WILL BE USED RATHER THAN EROSION CONTROL BLANKETS OR MATS. IF EROSION CONTROL BLANKETS OR MATS WILL BE USED, THE PRODUCT WILL CONTAIN NO NETTING OR CONTAIN LOOSELY WOVEN, NATURAL FIBER NETTING IN WHICH THE MESH DESIGN ALLOWS THE THREADS TO MOVE, THEREFORE ALLOWING EXPANSION OF THE MESH OPENINGS. PLASTIC MESH MATTING WILL BE AVOIDED.

#### **CULVERTS**

Crossings should be constructed in a manner that does not impede flow, over-widen the channel, or destabilize the banks. Natural bed and banks are significant features for fish and wildlife. Box culverts eliminate access to water for many animal species and act as a barrier to the passage of aquatic organisms. Additionally, many animals burrow into banks for nesting or roosting. Natural shorelines and banks allow access both into and out of the water, or just to the water's edge for many animals, such as salamanders, turtles, snakes, invertebrates, and birds.

Long culverts particularly pose a barrier to animal crossing. The wide, flat bottom of a square culvert spreads out the flow, creating a shallower water depth which also may prevent passage of aquatic organisms. Culverts accelerate water velocity at elevated flows, increasing downstream erosion and further inhibiting aquatic organism passage. Culverts require erosion prevention structures at the culvert outfalls. Lack of protection will likely lead to stream down-cutting and the creation of an impediment to passage for aquatic organisms.

**Recommendation:** A single culvert of appropriate size should be used to maintain the approximate configuration of the bankfull channel for water and sediment transport; with smaller culverts set at higher elevations to maintain the integrity of the floodplain.

A SINGLE BOX WILL BE USED AND SET AT A GRADE WHICH WILL NOT INHIBIT THE REQUIRED FLOW FOR THE AREA FOR THE DESIGN STANDARDS OF THE DRAINAGE DISTRICT.

#### **FEDERAL LAW: MIGRATORY BIRD TREATY ACT**

The Migratory Bird Treaty Act (MBTA) prohibits direct and affirmative purposeful action that reduce migratory birds, their eggs, or their nests, by killing or capturing, to human control, except when specifically authorized by the Department of the Interior. This protection applies to most native bird species, including ground nesting species. The U.S. Fish and Wildlife Service (USFWS) Migratory Bird Office can be contacted at (505) 248-7882 for more information on potential impacts to migratory birds.

**Recommendation:** TPWD recommends any vegetation clearing be scheduled outside of the general bird nesting season of March 15th to September 15th; however, if clearing must occur during nesting season, nest surveys should be conducted prior to clearing. If nests are observed during surveys, a vegetation buffer area of no less than 25-feet in diameter should remain around the nest until all young have fledged.

DUE TO TIME CONSTRAINTS, VEGETATION CLEARING CAN NOT BE SCHEDULED OUTSIDE OF NESTING SEASON. AS SUCH, PRIOR TO CONSTRUCTION, A NEST SURVEY WILL BE CONDUCTED. IF NESTS ARE OBSERVED DURING SURVEYS, A VEGETATION BUFFER AREA OF NO LESS THAN 25-FEET IN DIAMETER SHOULD REMAIN AROUND THE NEST UNTIL ALL YOUNG HAVE FLEDGED.

#### **FEDERAL LAW: ENDANGERED SPECIES ACT**

Federally-listed animal species and their habitat are protected from take on any property by the Endangered Species Act (ESA). Take of a federally-listed species can be allowed if it is incidental to an otherwise lawful activity and must be permitted in accordance with Section 7 or 10 of the ESA. Any take of a federally-listed species or its habitat without the required take permit (or allowance) from the USFWS is a violation of the ESA.

**Recommendation:** The USFWS should be contacted for species occurrence data, guidance, permitting, survey protocols, and mitigation for federally listed species.

THE USFWS WAS CONSULTED VIA IPAC ON NOVEMBER 5, 2018.

**Recommendation:** If federally-listed species are encountered during construction, work should stop immediately. The USFWS - Clear Lake Ecological Services Office should be contacted at (281) 286-8282 regarding compliance with the ESA.

IF FEDERALLY-LISTED SPECIES ARE ENCOUNTERED DURING CONSTRUCTION, WORK WILL STOP IMMEDIATELY AND THE USFWS CLEAR LAKE ECOLOGICAL SERVICES OFFICE WILL BE CONTACTED AT (281) 286-8282 REGARDING COMPLIANCE WITH THE ESA.

#### **CLEAN WATER ACT (CWA)**

Section 404 of the Clean Water Act (CWA) establishes a federal program to regulate the discharge of dredged and fill material into the waters of the U.S., including wetlands. The U.S. Army Corps of Engineers (USACE) and the Environmental Protection Agency are responsible for making jurisdictional determinations and regulating wetlands and other waters under Section 404 of the CWA. Additionally, the USACE is responsible for regulating activities under Section 10 of the Rivers and Harbors Act of 1899, which requires authorization for construction, excavation, or other work in the channel or along the banks of navigable waters of the U. S. that changes the course, conditions, location, or capacity of those waters.

Waterways, wetlands and riparian areas, regardless of their jurisdictional status, generally provide valuable habitat for wildlife and protect waterways from sediment loads in runoff water. Such habitats are priority habitat types targeted for conservation by TPWD across the state.

**Recommendation:** TPWD recommends consulting with the USACE for potential impacts to waters of the U.S. including jurisdictional determinations, delineations, and mitigation.

ACCORDING TO AN ONSITE REVIEW OF THE WETLANDS BY BERG, OLIVER ASSOCIATES, INC. AND THE USFWS WETLANDS INVENTORY MAP, A PORTION OF THE PROJECT WILL OCCUR WITHIN A RIVERINE LOWER PERENNIAL UNCONSOLIDATED BOTTOM PERMANENTLY FLOODED (R2UBH) WETLAND. THE WETLAND FEATURE WAS DETERMINED TO BE A NON-VEGETATED WATER OF THE U.S WITH A DEFINED BED AND BANK AND OHWM.

ACCORDING TO THE PLANS, ONE PROPOSED OUTFALL STRUCTURE WILL BE CONSTRUCTED AS WITH AN ASSOCIATED CONCRETE SLOPE PLACED ABOVE THE OHWM OF THE WATER OF THE U.S. RESULTING IN NO DISCHARGE OF FILL MATERIAL BELOW THE OHWM. THEREFORE, SINCE THERE WILL BE NO IMPACT TO JURISDICTIONAL WETLANDS OR WATERS OF THE U.S., THE PROPOSED PROJECT CAN BE CONSTRUCTED WITHOUT A PERMIT ISSUED BY THE UNITED STATES ARMY CORPS OF ENGINEERS (USACE).

**Recommendation:** TPWD recommends mitigation for all impacts to aquatic resources. The wetland and stream mitigation plan should be developed in consultation with TPWD. The City should coordinate with Ms. Colleen Roco at (281) 534-0139 or Colleen.Roco@tpwd.texas.gov regarding aquatic habitat impacts and mitigation.

THIS PROJECT DOES NOT TRIGGER THE NEED FOR A PERMIT FROM THE UNITED STATES ARMY CORP OF ENGINEERS NOR DOES IT EXCEED THE THRESHOLD FOR STREAM MITIGATION PER THE UNITED STATES ARMY CORP OF ENGINEERS GALVESTON DISTRICT REGIONAL CONDITIONS. FURTHER, THE PROJECT WILL ONLY IMPACT A TINY SECTION OF NON-VEGETATED WETLANDS. THEREFORE, A WETLAND AND STREAM MITIGATION PLAN IS NOT WARRANTED.

#### **STATE LAW: AQUATIC RESOURCES**

TPW Code Section 1.011 grants TPWD authority to regulate and conserve aquatic animal life of public waters. Title 31, Chapter 57, Subchapter B, Section 57.157 of Texas Administrative Code (TAC) regulates take of mussels which are not limited to state-listed mussels. Section 12.301 of TPW Code identifies liability for wildlife taken in violation of TPW Code or a regulation adopted under TPW Code.

**Recommendation:** All waterways and associated floodplains, riparian corridors, and wetlands, regardless of their jurisdictional status, provide valuable wildlife habitat and should be protected to the maximum extent possible. If project-related activities cause mortality to fish and wildlife species, then the responsible party would be subject to investigation by the TPWD Kills and Spills Team (KAST) and will be liable for the value of the lost resources under the authority of TPW Code Sections 12.001 1 (b) (1) and 12.301.

BEST MANAGEMENT PRACTICES WILL BE FOLLOWED IN AN EFFORT TO PROTECT ALL WATERWAYS AND ASSOCIATED FLOODPLAINS, RIPARIAN CORRIDORS, AND WETLANDS

**Recommendation:** TPWD recommends mitigation for all impacts to aquatic resources. The stream mitigation plan should be developed in consultation with TPWD. The applicant should coordinate with Ms. Colleen Roco.

THIS PROJECT DOES NOT TRIGGER THE NEED FOR A PERMIT FROM THE UNITED STATES ARMY CORP OF ENGINEERS NOR DOES IT EXCEED THE THRESHOLD FOR STREAM MITIGATION PER THE UNITED STATES ARMY CORP OF ENGINEERS GALVESTON DISTRICT REGIONAL CONDITIONS. FURTHER, THE PROJECT WILL ONLY IMPACT A TINY SECTION OF NON-VEGETATED WETLANDS. THEREFORE, A WETLAND AND STREAM MITIGATION PLAN IS NOT WARRANTED.

**STATE LAW: PARKS AND WILDLIFE CODE: CHAPTER 64, BIRDS**

Texas Parks and Wildlife (TPW) Code Section 64.002, regarding protection of nongame birds, provides that no person may catch, kill, injure, pursue, or possess a bird that is not a game bird. TPW Code Section 64.003, regarding destroying nests or eggs, provides that no person may destroy or take the nests, eggs, or young and any wild game bird, wild bird, or wild fowl. TPW Code Chapter 64 does not allow for incidental take and; therefore, is more restrictive than the MBTA.

**Recommendation:** Please review the Federal Law: Migratory Bird Treaty Act section above for recommendations as they are also applicable for Chapter 64 of the TPW Code compliance.

THE USFWS NATIONWIDE STANDARD CONSERVATION MEASURES WILL BE INCORPORATED INTO THE CONTRACT DOCUMENTS.

**STATE LAW: PARKS AND WILDLIFE CODE, SECTION 68.015**

Section 68.015 of the TPW Code regulates state listed species. Please note that there is no provision for the capture, trap, take, or kill (incidental or otherwise) of state-listed species. A copy of TPWD Protection of State-Listed Species Guidelines, which includes a list of penalties for take of species, can be found online at the TPWD Wildlife Habitat Assessment Program: Laws and Regulations Applicable to TPWD Review webpage. State-listed species may only be handled by persons with authorization obtained through TPWD. For more information on this authorization, please contact the Wildlife Permits Office at (512) 389-4647. TPWD provides online access to state-listed species information through the TPWD Rare, Threatened, and Endangered Species of Texas by County (RTEST) application. This application provides county-level information regarding occurrence of protected species (federal- or state-listed threatened or endangered) and may be utilized to inform development project planning. Additionally, records of occurrence for these protected species are tracked within the Texas Natural Diversity Database (TXNDD) and are publicly available by request. The timber rattlesnake (*Crotalus horridus*) is a state-threatened species which could inhabit the project area and be negatively impacted by the project. Timber rattlesnakes utilize a variety of habitats which include swamps, floodplains, lowland forests, upland pine and deciduous woodlands, riparian areas, thickets, and abandoned farmland. Timber rattlesnakes prefer areas with dense ground cover by vegetation such as woody vines or palmetto. Tree stumps, logs and branches, and limestone bluffs are important habitat features, as these structures provide important refuge for the timber rattlesnake. More open habitat types may be utilized for basking, or when moving from one habitat patch to another.

**Recommendation:** TPWD recommends the City's employees and contractors avoid disturbing the timber rattlesnake during clearing and construction. Because snakes are generally perceived as a threat and killed when encountered during clearing or construction, TPWD recommends the City inform employees and contractors of the potential for the state-listed threatened timber rattlesnake to occur in the project area. Contractors should be advised to avoid impacts to snakes. Compared to other rattlesnakes, the timber rattlesnake is a rather docile species. Injury to humans usually occurs when the snake becomes agitated following harassment or when someone attempts to handle a recently dead venomous snake that still contains its bite reflex. Therefore, contractors should avoid contact with snakes if encountered and allow all native snakes to safely leave the premises.

COUNTY EMPLOYEES AND WORKERS WILL BE INFORMED OF THE POTENTIAL ENCOUNTER OF THE TIMBER RATTLESNAKE AND WILL BE INSTRUCTED TO AVOID IMPACTS TO THE SNAKE BY ALLOWING THEM TO SAFELY LEAVE THE PREMISES.

**Recommendation:** TPWD recommends the City survey the project area to determine the potential of the site to support state-listed species or their habitat, including the timber rattlesnake. Surveying the site prior to construction would aid in protecting state-listed species from potential impacts. Please be aware that species not occurring during site surveys may utilize the habitat within the project area at times beyond those during which the survey was conducted, such as seasonally or nocturnally.

THERE WAS NO OBSERVATIONS OF THREATENED OR ENDANGERED SPECIES OR THEIR PREFERRED HABITAT DURING FIELD INVESTIGATIONS OF THE APPROXIMATELY 4.71-ACRE WILLOW BAYOU/AVENUE L DRAINAGE IMPROVEMENT PROJECT AREA CONDUCTED BY CEC BIOLOGISTS ON DECEMBER 6, 2018. IN ADDITION, THE PRESENCE OF THE STATE-LISTED THREATENED TIMBER RATTLESNAKE WAS DETERMINED TO BE UNLIKELY.

**Recommendation:** TPWD recommends a biological monitor be present during construction to relocate timber rattlesnakes or other state-listed species if found. If the presence of a biological monitor during construction is not feasible, state-listed threatened species observed during construction should be allowed to safely leave the site or be relocated by a permitted individual to a nearby area with similar habitat that would not be disturbed during construction. TPWD recommends that any translocations of reptiles be the minimum distance possible no greater than one mile, preferably within 100-200 yards from the initial encounter location. As a reminder, for purposes of relocation, surveys, monitoring, and research, terrestrial state-listed species may only be handled by persons permitted through the TPWD Wildlife Permits Office.

