

10/8/2019

To: Mayor and City

Council members

Update on the upcoming Construction Manager At Risk award process for two wastewater treatment plants, one to decommission, one to expand/upgrade/modernize. Clay



Barry Rose WRF Expansion & Longwood WRF Decommissioning

Scope: In 2016 a Preliminary Engineering Report began to determine the specific design parameters required for the plant expansion, including volume and biological loading. This project will include a new facility adjacent to the existing facility and repurposes existing infrastructure where possible to expand the treatment capacity to 8.5 MGD average daily flow. Included in this expansion is the capacity for the routing of flows from the Longwood WRF that is planned to be decommissioned as part of this project.

Justification: The TCEQ rules require the initiation of engineering and financial planning to upgrade a water reclamation facility when the flows reach 75% of the plant capacity. The facility is currently treating approximately 59% of the capacity and the Longwood WRF is currently at approximately 80% of its treatment capacity. The current project will remove flows from the Longwood facility and shift to Barry Rose increasing loads at this plant above the 75% requirement. This is also to meet TCEQ's goal of regionalization of wastewater treatment facilities.



Project Manager: Cara Davis

Construction Manager: TBD

Designer: Stantec Consulting Services, Inc.

Contractor: TBD

Budget Info:

Funding Sources	Series	To Date	Future	Total Budget
General Revenue - Cash				-
Certificates of Obligation				-
W/S Revenue Bonds	2017C	400,000		400,000
W/S Revenue Bonds	2018B	2,990,000		2,990,000
W/S Revenue Bonds			32,395,000	32,395,000
Impact Fee - Cash		3,390,000		3,390,000
Impact Fee - Debt			32,395,000	32,395,000
Other Funding Sources - Fund Balance		513,209		513,209
Total Funding Sources		7,293,209	64,790,000	72,083,209

Expenditures	To Date	Future	Total
PER	773,209		773,209
Land			-
Design	5,112,366	1,150,000	6,262,366

Construction	56,000,000	56,000,000
Construction Management/Inspection	2,000,000	2,000,000
Construction Materials Testing	450,000	450,000
FF&E		-
Total Expenditures	5,885,575	59,600,000
Project Balance/Contingency		6,597,634

Schedule Info:

	Base Line	Current
Design Start	September-18	December-18
Bid Start	September-20	September-19
Construction Start	November-20	
Proposed Construction Completion	January-23	

Rain Days: 0

*This project will be procured through the Construction Manager at Risk (CMAR) process. The original / base line schedule was projected using the design-bid-build process.

Highlights:

- Final Design contract was approved by Council at the November 26th Council meeting. Project kickoff meeting held in late December 2018.
- February 19, 2019 City staff visited the City of Abilene Hamby Waste Water Treatment plant in Abilene to learn about the GE hollow fiber membrane bioreactor (MBR) plant technology.
- A design charrette was held on March 20, 2019 where the decision was made to move forward with the use of MBR technology. One of the driving factors for the use of MBR technology is the small foot print of the treatment system and the existing land. Additionally, the new WRF can be built while maintaining existing service with the existing WRF. Mention reuse of existing basis (my understanding is that we will repurpose (if not, ignore this comment).
- Stantec continues coordination with Freese and Nichols on the wastewater master plan to verify incoming flow projections are accurate.
- Consultant submitted the draft of the Funding technical memo which looked at the Clean Water State Revolving Fund (CWSRF) Loan Program and the Disaster Reinvestment and Infrastructure Planning Revolving Fund through Texas Water Development Board (TWDB), and the Public Works, U.S. Economic Development Administration (EDA). Their opinion is that the CWSRF through TWDB is the best fit for the main source of project funding. Stantec also reviewed grant programs offered through FEMA's Hazard Mitigation Assistance. Due to the Benefit-Cost Analysis threshold and project timing it was recommended that efforts be focused on TWDB funds. However, Stantec is working with Joel Hardy to review possible assistance available through FEMA or the GLO to subsidize funding efforts.

- Longwood Forcemain Route Study alternatives were narrowed from 7 to 4 and will be further evaluated and refined. The options eliminated had routes through residential areas and/or along FM 518 which posed ROW acquisition issues and/or crowded utility corridors.
- Meeting was held with TCEQ on May 15th to provide an introduction to the project. Preliminary USGS maps sent at their request for early evaluation of effluent volumes at the outfall.
- Public Works and Capital projects staff along with the consultants for the Barry Rose and JHEC WRF projects made a site visit to the new MBR waste water treatment plant in Trophy Club, Texas where we were able to meet with product representatives to view the Kubota MBR plate technology and the drum fine screen applications as well as ask questions about daily operations and maintenance. Based upon the review of the two different MBR technologies and their maintenance requirements and ease of use, the Kubota flat plate MBR system is planned for implementation at the Barry Rose Expansion.
- Staff has prepared the CMAR RFP which has been advertised on September 11, 2019 with submissions due October 17th.
- Submitted 30% design package which included Basis of Design Memorandums for all process areas, Design Drawings and draft Force Main Route Study. Staff is reviewing this submission.

