
BSEC Barowka and Bonura
Engineers and Consultants, L.L.C.

August 17, 2020

Mr. Miles Bingham, P.E., Director
St. Charles Parish Department of Public Works
15045 River Road
Hahnville, LA 70057

Subject: **Improving the Drainage Systems Crossings the Railroads in St.
Charles Parish
Engineering Proposal (Revised)**

Dear Mr. Bingham:

We are pleased to submit this proposal to perform engineering services related to improving the drainage systems crossing the railroads in St. Charles Parish.

Our proposed scope includes the following phases of work as described in the Parish's Standard Contract for Engineering Services:

- Permitting (including railroad and coastal use permits)
- Preliminary Design Phase
- Final Design Phase
- Bidding Assistance Phase
- Construction Services Phase
- Close Out Phase

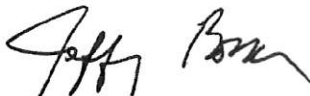
I propose the scope of the project to include the drainage facilities crossing and/ or adjacent to the CN railroad as highlighted in attached Exhibit A. The preliminary construction cost estimate for the proposed work is \$4,789,371.95, including a 10% contingency. A copy of the detailed preliminary construction cost estimate is provided in Exhibit B. Based on a single construction contract, we propose a upper limit of \$331,520.00.

**Barowka & Bonura
Engineers & Consultants, L.L.C.**

We look forward to working with you on the very important project. And, we can begin work immediately.

If we can be of further assistance on this matter, please feel free to contact me.

Sincerely,
Barowka and Bonura Engineers and Consultants, LLC

A handwritten signature in black ink, appearing to read "Jeff Bonura". The signature is written in a cursive, somewhat stylized font.

Jeffrey Bonura, P.E.

Attachments

As part of the analysis for 50-year and 100-year design storms, four phases were modeled and are proposed as improvements required to mitigate flowing for the 50-year and 100-year rainfall events. The details and results for each phase are provided as follows.

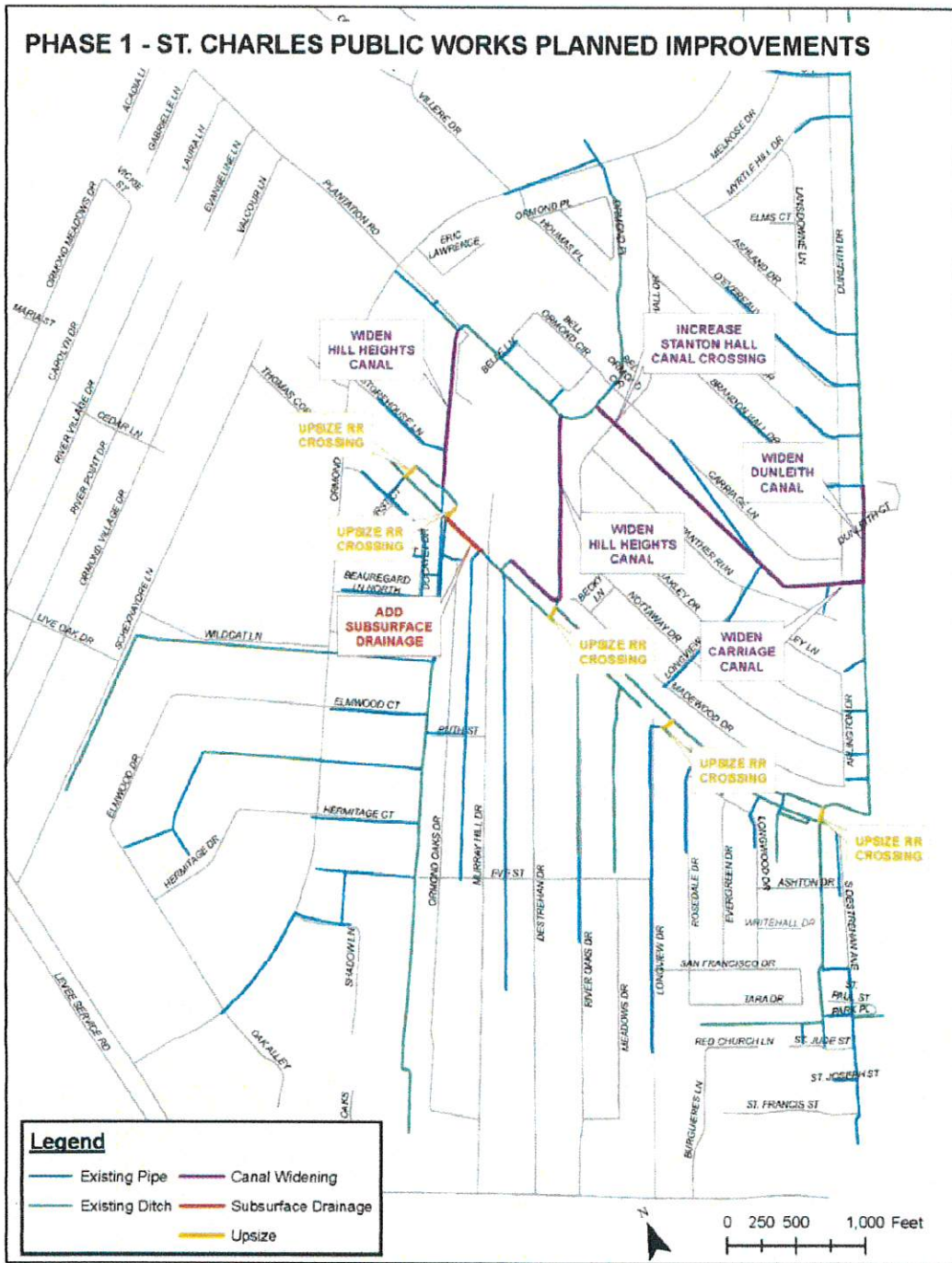
Phase 1 – St Charles Public Works Planned Improvements

- Increase area of Destrehan Pump Station #2 sump to 0.56 acres, invert El -12, 1100 cfs pump capacity (currently under design)
- No restricted flow – assume existing catch basins and pipes have maximum flow
- Widen Dunleith Canal to PS#2 to 50 ft bottom
- Widen Carriage Canal to 50 ft bottom
- Increase Stanton Hall canal crossing to 2-6'x20' box culverts
- Increase widths of Hill Heights ditches to 50 ft with 3:1 slopes, 8 ft max depth (10 ft easement for maintenance) ONLY THAT PORTION PARALLEL TO, ADJACENT TO, AND AFFECTED BY THE CN RAILROAD.
- Add 60" RCP on south side of tracks to connect Ormond Ditch to CN Railroad Trestle
- Upsize existing railroad crossings as shown in the table below

Location of Railroad Crossing	Existing Pipe Size	Area of Existing Crossing (sf)	Additional Crossing Area Required (sf)	
			50-Year Design	100-Year Design
Ducayet Dr (P-103)	48" RCP	12.6	67.4 ²	67.4 ²
Ormond Oaks Dr (P-013/P-099)	48" RCPA 84" RCP	49.9	30.1 ³	30.1 ³
Destrehan Dr (P-113)	42" CMP	9.6	31.8 ⁴	31.8 ⁴
Longview Dr (P-041)	48" RCP	12.6	12.6 ⁵	19.2 ⁶
Longwood Dr (P-045)	54" RCP	25.9	-- ¹	-- ¹
S Destrehan Ave (P-048/P-049)	42" CMP 66" CMP	33.4	46.6 ⁷	46.6 ⁷

Notes:

1. Existing pipe not full – do not need to upsize.
2. Equivalent to approximate area of 4-60" RCP or 3-72" RCP
3. Equivalent to approximate area of 2-54" RCP or 1-72" RCP
4. Equivalent to approximate area of 3-48" RCP or 2-54" RCP
5. Equivalent to approximate area of 1-48" RCP
6. Equivalent to approximate area of 2-42" RCP or 1-60" RCP
7. Equivalent to approximate area of 3-60" RCP or 2-72" RCP



ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
202-01-00100	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	1.00	LUMP SUM	\$45,000.00	\$45,000.00
201(01)	Clearing and Grubbing	1.00	LUMP SUM	\$45,000.00	\$45,000.00
203(02)	DRAINAGE EXCAVATION	1125.00	CU YD	\$40.00	\$45,000.00
203(05)	EMBANKMENT(NET SECTION)	1540.00	CU YD	\$7.00	\$10,780.00
203(08)(A)	GEOTEXTILE FABRIC(UNDER BOX CULVERT AND FLUME)	760.00	SQ YD	\$4.00	\$3,040.00
204(01)	TEMPORARY EROSION CONTROL	1.00	LUMP SUM	\$45,000.00	\$45,000.00
401(01)	AGGREGATE SURFACE COURSE(12" THICK)	100.00	SQ YD	\$39.00	\$3,900.00
701(03)A	REINFORCE CONCRETE PIPE (60")	270.00	LIN FT	\$420.00	\$113,400.00
701(03)C	REINFORCED CONCRETE PIPE(48")(EXTENSION)	80.00	LIN FT	\$225.00	\$18,000.00
701(15)	CONCRETE COLLAR	10.00	EACH	\$4,000.00	\$40,000.00
702-01	JUNCTION BOX	5.00	EACH	\$20,000.00	\$100,000.00
702-02	MANHOLES (PARISH STANDARD)	3.00	EACH	\$10,000.00	\$30,000.00
702-03	CATCH BASINS	2.00	EACH	\$10,000.00	\$20,000.00
702-04(B)	ADJUSTING CATCH BASINS/DROP INLETS	10.00	EACH	\$2,000.00	\$20,000.00
713-01	TEMPORARY SIGNS AND BARRICADES	1.00	LUMP SUM	\$0.00	\$0.00
722-02	PROJECT SITE LABORATORY (Equipped)(Large-Lengthy Project)	1.00	EACH	\$40,000.00	\$40,000.00
723-01(A)	GRANULAR MATERIAL (CANAL BACKFILL BY BOX CULVERT AND FLUME(NET SECTION)	1157.33	CU YD	\$30.00	\$34,719.90
726(01)	BEDDING MATERIAL(CRUSHED STONE)(BOX CULVERTS AND FLUME-NOT SECTION)	78.19	CU YD	\$90.00	\$7,037.10
727-01-00100	MOBILIZATION	1.00	LUMP SUM	\$110,000.00	\$110,000.00
728-01(A)	JACKED PIPE(48 X 1.0 ASTM GRADE E)	120.00	LIN FT	\$2,400.00	\$288,000.00
728-01(B)	JACKED PIPE(60 X 1.25 ASTM GRADE E)	440.00	LIN FT	\$2,700.00	\$1,188,000.00
728-01(C)	JACKED PIPE(72 X 1.25 ASTM GRADE E)	72.00	LIN FT	\$2,850.00	\$205,200.00
728(02)(A)	PIPE JACKING SET UP	7.00	EACH	\$32,000.00	\$224,000.00
728(02)(B)	ADDITIONAL PIPE JACKING SET UP	7.00	EACH	\$16,000.00	\$112,000.00
729(19)(B)	DEAD END ROAD INSTALLATION(TYPE B)	5.00	EACH	\$5,000.00	\$25,000.00
739(01)	HYDRO-SEEDING	2750.00	SQ YD	\$0.65	\$1,787.50
740-01	CONSTRUCTION LAYOUT	1.00	LUMP SUM	\$50,000.00	\$50,000.00
741-01(8)	WATER MAIN (8") (DUCTILE IRON-RESTRAINED JOINTS)	200.00	LIN FT	\$100.00	\$20,000.00
741-01(12)	WATER MAIN (12") (DUCTILE IRON-RESTRAINED JOINTS)	200.00	LIN FT	\$150.00	\$30,000.00
741-02(8)	GATE VALVE(8")	2.00	EACH	\$2,000.00	\$4,000.00

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
741-02(12)	GATE VALVE(12")	2.00	EACH	\$3,000.00	\$6,000.00
742-01	SANITARY SEWER FORCE MAIN (8") PVC/C-900 PIPE)	600.00	LIN FT	\$100.00	\$60,000.00
805(01)	CLASS "A" CONCRETE (BOX CULVERT)	800.74	CU YD	\$1,500.00	\$1,201,110.00
806(01)(A)	DEFORMED REINFORCING STEEL (BOX CULVERT)	45000.00	POUND	\$2.50	\$112,500.00
NS(01)	RAILROAD FLAGMEN	1.00	LUMP SUM	\$30,000.00	\$30,000.00
NS(02)	TEMPORARY ACCESS	1.00	LUMP SUM	\$62,000.00	\$62,000.00
NS(03)	RAILROAD BALLAST	20.00	CU YD	\$175.00	\$3,500.00
	Subtotal				\$4,353,974.50
	10% Contingency				\$435,397.45
	Total				\$4,789,371.95