

AECOM 19219 Katy Freeway, Suite 100 Houston, TX 77094 USA aecom.com

11/7/2024

Jody Weaver, PE City Manager 202 North Virginia Port Lavaca, TX 77979

**RE:** Request for Authorization to Proceed

Task Order 8: Final Design and Bid Phase Services for the City of Port Lavaca Lynn's Bayou Wastewater Treatment Plant Expansion

Dear Ms. Weaver,

As requested by City of Port Lavaca (City) on 11/01/24 via. email, AECOM is pleased to submit this proposal to provide Professional Engineering Services for the expansion of the Lynn's Bayou Wastewater Treatment Plant from 2 MGD to 4 MGD capacity.

# **Background**

The City of Port Lavaca owns and operates the Lynn's Bayou Wastewater Treatment Plant (WWTP). The WWTP is located at 800 N. Commerce St., Port Lavaca, TX 77979, approximately 30 miles southeast of Victoria, Texas.

The WWTP was originally constructed in 1982 for a rated capacity of 1.5 MGD and was expanded in 2001 to 2 MGD. The plant is an activated sludge facility permitted for 2 MGD average daily flow and a 2-hour peak flow of 5,319 gpm or 7.65 MGD (TPDES Permit No. WQ0010251001). The existing treatment system consists of a mechanical bar screen, a grit classification chamber, three sequential aeration basins, two secondary clarifiers, UV disinfection, Parshall flume flow meter and outfall structure, an aerobic digester, a sludge thickener, a Return Activated Sludge (RAS)/Waste Activated Sludge (WAS) pump station, sludge dewatering beds, and six blowers (including two blowers installed as part of the improvements project) .

The current average daily flow to the plant had increased over 75% of the WWTP rated flow for three consecutive months. With the exceedance rate over 75%, per TCEQ Rule §305.126 (a), City (permittee) initiated engineering and financial planning for expansion of the WWTP. City contracted with AECOM in 2021 to perform an assessment of the WWTP and plan for expansion of the plant. The September 2021 report titled "Lynn's Bayou Wastewater Treatment Plant Expansion" recommended performing a short-term improvements project that would address the immediate needs of the WWTP, including increasing the blower capacity for the aeration basins. The short-term improvements project is currently nearing the end of construction.



AECOM completed the 30% design of this project. A preliminary design report dated December 2023 was submitted to the City. This report includes evaluation of alternatives for capacity expansion, recommendation of path forward, preliminary design drawings and a preliminary opinion of construction cost. Per the preliminary design performed, proposed expansion of the WWTP will entail design and construction of:

- 1. Headworks, grit basin and flow splitter box
- 2. Anoxic basins
- 3. Aeration basins with fine bubble diffusers
- 4. Aeration basins blower building
- 5. Final clarifiers and flow splitter box
- 6. RAS and WAS pump station
- 7. Sludge pump station
- 8. Polymer assisted sludge drying beds
- 9. Gravity Thickeners
- 10. UV Disinfection System Expansion
- 11. New Office/Lab Building
- 12. Modifications to existing Circular WWTP
- 13. Modifications to existing Sludge Dewatering Beds
- 14. Modifications to existing Parshall Flume

AECOM's overall Scope of Services for this project include Basic Design and Bid Phase services. Scope of Services requested to be authorized by this proposal includes the following:

#### Basic Services:

- o Final design of the WWTP expansion
- TPDES Permit Amendment
- o Bidding services

# Additional Services:

- o Environmental Information Document
- Treatment system design for removal of Copper and Zinc
- SUE Services

The Scope of Services described here covers services by AECOM, for the services listed above.

This proposal accounts for coordination with Texas Water Development Board (TWDB) on such activities.

Exhibit "A" provides an itemization of the labor and expenses associated with the Scope of Services.



#### **BASIC SERVICES**

# **SCOPE OF SERVICES – Final Design**

Scope of services of this phase will include 60%, 90% and bid ready package design milestone deliverables of the WWTP expansion.

# Task 1 – Project Management

Project management associated is anticipated to span ten (10) months and includes the following subtasks.

# Task 1.1: Project Management and Administration

# Task 1.1.1: Project Setup and Administration

Setup project in AECOM project management system and administration during the span of the project including oversight, tracking and coordination.

## Task 1.2: Meetings

## Task 1.2.1: Project Coordination

AECOM will conduct biweekly internal progress meetings with the multi-disciplinary teams involved to review progress, and discuss challenges, action items and path forward.

Approval of plans and specifications will be required by TWDB; AECOM will coordinate the submittal and approval process with the agency.

Coordination will be done with American Electric Power (AEP) during the course of the final design phase in sizing transformer(s) and setting up service.

# Task 1.2.2: Project Status Meetings

AECOM will assist in the organization of and participate in monthly project meetings with the City to communicate and receive input and feedback on data requirement, challenges, outstanding issues, status, decisions, and progress update. The project team will provide an agenda, summary minutes, and an updated decision and action items log for each meeting. The proposal is based on a total of ten (10) including status and review meetings.

#### Task 1.3: Project Management Deliverables

# Task 1.3.1: Project Plan and Schedule

Update project plan and schedule prepared at the 30% design stage. Changes to the project schedule will be identified and explained in the monthly status report.

#### Task 1.3.2: Monthly Invoices and Status Reports

Submit monthly invoices along with a status report summarizing progress of the project and updated project schedule.

# Task 2 - Final Design

Perform Final Engineering Design and prepare construction drawings and technical specifications. AECOM technical specifications, modified for job specific requirements, will be used for the project. Final design phase of this WWTP expansion project will include design of

- 1. Headworks, grit basin and flow splitter box
- 2. Anoxic basins
- 3. Aeration basins with fine bubble diffusers
- 4. Aeration basins blower building
- 5. Final clarifiers and flow splitter box
- 6. RAS and WAS pump station



- 7. Sludge pump station
- 8. Polymer assisted sludge drying beds
- 9. Gravity Thickeners
- 10. UV Disinfection System Expansion
- 11. New Office/Lab Building
- 12. Modifications to existing Circular WWTP
- 13. Modifications to existing Sludge Dewatering Beds
- 14. Modifications to existing Parshall Flume

# Task 2.1 Final Design Drawings and Project Manual

# Task 2.1.1 Final Design Drawings

This task includes preparing detailed design drawings for the WWTP Expansion. The design package will include drawings from the following disciplines: Mechanical, Civil, Structural, Architectural, HVAC, Electrical and Instrumentation and Control. The design drawings will be designed based off applicable codes and standards. A set of design drawings will be provided at the 60%, 90% and bid ready package milestones.

## Task 2.1.2 Technical Specifications

This task includes preparing technical specifications for the WWTP Expansion. This will include specifications for the following disciplines: Mechanical, Civil, Structural, Architectural, HVAC, Electrical and Instrumentation and Control. The design drawings will be designed based off applicable codes and standards. A set of technical specifications will be provided at the 60%, 90% and bid ready package milestones.

#### **Task 2.2 TCEQ Submittal**

This task includes finalizing the engineering report describing the WWTP expansion that will be delivered to the TCEQ for review. This task will also include preparing a package that includes signed and sealed technical specifications, signed and sealed drawings, and signed and sealed engineering report in accordance to TCEQ requirements. AECOM will also be responsible for responding to any comments provided by the TCEQ.

#### Task 2.3 Opinion of Probable Construction Cost and Schedule

Opinion of Probable Construction Cost (OPCC) developed at the 30% milestone will be updated based on the WWTP expansion final design drawings and specifications. OPCC prepared will be delivered as a part of each milestone review package.

#### Task 2.4 Deliverables

During the Final Design phase of the project, AECOM will package and deliver milestone review packages for the WWTP expansion for review to the City of Port Lavaca. AECOM will deliver electronic copies of the 60%, 90% and bid ready milestone packages.

Fee for additional SUE services by Civil Corp has been included in the proposal, to be utilized as determined to be necessary.

# **SCOPE OF SERVICES – TPDES Permit Amendment**

# Task 1 - Project Management

Project management associated includes the following:

#### Task 1.1: Project Setup and Administration

Setup project in AECOM project management system and administration including oversight, tracking and coordination.



#### Task 1.2: Coordination

AECOM will coordinate with the TCEQ regarding the preparation, review, and approval of the WWTP TPDES amendment application. AECOM will contact appropriate persons to discuss concerns and assist in moving the application process forward, whenever possible. These activities include:

- Prepare and submit materials and/or information requested by TCEQ to declare the application administratively and technically complete.
- o Submit an original newspaper clipping and affidavit to TCEQ for each of the public notices.
- o Submit copy of application, draft permit, and any revisions to the local library for public review.
- Submit the Application Availability Verification Form to TCEQ to certify that the application was made available to the public for review.

# Task 2 – TPDES Administrative Report

In support of preparation of the administrative report for the permit amendment, AECOM will perform the following tasks.

#### **Task 2.1: Administrative Worksheets**

Prepare the administrative Forms 1.0 and 1.1 for City's review and TCEQ submission.

Prepare Core Data Form, prepare application fee type information and prepare attachments index.

Prepare Supplemental Permit Information Form (SPIF).

Coordinate with the City to obtain background information regarding general information required, facility operators, plant information, plant ownership information, effluent disposal site location and publishing responsibilities.

#### Task 2.2: Exhibits and Maps

Prepare a USGS Quad map to include the WWTP location, point of discharge, proximity of plant site to new and future developments, and labels on map of all water supply and related information.

Prepare map that shows affected landowner information.

Visit site and obtain necessary pictures. Prepare a map that shows the location and direction of photographs taken.

Prepare a buffer zone map that shows the property boundary, buffer zone, treatment units and distance of treatment units from boundaries.

#### Task 3 - TPDES Technical Report

In support of preparation of the administrative report for the permit amendment, AECOM will perform the following tasks.

#### Task 3.1: Technical Worksheets

Prepare Domestic Technical Worksheets 1.0, 1.1, 2.0, 2.1, 4.0, 5.0 and 6.0 required for major amendments, for City's review and TCEQ submission.

Coordinate with the City as required to obtain information on operator certification, sludge disposal including hauler, disposal sites, stream effluent is discharged to, etc.

#### Task 3.2: Exhibits and Maps

Prepare exhibits of site drawings which includes boundaries of the WWTP and service area, facilities that dispose of effluent, and latitude and longitude for discharge point.

Prepare exhibit that shows the discharge stream up to 3 miles downstream of discharge point.

AECOM will coordinate with the WWTP Operator and Water Quality Analysis Lab to obtain samples and complete Pollutant Analysis Requirements (Domestic Technical Worksheet 4.0). The fee associated with laboratory services will be paid directly to the lab by the City.



#### Task 3.3: Draft Permit Review

Review and comment on the draft permit prepared by TCEQ.

#### OTHER SERVICES

**Publications:** AECOM will coordinate and publish in an English and alternate language newspaper both during the administrative and technical report stages. Proposal includes an estimate to cover the publication costs.

# **SCOPE OF SERVICES - Bid Phase**

#### Task 1 - Project Management

Project management associated is anticipated to span four (4) months and includes the following subtasks:

## Task 1.1: Project Management and Administration

# Task 1.1.1: Project Setup and Administration

Setup project in AECOM project management system and administration during the span of this task including oversight, tracking and coordination.

# Task 1.2: Meetings

# Task 1.2.1: Project Meetings and Coordination

AECOM will conduct internal meetings with the staff involved to review progress and address questions from contractors. The proposal is based on conducting a total of two (2) meetings.

Notification of and approval by TWDB is required at every stage of this task including advertisements and award of contract. AECOM will coordinate with the agency's representative.

#### Task 1.2.2: Project Status Meetings

AECOM will assist in the organization of two (2) project status meetings with the City during the Bid Phase to communicate and receive input and feedback on challenges, outstanding issues, status, decisions, and progress update.

#### Task 2 - Bid Services

Perform bid services including preparing construction document package for bidding and reviewing construction bids. This task includes the following sub-tasks:

# Task 2.1: Bid Services

AECOM's front end contract documents will be used for this project. This task will include reviewing the front-end contract documents and preparing a combined bid package. AECOM will assist the City in preparing an advertisement and publishing two advertisements in two local newspapers and in Civcast. Cost for publications will be paid by the City.

AECOM will conduct a pre-bid meeting and prepare and transmit pre-bid meeting minutes. AECOM will respond to prospective bidders' questions related to the WWTP expansion and will issue contract addenda required to clarify or modify the contract documents.

AECOM will evaluate bids received by checking references and confirming that all required documents have been provided. AECOM will prepare bid tabulation and Recommendation of Award letter to the City.



#### **ADDITIONAL SERVICES**

#### **SCOPE OF SERVICES – Environmental Information Document**

AECOM will prepare an Environmental Information Document (EID) per guidelines set forth by TWDB. Scope of work would be to determine the degree of impacts that can reasonably be expected to occur as a result of construction of this WWTP expansion project. This document will provide three types of impacts resulting from this project – Direct, Secondary and Cumulative.

Direct impacts are effects on the environment that occur at the same time and place as the project. Direct impacts include impacts from construction-related activities as well as impacts related to operation of a newly constructed or modified facility upon completion of construction. Secondary impacts are effects to the environment and natural resources that are removed in time and distance from a project's construction and operation activities. Cumulative impacts are effects that result from the project's direct impacts when added together with impacts from other past, present, and future projects that can be reasonably predicted. NEPA regulations define cumulative impacts as "environmental impacts which result from the incremental impact of the action when added to other past, present, and reasonably foreseeable."

The EID prepared will include general information about the project, maps, exhibits and summary of evaluation of potential impacts and mitigations associated with the project. Effort will also include public notification, review of public comments (if any) and coordination with all relevant agencies. Compensation for this service will be on time and material with a cap basis.

# SCOPE OF SERVICES - Design of treatment system for removal of Copper and Zinc

Upon completion of a sampling and source identification program, it has been concluded that it is not possible to identify the contributing source of copper and zinc. A system to remove copper and zinc needs to be included as part of final design. The abatement system designed may potentially be chemical addition to precipitate the metals.

If chemical addition is required, additional testing will be required to determine the right chemical and dosage to meet the effluent permit limits. This proposal includes Additional Services for design of an abatement system that is necessary to be part of the treatment process. Compensation for this service will be on time and material with a cap basis.

# **Assumptions**

- City of Port Lavaca will provide requested data and information within five business days of written submittal request to maintain the project schedule. Consistent with the professional standard of care, AECOM shall be entitled to rely upon the accuracy of data and information provided by City or others without independent review or evaluation.
- 2. If and when possible, City will provide site access and facility support staff to allow for any identified site reconnaissance activities. Facility support staff shall be knowledgeable of applicable safety practices and will inform any AECOM project team members of these requirements. AECOM understands any site visits will occur between regular business hours and will depend on City staff escort availability. No special equipment is expected to be utilized or required during site visits. AECOM will conduct all observations without the use of specialty equipment that may require additional safety training beyond awareness training.
- 3. City will provide electronic design files as available to support development of drawings, details, and criteria as required for preparation of deliverables.
- City will provide review and comment on AECOM's deliverables within ten business days of submittal to maintain the project schedule.

# **AECOM**

- 5. Invoices will be prepared monthly and will be accompanied by a status summary memo. Project Schedule will be updated and submitted with the invoice. Any changes to the schedule will be noted and explained.
- 6. Labor costs have been distributed by discipline in accordance with the Scope of Work (SOW). Estimated costs were based upon discussions of the pre-proposal meeting, prior experience, and AECOM's understanding of the goals of the project.
- 7. AECOM understands that City input will be required for certain deliverables and that completeness of certain deliverables is dependent on City's ability to provide such data.
- 8. Permitted effluent quality limits upon issuance of a final amended TPDES permit for the 2.0 MGD capacity expansion will not be lower than 10/15/5/4 (mg/L BOD/TSS/NH3-N/DO).
- 9. There will not be any significant revisions requested by the City after receiving initial direction by the City or after obtaining approvals from the TCEQ.
- 10. Meeting other than the ones specifically called out as on-site meetings will be conducted virtually.
- 11. No travel and subsistence required of AECOM and authorized by the City to points other than the project site or City offices.
- 12. No filing, review, permit, inspection and other fees assessed by the City, County or State.
- There will not be any additional copies of contract documents and specifications (over agreed number) and additional copies of drawings (over agreed number).
- 14. Proposal does not include fee for the effort associated with re-bidding the project.
- 15. AECOM will not provide assistance to the City as an expert witness in any litigation with third parties arising from the development or construction of the project.
- 16. No warranty phase engineering services will be required.
- 17. Supplemental Provisions
  - a. Reuse of Documents: AECOM shall bear no liability or responsibility for deliverables that have been modified post-delivery or used for a purpose other than that for which it was prepared under this project.
  - b. Any Opinion of Probable Construction Cost prepared by AECOM represents its judgment as AECOM and is supplied for the general guidance of City. Since AECOM has no control over the cost of labor and material, or over competitive bidding or market conditions, AECOM does not guarantee the accuracy of such opinions as compared to Construction Contractor bids or actual cost to City.

#### **DELIVERABLES**

AECOM will be submitting the following deliverables for review and approval as listed in the sub-tasks of the Scope of Services.

- 1. Meeting agenda and minutes (as applicable)
- 2. Workshop agenda and minutes (as applicable)
- 3. Monthly invoices and progress reports
- 4. 60% Milestone Review Package
- 5. 90% Milestone Review Package
- 6. Bid Ready Package
- 7. Estimates of Probable Construction Cost
- 8. Bid Documents
- 9. Up to two (2) Addenda for Bidding
- 10. Conformed Construction Documents



Each deliverable will have the following.

- Three (3) sets of each Milestone Review Package (hard copy)
- Electronic copy of Milestone Review Package
- Three (3) sets of each Bid Ready Package (hard copy)
- Electronic copy of Bid Ready Package

#### **COMPENSATION**

The level of effort for the scope of work has been calculated and is defined in Exhibit A. The total compensation for the Basic and Additional Services listed in the above Scope of Services is summarized below.

# Task Order 8 - Basic Services

Task	Description	AECOM	Subconsultants	Total
8A	Final Design	\$1,126,116		\$1,126,116
8B	TPDES Permit Renewal	\$63,500		\$63,500
8C	Bid Phase	\$24,214		\$24,214
Total	Estimated Fee - Basic Services			\$1,213,830

#### Task Order 8 - Additional Services

Task	Description	AECOM	Subconsultants	Total					
8D	Environmental Information Document	\$70,000		\$70,000					
8E	Final Design: CU and Zn Treatment System Design	\$60,000		\$60,000					
8F	SUE Services		\$13,409	\$13,409					
Total	Total Estimated Fee - Additional Services								

AECOM requests authorization for the Basic and Additional Services of Task 8 for a total amount of **\$1,357,239**. Compensation for the Basic Services is to be on a lump sum basis and Additional Services is to be on time and material with a cap. We appreciate your consideration of the proposal and look forward to the opportunity to work on this project. Should you have any questions or require additional information, please do not hesitate to contact me at (281) 675-7668.

Sincerely,

Vinoth Manoharan, PE Project Manager R. Jeff Masek, PE, CCM Associate Vice President

Romald & Massh

Attachments: Exhibit A - Level of Effort



	s that <b>Task Order 8</b> is accepted in accordance with our Master Design reement dated May 10, 2021.
Signature	_
Jack Whitlow	
Printed Name	_
Mayor	
Printed Title	
Date	_

# City of Port Lavaca - Lynns Bayou Wastewater Treatment Plant Expansion Summary of Fees

# Task Order 8 - Basic Services

Task	Description	AECOM	Subconsultants	Total				
A8	Final Design	\$1,126,116		\$1,126,116				
8B	TPDES Permit Amendment	\$63,500		\$63,500				
8C	Bid Phase	\$24,214		\$24,214				
Total I	Total Estimated Fee - Basic Services							

# Task Order 8 - Additional Services

Task	Description	AECOM	Subconsultants	Total
8D	Environmental Information Document	\$70,000		\$70,000
8E	Final Design: CU and Zn Treatment System Design	\$60,000		\$60,000
8F	SUE Services		\$13,409	\$13,409
Total I	Estimated Fee - Additional Services			\$143,409

