

**AGENDA REQUEST  
BUSINESS OF THE CITY COUNCIL  
CITY OF PEARLAND, TEXAS**

<b>AGENDA OF:</b> July 25, 2016	<b>ITEM NO.:</b> R2016-130
<b>DATE SUBMITTED:</b> July 7, 2016	<b>DEPT. OF ORIGIN:</b> Eng. & Capital Projects
<b>PREPARED BY:</b> Andrea Brinkley	<b>PRESENTOR:</b> Sue Polka, P.E.
<b>REVIEWED BY:</b> Trent Epperson	<b>REVIEW DATE:</b> July 20, 2016
<b>SUBJECT: RESOLUTION NO. R2016-130 – A Resolution of the City Council of the City of Pearland, Texas, authorizing a construction contract to Pepper Lawson Waterworks for the Reflection Bay Water Reclamation Facility 6 MGD Expansion Project, in the amount of \$44,657,000.00 contingent upon the closing of the TWDB loan for this project on August 4, 2016; and authorizing the appropriation of \$19,690,000 for the project.</b>	
<b>EXHIBITS: R-2016-130, Exhibit A – Location Map, B - Engineer’s Recommendation Letter and Bid Tabulation</b>	
<b>FUNDING:</b>	
<input type="checkbox"/> Bonds To Be Sold	<input type="checkbox"/> Grant
<input type="checkbox"/> Bonds- Sold	<input type="checkbox"/> Developer/Other
	<input type="checkbox"/> L/P – Sold
	<input type="checkbox"/> Cash
	<input type="checkbox"/> L/P – To Be Sold
<b>EXPENDITURE REQUIRED: \$44,657,000.00</b>	
<b>AMOUNT BUDGETED: \$35,122,000</b>	
<b>AMOUNT AVAILABLE: \$30,185,015</b>	
<b>PROJECT NO.: WW1405</b>	
<b>ACCOUNT NO.: 550-300-345.5600.160</b>	
<b>ADDITIONAL APPROPRIATION REQUIRED: \$19,690,000 (balance of the TWDB loan, not appropriated)</b>	
<b>ACCOUNT NO.:</b>	
<b>PROJECT NO.:</b>	
<b>To be completed by Department:</b>	
<b>X Finance</b>	<b>X Legal</b>
<b>Ordinance</b>	<b>X Resolution</b>

**EXECUTIVE SUMMARY**

**BACKGROUND**

The City’s Reflection Bay Water Reclamation Facility was the City’s second Sequential Batch Reactor (SBR) plant, built in 2003 with a two million gallon per day (2 MGD) capacity. The expansion project was initially budgeted in the FY 2014-2018 CIP as a 2 MGD plant expansion for a total capacity of 4 MGD. The preliminary engineering report, completed in November 2013, recommended an expansion of 4 MGD bringing the total plant capacity to 6 MGD. In August, 2014, an engineering design services contract with CDM Smith, Inc. was approved by Council. The contract included the design of the

facility expansion, funding assistance and a major permit amendment as required by the expansion. Funding assistance for the facility expansion design and construction was requested and approved by the Texas Water Development Board (TWDB), from the Clean Water State Revolving Fund and the closing is scheduled to take place on July 28, 2016. The major permit amendment for the facility was approved by the Texas Commission of Environmental Quality (TCEQ) on July 6, 2016. The design of the facility expansion to a 6 MGD capacity is complete and is necessary for continued capacity to support the rapid growth in the service area and is anticipated to provide treatment capacity for the next seven to ten years. The ultimate plant capacity includes an additional 1 MGD for a total of 7 MGD.

Also related to the overall project, in January 2015, Council approved the design and construction of a temporary package plant to provide 1 MGD of treatment capacity, until such time that additional treatment capacity is completed with the facility expansion. The temporary package plant is now complete and fully functional.

**SCOPE OF CONTRACT/AGREEMENT**

The scope of the expansion of the Reflection Bay Water Reclamation Facility to an average daily flow (ADF) capacity of 6 MGD includes the following: modifications to the existing lift station to increase capacity, improve mixing, and control odor emissions; construction of a new headworks with two mechanically cleaned bar screens, grit removal equipment, screenings handling equipment, grit handling equipment; modification of the existing SBRs and construction of four new SBR basins to increase capacity and convert to continuous flow SBR technology; construction of a new blower and electrical building to house turbo SBR blowers, switchgear and controls for the SBR and head works equipment; construction of two tertiary filter basins; removal of existing ultraviolet (UV) disinfection equipment and installation of new UV disinfection equipment; installation of new non-potable water (NPW) transfer pumps, storage tank, and distribution pumps, as well as chlorine disinfection equipment for the NPW system; construction of a new chemical feed and electrical building to house chemical feed equipment for the NPW system and electrical switchgear and controls for the NPW system; modification of the existing aerated sludge holding tanks and construction of two new aerated sludge holding tanks to increase the sludge storage capacity and improve flexibility of operation; installation of two new three-belt dewatering belt presses and associated belt press feed pumps, sludge grinders, package polymer systems, and sludge conveyors; installation of four new positive displacement blowers for the aerated sludge holding tanks in the existing dewatering building; odor control system to serve the influent pump station and headworks; installation of a new stand-by generator; new additional electrical service; plant-wide instrumentation and supervisory control and data acquisition (SCADA) infrastructure; paving and drainage improvements; demolition of the existing head works structure and relocation of the temporary package plant.

**BID AND AWARD**

The project was advertised in February 2016 via competitive sealed proposal method and proposals were opened on March 24, 2016 via the E-Bid system. Four offerors submitted proposals ranging from \$44,642,000.00 to \$47,540,281.00, including the base bid and all alternates. The determination of best value for the City was based on the following criteria:

1)	Cost Proposal	75%
2)	Experience with major subcontractors and with similar projects within past 5 years	7%

3)	Experience and qualifications of key project personnel	6%
4)	Demonstrated ability to meet schedules on similar projects	4%
5)	Subcontractor Qualifications and Work History with General Contractor	4%
6)	Quality Assurance Program and Safety Record	2%
7)	Current workload	2%

Staff evaluated the offers and selection criteria and has selected the best value proposal submitted by Pepper Lawson Waterworks.