IF ANY STATE LISTED SPECIES ARE DISCOVERED DURING CONSTRUCTION, THEY WILL BE ALLOWED TO SAFELY LEAVE THE SITE OR WILL BE RELOCATED BY A PERMITTED INDIVIDUAL ACCORDING TO TPWD GUIDELINES.

**Recommendation:** A mixture of cover, food sources, and open ground is important to the timber rattlesnake. Disturbed areas should be re-vegetated with site-specific native, patchy vegetation rather than sod-forming grasses.

DISTURBED AREAS WILL BE RE-VEGETATED WITH SITE-SPECIFIC NATIVE, PATCHY VEGETATION.

#### **SPECIES OF CONCERN/SPECIAL FEATURES**

In addition to state and federally-protected species, TPWD tracks special features, natural communities, and rare species that are not listed as threatened or endangered. TPWD actively promotes their conservation and considers it important to evaluate and, if necessary, minimize impacts to rare species and their habitat to reduce the likelihood of endangerment and preclude the need to list. These species and communities are tracked in the TXNDD.

Please note that the absence of TXNDD information in an area does not imply that a species is absent from that area. Given the small proportion of public versus private land in Texas, the TXNDD does not include a representative inventory of rare resources in the state. Although it is based on the best data available to TPWD regarding rare species, the data from the TXNDD do not provide a definitive statement as to the presence, absence or condition of special species, natural communities, or other significant features within your project area. These data are not inclusive and cannot be used as presence/absence data. This information cannot be substituted for on-the ground surveys. The TXNDD is updated continuously. As the project progresses and for future projects, please request the most current and accurate information at [TexasNatural.DiversityDatabase@tpwd.texas.gov](mailto:TexasNatural.DiversityDatabase@tpwd.texas.gov)

**Recommendation:** Please review the TPWD county list for Galveston County. These lists are available online using the TPWD RTEST web application. Rare species, considered species of greatest conservation need (SGCN), should be considered during project planning.

HABITATS WITHIN THE PROJECT AREA WERE LIMITED TO COMMON, MAINTAINED, URBAN HABITATS OF RESIDENTIAL AREAS INCLUDING AN EXISTING DITCH CHANNEL THAT APPEARS TO HAVE EPHEMERAL FLOW, RESIDENTIAL LAWNS, A NARROW WOODED FENCELINE LACKING AN HERBACEOUS LAYER, AND ACTIVELY GRAZED PASTURELAND WITH SCATTER CHINESE TALLOW TREES. THE HERBACEOUS HABITATS ARE REGULARLY MAINTAINED AND LOCATED IN AN URBAN SETTING, AND THE WOODED FENCELINE HAD LITTLE TO NO UNDERSTORY AND DID NOT APPEAR TO CONTAIN PREFERRED HABITAT FOR ANY PROTECTED SPECIES.

WHILE THE PROJECT AREA EXHIBITS A DOWNSTREAM CONNECTION TO WILLOW BAYOU, THE LACK OF GROUND COVER SPECIES IN THE WOODED PORTION OF THE PROJECT IN PARTICULAR, INDICATED THAT THE PRESENCE OF THE STATE-LISTED THREATENED TIMBER RATTLESNAKE IS UNLIKELY. IN ADDITION, NO CRITICAL HABITAT FOR ANY FEDERALLY-LISTED SPECIES OCCURS IN THE PROJECT AREA, AND NO TXNDD OCCURRENCE RECORDS OF ANY LISTED SPECIES OCCUR WITHIN 1.5-MILES OF THE PROJECT AREA. THEREFORE, NO EFFECTS TO ANY FEDERALLY-LISTED THREATENED OR ENDANGERED SPECIES AND NO IMPACTS TO STATE-LISTED SPECIES ARE ANTICIPATED FROM ACTIONS OF THE PROPOSED PROJECT.

**Recommendation:** If during construction, the project area is found to contain rare species, natural plant communities, or special features, TPWD recommends that precautions be taken to avoid impacts to them.

IF DURING CONSTRUCTION, THE PROJECT AREA IS FOUND TO CONTAIN RARE SPECIES, NATURAL PLANT COMMUNITIES, OR SPECIAL FEATURES, PRECAUTIONS WILL BE TAKEN TO AVOID IMPACTS TO THEM.

#### **DATA REPORTING AND THE TEXAS NATURAL DIVERSITY DATABASE**

As mentioned earlier in this letter, TPWD maintains records of occurrence for protected and rare species, or SGCN, within the TXNDD and these data are publicly available by request. The TXNDD is intended to assist users in avoiding harm to rare species or significant ecological features. The TXNDD is updated continuously, and relies partially on information submitted by private parties, such as developers or their consultants. Given the small proportion of public versus private land in Texas, the TXNDD does not include a representative inventory of rare resources in the state.