Proposal Date: November 7, 2024

-	Billing Rates		i i		Sr. Process		Structural Eng	Electrical	I&C	Project	Graduate	Sr. Designer/	Electrical			
Number	2 mmg rates	Principal	Project Manager	QA/QC	Engineer	Estimator	/Architect	Engineer	Engineer	Engineer	Engineer	Drafter	Designer	Drafter	Admin	TOTALS
Į		\$370	\$227	\$275	\$256	\$198	\$276	\$266	\$224	\$136	\$118	\$195	\$156	\$123	\$97	
Task	LABOR			•					1	i						
l E	TASK DESCRIPTION								ĺ							TASK FEE
	K 1 - Project Management															
1.1	Project Management and Administration (10 months)	2	16	0	0	0	0	0	0	5	0	0	0	0	16	\$6,607
	1.1.1 Project Setup and Administration	2	16	0	0	0	0	0	0	5	0	0	0	0	16	\$6,607
	a Project Setup and Update	1	6												6	\$2,315
	b Oversight and Budget Tracking	1	10							5					10	\$4,293
1.2	Meetings	2	60	0	30	0	20	28	20	60	26	0	4	0	0	\$51,373
	1.2.2 Project Coordination	2	50	0	20	0	20	28	20	50	26	0	4	0	0	\$45,175
	a Biweekly Internal Progress Meetings	2	30		20		20	20	20	30	20					\$34,447
	b Coordination - TWDB		12							12	6					\$5,070
	c American Electric Power(AEP) Coordination		8					8		8			4			\$5,659
	1.2.2 Project Status Meetings	0	10	0	10	0	0	0	0	10	0	0	0	0	0	\$6,198
	a Project Status Meetings (10)		10		10					10						\$6,198
1.3	Project Management Deliverables	3	14	0	0	0	0	0	0	16	0	0	0	0	10	\$7,440
	1.3.1 Project Plan and Schedule	2	4	0	0	0	0	0	0	6	0	0	0	0	0	\$2,466
	a Project Plan and Safety Plan	1	2							3						\$1,233
	b Design and Preliminary Construction Schedule	1	2							3						\$1,233
	1.3.2 Monthly Invoices and Status Reports	1	10	0	0	0	0	0	0	10	0	0	0	0	10	\$4,974
	a Monthly Invoices & Status Reports (10 months)	1	10							10					10	\$4,974
	1 , , ,															
	K 2 - Final Design															
	Final Design Drawings and Project Manual	23	267	0	526	0	440	390	327	796	780	688	509	416	24	\$969,775
	Final Design Drawings and Project Manual 2.1.1 Final Design Drawings	19	233	0	440	0	400	390 304	327 241	696	652	688	509 509	416	24 0	\$854,284
	Final Design Drawings and Project Manual 2.1.1 Final Design Drawings a 100-yr & 500-yr Flood Plain Review and Mitigation		233 2	-	<b>440</b> 2	-				<b>696</b> 12	652 16	<b>688</b> 16		<b>416</b> 8		\$854,284 \$11,170
	Final Design Drawings and Project Manual 2.1.1 Final Design Drawings a 100-yr & 500-yr Flood Plain Review and Mitigation b Hydraulic Profile	19	233 2 6	-	2 16	-	400			696 12 36	652 16 24	688 16 24		416 8 8		\$854,284 \$11,170 \$19,234
	Final Design Drawings and Project Manual 2.1.1 Final Design Drawings a 100-yr & 500-yr Flood Plain Review and Mitigation b Hydraulic Profile c Site Layout	19	233 2 6 8	-	2 16 12	-	400			696 12 36 16	652 16 24 16	688 16 24 40		416 8 8 16		\$854,284 \$11,170 \$19,234 \$19,094
	Final Design Drawings and Project Manual 2.1.1 Final Design Drawings a 100-yr & 500-yr Flood Plain Review and Mitigation b Hydraulic Profile c Site Layout d Site Drainage and Grading	19	233 2 6	-	2 16 12 4	-	400			696 12 36 16 16	652 16 24 16 16	688 16 24 40 32		416 8 8 16 16		\$854,284 \$11,170 \$19,234 \$19,094 \$14,207
	Final Design Drawings and Project Manual 2.1.1 Final Design Drawings a 100-yr & 500-yr Flood Plain Review and Mitigation b Hydraulic Profile c Site Layout d Site Drainage and Grading e Stormwater Pollution Prevention Plan	19	233 2 6 8 4	-	2 16 12 4 2	-	400	304	241	696 12 36 16 16 4	652 16 24 16 16 8	688 16 24 40 32 8		416 8 8 16 16 8		\$854,284 \$11,170 \$19,234 \$19,094 \$14,207 \$4,774
	Final Design Drawings and Project Manual 2.1.1 Final Design Drawings a 100-yr & 500-yr Flood Plain Review and Mitigation b Hydraulic Profile c Site Layout d Site Drainage and Grading e Stormwater Pollution Prevention Plan f Construction Phasing and Sequencing	19	233 2 6 8 4 1 8	-	2 16 12 4 2 16	-	8	304	241	696 12 36 16 16 4	652 16 24 16 16 8 16	688 16 24 40 32 8	509	416 8 8 16 16 8 8		\$854,284 \$11,170 \$19,234 \$19,094 \$14,207 \$4,774 \$15,232
	Final Design Drawings and Project Manual 2.1.1 Final Design Drawings a 100-yr & 500-yr Flood Plain Review and Mitigation b Hydraulic Profile c Site Layout d Site Drainage and Grading e Stormwater Pollution Prevention Plan f Construction Phasing and Sequencing g Headworks and Grit Basin	19	233 2 6 8 4 1 8 12	-	440 2 16 12 4 2 16 24	-	<b>400</b> 8	304 4 12	241 4 16	696 12 36 16 16 4 16 32	652 16 24 16 16 8 16 32	688 16 24 40 32 8 8 36	24	8 8 16 16 8 8 24		\$854,284 \$11,170 \$19,234 \$19,094 \$14,207 \$4,774 \$15,232 \$42,282
	Final Design Drawings and Project Manual 2.1.1 Final Design Drawings a 100-yr & 500-yr Flood Plain Review and Mitigation b Hydraulic Profile c Site Layout d Site Drainage and Grading e Stornmwater Pollution Prevention Plan f Construction Phasing and Sequencing g Headworks and Grit Basin h Flow Splitter	19 1 1 1 1 2 1	233 2 6 8 4 1 8 12 6	-	440 2 16 12 4 2 16 24 10	-	16 12	304 4 12 4	241 4 16 2	696 12 36 16 16 4 16 32 24	652 16 24 16 16 8 16 32 24	688 16 24 40 32 8 8 8 40	24 10	416 8 8 16 16 8 8 24 24		\$854,284 \$11,170 \$19,234 \$19,094 \$14,207 \$4,774 \$15,232 \$42,282 \$27,158
	Final Design Drawings and Project Manual 2.1.1 Final Design Drawings a 100-yr & 500-yr Flood Plain Review and Mitigation b Hydraulic Profile c Site Layout d Site Drainage and Grading e Stornawater Pollution Prevention Plan f Construction Phasing and Sequencing g Headworks and Grit Basin h Flow Splitter i Anoxic Basins	19 1 1 1 1 2 1	233 2 6 8 4 1 8 12 6 16	-	440 2 16 12 4 2 16 24 10 32	-	16 12 32	4 12 4 16	4 16 2 16	696 12 36 16 16 4 16 32 24 48	652 16 24 16 16 8 16 32 24 40	688 16 24 40 32 8 8 8 36 40 40	24 10 30	416 8 8 16 16 8 8 24 24 24		\$854,284 \$11,170 \$19,234 \$19,094 \$14,207 \$4,774 \$15,232 \$42,282 \$27,158 \$55,927
	Final Design Drawings and Project Manual 2.1.1 Final Design Drawings a 100-yr & 500-yr Flood Plain Review and Mitigation b Hydraulic Profile c Site Layout d Site Drainage and Grading e Stormwater Pollution Prevention Plan f Construction Phasing and Sequencing g Headworks and Grit Basin h Flow Splitter i Anoxic Basins j Acration Basins	19 1 1 1 1 2 1	233 2 6 8 4 1 8 12 6 16	-	440 2 16 12 4 2 16 2 16 2 10 32 32	-	16 12 32 32	4 12 4 16 16	241 4 16 2 16 16	696 12 36 16 16 4 16 32 24 48	652 16 24 16 16 8 16 32 24 40 40	688 16 24 40 32 8 8 8 36 40 40 40	24 10 30 30	416 8 8 16 16 8 8 24 24 24 24		\$854,284 \$11,170 \$19,234 \$19,094 \$14,207 \$4,774 \$15,232 \$42,282 \$27,158 \$55,927 \$55,927
	Final Design Drawings and Project Manual 2.1.1 Final Design Drawings a 100-yr & 500-yr Flood Plain Review and Mitigation b Hydraulic Profile c Site Layout d Site Drainage and Grading e Stornawater Pollution Prevention Plan f Construction Phasing and Sequencing g Headworks and Grit Basin h Flow Splitter i Anoxic Basins j Acration Basins k Aeration Blower/Electical Building	19 1 1 1 1 2 1	233 2 6 8 4 1 8 12 6 16 16	-	440 2 16 12 4 2 16 24 10 32 32 32	-	16 12 32 32 36	4 12 4 16 16 40	241 4 16 2 16 16 32	696 12 36 16 16 4 16 32 24 48	652 16 24 16 16 8 16 32 24 40	688 16 24 40 32 8 8 36 40 40 40 40	24 10 30 30 40	416 8 8 16 16 8 8 24 24 24 24 24		\$854,284 \$11,170 \$19,234 \$19,094 \$14,207 \$4,774 \$15,232 \$42,282 \$27,158 \$55,927 \$55,927 \$67,816
	Final Design Drawings and Project Manual 2.1.1 Final Design Drawings a 100-yr & 500-yr Flood Plain Review and Mitigation b Hydraulic Profile c Site Layout d Site Drainage and Grading e Stornawater Pollution Prevention Plan f Construction Phasing and Sequencing g Headworks and Grit Basin h Flow Splitter i Anoxic Basins j Aeration Basins k Aeration Blower/Electical Building l Expansion of Existing Blower Facility	19 1 1 1 1 2 1	233 2 6 8 4 1 8 12 6 16	-	440 2 16 12 4 2 16 2 16 2 10 32 32	-	16 12 32 32	4 12 4 16 16	241 4 16 2 16 16	696 12 36 16 16 4 16 32 24 48 48	652 16 24 16 16 8 16 32 24 40 40	688 16 24 40 32 8 8 8 36 40 40 40	24 10 30 30	416 8 8 16 16 8 8 24 24 24 24		\$854,284 \$11,170 \$19,234 \$19,094 \$14,207 \$4,774 \$15,232 \$42,282 \$27,158 \$55,927 \$55,927 \$67,816 \$55,210
	Final Design Drawings and Project Manual 2.1.1 Final Design Drawings a 100-yr & 500-yr Flood Plain Review and Mitigation b Hydraulic Profile c Site Layout d Site Drainage and Grading e Stornawater Pollution Prevention Plan f Construction Phasing and Sequencing g Headworks and Grit Basin h Flow Splitter i Anoxic Basins j Acration Basins k Aeration Blower/Electical Building	19 1 1 1 1 2 1	233 2 6 8 4 1 8 12 6 16 16 16 12	-	440 2 16 12 4 2 16 24 10 32 32 32 20	-	16 12 32 32 36 32	4 12 4 16 16 40 36	241 4 16 2 16 16 32 15	696 12 36 16 16 4 16 32 24 48 48 48	652 16 24 16 16 8 16 32 24 40 40 40	688 16 24 40 32 8 8 36 40 40 40 40 24	24 10 30 30 40 50	416 8 8 8 16 16 8 8 24 24 24 24 24 24		\$854,284 \$11,170 \$19,234 \$19,094 \$14,207 \$4,774 \$15,232 \$42,282 \$27,158 \$55,927 \$55,927 \$67,816
	Final Design Drawings and Project Manual 2.1.1 Final Design Drawings a 100-yr & 500-yr Flood Plain Review and Mitigation b Hydraulic Profile c Site Layout d Site Drainage and Grading e Stormwater Pollution Prevention Plan f Construction Phasing and Sequencing g Headworks and Grit Basin h Flow Splitter i Anoxic Basins j Aeration Blower/Electical Building l Expansion of Existing Blower Facility m Clarifier Flow Splitter	19 1 1 1 1 2 1	233 2 6 8 4 1 8 12 6 16 16 16 12 8	-	440 2 16 12 4 2 16 24 10 32 32 32 32 20 12	-	16 12 32 32 36 32 16	4 12 4 16 16 40 36 8	241 4 16 2 16 16 32 15 4	696 12 36 16 16 4 16 22 48 48 48 48 48	652 16 24 16 16 8 16 32 24 40 40 40 40 24	688 16 24 40 32 8 8 8 36 40 40 40 40 40 40 40 40 40 40	24 10 30 30 40 50	416 8 8 8 16 16 8 8 24 24 24 24 24 24 24		\$854,284 \$11,170 \$19,234 \$19,094 \$14,207 \$4,774 \$15,232 \$42,282 \$27,158 \$55,927 \$67,816 \$55,920 \$26,639
