

## MINUTES

### FORT BEND COUNTY LEVEE IMPROVEMENT DISTRICT NO. 15

February 11, 2019

The Board of Directors (“Board”) of Fort Bend County Levee Improvement District No. 15 (“LID 15”) met in special session, open to the public, on February 11, 2019, at The Muller Law Group, PLLC, 202 Century Square Boulevard, Sugar Land, Texas 77478, outside the boundaries of the District, and the roll was called of the members of the Board:

Darrell Groves	President
Rohit Sankholkar	Secretary
Girish Misra	Vice President
Premal Shah	Assistant Vice President
Jeffrey Anderson	Assistant Secretary

and all of the above were present except Director Shah, thus constituting a quorum.

Also present at the meeting were: Jorge Alba of the City of Sugar Land; Jimmy Thompson of Levee Management Services, LLC; Chad Hablinski of Costello, Inc. (“Costello”); Pamela Lightbody of AVANTA Services; and Richard Muller and Tara Miles of The Muller Law Group, PLLC (“MLG”).

#### STEEP BANK CREEK PUMP STATION MATTERS

##### PROPOSED AMENDMENTS TO MAINTENANCE AGREEMENT

Discussion ensued regarding the terms and cost share allocation of the current Regional Pump Station Maintenance Agreement (“Agreement”) between the District and Fort Bend County Levee Improvement District No. 19 (“LID 19”). The Board indicated that they would like the Agreement to i) clarify that the Agreement only pertains to maintenance to the existing facilities, not any capital improvements, and ii) include a list of specific maintenance expenses covered by the Agreement. The Board also requested a separate cost sharing agreement for capital improvements. Mr. Muller stated that MLG would prepare a term sheet for presentation to LID 19.

##### PROPOSED PUMP STATION EXPANSION

The Board reviewed a letter, a copy of which is attached, from Aptim Environmental & Infrastructure, LLC (“Aptim”), regarding coincidental pumping capacities and recommending pumping requirements for the Steep Bank Creek pump station during coincidental rain events based on TP-40 rainfall data and Atlas 14 rainfall data. Mr. Hablinski reviewed a letter, a copy of which is attached, from Costello, responding to Aptim’s letter and supporting Aptim’s recommendation to expand the pump station to 157,000 gallons per minute. Discussion ensued regarding coincidental capacity, expansion options and costs for the Steep Bank Creek pump station, and current and anticipated future regulations for pumping capacities. Mr. Hablinski stated that the District’s Alcorn Bayou pump station was designed to the 10-year rain event under TP-40, and the Board expressed its desire for the Steep Bank Creek pump station to be designed to the same standard. Mr. Hablinski estimated the cost difference from 139,000 gallons per minute to 157,000 gallons per minute to be

\$550,000. Following review and discussion, Director Anderson moved to i) appoint Directors Sankholkar and Anderson to a Technical/Engineering Committee to oversee the expansion of the Steep Bank Creek pump station with LID 19 and ii) authorize funding the District's pro rata share of costs of expanding the pump station as required under TP-40 during a 10-year standard rain event, which is 139,000 gallons per minute, or to any higher design standard that may be adopted by the Fort Bend County Drainage District prior to completion of the expansion. Director Misra seconded the motion, which passed unanimously.

Mr. Hablinski presented a proposal, a copy of which is attached, from Costello for the design of the Steep Bank Creek pump station expansion. The Board discussed various expansion design options and expressed its desire to add multiple smaller pumps, as opposed to the two larger pumps, and concurred the design should be discussed in detail by the joint Technical/Engineering Committees for the project. No action was taken on the proposal.

#### SITE PAVING IMPROVEMENTS AND COST SHARING AGREEMENT

The Board considered approving a Cost Sharing Agreement with LID 19 for the site paving improvements at the Steep Bank Creek pump station. Following review and discussion, Director Anderson moved to approve the Cost Sharing Agreement, subject to revising Section 6 to reflect that the costs of maintenance and repairs of the paving improvements will be shared at the same allocation as the purchase of temporary pumps, which is 27.3% for the District. Director Sankholkar seconded the motion, which passed unanimously.

#### CONSIDERATION OF SPECIAL COUNSEL RELATED TO PUMP STATION MATTERS

Board concurred to table this agenda item.

#### PENDING OR POTENTIAL LITIGATION MATTERS

There was no discussion on this agenda item.

#### ADOPTION OF RESOLUTION ADOPTING BOARD MEETING AGENDA PROCEDURES

The Board considered adopting a Resolution Adopting Board Meeting Agenda Procedures ("Resolution"). After review and discussion, Director Anderson moved to adopt the Resolution. Director Sankholkar seconded the motion, which passed unanimously.