Although it is based on the best data available to TPWD regarding rare species, the data from the TXNDD do not provide a definitive statement as to the presence, absence, or condition of special species, natural communities, or other significant features within a project area. Determining the actual presence of a species in a given area depends on many variables including daily and seasonal activity cycles, environmental activity cues, preferred habitat, transiency, and population density (both wildlife and human). The absence of a species can be demonstrated only with great difficulty, and then only with repeated negative observations, taking into account all the variable factors contributing to the lack of detectable presence. Please note that the absence of TXNDD information in an area does not imply that a species is absent from that area. These data are not inclusive and cannot be substituted for field surveys.

**Recommendation:** To aid in the scientific knowledge of a species' status and current range, TPWD encourages reporting encounters of protected and rare species to the TXNDD according to the data submittal instructions found at the TPWD Texas Natural Diversity Database: [Submit Data webpage](#).

ANY ENCOUNTERS WITH RARE SPECIES WILL BE REPORTED TO THE TXNDD.

We appreciate your input on our project.

Sincerely,

A handwritten signature in black ink, appearing to read "Mark Henry", written in a cursive style.

Mark Henry







APPENDUM NO. 1

WOOD BALLARD  
24" RCP FL=11.57  
24" RCP FL=11.56  
POWER POLE

24" RCP FL=14.31  
MAILBOX

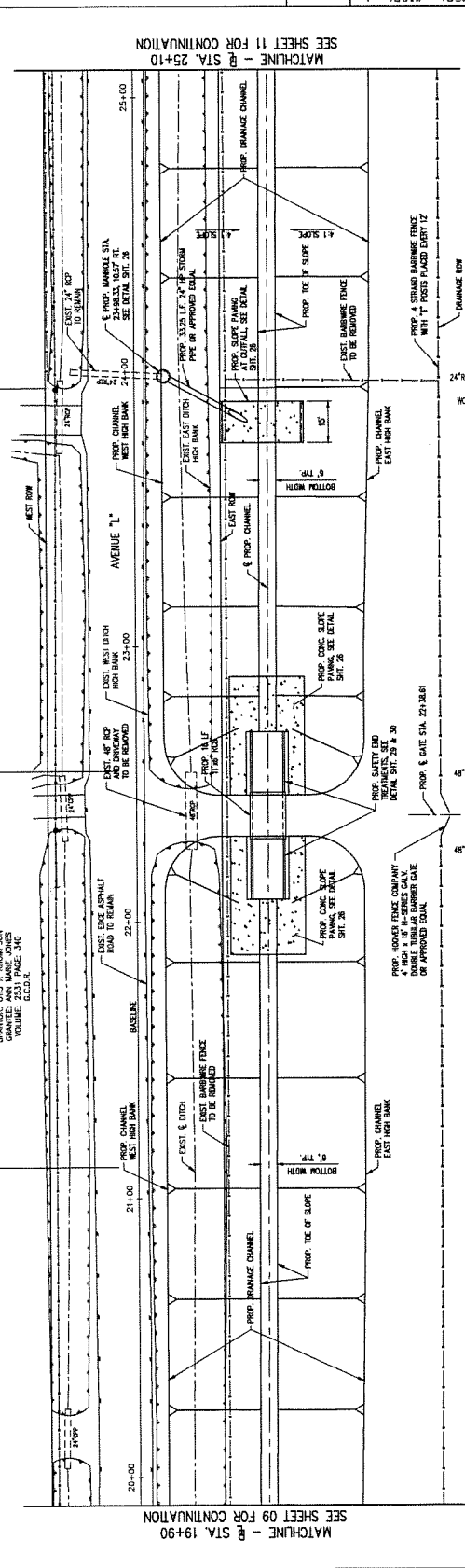
24" CPP FL=11.72  
POWER POLE  
24" CPP FL=11.37  
MAILBOX  
CITY WIRE

BALLARD  
BALLARD

24" CPP FL=12.86  
24" CPP FL=12.56

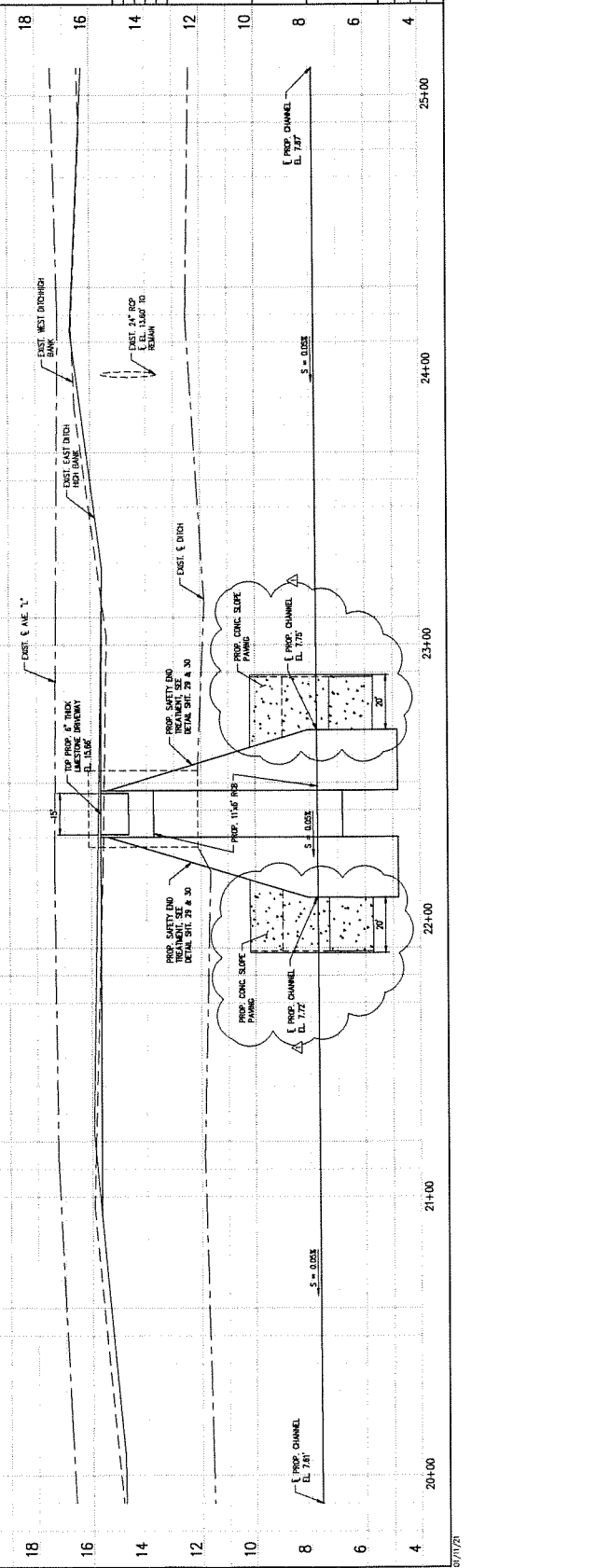
CALLER: 4.945 ACRES  
GRANTOR: SHELLEY WILLIAMSON  
GRANTEE: SHELLEY WILLIAMSON & WIFE  
E.C.C.F. NO. 84486849  
CORRECTED 11/1984  
E.C.C.D.#

CALLER: 2.5 ACRES  
GRANTOR: DRS & RICHMOND  
GRANTEE: SHELLEY WILLIAMSON & WIFE  
VOLUME: 2531 PAGE: 310  
E.C.C.D.#



MATCHLINE - 99 STA. 19+90  
SEE SHEET 09 FOR CONTINUATION

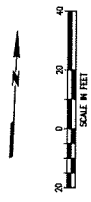
MATCHLINE 11 FOR STA. 25+10  
SEE SHEET 11 FOR CONTINUATION



DATE: 12/17/2020  
DRAWN BY: J.A. [Signature]  
CHECKED BY: J.A. [Signature]  
APPROVED BY: J.A. [Signature]

PROJECT: GALVESTON COUNTY WILLOW BAYOU AVENUE 'L' DRAINAGE  
PLAN AND PROFILE STA. 19+90 TO STA. 25+10  
LJA Engineering, Inc.  
1100 West Loop West, Suite 500, Houston, Texas 77029  
Phone: 713.465.1386 Fax: 713.465.1386  
E-mail: info@lja.com Website: www.lja.com  
JOB NO.: 2020-1011  
DATE: JUN. 2020  
SHEET NO.: 1 OF 1