Staff recommends the award of alternate Nos. 1, 2, 3, 4, 5 which are additive alternates. Alternate Nos. 6, 7 and 8 are not selected at this time. The description of selected additive alternates is as follows:

- No. 1: a pulsed air system for the influent lift station to improve mixing and movement of effluent,
- No. 2: a canopy cover and monorail hoist system over the belt press feed pump station to aid in maintenance and replacement of chemical feed,
- No. 3: acoustical panels at the blower area of the dewatering building to dampen sound,
- No. 4: relocation of the existing temporary package plant to an offsite location within 20 miles, as directed by the city,
- No. 5: access control and overhead door monitoring on all new and existing doors at the facility for improved security and to meet the city facility standard.

The recommended award also includes cash allowances for CenterPoint Energy utility work for new electrical transformer service and a site security system. The contract amount includes the base bid, cash allowances and Alternate Nos. 1 through 5 in the amount of \$44,657,000.00.

Pepper Lawson Waterworks is located in Houston, Texas and has successfully performed work similar in size and scope for area municipalities on a number of occasions with good recommendations.

### **SCHEDULE**

The contract includes three milestone dates: the completion of dewatering improvements within 12 months, the completion of 4 MGD of treatment capacity within 24 months and the completion of the existing plant rehabilitation at 33 months. The total construction duration is 1000 calendar days for substantial completion with an additional 60 days to achieve final completion. A notice to proceed will be issued within 10 days, and a pre-construction conference is planned for early August.

### **POLICY/GOAL CONSIDERATION**

The construction of the facility expansion complies with Council's Strategic goal of Safe Community, Fiscal Responsibility and Sustainable Infrastructure. The current work effort will allow the Reflection Bay Water Reclamation Facility to meet existing and future flow demands as well as TCEQ permit requirements.

### **CURRENT AND FUTURE CIP FUNDING /FINANCIAL IMPACTS/DEBT SERVICE**

Council approved a TWDB loan for \$61.2M October 2015 (R-2015-184) to cover the cost of design and construction of the expansion, which includes \$11M for the temporary package plant, and \$50.2M for the facility expansion. This loan closes on August 4, 2016 and the funds will be available at closing. An additional appropriation of \$19,690,000 is required to bring the project budget in alignment with the TWDB loan amount for this project. Additional funds beyond the current construction costs will be used for future construction, construction management and inspections, construction materials testing, fiber and equipment purchases and project contingency.

Year	To Date	2017	2018	2019	2020	Total
<b>Budget</b>	<b>\$ 54,812,000</b>	<b>\$ 629,905</b>				<b>\$ 55,441,905</b>
Prior Expenditures						
PER	414,000					414,000
Land/ROW						-
Design/Survey	4,528,630					4,528,630
Construction	50,287					50,287
FF&E						-
<b>Current Request</b>	<b>\$44,657,000</b>					
						-
Future Expenditures						
PER						-
Land/ROW						-
Design/Survey						-
Construction	2,853,372					2,853,372
FF&E						-
<b>Total Expenditures</b>	<b>\$ 52,503,289</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 7,846,289</b>
<b>Remaining Balance</b>	<b>\$ 2,308,711</b>	<b>\$ 2,938,616</b>	<b>\$ 2,938,616</b>	<b>\$ 2,938,616</b>	<b>\$ 2,938,616</b>	<b>\$ 47,595,616</b>

Debt Sold	5,308,000					
Debt to Be Sold	43,514,000					
<b>Annual Debt Service</b>	<b>3,900,000</b>	<b>3,900,000</b>	<b>3,900,000</b>	<b>3,900,000</b>	<b>3,900,000</b>	

### **O&M IMPACT INFORMATION**

There is an anticipated impact to the operations and maintenance budget when the plant is expanded.

Year	2016	2017	2018	2019	2020
Operation and Maintenance Costs	\$ -	\$ -	\$ 180,258	\$ 240,344	\$ 240,344

### **RECOMMENDED ACTION**

Consideration and approval of a resolution approving bid results for the Reflection Bay Water Reclamation Facility 6 MGD Expansion Project, awarding the contract for construction to Pepper Lawson Waterworks, Inc. in the amount of \$44,657,000.00 and authorizing the City Manager to execute the contract, contingent upon the closing of the TWDB loan (on August 4, 2016) for this project, and appropriate an additional \$19,690,000 to the project budget from the proceeds of the TWDB loan.

**RESOLUTION NO. R2016-130**

**A Resolution of the City Council of the City of Pearland, Texas, authorizing a construction contract to Pepper Lawson Waterworks for the Reflection Bay Water Reclamation Facility 6 MGD Expansion Project, in the amount of \$44,657,000.00 contingent upon the closing of the TWDB loan for this project on August 4, 2016; and authorizing the appropriation of \$19,690,000 for the project.**

**BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF PEARLAND, TEXAS:**

**Section 1.** That competitive sealed proposals for the construction of the Reflection Bay Water Reclamation Facility Expansion Project have been reviewed and tabulated.

**Section 2.** That the City Council hereby awards the contract to Pepper Lawson Waterworks, in the amount of \$44,657,000.00.

**Section 3.** The City Manager or his designee is hereby authorized to execute a contract for the construction of the Reflection Bay Water Reclamation Facility 6 MGD Expansion Project, contingent upon the closing of the TWDB loan for this project on August 4, 2016; and authorizing the appropriation of \$19,690,000 for the project.

PASSED, APPROVED and ADOPTED this the \_\_\_\_\_ day of \_\_\_\_\_, A.D., 2016.

\_\_\_\_\_  
TOM REID  
MAYOR

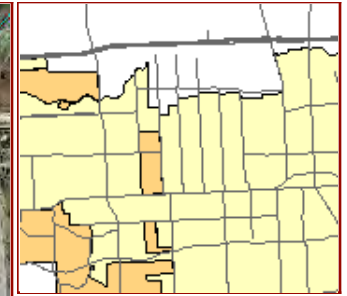
ATTEST:

\_\_\_\_\_  
YOUNG LORFING, TRMC  
CITY SECRETARY

APPROVED AS TO FORM:

\_\_\_\_\_  
DARRIN M. COKER  
CITY ATTORNEY

### Reflection Bay Water Reclamation Facility Expansion Location Map

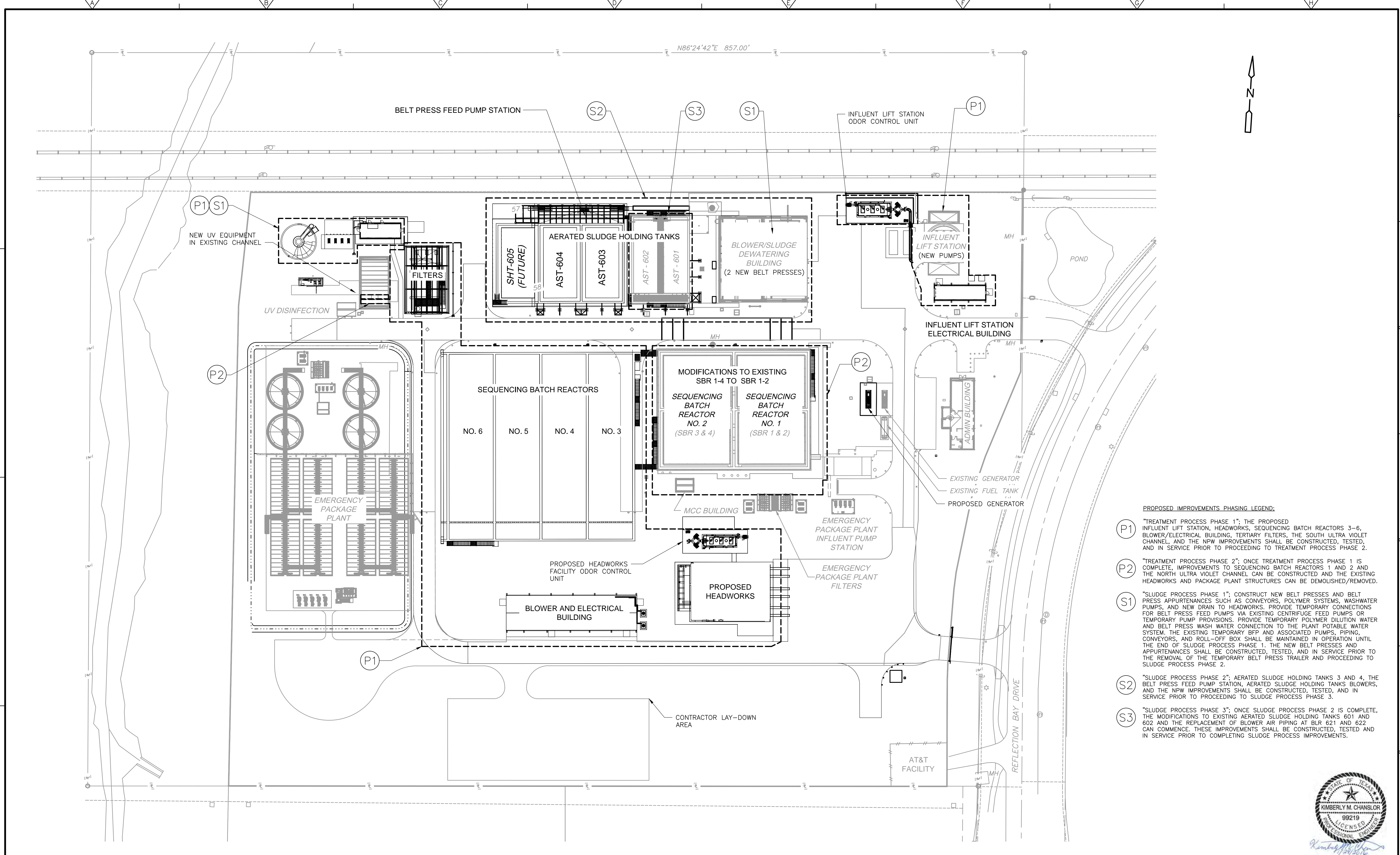


This product is for informational purposes and may not have been prepared for or be suitable for legal, engineering, or surveying purposes. It does not represent an on-the-ground survey and represents only the approximate relative location of property boundaries.

Scale 1:10,593  
1 in = 883 ft  
July 28, 2014



PW-XM1 63918-101945  
 USER: morgancg  
 DATE: May 31, 2016 11:20am  
 DWG: C:\cdm\m\morgancg\1597090\G012CSP.dwg



- PROPOSED IMPROVEMENTS PHASING LEGEND:**
- P1** "TREATMENT PROCESS PHASE 1": THE PROPOSED INFLUENT LIFT STATION, HEADWORKS, SEQUENCING BATCH REACTORS 3-6, BLOWER/ELECTRICAL BUILDING, TERTIARY FILTERS, THE SOUTH ULTRA VIOLET CHANNEL, AND THE NPW IMPROVEMENTS SHALL BE CONSTRUCTED, TESTED, AND IN SERVICE PRIOR TO PROCEEDING TO TREATMENT PROCESS PHASE 2.
  - P2** "TREATMENT PROCESS PHASE 2": ONCE TREATMENT PROCESS PHASE 1 IS COMPLETE, IMPROVEMENTS TO SEQUENCING BATCH REACTORS 1 AND 2 AND THE NORTH ULTRA VIOLET CHANNEL CAN BE CONSTRUCTED AND THE EXISTING HEADWORKS AND PACKAGE PLANT STRUCTURES CAN BE DEMOLISHED/REMOVED.
  - S1** "SLUDGE PROCESS PHASE 1": CONSTRUCT NEW BELT PRESSES AND BELT PRESS APPURTENANCES SUCH AS CONVEYORS, POLYMER SYSTEMS, WASHWATER PUMPS, AND NEW DRAIN TO HEADWORKS. PROVIDE TEMPORARY CONNECTIONS FOR BELT PRESS FEED PUMPS VIA EXISTING CENTRIFUGE FEED PUMPS OR TEMPORARY PUMP PROVISIONS. PROVIDE TEMPORARY POLYMER DILUTION WATER AND BELT PRESS WASH WATER CONNECTION TO THE PLANT POTABLE WATER SYSTEM. THE EXISTING TEMPORARY BFP AND ASSOCIATED PUMPS, PIPING, CONVEYORS, AND ROLL-OFF BOX SHALL BE MAINTAINED IN OPERATION UNTIL THE END OF SLUDGE PROCESS PHASE 1. THE NEW BELT PRESSES AND APPURTENANCES SHALL BE CONSTRUCTED, TESTED, AND IN SERVICE PRIOR TO THE REMOVAL OF THE TEMPORARY BELT PRESS TRAILER AND PROCEEDING TO SLUDGE PROCESS PHASE 2.
  - S2** "SLUDGE PROCESS PHASE 2": AERATED SLUDGE HOLDING TANKS 3 AND 4, THE BELT PRESS FEED PUMP STATION, AERATED SLUDGE HOLDING TANKS BLOWERS, AND THE NPW IMPROVEMENTS SHALL BE CONSTRUCTED, TESTED, AND IN SERVICE PRIOR TO PROCEEDING TO SLUDGE PROCESS PHASE 3.
  - S3** "SLUDGE PROCESS PHASE 3": ONCE SLUDGE PROCESS PHASE 2 IS COMPLETE, THE MODIFICATIONS TO EXISTING AERATED SLUDGE HOLDING TANKS 601 AND 602 AND THE REPLACEMENT OF BLOWER AIR PIPING AT BLR 621 AND 622 CAN COMMENCE. THESE IMPROVEMENTS SHALL BE CONSTRUCTED, TESTED AND IN SERVICE PRIOR TO COMPLETING SLUDGE PROCESS IMPROVEMENTS.

REV. NO.	DATE	DRWN	CHKD	REMARKS
6/2/16	CGM	KMC		CONFORMED DRAWING

DESIGNED BY: K. CHANSLOR  
 DRAWN BY: J. COOPER  
 SHEET CHK'D BY: B. NICHOLAS  
 CROSS CHK'D BY: C. VARNON  
 APPROVED BY: K. CHANSLOR  
 DATE: JANUARY 2016

**CDM Smith**  
 11490 Westheimer Road, Suite 700  
 Houston, Texas 77077  
 Tel: (713) 423-7300  
 TBPE Firm Registration No. F-3043

**CITY OF PEARLAND, TEXAS**  
**REFLECTION BAY WATER RECLAMATION FACILITY**  
**2 MGD TO 6 MGD EXPANSION AND REHABILITATION PROJECT**

**CONSTRUCTION SEQUENCING PLAN**

PROJECT NO. 63918-105858  
 FILE NAME: G012CSP  
 SHEET NO. GP-G-12



CONFORMED DRAWING



3050 Post Oak Blvd., Suite 300  
Houston, Texas 77056  
tel: 713-423-7300  
fax: 713-840-0173

July 11, 2016

Ms. Andrea Brinkley  
Project Manager  
Engineering and Capital Projects  
City of Pearland  
3519 Liberty Drive  
Pearland, Texas 77581

**Re:** Letter of Recommendation for the Reflection Bay Water Reclamation Facility 2 MGD to 6 MGD Expansion and Rehabilitation Project

Dear Ms. Brinkley:

On March 24, 2016 four (4) proposals were received for the above referenced project. This project involves the expansion and rehabilitation of the Reflection Bay WRF from a 2 MGD to a 6 MGD capacity facility. The following is a summary of the bid evaluation.

The project was bid utilizing a competitive sealed proposal process allowing city staff to review proposals based on predefined criteria and determine the best value for the City. The project included 8 alternates as part of the proposal process. The alternates included are outlined below:

- Alternate No. 1: The addition of a pulsed air system for the influent lift station to improve mixing, help prevent debris buildout and improve movement of effluent,
- Alternate No. 2: The addition of a canopy cover and monorail hoist system over the belt press feed pump station to aide in maintenance.
- Alternate No. 3: The additional of acoustical panels at the blower area of the dewatering building to noise level working conditions inside the building.
- Alternate No. 4: The addition of relocation of the existing temporary package plant to an offsite location within 20 miles, as directed by the City.
- Alternate No. 5: The addition of access control and overhead door monitoring on all new and existing doors at the facility for improved security and to meet the city facility standard.
- Alternate No. 6: The deduction if rotary lobe pumps and sludge grinders are provided in lieu of double disc pumps at the belt press feed pump station.





Ms. Andrea Brinkley  
July 11, 2016  
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- Alternate No. 7: The deduction if progressive cavity pumps and sludge grinders are provided in lieu of double disc pumps at the belt press feed pump station.
- Alternate No. 8: The deduction to keep the existing baffle layout in lieu of the proposed new baffle layout based on results of the lift station hydraulic model to be completed during construction by the proposed pump manufacturer.

Four (4) construction firms participated in the competitive sealed proposal process. The proposals were checked for completeness and for mathematical errors and bid irregularities. The proposals ranged from \$44,642,000.00 to \$47,540,281.00 including the base bid, alternates, and cash allowances. The competitive sealed proposal process documented in the bid documents presented the following criteria for determination of best value for the City.

1)	Cost Proposal	75%
2)	Experience with major subcontractors and with similar projects within past 5 years	7%
3)	Experience and qualifications of key project personnel	6%
4)	Demonstrated ability to meet schedules on similar projects	4%
5)	Subcontractor Qualifications and Work History with General Contractor	4%
6)	Quality Assurance Program and Safety Record	2%
7)	Current workload	2%

City staff met on March 28, 2016 to review proposals and determine scoring of each proposal based on the selection criteria defined above. City staff evaluated the proposals based on the selection criteria and selected the best value offer submitted by Pepper Lawson Waterworks.

Pepper Lawson Waterworks provided a list of qualifications and references as required in the request for proposals. The references provided by Pepper Lawson Waterworks were contacted and information on their performance and qualifications to perform similar work was obtained and reviewed. The references contacted did not have any negative comments that would indicate their inability to perform the work. Pepper Lawson Waterworks has successfully performed work of similar size and scope for other municipalities with good recommendations.

We recommend that the City of Pearland award the Reflection Bay Water Reclamation Facility 2 MGD to 6 MGD Expansion and Rehabilitation Project to Pepper Lawson Water works for a total amount of





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\$44,657,000.00 that includes Additive Alternates 1, 2, 3, 4, and 5 as well as Cash Allowances for CenterPoint Energy utility work for new electrical transformer service and addition to the site security system.

If you have any questions regarding this project, please do not hesitate to contact me.

Sincerely,

A handwritten signature in black ink that reads "Kimberly Chanslor". The signature is written in a cursive, flowing style.

Kimberly M. Chanslor, P.E.  
Principal Environmental Engineer  
CDM Smith Inc.  
TBPE Firm Registration No. F-3043

Attachment: Bid Tabulation

cc: Mr. Eric Wilson, City of Pearland, Director of Public Works  
Ms. Susan Polka, P.E., City of Pearland, Director of Engineering and Capital Projects  
CDM Smith Project File No. 63918-106003



**City of Pearland Reflection Bay Water Reclamation Facility Proposal Bid Tabulation**

PKHD	1	Base Bid	1	Quantity	UOM	Description	Spec Reference	Unit Price	Total Amount	Balfour Beatty Infrastructure		Pepper Lawson		CYMI		CSA	
										Unit Price	Total Amount	Unit Price	Total Amount	Unit Price	Total Amount	Unit Price	Total Amount
										Base Bid		Base Bid		Base Bid		Base Bid	
PKLN	1	1	Base Bid	1	LS	<b>Mobilization and Demobilization:</b> Furnish all labor, materials, equipment and incidentals required for the Contractor to mobilize and demobilize. Shall include all costs for Contractor's insurances and bonds, construction/building and stormwater permits and fees, job trailers and site administration expenses and utilities. This item shall not exceed more than three (3) percent of the Total Bid amount of this contract.	01505			\$ 1,300,000.00	\$ 1,300,000.00	\$ 1,255,619.00	\$ 1,255,619.00	\$ 1,200,000.00	\$ 1,200,000.00	\$ 1,200,000.00	\$ 1,200,000.00
PKLN	1	2	Base Bid	1	LS	<b>Demolition:</b> Furnish all labor, materials, equipment, and incidentals required for major demolition activities to the extent shown on the drawings, including all demolition activities associated with the existing Headworks, yard piping, and major emergency package plant components not indicated for salvage. The demolition shall be performed so as to not disrupt operation of the existing facilities. This item shall not include demolition activities associated with specific process areas listed in Bid Items 3 through 12.	02220			\$ 585,000.00	\$ 585,000.00	\$ 300,000.00	\$ 300,000.00	\$ 120,000.00	\$ 120,000.00	\$ 100,000.00	\$ 100,000.00
PKLN	1	3	Base Bid	1	LS	<b>Lift Station Improvements:</b> Furnish all labor, materials, equipment, and incidentals required for the improvements to the existing lift station. This work shall include pump replacement, piping modifications, coatings, baffle system improvements, and construction of the new lift station electric building. This item shall also include temporary bypass pumping to not disrupt operation of the existing and new facilities. Activities under the Work shall also include: all demolition, dewatering, excavation and earthwork, backfilling and compaction, structural, piping, building electrical, lighting, HVAC, plumbing, equipment, electrical and instrumentation, and all other work not mentioned here. This item shall not include the lift station odor control system described under Item 12.	Complete Contract Documents			\$ 2,110,000.00	\$ 2,110,000.00	\$ 2,500,000.00	\$ 2,500,000.00	\$ 122,000.00	\$ 122,000.00	\$ 2,800,000.00	\$ 2,800,000.00
PKLN	1	4	Base Bid	1	LS	<b>New Headworks Construction:</b> Furnish all labor, materials, equipment, and incidentals required for the construction of the new headworks. Activities under the Work shall also include: all dewatering, excavation and earthwork, backfilling and compaction, structural, piping, building electrical, lighting, HVAC, plumbing, equipment, electrical and instrumentation, and all other work not mentioned here. This item shall not include the headworks odor control system described under Item 12 and equipment procurement costs for the grit removal and separation equipment, step style bar screen, and screenings washing and compacting equipment, which are described under Items 17 and 18.	Complete Contract Documents			\$ 2,868,000.00	\$ 2,868,000.00	\$ 4,500,000.00	\$ 4,500,000.00	\$ 9,050,000.00	\$ 9,050,000.00	\$ 3,800,000.00	\$ 3,800,000.00
PKLN	1	5	Base Bid	1	LS	<b>Sequencing Batch Reactor (SBR) Modification and Construction:</b> Furnish all labor, materials, equipment, and incidentals required for the construction of the new SBR basins and modifications to the existing SBR basins. This work shall include basin and appurtenances construction, air piping and support installation from the blowers to the diffuser drops, demolition of existing SBR equipment, and new equipment installation. Activities under the Work shall also include: all dewatering, excavation and earthwork, backfilling and compaction, structural, piping, lighting, equipment, electrical and instrumentation, and all other work not mentioned here. This item shall not include the equipment procurement costs for the sequencing batch reactor system, such as air diffusers, decanters, waste activated sludge pumps, instrumentation, and control systems, as described under Item 21.	Complete Contract Documents			\$ 7,660,000.00	\$ 7,660,000.00	\$ 9,845,000.00	\$ 9,845,000.00	\$ 8,000,000.00	\$ 8,000,000.00	\$ 11,112,369.00	\$ 11,112,369.00
PKLN	1	6	Base Bid	1	LS	<b>New SBR Blower Building Construction:</b> Furnish all labor, materials, equipment, and incidentals required for construction of the new SBR blower building. Activities under the Work shall include: all dewatering, excavation and earthwork, backfilling and compaction, structural, piping, building electrical, lighting, HVAC, plumbing, equipment, electrical and instrumentation, and all other work not mentioned here. This item shall include procurement costs for the SBR blowers, which are not included as part of the Sequencing Batch Reactor System described under Bid Item 21.	Complete Contract Documents			\$ 3,010,000.00	\$ 3,010,000.00	\$ 2,000,000.00	\$ 2,000,000.00	\$ 960,000.00	\$ 960,000.00	\$ 3,000,000.00	\$ 3,000,000.00
PKLN	1	7	Base Bid	1	LS	<b>New Tertiary Filter Facility Construction:</b> Furnish all labor, materials, equipment, and incidentals required for the construction of the new tertiary filter system. Work under this section shall include basin construction, piping, equipment procurement and installation, and construction of appurtenant facilities. Activities under the Work shall include: all dewatering, excavation and earthwork, backfilling and compaction, structural, piping, building electrical, lighting, plumbing, equipment, electrical and instrumentation, and all other work not mentioned here. This item shall not include procurement costs for the Tertiary Filter Equipment described under Item 22.	Complete Contract Documents			\$ 1,227,000.00	\$ 1,227,000.00	\$ 1,000,000.00	\$ 1,000,000.00	\$ 1,166,000.00	\$ 1,166,000.00	\$ 1,300,000.00	\$ 1,300,000.00
PKLN	1	8	Base Bid	1	LS	<b>Ultraviolet (UV) Disinfection and Effluent Facility Modifications:</b> Furnish all labor, materials, equipment, and incidentals required for the modifications to the existing UV disinfection and effluent facility. Construction shall be phased so as to not disrupt plant operations. Activities under the Work shall also include: all demolition, dewatering, excavation and earthwork, backfilling and compaction, structural, piping, building electrical, lighting, HVAC, plumbing, equipment, electrical and instrumentation, and all other work not mentioned here. This item shall not include procurement costs for the Open Channel Vertical High Output Ultraviolet Treatment Equipment described under Item 20.	Complete Contract Documents			\$ 609,000.00	\$ 609,000.00	\$ 200,000.00	\$ 200,000.00	\$ 100,000.00	\$ 100,000.00	\$ 300,000.00	\$ 300,000.00
PKLN	1	9	Base Bid	1	LS	<b>Non-Potable Water (NPW) System Construction:</b> Furnish all labor, materials, equipment, and incidentals required for the NPW System. This work shall include the NPW transfer pumps, the NPW storage tank, the NPW distribution pumps, the disinfection system, and the NPW/Disinfection Control Building. Activities under the Work shall also include: all demolition, dewatering, excavation and earthwork, backfilling and compaction, structural, piping, building electrical, lighting, HVAC, plumbing, equipment, electrical and instrumentation, and all other work not mentioned here.	Complete Contract Documents			\$ 1,999,300.00	\$ 1,999,300.00	\$ 3,000,000.00	\$ 3,000,000.00	\$ 900,000.00	\$ 900,000.00	\$ 2,500,000.00	\$ 2,500,000.00

PKHD	1	Base Bid	1	Quantity	UOM	Description	Spec Reference	Unit Price	Total Amount	Balfour Beatty Infrastructure		Pepper Lawson		CYMI		CSA	
										Unit Price	Total Amount	Unit Price	Total Amount	Unit Price	Total Amount	Unit Price	Total Amount
PKLN	1	10	Base Bid	1	LS	<b>Aerated Sludge Holding Tank (ASHT) System Construction and Modifications:</b> Furnish all labor, materials, equipment, and incidentals required for the modifications to the existing ASHT and construction of the new ASHT, aeration blowers, air piping and supports, belt press feed pump station, progressive thickening headers, and sludge offloading station. This work shall include modifications to existing ASHT blower control panels and motor starters and equipment furnished and installed rotary lobe positive displacement blowers, double disk belt press feed pumps, future connections for sludge grinders, and submersible transfer pumps. Activities under the Work shall also include: all dewatering, excavation and earthwork, backfilling and compaction, structural, piping, lighting, equipment, electrical and instrumentation, and all other work not mentioned here.	Complete Contract Documents			\$ 3,254,034.00	\$ 3,254,034.00	\$ 3,000,000.00	\$ 3,000,000.00	\$ 3,100,000.00	\$ 3,100,000.00	\$ 4,000,000.00	\$ 4,000,000.00
PKLN	1	11	Base Bid	1	LS	<b>Sludge Building (SB) Modifications:</b> Furnish all labor, materials, equipment, and incidentals required for the modifications to the existing Sludge Building and installation of the new belt presses and appurtenances, polymer systems, and dewatered cake conveyors. Activities under the Work shall also include: demolition, excavation and earthwork, backfilling and compaction, structural, piping, building electrical, lighting, HVAC, plumbing, equipment, electrical and instrumentation, and all other work not mentioned here. This item shall not include equipment procurement costs for the belt press, polymer, and conveyor equipment, which are described under Item 19.	Complete Contract Documents			\$ 1,095,300.00	\$ 1,095,300.00	\$ 1,500,000.00	\$ 1,500,000.00	\$ 100,000.00	\$ 100,000.00	\$ 2,000,000.00	\$ 2,000,000.00
PKLN	1	12	Base Bid	1	LS	<b>Odor Control System Construction:</b> Furnish all labor, materials, equipment, and incidentals required for the odor control systems at the influent lift station and headworks. Activities under the Work shall also include: demolition, excavation and earthwork, backfilling and compaction, structural, piping, ductwork, lighting, HVAC, plumbing, equipment, electrical and instrumentation, and all other work not mentioned here.	Complete Contract Documents			\$ 1,511,900.00	\$ 1,511,900.00	\$ 300,000.00	\$ 300,000.00	\$ 800,000.00	\$ 800,000.00	\$ 1,200,000.00	\$ 1,200,000.00
PKLN	1	13	Base Bid	1	LS	<b>Yard Piping:</b> Furnish all labor, materials, equipment, and incidentals required for construction of all yard piping, force mains, sludge lines, and utilities, to support and connect the facilities, including excavation, dewatering, backfill, valves and fittings for all yard piping on this Project. The yard piping shall be installed in conjunction with all related items above. The piping shall be installed so as to not disrupt construction and operation of the new and existing facilities.	Div. 2 and Div. 15			\$ 1,480,000.00	\$ 1,480,000.00	\$ 1,500,000.00	\$ 1,500,000.00	\$ 1,500,000.00	\$ 1,500,000.00	\$ 1,800,000.00	\$ 1,800,000.00
PKLN	1	14	Base Bid	1	LS	<b>Site Work:</b> Furnish all labor, materials, equipment, and incidentals required for site work and grubbing, final grading, erosion control, drainage, and construction of sidewalks, roadways, and concrete slabs, and all other work not mentioned here.	Div. 2			\$ 990,000.00	\$ 990,000.00	\$ 750,000.00	\$ 750,000.00	\$ 410,000.00	\$ 410,000.00	\$ 1,000,000.00	\$ 1,000,000.00
PKLN	1	15	Base Bid	1	LS	<b>Electrical, Complete:</b> Provide all labor, materials, equipment and incidentals required for the Contractor to install all site/yard electrical wiring (not specifically associated with equipment), conduit connectors, generator, raceways, supports, cables, connectors, transformers, motor control centers, lighting systems, underground power systems, instrumentation and control components and all other work/appurtenances not mentioned here but specified herein and shown on the Drawings to make a working system.	11396 & Div. 16			\$ 2,500,000.00	\$ 2,500,000.00	\$ 3,775,000.00	\$ 3,775,000.00	\$ 9,470,000.00	\$ 9,470,000.00	\$ 2,000,000.00	\$ 2,000,000.00
PKLN	1	16	Base Bid	1	LS	<b>Instrumentation and Control (I&amp;C), Complete:</b> The I&C work shall include the furnishing of all materials, equipment, software, labor and services required to install and configure all instrumentation for proper operation with all equipment and materials furnished under this Contract as defined on the Drawings and in Division 13 of the Contract Specifications.	Div. 13			\$ 1,600,000.00	\$ 1,600,000.00	\$ 2,000,000.00	\$ 2,000,000.00	\$ 2,500,000.00	\$ 2,500,000.00	\$ 1,500,000.00	\$ 1,500,000.00
PKLN	1	17	Base Bid	1	LS	<b>Grit Removal Separation and Dewatering Equipment:</b> System supplier scope as defined on the Drawings and in Section 11320 of the Contract Specifications	11320	\$528,975.00	\$528,975.00	\$ 528,975.00	\$ 528,975.00	\$ 528,975.00	\$ 528,975.00	\$ 528,975.00	\$ 528,975.00	\$ 528,975.00	\$ 528,975.00
PKLN	1	18	Base Bid	1	LS	<b>Step Type Mechanical Bar Screen &amp; Screenings Washing and Compacting Equipment:</b> System supplier scope as defined on the Drawings and in Section 11330 and Section 11332 of the Contract Specifications	11330 / 11332	\$410,000.00	\$410,000.00	\$ 410,000.00	\$ 410,000.00	\$ 410,000.00	\$ 410,000.00	\$ 410,000.00	\$ 410,000.00	\$ 410,000.00	\$ 410,000.00
PKLN	1	19	Base Bid	1	LS	<b>3-Belt Belt Filter Press:</b> Vertical Arrangement and Appurtenances: System supplier scope as defined on the Drawings and in Section 11362, 11240, and 14550 of the Contract Specifications	11240 / 11362/ 14550	\$1,370,670.00	\$1,370,670.00	\$ 1,370,670.00	\$ 1,370,670.00	\$ 1,370,670.00	\$ 1,370,670.00	\$ 1,370,670.00	\$ 1,370,670.00	\$ 1,370,670.00	\$ 1,370,670.00
PKLN	1	20	Base Bid	1	LS	<b>Open Channel Vertical High Output Ultraviolet Treatment Equipment:</b> System supplier scope as defined on the Drawings and in Section 11365 of the Contract Specifications	11365	\$532,471.00	\$532,471.00	\$ 532,471.00	\$ 532,471.00	\$ 532,471.00	\$ 532,471.00	\$ 532,471.00	\$ 532,471.00	\$ 532,471.00	\$ 532,471.00
PKLN	1	21	Base Bid	1	LS	<b>Sequencing Batch Reactor System:</b> System supplier scope as defined on the Drawings and in Section 11366 of the Contract Specifications	11366	\$2,368,000.00	\$2,368,000.00	\$ 2,368,000.00	\$ 2,368,000.00	\$ 2,368,000.00	\$ 2,368,000.00	\$ 2,368,000.00	\$ 2,368,000.00	\$ 2,368,000.00	\$ 2,368,000.00
PKLN	1	22	Base Bid	1	LS	<b>Tertiary Filter System:</b> System supplier scope as defined on the Drawings and in Section 13222 of the Contract Specifications	13222	\$1,272,515.00	\$1,272,515.00	\$ 1,272,515.00	\$ 1,272,515.00	\$ 1,272,515.00	\$ 1,272,515.00	\$ 1,272,515.00	\$ 1,272,515.00	\$ 1,272,515.00	\$ 1,272,515.00
PKLN	1	23	Base Bid	1	LS	<b>All Other Miscellaneous Work:</b> All other work not assigned to an item described above shall be included here. Identify work items included on separate attachment and submit with bid proposal documents.	Complete Contract Documents			\$ 6,086,335.00	\$ 6,086,335.00	\$ -	\$ -	\$ 90,000.00	\$ 90,000.00	\$ 100,000.00	\$ 100,000.00
PKLN	1	24	Base Bid	1000	LF	<b>Trench Safety:</b> Furnish all labor, materials, equipment and incidentals required for the Contractor to construct and install Trench Safety measures for all pipe diameters installed in trenches greater than 5 feet in depth.	01570			\$ 20.00	\$ 20,000.00	\$ 5.00	\$ 5,000.00	\$ 1.00	\$ 1,000.00	\$ 5.00	\$ 5,000.00
SUBTOTAL BASE BID											\$ 46,388,500.00		\$ 43,913,250.00		\$ 46,071,631.00		\$ 46,200,000.00
PKHD	2	Extra Items	2		Extra Items					Extra Items		Extra Items		Extra Items		Extra Items	
PKLN	2	25	Extra Items	50	CY	Extra Machine Excavation (Only Authorized When Directed By the Owner and Engineer)	02318			\$ 20.00	\$ 1,000.00	\$ 15.00	\$ 750.00	\$ 1,100.00	\$ 55,000.00	\$ 15.00	\$ 750.00

PKHD	1	Base Bid	1	Quantity	UOM	Description	Spec Reference	Unit Price	Total Amount	Balfour Beatty Infrastructure		Pepper Lawson		CYMI		CSA	
										Unit Price	Total Amount	Unit Price	Total Amount	Unit Price	Total Amount	Unit Price	Total Amount
PKLN	2	26	Extra Items	75	CY	Extra Select Fill, Compacted (Only Authorized When Directed By the Owner and Engineer)	02318			\$ 60.00	\$ 4,500.00	\$ 20.00	\$ 1,500.00	\$ 25.00	\$ 1,875.00	\$ 40.00	\$ 3,000.00
PKLN	2	27	Extra Items	2000	lb	Extra Reinforcing Steel (Only Authorized When Directed By the Owner and Engineer)	03200			\$ 1.00	\$ 2,000.00	\$ 0.25	\$ 500.00	\$ 1.00	\$ 2,000.00	\$ 1.00	\$ 2,000.00
PKLN	2	28	Extra Items	50	CY	Concrete (Class A,C & D) (Only Authorized When Directed By the Owner and Engineer)	03300			\$ 300.00	\$ 15,000.00	\$ 125.00	\$ 6,250.00	\$ 465.00	\$ 23,250.00	\$ 400.00	\$ 20,000.00
PKLN	2	29	Extra Items	10	CY	Concrete Grout (Class I and Class II) (Only Authorized When Directed By the Owner and Engineer)	03600			\$ 250.00	\$ 2,500.00	\$ 250.00	\$ 2,500.00	\$ 465.00	\$ 4,650.00	\$ 300.00	\$ 3,000.00
PKLN	2	30	Extra Items	55	CY	Extra Influent Lift Station Concrete Replacement/Modifications (Only Authorized When Directed By the Owner and Engineer)	03740			\$ 500.00	\$ 27,500.00	\$ 650.00	\$ 35,750.00	\$ 465.00	\$ 25,575.00	\$ 800.00	\$ 44,000.00
PKLN	2	31	Extra Items	10	CY	Concrete Electrical Raceway Encasement (Only Authorized When Directed By the Owner and Engineer)	03800			\$ 200.00	\$ 2,000.00	\$ 350.00	\$ 3,500.00	\$ 465.00	\$ 4,650.00	\$ 200.00	\$ 2,000.00
PKLN	2	32	Extra Items	60	Ton	Debris/Sludge/Grit Removal not included in the Base Bid Work Items	01710			\$ 400.00	\$ 24,000.00	\$ 550.00	\$ 33,000.00	\$ 90.00	\$ 5,400.00	\$ 300.00	\$ 18,000.00
<b>SUBTOTAL EXTRA WORK ITEMS</b>											\$ 78,500.00		\$ 83,750.00		\$ 122,400.00		\$ 92,750.00
<b>TOTAL BASE BID</b>											\$ 46,467,000.00		\$ 43,997,000.00		\$ 46,194,031.00		\$ 46,292,750.00
PKHD	3	Alternate Work Items	3		Alternate Work Items					Alternate Work Items		Alternate Work Items		Alternate Work Items		Alternate Work Items	
PKLN	3	33	Alternate Work Items	1	LS	<b>Alternate #1:</b> Additive Alternate - Influent Lift Station Pulsed Air System Equipment Complete and in Place as shown in Contract Documents.	11269			\$ 145,000.00	\$ 145,000.00	\$ 65,000.00	\$ 65,000.00	\$ 132,250.00	\$ 132,250.00	\$ 60,000.00	\$ 60,000.00
PKLN	3	34	Alternate Work Items	1	LS	<b>Alternate #2:</b> Additive Alternate - Canopy Including Monorail and Hoist Complete and in Place as Shown in Contract Documents.	Div. 5 and 14900			\$ 110,000.00	\$ 110,000.00	\$ 65,000.00	\$ 65,000.00	\$ 160,000.00	\$ 160,000.00	\$ 70,000.00	\$ 70,000.00
PKLN	3	35	Alternate Work Items	1	LS	<b>Alternate #3:</b> Additive Alternate - Acoustical Panels at Blower area of Dewatering Building Complete and in Place as Shown in Contract Documents.	9520			\$ 77,000.00	\$ 77,000.00	\$ 55,000.00	\$ 55,000.00	\$ 19,000.00	\$ 19,000.00	\$ 75,000.00	\$ 75,000.00
PKLN	3	36	Alternate Work Items	1	LS	<b>Alternate #4:</b> Additive Alternate - Relocation of Existing Package Plant to Offsite Location within 20 Miles of the Project Site, as Directed by the City of Pearland.	2220			\$ 245,000.00	\$ 245,000.00	\$ 150,000.00	\$ 150,000.00	\$ 780,000.00	\$ 780,000.00	\$ 580,000.00	\$ 580,000.00
PKLN	3	37	Alternate Work Items	1	LS	<b>Alternate #5:</b> Additive Alternate-Inclusion of Card Access Control and Overhead Door Monitoring on all new and Existing Doors on site not included in the Base Bid as indicate in Contract Documents	8710			\$ 10,000.00	\$ 10,000.00	\$ 75,000.00	\$ 75,000.00	\$ 50,000.00	\$ 50,000.00	\$ 65,000.00	\$ 65,000.00
PKLN	3	38	Alternate Work Items	1	LS	<b>Alternate #6:</b> Deductive Alternate - Supply Rotary Lobe Pumps and Sludge Grinders in lieu of Double Disk Pumps Complete and in Place as shown in Contract Documents. <sup>1</sup>	11218			\$ 100,000.00	\$ 100,000.00	\$ -	\$ -	\$ -	\$ -	\$ 10,000.00	\$ 10,000.00
PKLN	3	39	Alternate Work Items	1	LS	<b>Alternate #7:</b> Deductive Alternate - Supply Progressive Cavity Pumps and Sludge Grinders in lieu of Double Disk Pumps Complete and in Place as shown in Contract Documents. <sup>1</sup>	11218			\$ 100,000.00	\$ 100,000.00	\$ -	\$ -	\$ -	\$ -	\$ 50,000.00	\$ 50,000.00
PKLN	3	40	Alternate Work Items	1	LS	<b>Alternate #8:</b> Deductive Alternate - Existing Baffle Layout in Influent Lift Station in lieu of Proposed Baffle Layout Included in the Base Bid Complete and in Place as shown in the Contract Documents.	11319			\$ 40,000.00	\$ 40,000.00	\$ 15,000.00	\$ 15,000.00	\$ 45,000.00	\$ 45,000.00	\$ 20,000.00	\$ 20,000.00
<b>SUBTOTAL ADDITIVE ALTERNATE WORK ITEMS (33, 34, 35, 36 &amp; 37)</b>											\$ 787,000.00		\$ 410,000.00		\$ 1,141,250.00		\$ 850,000.00
<b>SUBTOTAL DEDUCTIVE ALTERNATE WORK ITEMS (38, 39 &amp; 40)</b>											\$ 40,000.00		\$ 15,000.00		\$ 45,000.00		\$ 80,000.00
PKHD	4	Cash Allowances	4							Cash Allowances		Cash Allowances		Cash Allowances		Cash Allowances	
PKLN	4	41	Cash Allowances	1	LS	<b>Cash Allowance #1:</b> Site Security System Including but not limited to Security Monitoring Cameras Throughout Site and Gate Entrance and Exit Security. Allowance could encompass Adjustments to Door Card Access Reader System shown in the Contract Documents.	Complete Contract Documents	\$200,000.00	\$200,000.00	\$ 200,000.00	\$ 200,000.00	\$ 200,000.00	\$ 200,000.00	\$ 200,000.00	\$ 200,000.00	\$ 200,000.00	\$ 200,000.00
PKLN	4	42	Cash Allowances	1	LS	<b>Cash Allowance #2:</b> CenterPoint Energy Utility Work.	Complete Contract Documents	\$50,000.00	\$50,000.00	\$ 50,000.00	\$ 50,000.00	\$ 50,000.00	\$ 50,000.00	\$ 50,000.00	\$ 50,000.00	\$ 50,000.00	\$ 50,000.00
<b>TOTAL BID</b>											\$ 47,464,000.00		\$ 44,642,000.00		\$ 47,540,281.00		\$ 47,312,750.00
<b>TOTAL BID SELECTED ALTERNATES 1,2,3,4, and 5</b>											\$ 47,504,000.00		\$ 44,657,000.00		\$ 47,585,281.00		\$ 47,392,750.00

**Notes:**

<sup>1</sup> Alternates 6 and 7 are presented as deductive alternates however Balfour Beatty Infrastructure's proposal included both alternates as additive of \$100,000 each.