	Final Design Drawings and Project Manual 2.1.1 Final Design Drawings a 100-yr & 500-yr Flood Plain Review and Mitigation b Hydraulic Profile c Site Layout d Site Drainage and Grading e Stornawater Pollution Prevention Plan f Construction Phasing and Sequencing g Headworks and Grit Basin h Flow Splitter i Anoxic Basins j Acration Basins k Aeration Blower/Electical Building Expansion of Existing Blower Facility m Clarifier Flow Splitter o Clarifiers	19 1 1 1 1 2 1	233 2 6 8 4 1 1 8 12 6 16 16 16 12 8	-	440 2 16 12 4 2 16 24 10 32 32 32 20 12 36	-	16 12 32 32 36 32 36 32	4 12 4 16 16 40 36 8	4 16 2 16 16 32 15 4	696 12 36 16 16 4 16 32 48 48 48 49 40 40	652 16 24 16 16 16 8 16 32 24 40 40 40 40 40 40 40	688 16 24 40 32 8 8 8 36 40 40 40 40 24 40	24 10 30 30 40 50 10 40	416 8 8 8 16 16 16 8 8 24 24 24 24 24 24 24 24 24		\$854,284 \$11,170 \$19,234 \$19,094 \$14,207 \$4,774 \$15,232 \$42,282 \$27,158 \$55,927 \$67,816 \$55,210 \$26,639 \$56,193
	Final Design Drawings and Project Manual 2.1.1 Final Design Drawings a 100-yr & 500-yr Flood Plain Review and Mitigation b Hydraulic Profile c Site Layout d Site Drainage and Grading e Stornwater Pollution Prevention Plan f Construction Phasing and Sequencing g Headworks and Grit Basin h Flow Splitter i Anoxic Basins j Acration Basins k Acration Blower/Electical Building l Expansion of Existing Blower Facility m Clarifier Flow Splitter n Clarifiers o RAS/WAS Pump Station p Gravity Thickeners q Scum Pump Station	19 1 1 1 1 2 1 2 2 2 2	233 2 6 8 4 1 1 8 12 6 16 16 16 12 8 16 11 12 18 18 19 10 10 10 10 10 10 10 10 10 10	-	440 2 16 12 4 2 16 24 10 32 32 32 32 20 12 36 24 24 24 24 24 24 24 25 26 27 27 28 28 29 20 20 20 20 20 20 20 20 20 20	-	16 12 32 32 36 32 16 20 20	4 12 4 16 16 16 40 36 8 12 16 16 16	4 16 2 16 32 15 4 12	696 12 36 16 16 16 4 16 32 24 48 48 40 36 36 16	652 16 24 16 16 8 16 32 24 40 40 40 40 40 36 36 36 36	688 16 24 40 32 8 8 8 8 40 40 40 40 40 24 40 24 24 24 26 40 40 40 40 40 40 40 40 40 40	24 10 30 30 40 50 10 40 30 30 30 30 30 30 30 30 30 30 30 30 30	416 8 8 16 16 8 8 24 24 24 24 24 24 24 24 24 24		\$854,284 \$11,170 \$19,234 \$19,094 \$14,207 \$4,774 \$15,232 \$42,282 \$27,158 \$55,927 \$67,816 \$55,210 \$26,639 \$56,193 \$44,066 \$29,873
	Final Design Drawings and Project Manual 2.1.1 Final Design Drawings a 100-yr & 500-yr Flood Plain Review and Mitigation b Hydraulic Profile c Site Layout d Site Drainage and Grading e Stornmwater Pollution Prevention Plan f Construction Phasing and Sequencing g Headworks and Grit Basin h Flow Splitter i Anoxic Basins j Aeration Basins j Aeration Basins k Aeration Blower/Electical Building l Expansion of Existing Blower Facility m Clarifier Flow Splitter c Clarifier Sou Splitter o RAS/WAS Pump Station p Gravity Thickeners q Scum Pump Station r UV Disinfection System Expansion	19 1 1 1 1 2 1 2 2 2 2	233 2 6 8 4 1 1 8 12 6 16 16 16 12 8 16 12 8 11 12 13 14 15 16 16 16 17 18 18 18 18 18 18 18 18 18 18	-	440 2 16 12 4 2 16 24 10 32 32 32 32 20 12 36 24 12 36	-	16 12 32 32 36 32 16 20 20 12	4 12 4 16 16 40 36 8 12 16 16 16 24	4 16 16 16 32 15 4 12 16 16 16	696 12 36 16 16 16 4 16 32 24 48 48 40 24 40 36 36 36 40	652 16 24 16 16 8 8 16 32 24 40 40 40 40 40 40 36 36 36 40	688 16 24 40 32 8 8 8 40 40 40 40 24 24 24 24 40 40 40 40 40 40 40 40 40 4	24 10 30 30 40 50 10 40 30 30 30 24	416 8 8 16 16 8 8 24 24 24 24 24 24 24 24 24 24		\$854,284 \$11,170 \$19,234 \$19,094 \$14,207 \$4,774 \$15,232 \$42,282 \$27,718 \$55,927 \$55,927 \$55,927 \$55,921 \$26,639 \$26,639 \$44,066 \$44,066 \$29,873 \$54,850
	Final Design Drawings and Project Manual 2.1.1 Final Design Drawings a 100-yr & 500-yr Flood Plain Review and Mitigation b Hydraulic Profile c Site Layout d Site Drainage and Grading e Stormwater Pollution Prevention Plan f Construction Phasing and Sequencing g Headworks and Grit Basin h Flow Splitter i Anoxic Basins j Aeration Basins k Aeration Blower/Electical Building I Expansion of Existing Blower Facility m Clarifier Flow Splitter n Clarifiers o RAS/WAS Pump Station g Gravity Thickeners q Scum Pump Station r UV Disinfection System Expansion s Parshall Flume	19 1 1 1 1 2 1 2 2 2 2	233 2 6 8 4 1 1 8 12 6 16 16 16 16 12 8 16 12 8 12 6	-	440 2 16 12 4 2 16 24 10 32 32 32 32 20 12 36 24 12 36 16 17 18 18 19 19 19 19 19 19 19 19 19 19	-	32 32 36 32 36 36 20 20 21 22 24	4 12 4 16 16 40 36 8 12 16 16 16 16 40 40 40 40 40 40 40 40 40 40 40 40 40	241 4 16 2 16 16 32 15 4 12 16 16 16 16 16 16 16 16 16 16	696 12 36 16 16 16 4 16 32 24 48 48 48 40 24 40 36 36 16 40	652 16 24 16 16 8 8 16 32 24 40 40 40 40 24 40 36 36 36 36 36	688 16 24 40 32 8 8 8 8 40 40 40 40 40 40 24 40 24 40 24	24 10 30 30 40 10 40 40 30 30 30 40 40 40 40 40 40 40 40 40 40 40 40 40	416 8 8 8 16 16 8 8 24 24 24 24 24 24 24 16 24 24 26 27 28 29 20 20 20 20 20 20 20 20 20 20		\$854,284 \$11,170 \$19,234 \$19,094 \$14,207 \$4,774 \$15,232 \$42,282 \$27,158 \$55,927 \$67,816 \$26,639 \$56,193 \$44,066 \$44,066 \$29,873 \$54,850 \$23,195
	Final Design Drawings and Project Manual 2.1.1 Final Design Drawings a 100-yr & 500-yr Flood Plain Review and Mitigation b Hydraulic Profile c Site Layout d Site Drainage and Grading e Stormwater Pollution Prevention Plan f Construction Phasing and Sequencing g Headworks and Grit Basin h Flow Splitter i Anoxic Basins j Acration Basins k Acration Basins k Acration Blower/Electical Building l Expansion of Existing Blower Facility m Clarifier Flow Splitter n Clarifiers o RAS/WAS Pump Station p Gravity Thickeners q Scum Pump Station r UV Disinfection System Expansion s Parshall Flume t Engineered Sludge Beds with Roof Structure	19 1 1 1 1 2 1 2 2 2 2	233 2 6 8 4 1 1 8 12 6 16 16 16 12 8 16 12 18 16 16 16 17 18 18 19 10 10 10 10 10 10 10 10 10 10	-	440 2 16 12 4 2 16 24 10 32 32 32 32 20 12 36 24 21 12 16 10 10 10 10 10 10 10 10 10 10	-	16 12 32 32 36 36 20 20 20 21 24 12	4 12 4 16 16 40 36 8 12 16 16 16 16 24 4 8	241 4 16 2 16 16 32 15 4 12 16 16 16 16 8	696 12 36 16 16 16 4 16 32 24 48 48 40 24 40 36 36 36 36	652 16 24 16 16 8 16 32 24 40 40 40 40 40 36 36 36 36 36 36 36 36 36 36	688 16 24 40 32 8 8 8 8 40 40 40 40 24 24 24 24 24 24 24 24 24 24	24 10 30 30 40 50 10 30 30 30 40 40 40 40 40 40 40 40 40 40 40 40 40	416 8 8 8 16 16 16 8 8 24 24 24 24 24 24 24 24 24 24		\$854,284 \$11,170 \$19,234 \$19,094 \$14,207 \$4,774 \$15,232 \$42,282 \$27,158 \$55,927 \$55,927 \$55,927 \$44,066 \$44,066 \$29,873 \$54,850 \$34,850 \$34,850 \$34,850 \$34,850
	Final Design Drawings and Project Manual 2.1.1 Final Design Drawings a 100-yr & 500-yr Flood Plain Review and Mitigation b Hydraulic Profile c Site Layout d Site Drainage and Grading e Stornmater Pollution Prevention Plan f Construction Phasing and Sequencing g Headworks and Grit Basin h Flow Splitter i Anoxic Basins j Aeration Basins k Aeration Blower/Electical Building l Expansion of Existing Blower Facility m Clarifier Flow Splitter o RAS/WAS Pump Station p Gravity Thickeners q Scum Pump Station r UV Disinfection System Expansion s Parshall Flume t Engineered Sludge Beds with Roof Structure u Sludge Bed - Chemical Feed System	19 1 1 1 1 2 1 2 2 2 2	233 2 6 8 4 1 1 8 12 6 16 16 12 8 16 12 8 16 12 8 16 16 16 16 12 8 8 16 16 16 16 17 18 18 18 18 18 18 18 18 18 18	-	440 2 16 12 4 2 16 24 10 32 32 32 20 12 36 24 12 16 16 16 10 10 10 10 10 10 10 10 10 10	-	16 12 32 32 36 32 16 20 20 12 24 12 16	4 12 4 16 16 40 36 8 12 16 16 16 24 4 4 8	4 16 16 16 32 15 4 12 16 16 16 16 16 16 16	696 12 36 16 16 16 4 16 32 24 48 48 40 24 40 16 36 36 16 16 36 16 16	652 16 24 16 16 8 8 16 32 24 40 40 40 40 40 40 40 40 16 16 16 16 16 16 16 16 16 16	688 16 24 40 32 8 8 8 8 40 40 40 40 24 24 24 40 24 24 36 40 32 36 40 40 40 40 40 40 40 40 40 40	24 10 30 30 40 50 10 40 30 30 30 30 40 40 40 40 40 40 40 40 40 40 40 40 40	416 8 8 8 16 16 18 8 8 24 24 24 24 24 24 24 24 24 24		\$854,284 \$11,170 \$19,234 \$19,094 \$14,207 \$42,782 \$42,282 \$55,927 \$55,927 \$55,927 \$26,639 \$44,066 \$44,066 \$29,873 \$54,850 \$23,195 \$34,850 \$33,195 \$33,689
	Final Design Drawings and Project Manual 2.1.1 Final Design Drawings a 100-yr & 500-yr Flood Plain Review and Mitigation b Hydraulic Profile c Site Layout d Site Drainage and Grading e Stormwater Pollution Prevention Plan f Construction Phasing and Sequencing g Headworks and Grit Basin h Flow Splitter i Anoxic Basins j Aeration Basins k Aeration Blower/Electical Building l Expansion of Existing Blower Facility m Clarifier Flow Splitter n Clarifiers o RAS/WAS Pump Station g Gravity Thickeners q Scum Pump Station r UV Disinfection System Expansion s Parshall Flume t Engineered Sludge Beds with Roof Structure u Sludge Bed - Chemical Feed System y Rehabilitation/Modifications to Exisiting WWTP	19 1 1 1 1 2 1 2 2 2 2	233 2 6 8 4 1 1 8 12 6 16 16 16 12 8 16 12 8 16 12 8 16 16 17 18 18 18 19 10 10 10 10 10 10 10 10 10 10	-	440 2 16 12 4 2 16 24 10 32 32 32 32 32 32 20 12 36 24 12 16 16 10 10 10 10 10 10 10 10 10 10	-	32 32 36 32 36 36 20 20 12 24 12 16 16	4 12 4 16 16 40 36 8 12 16 16 16 16 24 4 4 8 12 20	241 4 16 2 16 16 32 15 4 12 16 16 16 16 16 16 16 16 16 16	696 12 36 16 16 16 4 16 32 24 48 48 49 24 40 24 40 16 36 16 40 40 40 40 40 40 40 40 40 40 40 40 40	652 16 24 16 16 8 16 32 24 40 40 40 40 24 40 36 36 16 36 16 40 40 40 40 40 40 40 40 40 40	688 16 24 40 32 8 8 8 8 40 40 40 40 40 24 40 24 24 24 24 24 24 24 40 40 40 40 40 40 40 40 40 4	24 10 30 30 40 50 10 40 30 30 30 40 40 40 40 40 40 40 40 40 40 40 40 40	416 8 8 8 16 16 8 8 24 24 24 24 24 24 24 24 26 26 27 28 29 20 20 21 22 24 24 24 24 24 24 24 24 24		\$854,284 \$11,170 \$19,234 \$19,094 \$14,207 \$4,774 \$15,232 \$42,282 \$7,158 \$55,927 \$67,816 \$26,639 \$56,193 \$44,066 \$29,873 \$54,385 \$33,486 \$33,486 \$33,486 \$33,868 \$55,791
	Final Design Drawings and Project Manual 2.1.1 Final Design Drawings a 100-yr & 500-yr Flood Plain Review and Mitigation b Hydraulic Profile c Site Layout d Site Drainage and Grading e Stornwater Pollution Prevention Plan f Construction Phasing and Sequencing g Headworks and Grit Basin h Flow Splitter i Anoxic Basins j Acration Basins k Acration Basins c Acration Blower/Electical Building l Expansion of Existing Blower Facility m Clarifier Flow Splitter n Clarifiers o RAS/WAS Pump Station p Gravity Thickeners q Scum Pump Station r UV Disinfection System Expansion s Parshall Flume t Engineered Sludge Beds with Roof Structure u Sludge Bed - Chemical Feed System v Rehabilitation/Modifications to Existing WWTP w Administrative/Lab Building	19 1 1 1 1 2 1 2 2 2 2 1 1 1 1 1 1 1 1 1	233 2 6 8 4 1 1 8 12 6 16 16 16 12 8 16 12 8 16 12 8 16 16 12 8 16 16 16 16 16 17 18 18 19 19 19 19 19 19 19 19 19 19	0	440 2 16 12 4 2 16 24 10 32 32 32 20 12 36 24 24 21 21 21 21 21 21 32 32 32 32 32 32 32 32 32 36 37 38 38 38 38 38 38 38 38 38 38		16 12 32 32 36 36 20 20 21 24 11 16 16 16 24 36	4 12 4 16 16 40 36 8 12 16 16 16 24 4 8 12 36 8 12 16 16 16 16 16 16 16 16 16 16 16 16 16	4 16 2 16 16 16 16 16 16 16 16 16 16 16 16 16	696 12 36 16 16 16 4 16 32 24 48 48 40 24 40 36 36 16 40 16 40 40 40 48	652 16 24 16 18 8 16 32 24 40 40 40 40 24 40 36 36 16 40 40 40 40 40 40 40 40 40 40	688 16 24 40 32 8 8 8 8 40 40 40 40 24 24 24 40 24 24 24 24 40 24 40 24 40 40 40 40 40 40 40 40 40 40 40 40 40	24 10 30 30 40 50 10 30 30 30 24 16 24 55	416 8 8 8 16 16 16 8 8 24 24 24 24 24 24 24 24 24 24	0	\$854,284 \$11,170 \$19,234 \$19,094 \$14,207 \$47,774 \$15,232 \$42,282 \$55,927 \$55,927 \$55,927 \$56,6193 \$44,066 \$44,066 \$29,873 \$54,850 \$23,195 \$334,850 \$334,850 \$334,850 \$334,850 \$334,850 \$334,850 \$334,850 \$334,850 \$334,850 \$334,850 \$357,913 \$346,690
	Final Design Drawings and Project Manual 2.1.1 Final Design Drawings a 100-yr & 500-yr Flood Plain Review and Mitigation b Hydraulic Profile c Site Layout d Site Drainage and Grading e Stornmater Pollution Prevention Plan f Construction Phasing and Sequencing g Headworks and Grit Basin h Flow Splitter i Anoxic Basins j Acration Basins j Acration Basins j Acration Bower/Electical Building 1 Expansion of Existing Blower Facility m Clarifier Flow Splitter o RAS/WAS Pump Station p Gravity Thickeners q Scum Pump Station r UV Disinfection System Expansion s Parshall Flume t Engineered Sludge Beds with Roof Structure u Sludge Bed - Chemical Feed System y Rehabilitation/Modifications to Existing WWTP w Administrative/Lab Building 2.1.2 Technical Specifications	19 1 1 1 1 2 2 2 2 1 1 1 1 1 1 1 1 1 1 1 1 1	233 2 6 8 4 1 1 8 12 6 16 16 16 12 8 16 12 8 16 6 12 8 16 16 12 8 16 16 12 8 16 16 12 8 16 16 12 8 16 16 12 8 16 16 12 8 16 16 12 8 16 16 12 8 16 16 12 8 16 16 12 8 16 16 12 8 16 16 12 8 16 16 12 8 16 16 12 8 16 16 12 8 16 16 12 8 16 16 12 8 16 16 12 8 16 16 12 8 16 16 12 8 16 16 12 8 16 16 12 8 16 16 12 8 16 16 12 8	-	440 2 16 12 4 2 16 24 10 32 32 32 20 12 36 24 12 36 12 16 16 30 20 86	-	16 12 32 32 36 32 16 20 20 12 24 12 16 16 24 36 36 36 30 20 20 20 40 40 40 40 40 40 40 40 40 40 40 40 40	304 4 12 4 16 16 40 36 8 12 16 16 16 24 4 4 8 16 16 20 36 8 8	241 4 16 16 16 32 15 4 12 16 16 16 16 16 16 16 16 16 16	696 12 36 16 16 16 4 16 32 24 48 48 40 24 40 16 36 36 16 16 40 16 36 16 40 17 40 40 40 40 40 40 40 40 40 40 40 40 40	652 16 24 16 16 8 8 16 32 24 40 40 40 40 40 40 40 40 16 16 16 16 16 16 16 16 16 16	688 16 24 40 32 8 8 8 8 40 40 40 40 40 24 40 24 24 24 24 24 24 24 40 40 40 40 40 40 40 40 40 4	24 10 30 30 40 50 10 40 30 30 30 40 40 40 40 40 40 40 40 40 40 40 40 40	416 8 8 8 16 16 8 8 24 24 24 24 24 24 24 24 26 26 27 28 29 20 20 21 22 24 24 24 24 24 24 24 24 24	24	\$854,284 \$11,170 \$19,234 \$19,094 \$14,207 \$42,774 \$15,232 \$42,282 \$55,927 \$55,927 \$55,927 \$26,639 \$44,066 \$44,066 \$29,873 \$34,863 \$33,3689 \$57,913 \$60,905 \$115,491
	Final Design Drawings and Project Manual 2.1.1 Final Design Drawings a 100-yr & 500-yr Flood Plain Review and Mitigation b Hydraulic Profile c Site Layout d Site Drainage and Grading e Stormwater Pollution Prevention Plan f Construction Phasing and Sequencing g Headworks and Grit Basin h Flow Splitter i Anoxic Basins j Aeration Basins k Aeration Blower/Electical Building l Expansion of Existing Blower Facility m Clarifiers o RAS/WAS Pump Station p Gravity Thickeners q Scum Pump Station r UV Disinfection System Expansion s Parshall Flume t Engineered Sludge Beds with Roof Structure u Sludge Bed - Chemical Feed System y Rehabilitation/Modifications to Existing WWTP w Administrative/Lab Building 2.1.2 Techncial Specifications a Techncial Specifications a Techncial Specifications a Techncial Specifications	19 1 1 1 1 2 1 2 2 2 2 1 1 1 1 1 1 1 1 1	233 2 6 8 4 1 1 8 12 6 16 16 16 12 8 16 12 12 8 16 16 12 12 8 16 16 12 12 8 16 16 12 12 8 16 16 12 12 8 16 16 12 8 16 16 12 8 16 16 12 8 16 16 12 8 16 16 12 8 16 16 12 8 16 16 12 8 16 16 12 8 16 16 12 8 16 16 12 8 16 16 12 8 16 16 12 8 16 16 12 8 16 16 12 8 16 16 12 8 16 16 12 8 16 16 12 8 16 16 12 8 16 16 12 8 16 16 12 8 8 16 16 12 8 8 16 16 12 8 8 16 16 12 8 8 16 16 12 8 8 16 16 12 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	0	440 2 16 12 4 4 2 16 24 10 32 32 32 32 32 4 24 12 36 12 16 30 20 86 80		16 12 32 32 36 36 20 20 21 24 11 16 16 16 24 36	304 4 12 4 16 16 40 36 8 12 16 16 16 16 24 4 4 8 16 16 16 16 16 16 16 16 16 16	241  4 16 2 16 16 32 15 4 12 16 16 16 16 18 8 16 86 80	696 12 36 16 16 16 4 16 32 24 48 48 49 24 40 24 40 16 36 36 16 40 80	652 16 24 16 16 8 16 32 24 40 40 40 24 40 36 16 36 16 40 40 16 40 40 40 40 40 40 40 40 40 40	688 16 24 40 32 8 8 8 8 40 40 40 40 24 24 24 40 24 24 24 24 40 24 40 24 40 40 40 40 40 40 40 40 40 40 40 40 40	24 10 30 30 40 50 10 30 30 30 24 16 24 55	416 8 8 8 16 16 16 8 8 24 24 24 24 24 24 24 24 24 24	24	\$854,284 \$11,170 \$19,234 \$19,094 \$14,207 \$4,774 \$15,232 \$42,282 \$27,158 \$55,927 \$55,927 \$56,193 \$56,193 \$44,066 \$29,873 \$34,863 \$33,689 \$57,913 \$60,905 \$15,919 \$10,000 \$15,919 \$10,000 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,919 \$15,91
	Final Design Drawings and Project Manual 2.1.1 Final Design Drawings a 100-yr & 500-yr Flood Plain Review and Mitigation b Hydraulic Profile c Site Layout d Site Drainage and Grading e Stornmater Pollution Prevention Plan f Construction Phasing and Sequencing g Headworks and Grit Basin h Flow Splitter i Anoxic Basins j Acration Basins j Acration Basins j Acration Bower/Electical Building 1 Expansion of Existing Blower Facility m Clarifier Flow Splitter o RAS/WAS Pump Station p Gravity Thickeners q Scum Pump Station r UV Disinfection System Expansion s Parshall Flume t Engineered Sludge Beds with Roof Structure u Sludge Bed - Chemical Feed System y Rehabilitation/Modifications to Existing WWTP w Administrative/Lab Building 2.1.2 Technical Specifications	19 1 1 1 1 2 2 2 2 1 1 1 1 1 1 1 1 1 1 1 1 1	233 2 6 8 4 1 1 8 12 6 16 16 16 12 8 16 12 8 16 6 12 8 16 16 12 8 16 16 12 8 16 16 12 8 16 16 12 8 16 16 12 8 16 16 12 8 16 16 12 8 16 16 12 8 16 16 12 8 16 16 12 8 16 16 12 8 16 16 12 8 16 16 12 8 16 16 12 8 16 16 12 8 16 16 12 8 16 16 12 8 16 16 12 8 16 16 12 8 16 16 12 8 16 16 12 8 16 16 12 8 16 16 12 8 16 16 12 8	0	440 2 16 12 4 2 16 24 10 32 32 32 20 12 36 24 12 36 12 16 16 30 20 86		16 12 32 32 36 32 16 20 20 12 24 12 16 16 24 36 36 36 30 20 20 20 40 40 40 40 40 40 40 40 40 40 40 40 40	304 4 12 4 16 16 40 36 8 12 16 16 16 24 4 4 8 16 16 20 36 8 8	241 4 16 16 16 32 15 4 12 16 16 16 16 16 16 16 16 16 16	696 12 36 16 16 16 4 16 32 24 48 48 40 24 40 16 36 36 16 16 40 16 36 16 40 17 40 40 40 40 40 40 40 40 40 40 40 40 40	652 16 24 16 16 8 8 16 32 24 40 40 40 40 40 40 40 40 16 16 16 16 16 16 16 16 16 16	688 16 24 40 32 8 8 8 8 40 40 40 40 24 24 24 40 24 24 24 24 40 24 40 24 40 40 40 40 40 40 40 40 40 40 40 40 40	24 10 30 30 40 50 10 30 30 30 24 16 24 55	416 8 8 8 16 16 16 8 8 24 24 24 24 24 24 24 24 24 24	24	\$854,284 \$11,170 \$19,234 \$19,094 \$14,207 \$42,774 \$15,232 \$42,282 \$55,927 \$55,927 \$55,927 \$26,639 \$44,066 \$44,066 \$29,873 \$34,863 \$33,3689 \$57,913 \$60,905 \$115,491