Upcoming Work:

- CMAR advertisement and selection process
 - 1st Advertisement – September 11, 2019
 - 2nd Advertisement – September 18, 2019
- Pre-proposal conference & Site Visit – September 25, 2019
- Proposals Due – October 17, 2019
- Prospective CMAR Interviews – November 2019
- CMAR Contract Award – December 2019
- Complete 30% plan review

Previous Memos: 11.08.18

Project Map:

EXHIBIT A PROJECT LOCATION MAP



Barry Rose Water Reclamation Facility

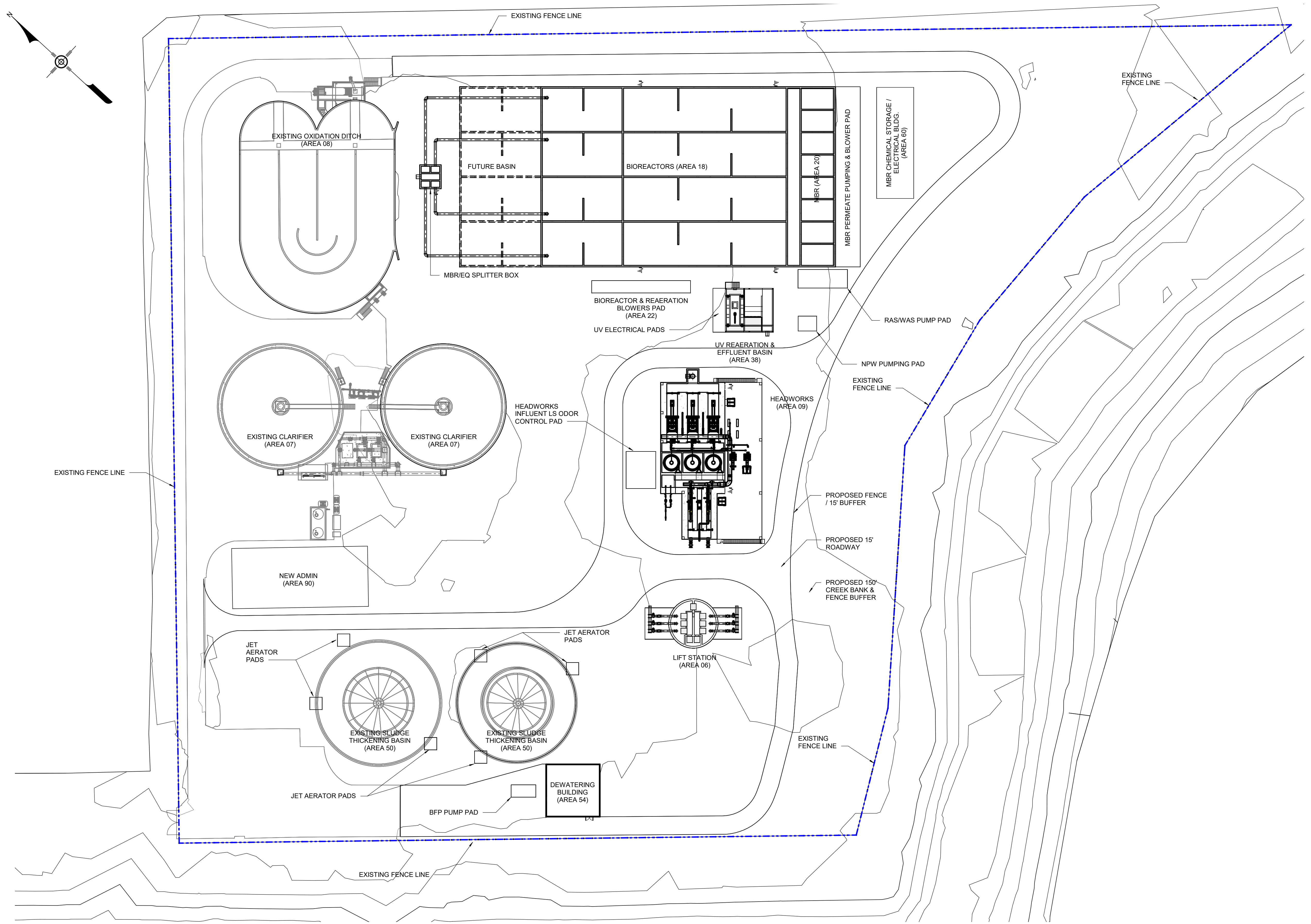
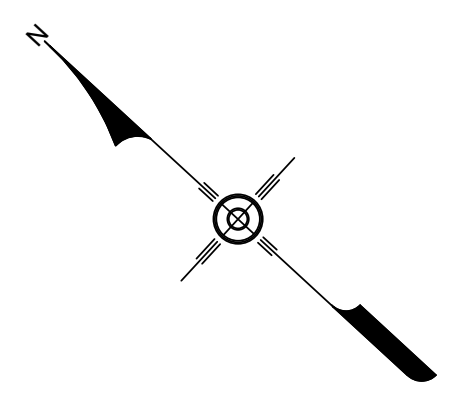


1:4,800
1 inch = 400 feet



NORTH
This product is for informational purposes only and may not be prepared or be suitable for legal, engineering, or surveying purposes.

MAP PREPARED: SEPTEMBER 15, 2014
GIS DEPARTMENT



OVERALL SITE PLAN
SCALE: 1" = 40'-0"

KEY MAP

NO.	DESCRIPTION	DATE	DWN	CHK
A	30% SUBMITTAL	08/30/2019	SH	BB

THESE DOCUMENTS ARE FOR INTERIM REVIEW AND ARE NOT INTENDED FOR CONSTRUCTION, BIDDING, OR PERMIT PURPOSES.

BRIAN BROUSSARD
TEXAS P.E. NO. 88781
DATE: 08/30/2019

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CITY OF PEARLAND, TEXAS

BARRY ROSE WRF EXPANSION

DISCIPLINE/FACILITY

OVERALL SITE PLAN

DESIGNED: _____
DRAWN: SH
CHECKED: BB
APPROVED: BB
DATE: 08/30/2019
PROJECT NO: 224701083
FILE NAME: _____

VERIFY SCALE
0 1
BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALE.
DRAWING NO:
01CS001
SHEET _____ of _____

PLOT DATE: 8/30/2019 1:10:30 PM BY: SH RVT FILE: