



**CITY OF HOUSTON**  
Houston Public Works

# DESIGN-BUILD SERVICES

# Northeast Water Purification Plant Expansion

**November 4, 2020**



**Houston Waterworks Team**







# Construction Progress – Intake Pump Station (IPS)

- Continue installing the 96" BFVs and platform piping
- Installing the 96" bellows on the North and South pipelines
- Continue pouring CLSM and driving sheet pile
- Fish screens delivered to the site





# Continue installing the 96" BFVs and platform piping





# Installing the 96" bellows on the North and South pipelines





# Continue pouring CLSM and driving sheet pile





# Fish screens delivered to the site







# Construction Progress – Site Electrical

- Pulling feeders 111A&B from 102 to MMH111A&B-3
- Duct Bank Installation from MMH111B-5 to MMH111B-6
- Duct Bank Installation North of Facility 111 Tie in to Manholes





# Pulling Feeders 111A&B from 102 to MMH111A&B-3





# Duct Bank Installation from MMH111B-5 to MMH111B-6






# Duct Bank Installation North of Facility 111 Tie in to Manholes







# Construction Progress – Substation Facility 102

- Continue installing the busduct
- Installing rock in the Substation Yard
- Installation of lighting fixtures, DC battery system and prelim-testing of 25kV switchgear
- Installing fencing in the Substation yard



# Continue installing the busducts



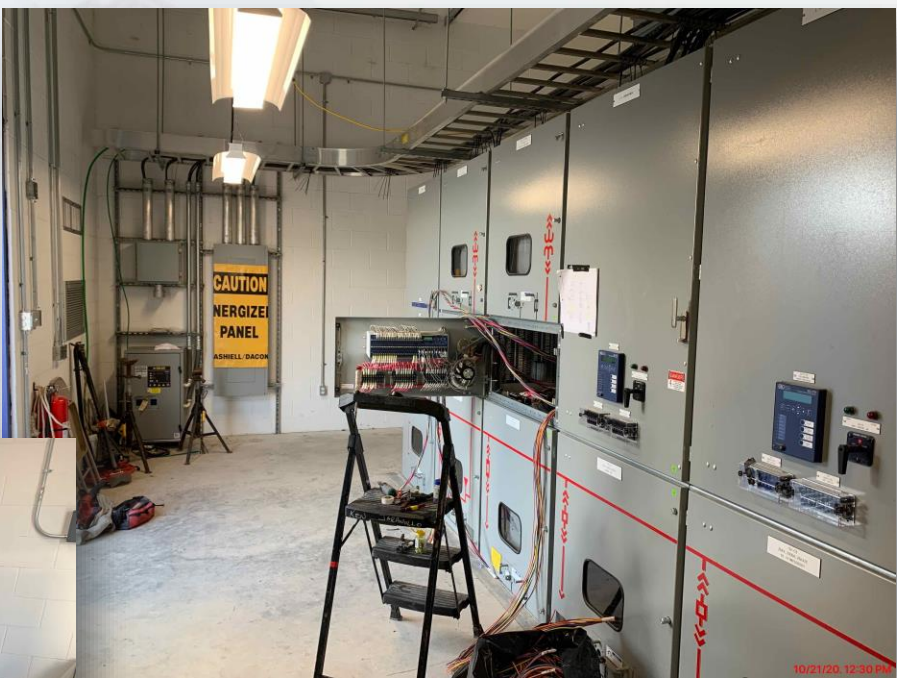


# Placing rock in the Substation yard





# Installation of lighting fixtures, DC battery system and prelim-testing of 25kV switchgear





# Installing fence around the Substation yard





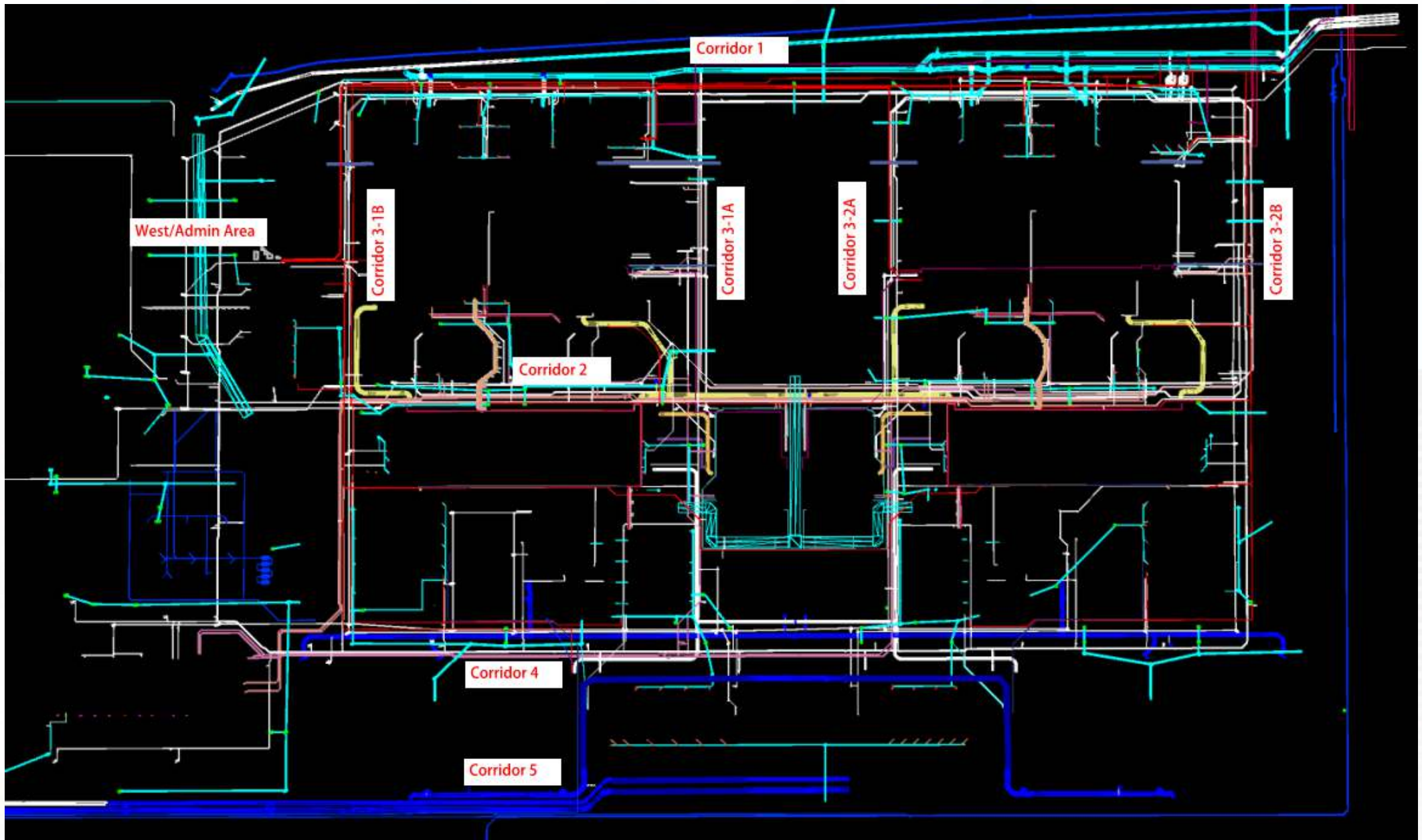


# Construction Progress – Yard Piping

- **Installing 96” OZW Steel pipe in Corridor 3-1A from Fac. 252**
- **Installing 8” SSG pipe and MH108 in Corridor 3-1A by Fac 502**
- **Installing 12” PW pipe in Corridor 3-1B**
- **Installing 2-16” TSL pipe in Corridor 3-1B**
- **Coring and installing Inserta-tee in the 24” RCP in Corridor 3-1B**
- **Installing a 72” BWW line in Corridor 3-1A**
- **Placing 8x4' Storm box culverts in Corridor 4 (by Fac 601)**
- **Set the 108” BFV on FW line in Corridor 4**
- **Laying the 84” & 120” FW distribution lines in Corridor 5**
- **Installing the 120” FW Steel pipe by GST 362 in Corridor 5**

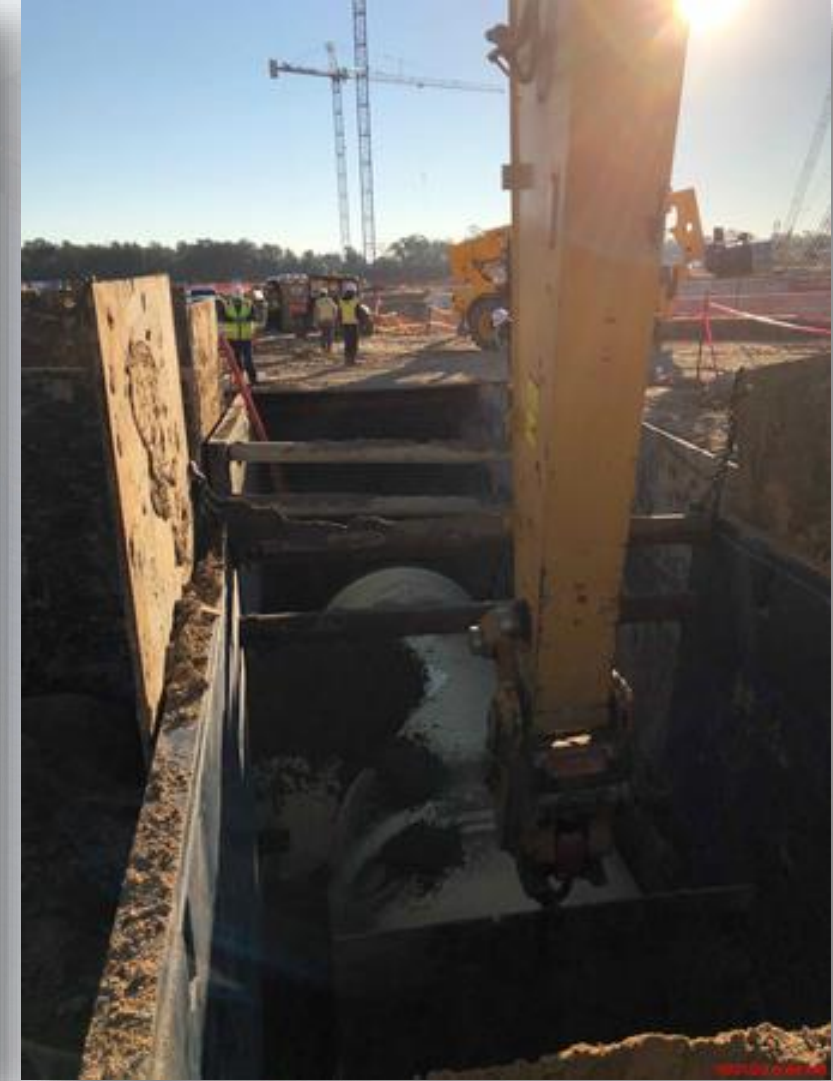








# Laying 96" OZW Steel pipe in Corridor 3-1A from Fac. 252





# Canusa wrap and placed flow fill to spring-line of 96" OZW Steel pipe





# Installing 8" SSG pipe and MH108 in Corridor 3-1A by Fac 502





# Installing 12" PW pipe in Corridor 3-1B





# Installing 2-16" TSL pipelines in Corridor 3-1B



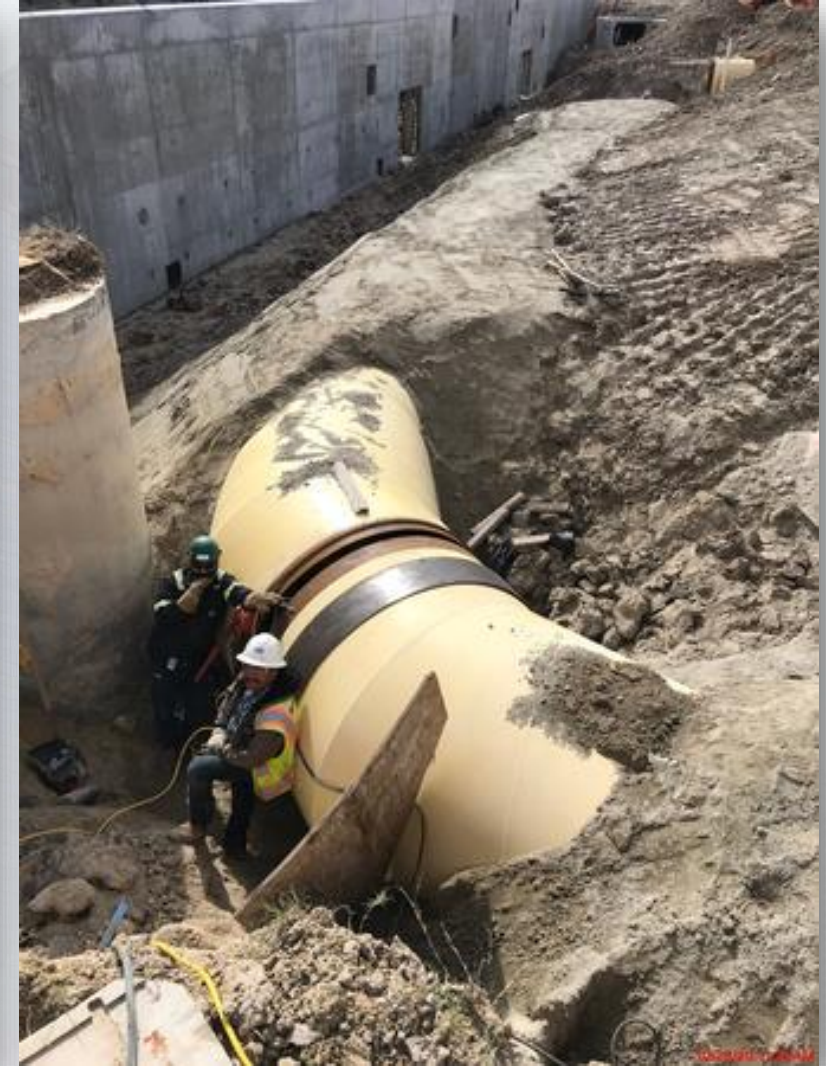