**ADDENUM NO. 1**



50' RCP FL=15.83  
MAILBOX

FENCE POST  
FENCE POST  
24" RCP FL=15.79

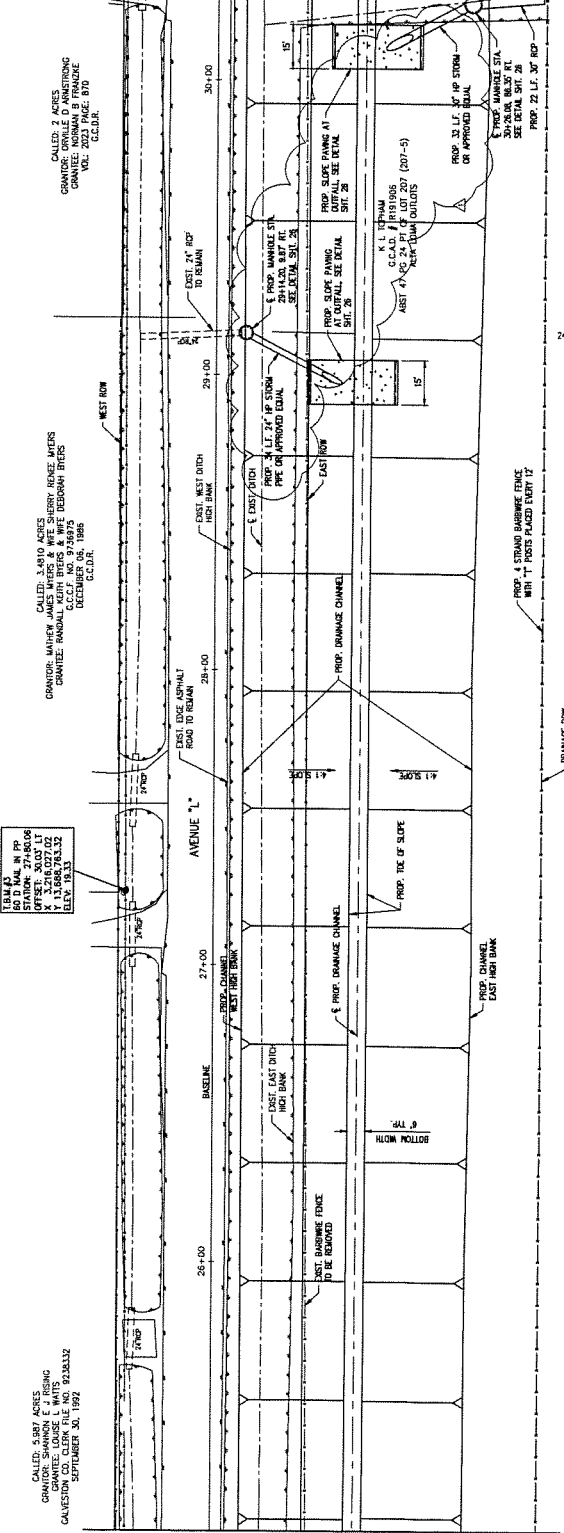
24" RCP FL=15.72

24" RCP FL=15.42  
MAILBOX

24" RCP FL=15.43  
MAILBOX

24" RCP FL=15.17  
MAILBOX

24" RCP FL=14.89



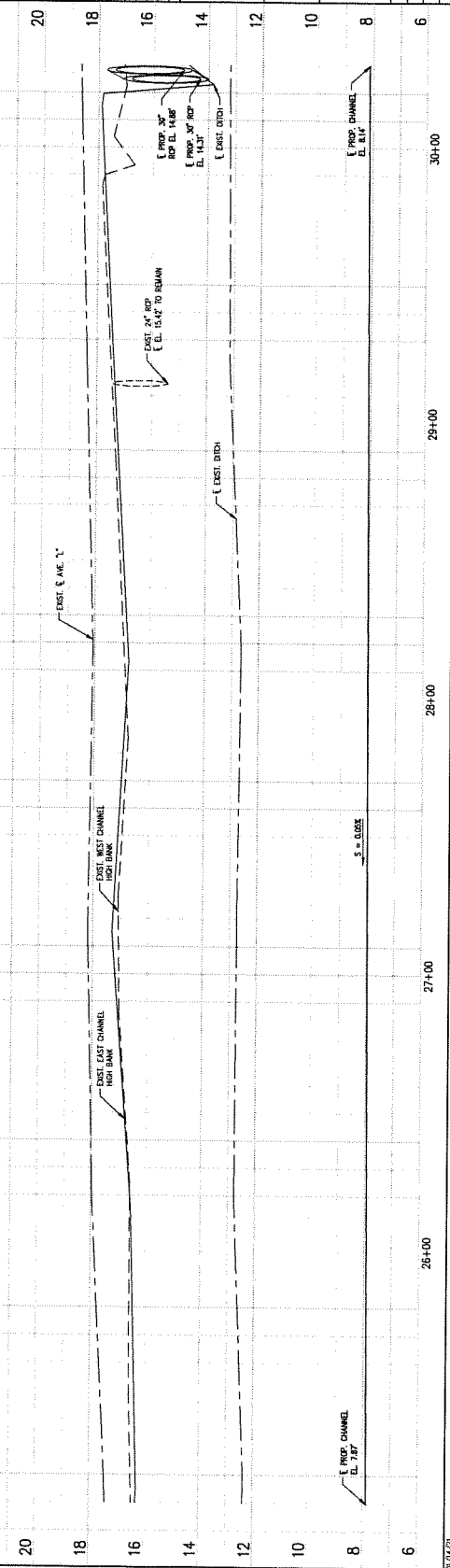
CALL: 5.87 ACRES  
OWNER: MARY JAMES WATERS & WIFE SHERRY ROSE WATERS  
GARVEY LORISE L WATERS  
GAUVEY LORISE L WATERS  
SEPTEMBER 30, 1992

CALL: 1.410 ACRES  
OWNER: MARY JAMES WATERS & WIFE SHERRY ROSE WATERS  
GARVEY LORISE L WATERS  
DECEMBER 05, 1995

CALL: 2 ACRES  
OWNER: DONALD D ARMSTRONG  
GARVEY LORISE L WATERS  
MAY 2023 PAGE: 870

MATCHLINE - SEE SHEET 10 FOR CONTINUATION

MATCHLINE - SEE SHEET 12 FOR CONTINUATION



CALL: 5.87 ACRES  
OWNER: MARY JAMES WATERS & WIFE SHERRY ROSE WATERS  
GARVEY LORISE L WATERS  
SEPTEMBER 30, 1992

CALL: 1.410 ACRES  
OWNER: MARY JAMES WATERS & WIFE SHERRY ROSE WATERS  
GARVEY LORISE L WATERS  
DECEMBER 05, 1995

CALL: 2 ACRES  
OWNER: DONALD D ARMSTRONG  
GARVEY LORISE L WATERS  
MAY 2023 PAGE: 870

TO ADVANCE FOR LOTS TO BE BOUND BY 65' MAIL  
CALL CORNER AT 715-291-2222

FOR THE RECORD:  
THIS PROJECT WAS DESIGNED BY THE ENGINEER AND HIS STAFF.  
THE INFORMATION ON THIS PLAN IS BASED ON THE DATA PROVIDED.  
THE ENGINEER HAS CONDUCTED VISUAL VERIFICATION ONLY.  
THE ENGINEER HAS NOT CONDUCTED A FIELD SURVEY.  
THE ENGINEER HAS NOT CONDUCTED A FIELD SURVEY.  
THE ENGINEER HAS NOT CONDUCTED A FIELD SURVEY.

VERIFICATION OF PRIVATE UTILITIES

DATE: 10/11/2023

PROJECT: GALVESTON COUNTY  
WILLOW BAYOU / AVENUE "L"  
DRAINAGE

STA. 25+10 TO STA. 30+30

LJA Engineering, Inc.  
1102 East Broadway  
Houston, Texas 77002  
Phone: 713-661-0000  
Fax: 713-661-0005  
E-mail: info@lja.com  
www.lja.com

DESIGN: 10/11/2023  
CHECKED: 10/11/2023  
DATE: 10/11/2023  
SCALE: HORIZ. 1"=30' VERT. 1"=2'  
SHEET NO. 11 OF 31

**ADDENDUM NO. 1**



**PLAN AND PROFILE**  
**STA. 35+50 TO STA. 40+70**

**LIA Engineering, Inc.**  
 1581 East Broadway  
 Houston, Texas 77029  
 Phone: 713.401.4300  
 Fax: 713.401.3366  
 FPN: F-1306

DESIGN: J.L.B./J.D./A.V./L  
 DATE: JUNE 2000  
 DRAWN: J.L.B.  
 CHECKED: J.L.B.  
 SCALE: HORIZ. 1"=20'; VERT. 1"=2'

APPROVED: \_\_\_\_\_  
 SHEET No. 11 OF 33

**GALVESTON COUNTY**  
**WILLOW BAYOU AVENUE "L"**  
**DRAINAGE**

ASSEMBLED NO. 1  
 DIVISION: \_\_\_\_\_  
 DATE: \_\_\_\_\_  
 PROJECT COMMENCEMENT DATE: 12/17/2003

FOR THE CITY OF GALVESTON, TEXAS  
 THE VERIFICATION OF PRIVATE UTILITIES  
 SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.  
 THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION AND DEPTH OF ALL UTILITIES.  
 THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS.  
 THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL UTILITIES.  
 THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING ALL UTILITIES TO ORIGINAL CONDITION.  
 THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ACCESS TO ALL UTILITIES.  
 THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING TRAFFIC CONTROL.  
 THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING PUBLIC SAFETY.  
 THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ENVIRONMENTAL PROTECTION.  
 THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING HISTORIC PRESERVATION.  
 THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ARCHITECTURAL PRESERVATION.  
 THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING CULTURAL PRESERVATION.  
 THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING SCIENTIFIC PRESERVATION.  
 THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING HISTORIC ARCHITECTURE.  
 THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING HISTORIC LANDMARKS.  
 THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING HISTORIC DISTRICTS.  
 THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING HISTORIC MONUMENTS.  
 THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING HISTORIC STRUCTURES.  
 THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING HISTORIC SITES.  
 THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING HISTORIC ZONES.  
 THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING HISTORIC DISTRICTS.  
 THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING HISTORIC MONUMENTS.  
 THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING HISTORIC STRUCTURES.  
 THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING HISTORIC SITES.  
 THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING HISTORIC ZONES.