#### DESIGNATION OF COMMITTEES AND MEMBERS

The Board discussed establishing committees for the District. Director Misra moved to designate the following committees and members thereof:

Finance Committee	Directors Groves and Shah
Technical/Engineering Committee	Directors Sankholkar and Anderson
Operations/Emergency Operations Committee	Directors Anderson and Misra
Communications/Public Outreach Committee	Directors Groves and Sankholkar

Director Anderson seconded the motion, which carried unanimously.

There being no further business to come before the Board, the Board concurred to adjourn the meeting.



*[Handwritten Signature]*  
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Secretary, Board of Directors

LIST OF ATTACHMENTS TO MINUTES

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Any documents referenced in these minutes and not attached herein are retained in the District's official records in accordance with the District's Record Management Program and are available upon request.



Aptim Environmental & Infrastructure, LLC  
 2503 Petroleum Drive  
 Houma, Louisiana 70363  
 Tel: +1 985 868 3434  
 www.APTIM.com

January 24, 2019

Fort Bend County Levee Improvement District No. 19  
 Nancy Carter  
 Muller Law Group, PLLC  
 202 Century Square Blvd.  
 Sugar Land, Texas 77478

**RE: Phase III Recommendations – Coincidental Pumping Capacities**

Dear Board of Directors:

APTIM is providing this letter, as per discussions during the LID 19 Joint Meeting on January 3, 2019, to provide the ICPR model coincidental results of the LID 19 drainage area to support the Steep Bank Creek Pump Station Expansion. These results are part of the Phase III review currently being performed by APTIM and will focus only on Fort Bend County Drainage District (FBCDD) Criteria for Coincidental Events. Results for larger events that exceed FBCDD Criteria will be presented in a supplemental memorandum.

These results are based on the original Costello provided ICPR model for this drainage area that has been revised per the findings from APTIM’s ICPR model expert during the Phase I review. Also, the Costello provided HEC-HMS model was utilized to develop hydrographs for each sub-basin within the LID 19 drainage area. In APTIM’s Phase I review it was determined by utilizing FBCDD Criteria that an 8.2-year rain event, or even as high as a 10-year rain event, should be consider for the coincidental design storm for this drainage area. Hydrographs for each of these events were created utilizing both the TP-40 rain data and the recently released Atlas 14 rain data. A total of 4 events were analyzed in ICPR for the Coincidental Event.

An important element to note in this analysis is the Maximum Ponding Level. The Maximum Ponding Level is the internal water level that must be maintained by the pump station to avoid structural flooding. The Maximum Ponding Level provided by Costello was 61.87 ft. NGVD 29, which converts to 60.59 ft. NAVD 88. After reviewing the recently collected 2018 LIDAR data, the Maximum Ponding Level of 60.59 ft. NAVD 88 appears to be appropriate. Utilizing this Maximum Ponding Level with the revised ICPR model, the pumping requirements for Steep Bank Creek Pump Station were determined for the 4 events as shown in the table below:

Rainfall based on TP 40	
8.2-year Rain Event	10-year Rain Event
111,000 GPM	139,000 GPM
Rainfall based on Atlas 14	
8.2-year Rain Event	10-year Rain Event
121,000 GPM	157,000 GPM

Please note that the pumping capacities listed above are the total amounts required, and are not in addition to the existing pumping capacities at Steep Bank Creek Pump Station. It should also be noted that these capacities do not account for the spare pump required by FBCDD Criteria.

If you have any questions regarding this information, please contact me or Hilary Thibodeaux at 985-868-3434.

Sincerely,

**Aptim Environmental & Infrastructure, LLC**

*Laura L. Barnes, P.E.*

Laura L. Barnes, P.E.  
Operations Manager

HJT:llb





February 8, 2019

Fort Bend County LID No. 15  
Board of Directors  
c/o The Muller Law Group, PLLC  
202 Century Square Boulevard  
Sugar Land, TX 77478

Re: Steep Bank Creek Storm Water Pump Station Expansion Size  
CI Job No. 1998030-100-00 Task 100

Dear Directors:

We have reviewed the attached recommendation letter from Aptim regarding the Steep Bank Creek pump station expansion. As the District Engineer for Fort Bend County LID No. 15, Costello, Inc. is in support of the expansion of the pump station to 157,000 gallons per minute. While we continue to believe that the existing pump station meets the minimum Fort Bend County Drainage Criteria Manual, "the Manual", as written, other interpretations of the Manual can result in a range of recommended pumping capacities. The more conservative values included in the Aptim letter are an example of such an interpretation. Further, the Manual includes an Appendix C which presents some background for the development of design criteria for pumped areas behind levees. Appendix C also includes some insight into the developers reasoning behind the 1984 and 2011 criteria for sizing of storm water pump stations. Appendix C appears to be intended to provide protection from a coincidental 1,000-year event (an event that has a probability of 0.1% chance of occurrence). Applying the pump station design criteria included in Section 7 of the Manual, it is uncertain whether the intent of Appendix C is achieved or is required to be achieved. It should be noted that the Alcorn pump station and the Snake Slough pump station are both designed for 10-year (10% probability) frequency rainfall events within their watersheds with no gravity discharges available throughout the event. Based on those designs, expansion of the Steep Bank Creek pump station would provide consistency between the pump stations serving the District.

The proposed County implementation of Atlas 14 rainfall data published by NOAA on September 27, 2018 is another factor in recommending the expansion of the pump station. The Atlas 14 rainfall data increased rainfall amounts throughout Fort Bend County. The adoption of Atlas 14 rainfall data will increase the required pumping capacity of all pump stations, if applied to the current design methodologies in the Manual if it were designed today.

Based on the information above, Costello, Inc. recommends expanding the Steep Bank Creek pump station in accordance with the Aptim letter. The pumping capacity would be expanded to 157,000 gallons per minute which is derived from a 10-year (10% probability) rainfall event within the watershed, without gravity discharges throughout the event and utilizes the new Atlas 14 rainfall data provided by NOAA. This expanded capacity will be consistent, from a probability perspective, with the other Fort Bend County LID No. 15 pump stations. Please contact me should you have any questions.

Sincerely,

**Costello, Inc.**

**Fort Bend County LID No. 15**

**District Engineer**



Chad E. Hablinski, P.E.

Sr. Project Manager

W:\1998\98030\100\SBC Pump Station Expansion\SBC Pump Station Size\_Corroboration Letter.docx





February 5, 2019

Fort Bend County LID No. 15 &  
Fort Bend County LID No. 19  
Board of Directors  
c/o The Muller Law Group PLLC  
202 Century Square Boulevard  
Sugar Land, TX 77478

Re: Proposal for Engineering Services for  
Design Services to Expand Steep Bank Creek Pump Station  
C.I. Job No. 2005153-100

Dear Boards of Directors:

We are pleased to present this proposal for professional services associated with the expansion of pumping capacity at the Steep Bank Creek storm water pump station. The basis of the proposal is to expand the pump station by adding 2x 100,000 gallon per minute pumps and provide the associated backup power generation for the new pumps. We propose to complete this work in accordance with our existing Fort Bend County LID No. 15 District contract. For a project this size, the differences between the two District contracts results in a lower overall fee by utilizing the FBCLID 15 contract.

Attached to this proposal are an exhibit showing an aerial of the existing pump station site with a potential layout of the expansion. Also attached are two preliminary construction cost estimates. There is an estimate for a standalone generator system that will power the Districts' facilities in the event of a power failure. The estimated construction cost for this option is \$6,750,000. The design fee for this option is 5.17% of the construction costs or \$346,275. Additional services would include design survey, control staking and construction project representation which is estimated to be approximately 2.5% of the construction cost or \$185,625.

We have included an alternative construction cost estimate that utilizes a program by which the Districts' generators are used to provide power to the grid under certain conditions. This program results in a much lower initial capital cost and eliminates the fuel and O&M responsibility of the generators from the District. However, the program also requires an annual payment from the District of approximately \$50,000 per year for 20 years. After 20 years, the generators and associated equipment become property of the District. This option needs further exploration, but preliminary construction costs using the program result in a construction cost of \$5,375,000. This would result in a design fee of 5.22% or \$280,575. Like above, additional services of approximately 2.5% of construction costs would add another \$134,375 to the project. There is likely going to require a higher level of coordination between the service provider and the electrical engineer for the program to be successful. Therefore, we would propose an additional \$50,000 fee to perform that coordination effort.

W:\2005\2005153\100 District Consultation\After Action Planning\Oversizing SBC Pump Station\_Excel Files\Proposal\_SBC Pump Station Expansion.docx

The two proposed options are summarized below.

Proposed Expansion	SBC Pump Station Expansion with Standalone Generator System	SBC Pump Station Expansion with Grid Tied Generator Program
Estimated Construction Costs	\$6,750,000	\$5,375,000
Design Fee (this item does not include geotechnical or environmental services)	\$346,275	\$280,575
Survey and Construction Phase Services (this item does not include Construction Materials Testing)	\$185,625	\$134,375
Electrical Engineering Coordination	\$0	\$50,000
Misc. Expenses – County/City review fees, Bid Ad, Reproduction, Deliveries	Time and Materials Budget	Time and Materials Budget
<b>Total Engineering Design Services</b>	<b>\$531,900</b>	<b>\$464,950</b>

We propose to complete the preparation of the construction plans in six (6) months at which time agency reviews will occur. Following agency reviews and addressing comments, we will prepare standard District contracts and publicly advertise the project for bid.

We appreciate the opportunity to present this proposal to you. We will consider the appropriate signature in the designated space below as approval of the budget and authorization to proceed. Should you have any questions, please feel free to call.

Sincerely,  
**Fort Bend County LID No. 15 &  
 Fort Bend County LID No. 19  
 District Engineer  
 Costello, Inc.**

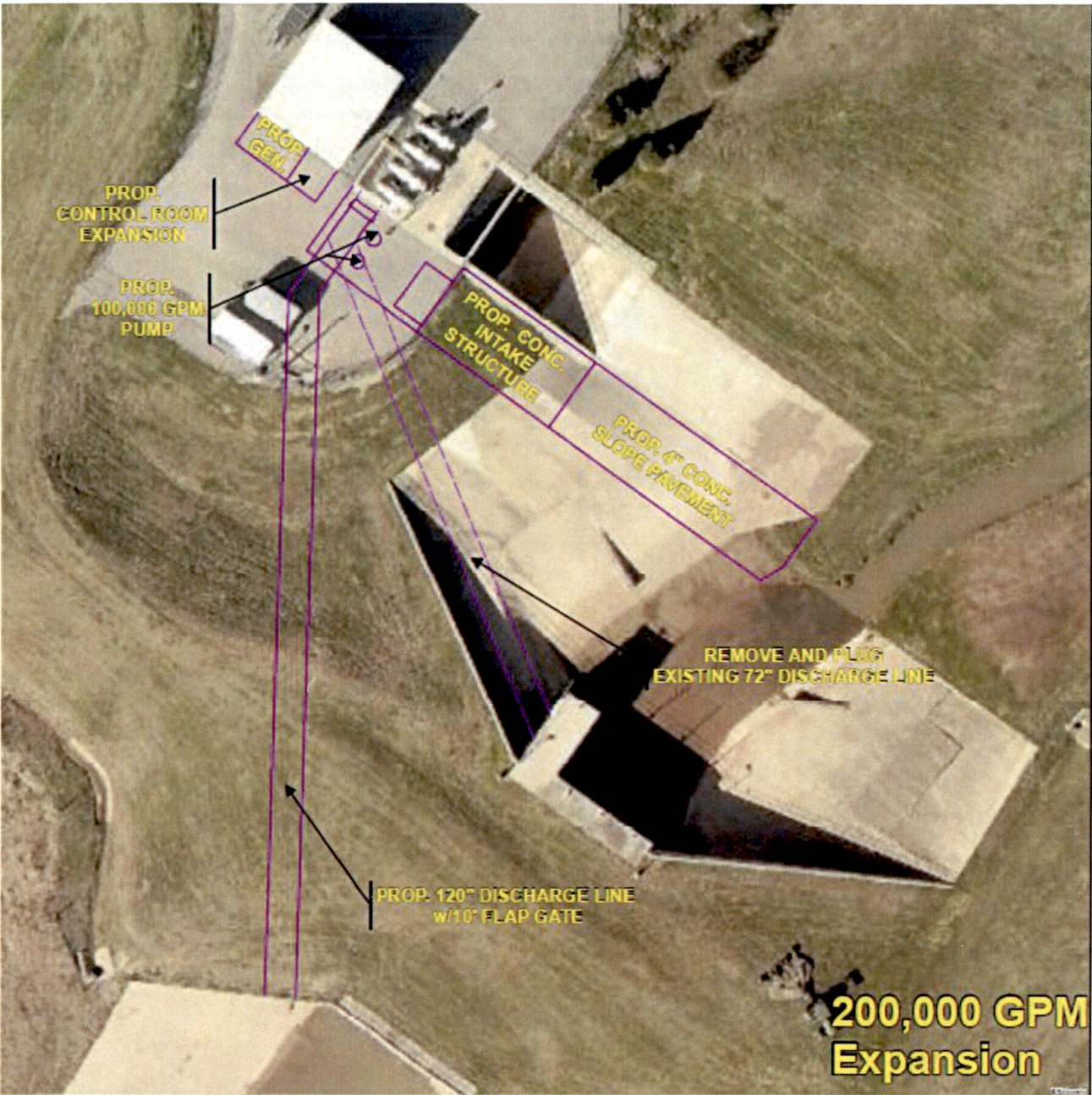
Chad E. Hablinski, P.E.  
 Sr. Project Manager

Accepted By: \_\_\_\_\_  
 Fort Bend County LID No. 15 – President  
 Darrell Groves

Date: \_\_\_\_\_

Accepted By: \_\_\_\_\_  
 Fort Bend County LID No. 19 – President  
 James Green

Date: \_\_\_\_\_



Preliminary Construction Cost Estimate For:  
 Steep Bank Creek Pump Station Expansion (Standalone Natural Gas Generator)  
 Located Within Fort Bend County Levee Improvement District No. 19

Item No.	Description of Item	Quantity	Unit	Unit Price	Extended Total
<b>PUMP STATION ITEMS</b>					
1.	1.0MW Generator (Natural Gas)	2	EA	\$800,000.00	\$1,600,000.00
2.	Natural Gas Piping	1	LS	\$10,000.00	\$10,000.00
3.	100,000 GPM Stormwater Pump	2	EA	\$600,000.00	\$1,200,000.00
4.	4" Concrete Sloped Paving	200	SY	\$100.00	\$20,000.00
5.	Remove 4" Concrete Sloped Paving	210	SY	\$15.00	\$3,150.00
6.	Electrical System Installation	1	LS	\$1,000,000.00	\$1,000,000.00
7.	Electrical Service	1	LS	\$25,000.00	\$25,000.00
8.	Electrical Service Upgrade	1	LS	\$25,000.00	\$25,000.00
9.	Telephone Service (utilize existing service)	0	LS	\$1,000.00	\$0.00
10.	Pump Controller Programming Allowance	1	LS	\$25,000.00	\$25,000.00
11.	Multilin Programming Allowance	1	LS	\$10,000.00	\$10,000.00
12.	60" Welded Steel Header Pipe	20	LF	\$1,000.00	\$20,000.00
13.	Intake Structure and Trash Rack	1	LS	\$180,000.00	\$180,000.00
14.	Precast Concrete Motor Control Building	1	LS	\$250,000.00	\$250,000.00
15.	Pump Station Structure	1	LS	\$750,000.00	\$750,000.00
16.	120" Welded Steel Discharge Line	300	LF	\$2,000.00	\$600,000.00
17.	Remove and Dispose of 72" Discharge Line	185	LF	\$150.00	\$27,750.00
18.	120" Flap Gate and Headwall Modifications	1	EA	\$120,000.00	\$120,000.00
19.	60" Check Valve	2	EA	\$80,000.00	\$160,000.00
				Subtotal:	\$6,025,900.00
<b>PAVING ITEMS</b>					
20.	Sawcut and Remove Existing Asphalt	2500	SF	\$6.00	\$15,000.00
21.	Asphalt Pavement	1250	SF	\$20.00	\$25,000.00
22.	Pipe Bollards	5	EA	\$750.00	\$3,750.00
				Subtotal:	\$43,750.00
<b>MISCELLANEOUS ITEMS</b>					
23.	Remove Existing Fencing	1	LS	\$500.00	\$500.00
24.	Relocate Light Pole and Electric Service to Lights and Actuator	1	LS	\$5,000.00	\$5,000.00
25.	Construction Staking	1	LS	\$2,500.00	\$2,500.00
26.	Chain Link Fencing	100	LF	\$50.00	\$5,000.00
27.	Turf Establishment	1	LS	\$3,000.00	\$3,000.00
				Subtotal:	\$16,000.00
<b>SWPPP ITEMS</b>					
28.	Reinforced Silt Fence	100	LF	\$2.00	\$200.00
29.	NOI Submittal	1	LS	\$500.00	\$500.00
				Subtotal:	\$700.00
<b>SUPPLEMENTAL ITEMS</b>					
30.	Dewatering	1	LS	\$20,000.00	\$20,000.00
31.	COMC Infrastructure Fee	1	LS	\$35,000.00	\$35,000.00
				Subtotal:	\$55,000.00
				Construction Total	\$6,141,350.00
				Contingency (10%)	\$614,135.00
				Total	\$6,755,485.00
				Engineering (8%)	\$540,438.80
				Construction Materials Testing (1%)	\$67,554.85
				Project Total	\$7,363,478.65
				FBCLID 19 Share	44.60% \$3,284,111.48
				Amount in BIR No. 4	\$3,062,792.00
				Difference	(\$221,319.48)
				FBCLID 15 Share	55.40% \$4,079,367.17
				Amount in BIR No. 14	\$1,364,412.00
				Difference	(\$2,714,955.17)

