



PUBCAP Meeting

● ● ● Wednesday, November 15, 2023



Call Open Meeting To Order



Approval of Minutes



Old Business



New Business



BPUB Presentation

SOUTH WWTP IMPROVEMENTS

DIRECTORS & MANAGERS MEETING | OCTOBER 25, 2023

RICKY PINEDA, E.I.T.
SENIOR GRADUATE ENGINEER

Project Overview

- Project Background
- Plant Improvements
- Construction Photos
- Questions & Answers



Project Background

- **Engineer of Record:** Freese and Nichols
- **Contractor:** Garney Construction
- **Subcontractor:** DN Tanks
- **Geotechnical Lab:** Raba Kistner
- **BPUB Inspector:** David Vera
- **Construction Contract Amount:** \$5.4 M
- **Contract time:** 550 Calendar days
- **Funds:** Partially funded with proceeds obtained from the Oklaunion Power Plant decommissioning sale.



Plant Improvements

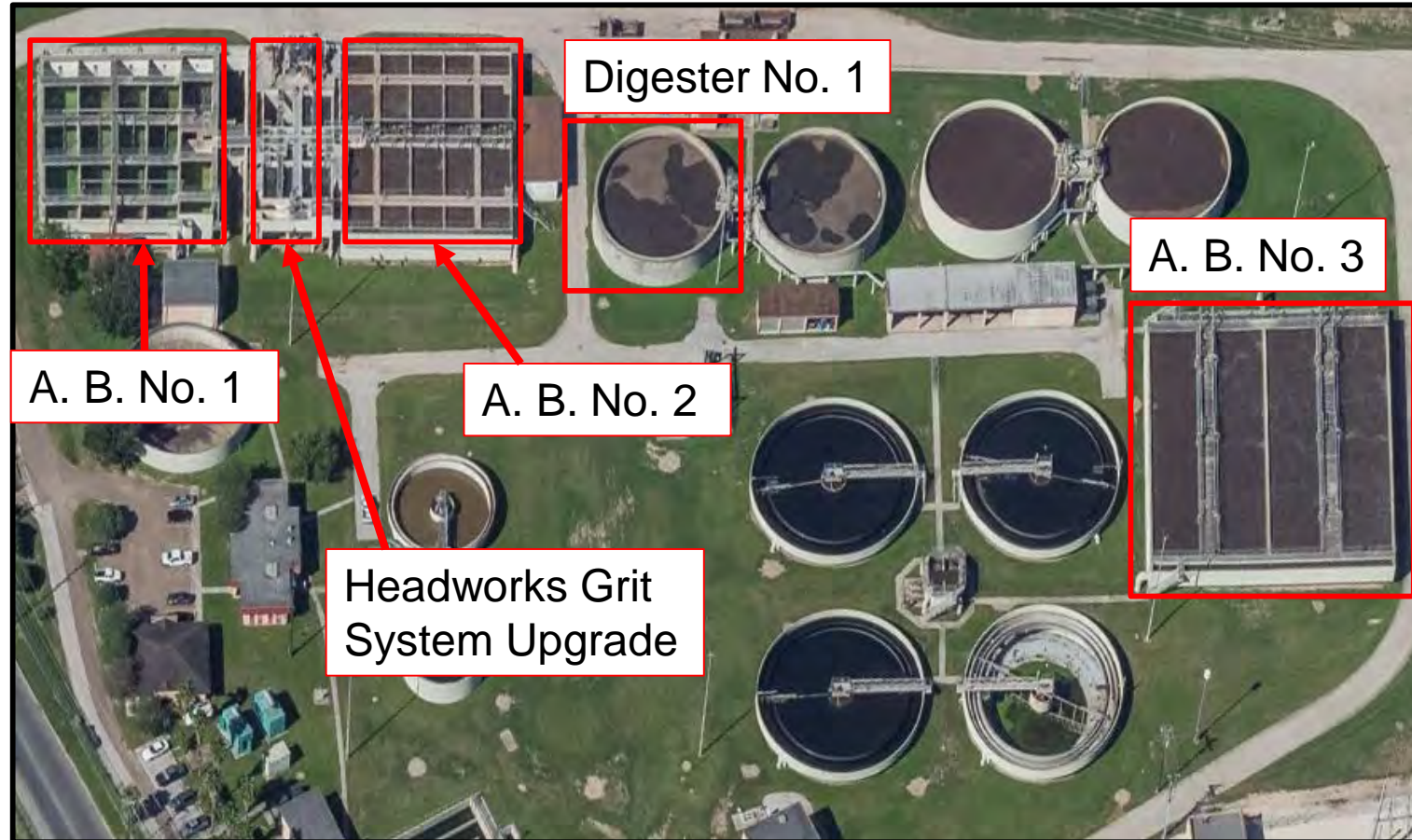
- Digester Tank Structural Analysis and Rehabilitation.
- Headworks Grit System Upgrade and Retrofit including grit removal, conveyance, and dewatering.
- Aeration Basin No.1 Mixed Liquor Influent Channel Structural Rehabilitation and coating
- Dissolved Oxygen (DO) Probes and Remote Monitoring for Aeration Basin 1, 2, & 3.
- Replacement of four (4) stainless steel 12-inch manual air control butterfly valves at Aeration Basin No. 3.



CONSTRUCTION PHOTOS & LAYOUT

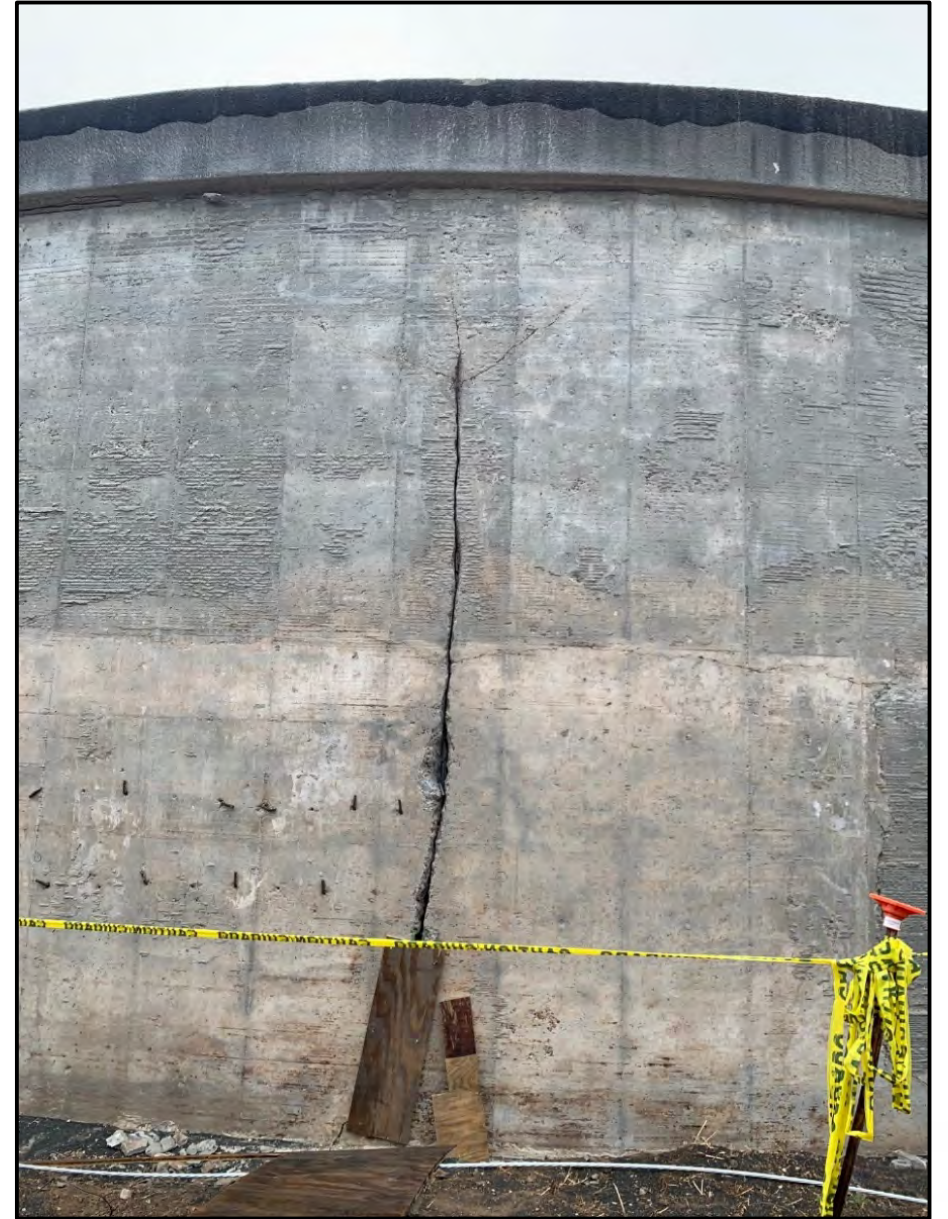


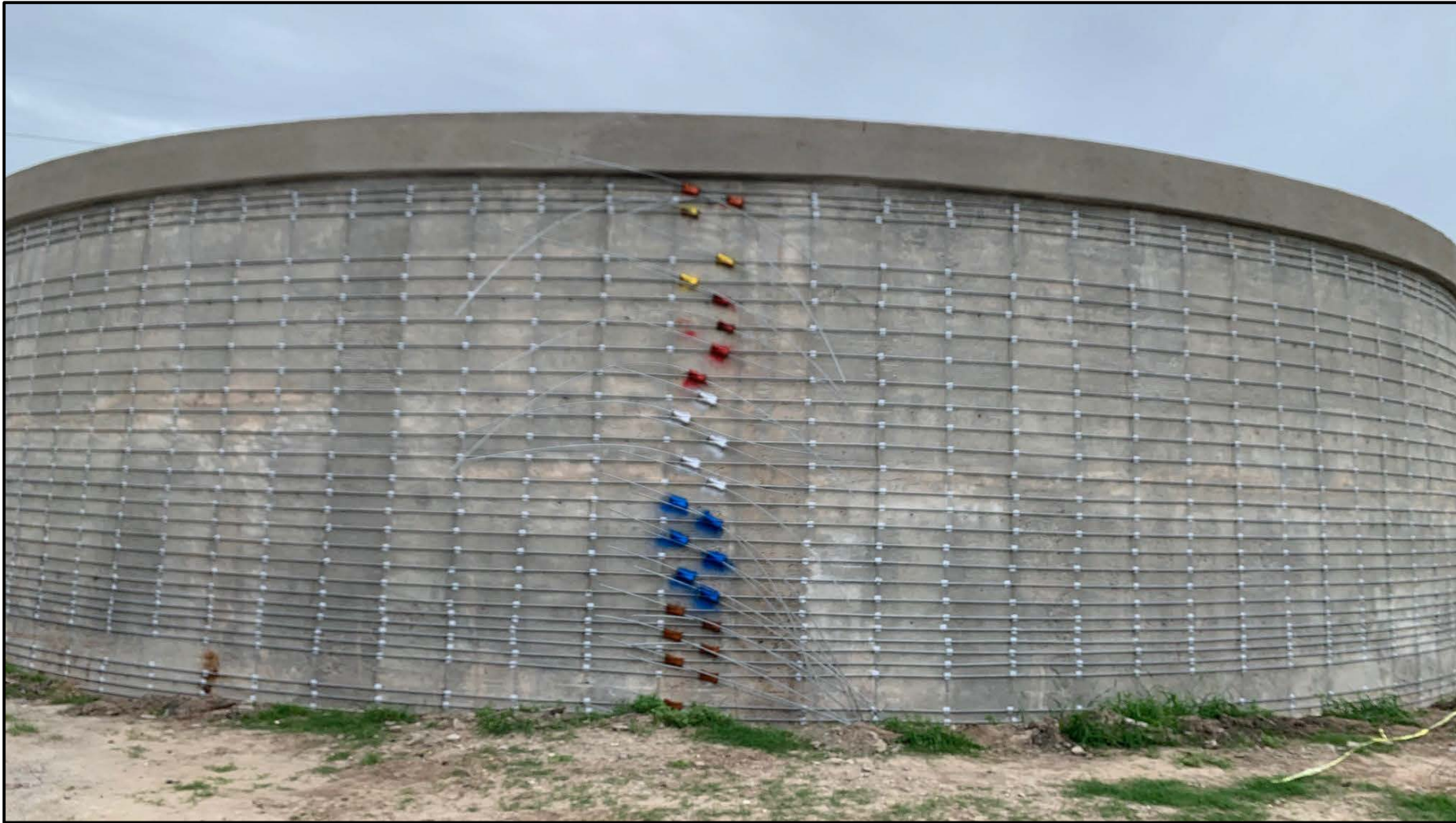
SWWTP Improvements Layout





Digester No. 1 Shotcrete and reinforcement removal





Digester No. 1 tendon reinforcement



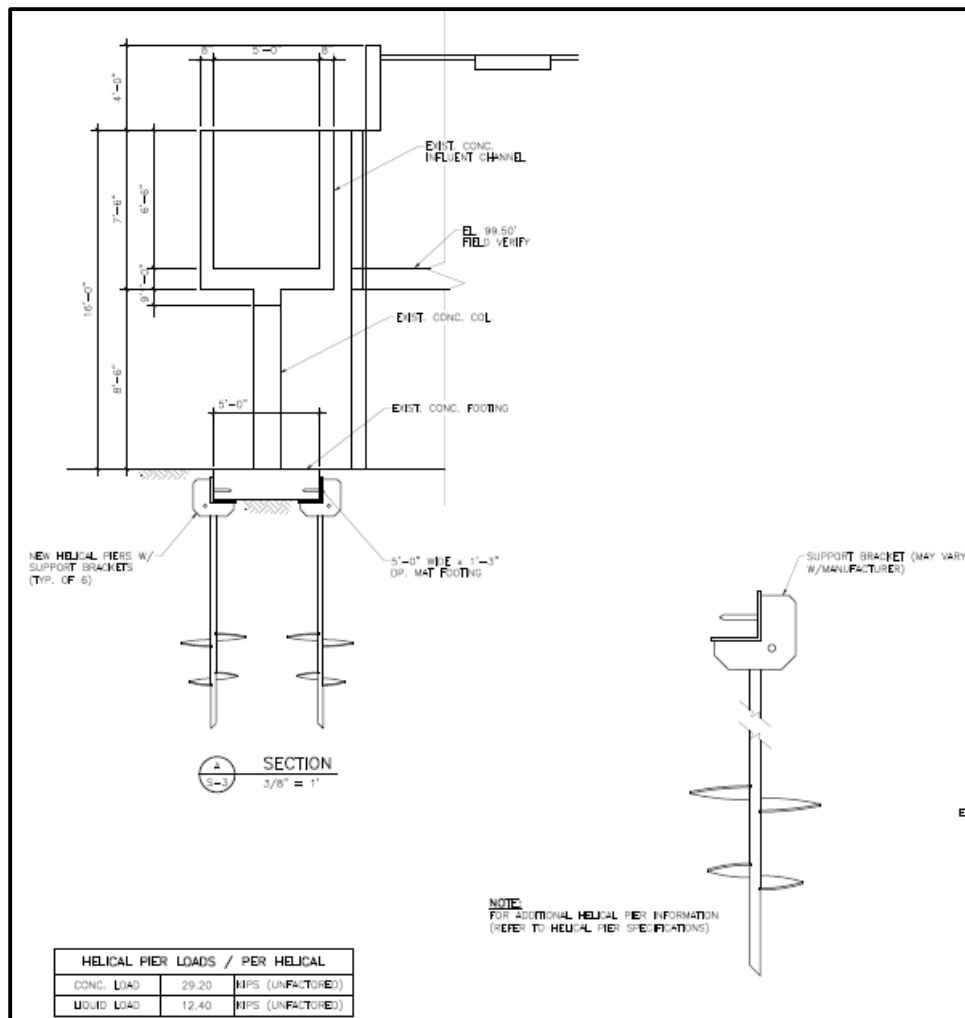
Digester No. 1 Final product



Grit Basin Coating Removal



New Grit Basin Coating and Headcell Installed



A.B. No.1 Mixed Liquor Influent Channel Repairs

Summary

- Extended the Service life of Digester No. 1 by installing additional post tensioned tendon reinforcement.
- Extended the Service life of the A. B. No. 1 Influent channel by installing Helical Pile supports to prevent differential settlement.
- Extended the Service life of the Grit Basin Chambers by coating the concrete to prevent H₂S degradation.
- Improved grit removal from incoming raw sewage.
- Provided Dissolved Oxygen Probes for Aeration Basin No. 1, 2, and 3.

ANY
QUESTIONS
?



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Southmost Elevated Storage Tank Project

P U B C A P M E E T I N G | N O V E M B E R 1 5 , 2 0 2 3

Marie C. Leal, P.E.

Director of Special Projects and Water/Wastewater Engineering – Planning

Project Overview

This presentation will highlight a water project:

- Project History
- Project Scope
- Procurement & Budget
- Construction
- Lessons Learned
- Q & A



Project History

The BPUB water distribution system includes four elevated storage tanks (ESTs):

- Southmost (EST -4) – 1 MG
- UTRGV (EST – 5) – 1MG
- Alton Gloor (EST#6) – 2 MG
- Martinal (EST#7) – 2 MG

The total storage volume of all tanks is 6 Million Gallons (MG) and the volume of EST-EI Jardin Water Supply is 1 MG, therefore providing a total storage volume of 7 MG of water.

Both EST #4 and #5 were built in 1969. As an outcome of the 2015 Master Plan recommendations and subsequent inspections of both tanks in 2016, it was decided to demolish both in order to remain compliant with TCEQ requirements and also to have safe critical structures.

- Existing Southmost EST #4 was demolished in early 2018 and we immediately began design of a new 2.0 MG elevated storage tank in the same vicinity.



[illegible]

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Brownsville Public Utilities Board - Southmost 2.0 MG Elevated Storage Tank



Procurement & Budget

- Design team consisted of: Freese Nichols; Dunham Engineering and Square E Engineering
 - Project was bid on July 21, 2021 at a cost of \$ 5,782,000.00 by Landmark Services.
 - Project Timeline: 1year – 4 months. Additional 10 months added
 - Project Change Orders:
 - CO#1 (\$28,155) – Active Mixing System
 - CO#2 (\$697,847.00) – 30th Street Waterline Construction
 - CO#3 (\$271,679) – Change from radio to fiber optic communications / landscaping and drainage requirements
 - CO#4 (\$59,396) – Utility conflicts encountered during 30th Street waterline construction
 - Total Project Cost: \$6,839,077 (18.3% over-runs)
 - Substantial completion on October 18, 2023 (Commissioning of tank pump)

Construction

- Lead Construction Managing Team: Freese Nichols
- BPUB Project Manager: Marie Leal
- BPUB Project Inspector: David Vera
- BPUB Department Teams involved: SCADA Group; Electrical T&D; W/WW Operations



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Construction

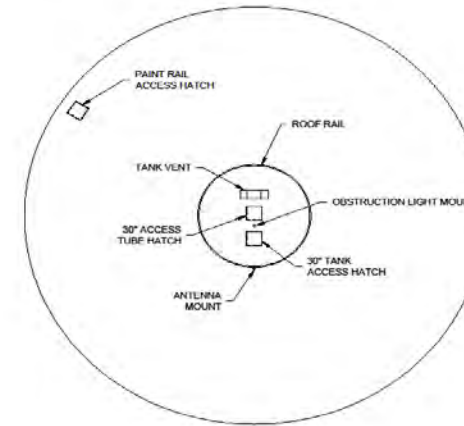
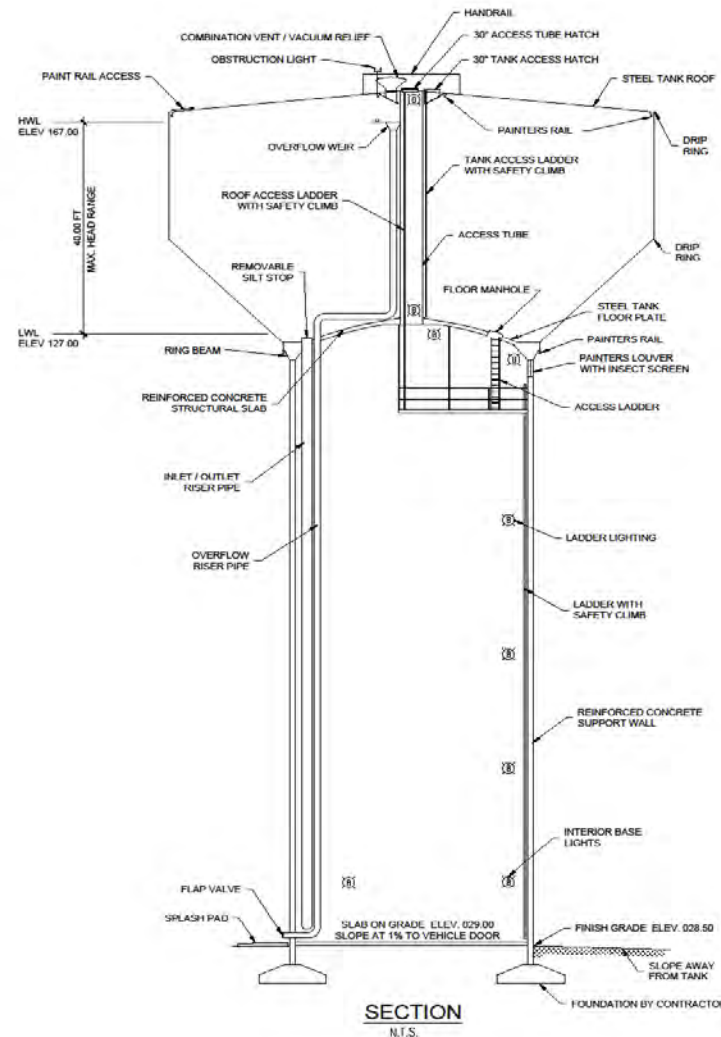
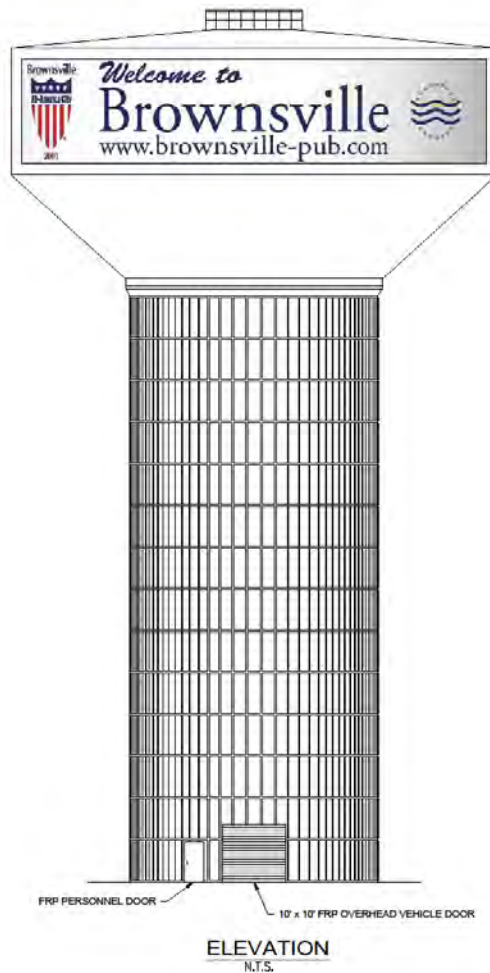
- Tank stands approx. 138.5 feet high (to high water fill mark)
- Concrete pedestal height is 98.5 feet and 46 feet in diameter
 - Top steel bowl is 95 feet in width and 40 feet tall.
This is the part that holds the 2 million gallons of potable water.
- 1015 CY of concrete
- 58 Tons of rebar
- 75 Sheets of steel for tank
- 276 Tons of steel for tank
- 1894 Hours to weld the tank (79 days)



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TANK ROOF PLAN

NOTES:

GENERAL:

1. SEE CONTRACT SPECIFICATIONS FOR DESIGN CRITERIA AND DETAILS. APPLICABLE ELEVATED TANK SPECIFICATIONS ARE AWWA D107 AND ACI 318, MOST RECENT VERSION.
2. CONCRETE PEDESTAL EXTERIOR SHALL INCORPORATE HORIZONTAL AND VERTICAL RUSTICATIONS TO CREATE A SYMMETRICAL ARCHITECTURAL PATTERN. SEE CONTRACT SPECIFICATIONS.
3. SEE CONTRACT SPECIFICATIONS FOR STEEL TANK COATING REQUIREMENTS.
4. TANK APPURTENANCES ARE ROTATED FOR CLARITY.

FOUNDATION:

1. REFER TO THE GEOTECHNICAL REPORT FOR RECOMMENDATIONS REGARDING ALLOWABLE BEARING CAPACITY.
2. DESIGN LOADS IN ACCORDANCE WITH AWWA D107 (LATEST VERSION).
3. DESIGN CONCRETE FOUNDATION IN ACCORDANCE WITH ACI 318 (LATEST VERSION).

MECHANICAL:

1. INLET / OUTLET AND OVERFLOW PIPING WITHIN THE CONCRETE PEDESTAL SHALL BE TYPE 304L STAINLESS STEEL.
2. PROVIDE HANGERS, BRACKETS, AND THRUST RESTRAINT AS REQUIRED.
3. OVERFLOW SYSTEM SHALL BE DESIGNED TO ACCOMMODATE MAXIMUM FILL RATE. SEE CONTRACT SPECIFICATION.
4. REMOVABLE SILT STOP SHALL BE 6 INCHES ABOVE PIPE ENTRANCE.

MISCELLANEOUS IRON:

1. ALL LADDERS AND LANDINGS SHALL BE GALVANIZED, ARRANGED FOR STRAIGHT RUN.
2. PROVIDE ALUMINUM SAFETY RAILS ON ALL LADDERS.
3. ROOF ACCESS TUBE AND TANK ACCESS HATCHES SHALL BE 30" SQUARE MINIMUM.
4. A REMOVABLE ALUMINUM LOUVER SHALL BE INSTALLED AT THE UPPER LANDING FOR ACCESS TO THE EXTERIOR PAINTER RAIL.

Revision Schedule

Revision Number	Revision Description	Revision Date

Southmost 2.0 MG Elevated Storage Tank

Brownsville Public Utilities Board



6102 Imperial Loop
College Station,
Texas 77845

Phone: 979-690-6555

TX FIRM NO. 22537



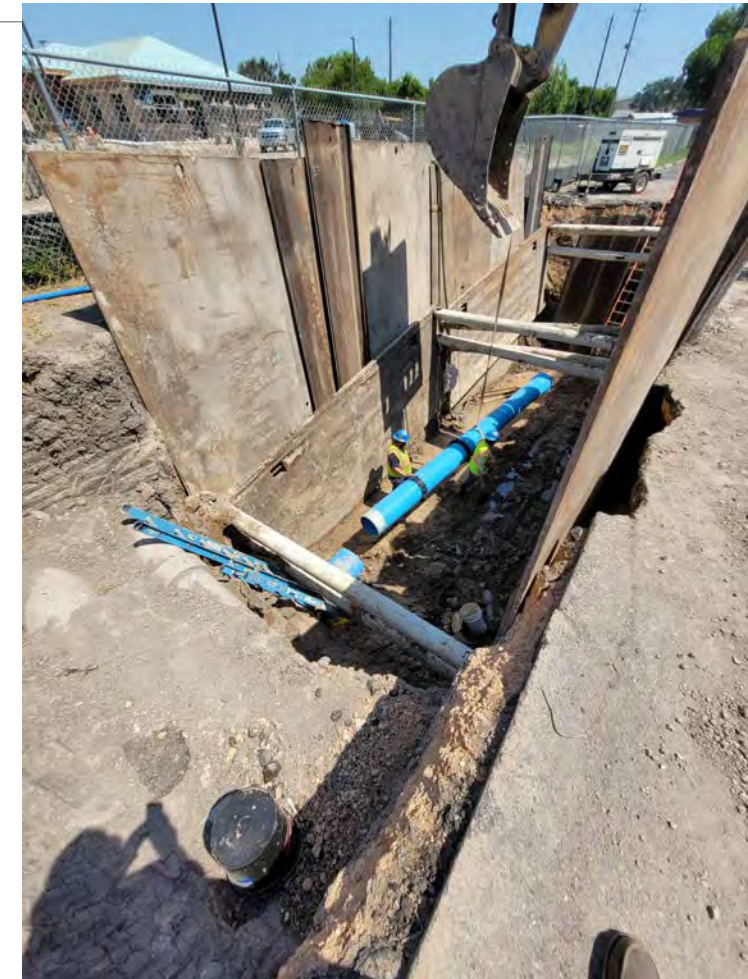
Elevation View

Drawn By:	DW
Sheet:	T - 5
Date:	April 20, 2020
Project No:	275-00003

30th Street Waterline Construction







Construction Photos





Construction Tank Pump Commissioning & Training



Lessons Learned

- ❖ 30th Street waterline could have been constructed before the tank (during the pandemic) in anticipation of schedule conflicts with BISD as our main line along Southmost Blvd. is adjacent to Cromack Elementary
- ❖ Could have originally included 30th Street waterline into EST plans
- ❖ A positive that we bid this project before the post-pandemic price hikes and delays. Six months after the project began other 2 MG tank bids were coming in at \$8M - \$10M





Outreach and Livestream

PUBCAP, NOV. 15, 2023

BPUB Outreach

BPUB participates in and hosts various programs throughout the year aimed both to connect and educate our customers.

- Education Outreach
- Community Outreach Events
- Community Tours

New Request Form

- <https://www.brownsville-pub.com/about/events-calendar/request-an-event/>

The screenshot shows the 'Request an Event' page. At the top, a blue header contains the title 'Request an Event' and a breadcrumb trail: 'Brownsville Public Utilities Board > About > Meetings & Events Calendar > Request an Event'. Below the header, a left sidebar lists navigation options: 'History', 'BPUB Board of Directors', 'PUBCAP', 'Corporate Reports', 'Service Territory', 'Meetings', and 'Meetings & Events Calendar' (which is highlighted with an orange bar). The main content area has a heading 'Want to connect with BPUB? Use the form below to request tours, community engagement sessions, career days, or informative presentations about our programs and services. View our events calendar to check our availability.' It features three sections: 'Tours' (with a note that tours are available upon request and a list of facilities: Electrical, Water/Wastewater, Resaca Restoration, and Southmost Regional Water Authority), 'Presentations', and 'Career'. Below these is a section titled 'Your Details' with input fields for 'Name' and 'Email'. A note at the bottom of the form states: 'When filling out the form, provide as many details about your request. Include the type of event, number of participants, and any special requests or accommodations and presentation topics if applicable.'

Upcoming Events

Adopt an Angel Program & Charro Days Christmas Parade

- BPUB collaborates with two local nonprofits
 - Tip of Texas Family Outreach
 - Friendship of Women Inc.
- Employees donate Christmas gifts for 150 children
- BPUB participates in the Charro Days Parade



Public Meetings Live Streams

- BPUB began recording and posting recordings of public meetings to the BPUB website and YouTube channel on June 13, 2022.
- Limitations:
 - Recordings lacked DVR-type viewing.
 - Recording were made available 24 - 48 hours after the scheduled meeting.
- Recently BPUB began streaming public meetings through YouTube.
- Key Improvements:
 - Public meetings are now being streamed in real-time.
 - Viewers now have DVR-type features to rewind the meeting from the beginning while it is being streamed.
 - Recordings are made available as soon as the meeting ends.

Questions?



Public Comments



Next Meeting Date

JAN. 17, 2024



Adjournment