Billing Rates	Principal	Project Manager	QA/QC	Sr. Process Engineer	Estimator	Structural Eng /Architect	Electrical Engineer	I&C Engineer	Project Engineer	Graduate Engineer	Sr. Designer/ Drafter	Electrical Designer	Drafter	Admin	TOTAL
	\$370	\$227	\$275	\$256	\$198	\$276	\$266	\$224	\$136	\$118	\$195	\$156	\$123	\$97	
LABOR TASK DESCRIPTION															TASK F
TASK DESCRIPTION		1		1		1		<u> </u> 							IASK F
TCEQ Submittal	1	18	2	16	0	0	0	0	24	32	0	0	0	16	\$17
a Engineering Report	1	12	2	12					16	24	Ü	- U		8	\$12
b TCEQ Submittal		6		4					8	8				8	\$5
Opinion of Probable Construction Cost & Schedule	2	8	6	0	60	4	4	4	12	12	0	0	0	0	\$22
a Estiamted Construction Cost Estimate	2	8	6		60	4	4	4	12	12					\$22
·															
Deliverables	3	12	56	0	0	0	0	0	24	24	48	0	48	4	\$41
a Prepare 60% Design Package b Prepare 90% Design Package	1	4	20						8	8	16 16		16 16	1	\$1- \$1-
	1	4	16						8	8	16		16	2	\$1 \$1
													10		
c Prepare Bid Ready Package	1	+ 4	10						- Ŭ					_	1
c   Prepare Bid Ready Package	36	395	64	572	60	464	422	351	937	874	736	513	464	70	
TOTAL HOURS AECOM BASIC SERVICES LABOR EXPENSE TOTALS			64			464 \$127,975			937						\$1,11
TOTAL HOURS AECOM BASIC SERVICES LABOR EXPENSE TOTALS  NON-LABOR Copies, Prints & Couriers		395	64						937					\$6,790	\$1,116
TOTAL HOURS AECOM BASIC SERVICES LABOR EXPENSE TOTALS NON-LABOR		395	64						937					\$6,790	\$1,116
TOTAL HOURS AECOM BASIC SERVICES LABOR EXPENSE TOTALS  NON-LABOR Copies, Prints & Couriers		395	64						937					\$6,790	\$1,116
NON-LABOR  Copies, Prints & Couriers  Travel (Ground Transport, Parking, Meals, etc)		395	64						937					\$6,790	\$1,116 \$1,111 \$1,111 \$2 \$8
NON-LABOR Copies, Prints & Couriers Travel (Ground Transport, Parking, Meals,etc)  AECOM BASIC SERVICES NON-LABOR EXPENSE TOTAL		395	64						937					\$6,790	\$1,116 \$1,111 \$1,11 \$2 \$8 \$10
NON-LABOR Copies, Prints & Couriers Travel (Ground Transport, Parking, Meals,etc)  AECOM BASIC SERVICES NON-LABOR EXPENSE TOTAL  AECOM BASIC SERVICES EXPENSE TOTAL  AECOM ADDITIONAL SERVICES  a Environmental Information Document		395	64						937					\$6,790	\$1,116 \$1,116 \$1,116 \$2 \$8 \$1,126
NON-LABOR  Copies, Prints & Couriers Travel (Ground Transport, Parking, Meals,etc)  AECOM BASIC SERVICES NON-LABOR EXPENSE TOTAL  AECOM BASIC SERVICES NON-LABOR EXPENSE TOTAL  AECOM ADDITIONAL SERVICES  Environmental Information Document b Design of Copper and Zinc Abatement Facilitities		395	64						937					\$6,790	\$1,116 \$1,116 \$1,116 \$2 \$8 \$10 \$1,126
NON-LABOR Copies, Prints & Couriers Travel (Ground Transport, Parking, Meals,etc)  AECOM BASIC SERVICES NON-LABOR EXPENSE TOTAL  AECOM BASIC SERVICES EXPENSE TOTAL  AECOM ADDITIONAL SERVICES  a Environmental Information Document		395	64						937					\$6,790	\$1,116 \$1,111 \$1,111 \$2,52 \$8 \$1,12
NON-LABOR Copies, Prints & Couriers Travel (Ground Transport, Parking, Meals,etc)  AECOM BASIC SERVICES NON-LABOR EXPENSE TOTAL  AECOM BASIC SERVICES NON-LABOR EXPENSE TOTAL  AECOM ADDITIONAL SERVICES  a Environmental Information Document b Design of Copper and Zinc Abatement Facilities  AECOM ADDITIONAL SERVICES LABOR EXPENSE TOTALS		395	64						937					\$6,790	\$1,116 \$1,111 \$1,111 \$2,52 \$8 \$1,12
NON-LABOR  Copies, Prints & Couriers Travel (Ground Transport, Parking, Meals,etc)  AECOM BASIC SERVICES NON-LABOR EXPENSE TOTAL  AECOM BASIC SERVICES NON-LABOR EXPENSE TOTAL  AECOM ADDITIONAL SERVICES  Environmental Information Document b Design of Copper and Zinc Abatement Facilitities		395	64	\$146,626					937   \$127,696					\$6,790	\$1,116 \$1,111 \$1,111 \$3,111 \$3,111 \$1,12 \$1,12
NON-LABOR Copies, Prints & Couriers Travel (Ground Transport, Parking, Meals,etc)  AECOM BASIC SERVICES NON-LABOR EXPENSE TOTAL  AECOM BASIC SERVICES NON-LABOR EXPENSE TOTAL  AECOM ADDITIONAL SERVICES  a Environmental Information Document b Design of Copper and Zinc Abatement Facilities  AECOM ADDITIONAL SERVICES LABOR EXPENSE TOTALS		395	64	\$146,626					937 [\$127,696					\$6,790	\$1,110 \$1,111 \$1,111 \$2 \$1,12 \$1,12 \$1,12 \$1,12
NON-LABOR Copies, Prints & Couriers Travel (Ground Transport, Parking, Meals,etc)  AECOM BASIC SERVICES NON-LABOR EXPENSE TOTAL  AECOM BASIC SERVICES NON-LABOR EXPENSE TOTAL  AECOM ADDITIONAL SERVICES  a Environmental Information Document b Design of Copper and Zinc Abatement Facilitities  AECOM ADDITIONAL SERVICES LABOR EXPENSE TOTALS		395	64	\$146,626					937   \$127,696					\$6,790	\$1,11 \$1,11 \$1,11 \$ \$ \$ \$1,12 \$ \$5,112

# AECOM Exhibit A - Level of Effort Task 8B: TPDES Permit Amendment Application

Task Number	Billing Rates	Principal	Project Manager	QA/QC	Sr. Process Engineer	Env. Specialist	Project Engineer	Graduate Engineer	Sr. Designer /Drafter	Drafter	GIS Operator	Admin	TOTALS
⊋		\$370	\$227	\$275	\$256	\$198	\$136	\$118	\$195	\$123	\$110	\$97	
ᇫ	LABOR												
<u>re</u>	TASK DESCRIPTION												TASK FEE
TASK 1	 - Project Management	1	10	0	0	0	12	16	0	0	0	1	\$6,258
	1.1 Project Setup and Administration	1	4									1	\$1,375
	1.2 Coordination		6				12	16					\$4,883
TASK 2		1	10	4	0	6	28	82	0	16	20	4	\$22,970
	2.1 Administrative Worksheets	1	6	4		6	24	70				4	\$15,934
	2.2 Exhibits and Maps		4				4	12		16	20		\$7,037
TASK 3		1	16	6	6	12	38	96	0	12	20	4	\$30,128
	2.1 Technical Worksheets	1	8	6	6	12	30	80				4	\$21,659
	2.2 Exhibits and Maps		4					16		12	20		\$6,473
	2.3 Draft Permit Review		4				8						\$1,997
	TOTAL HOURS	3	36	10	6	18	78	194	0	28	40	9	\$59,356
	AECOM BASIC SERVICES LABOR EXPEN	\$1,109.72	\$8,176.90	\$2,753	\$1,536	\$3,564	\$10,608	\$22,892	\$0	\$3,444	\$4,400	\$873	
				<del></del>	·							Check	\$59,356

Proposal Date: November 07, 2024

NON-LABOR				
Publications		\$3,400		
Copies, Prints & Couriers		\$400		
Travel (Ground Transport, Parking, Me	Travel (Ground Transport, Parking, Meals,etc)			
AECOM BASIC SERVICES NON-LABOR F	XPENSE TOTAL	\$4,144		

AECOM BASIC SERVICES EXPENSE TOTAL	\$63,500
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Billing Rates	Principal	Project Manager	QA/QC	Sr. Process	Structural Eng	Electrical	I&C	Project	Graduate	Sr. Designer/	Electrical	Drafter	Admin	TOTALS
Billing Rates  LABOR TASK DESCRIPTION	·			Engineer	/Architect	Engineer	Engineer	Engineer	Engineer	Drafter	Designer			TOTALS
LABOR	\$370	\$227	\$275	\$256	\$276	\$266	\$224	\$136	\$118	\$195	\$156	\$123	\$97	<b> </b>
TASK DESCRIPTION														TASK FEE
	ĺ													
SK 1 - Project Management														<u> </u>
1 Project Management and Administration (4 months)	2	6	0	0	0	0	0	0	0	0	0	0	8	\$2,8
1.1.1 Project Setup and Administration	2	6	0	0	0	0	0	0	0	0	0	0	8	\$2,8
a Project Setup and Update	1	4											4	\$1,60
b Oversight and Budget Tracking	1	2											4	\$1,2
2 Meetings	0	10	0	2	1	1	1	12	4	0	0	0	0	\$5,6
1.2.1 Project Meetings and Coordination	0	6	0	2	1	1	1	8	2	0	0	0	0	\$3,9
a Internal Meetings (2)		2		2	l	I	- 1	2	2					\$2,24
b TWDB Coordination		4						6						\$1,72
1.2.2 Project Status Meetings	0	4	0	0	0	0	0	4	2	0	0	0	0	\$1,69
a Project Status Meetings (2)		4						4	2					\$1,69
3 Project Management Deliverables	0	4	0	0	0	0	0	2	0	0	0	0	2	\$1,3
1.3.1 Monthly Invoices and Progress Reports	0	4	0	0	0	0	0	2	0	0	0	0	2	\$1,3
a Monthly Invoices & Progress Reports (4 months)		4						2					2	\$1,3
SK 2 - Bid Services														
1 Bid Services	1	20	7	3	0	0	0	27	8	0	0	0	10	\$13,20
a Review of Front End Contract Documents		4	4					8					2	\$3,29
b Develop Advertisement		1	1					2					2	\$90
c Prebid Conference		4	2	2				4	4				1	\$2,02
d Prepare Meeting Minutes & Addenda e Bid Opening		8	2	2				8	4				4	\$4,83 \$30
f Bid Tabulation & Recommendation	1	2		1				4					1	\$1,72
1 Did Tabulation & Recommendation	1	2		1				-					1	\$1,7
TOTAL HOURS	3	40	7	5	1	1	1	41	12	0	0	0	20	\$23,11
AECOM BASIC SERVICES LABOR EXPENSE TOTALS	\$1,109.72	\$9,085.44	\$1,927	\$1,282	\$276	\$266	\$224	\$5,588	\$1,417	\$0	\$0	\$0	\$1,940	
													Check	\$23,1
	,													
NON-LABOR		_												
Copies, Prints & Couriers												·		\$50
Travel (Ground Transport, Parking, Meals,etc)														\$60

\$24,214 \$24,214

AECOM BASIC SERVICES EXPENSE TOTAL

TOTAL BASIC SERVICES WORK PLAN