# Coring and installing Inserta-tee in the 24" Stm. RCP in Corridor 3-1B





# Installing the 72" BWW line in Corridor 3-1A



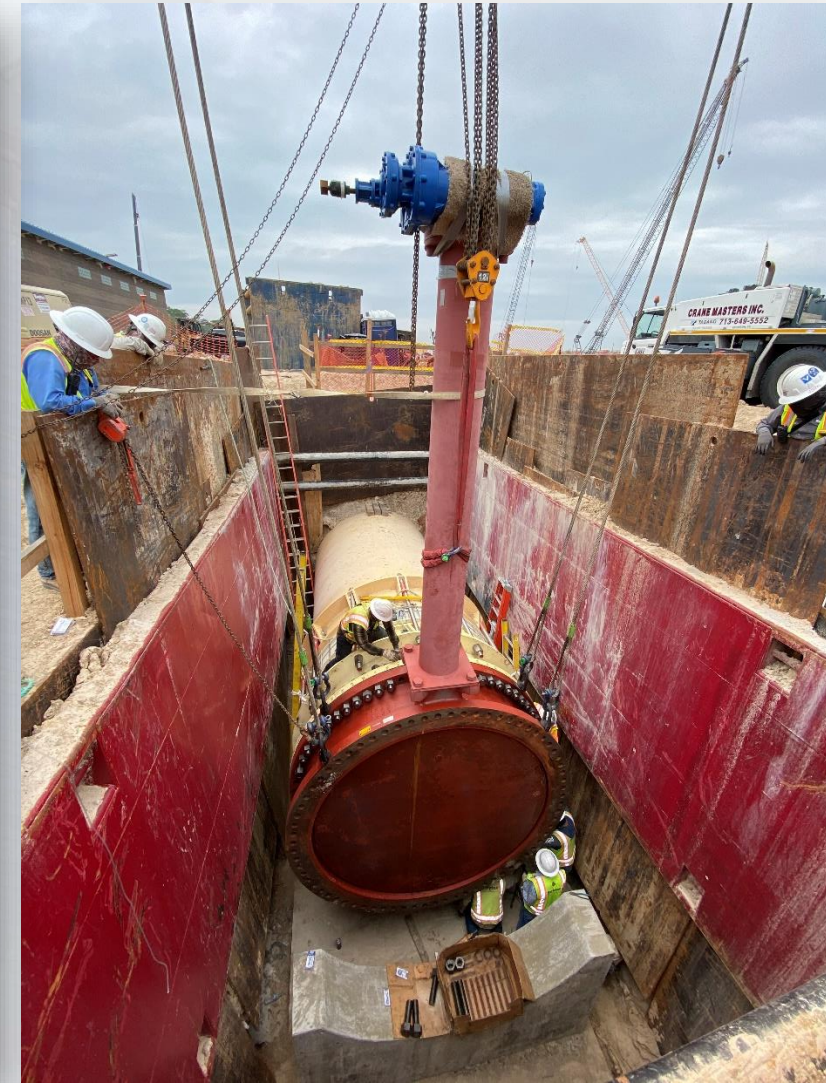


# Placing 8x4' Stm. box culverts in Corridor 4 (by Fac 601)





# Set the 108" BFV on FW line in Corridor 4





# Laying the 84" & 120" FW distribution lines in Corridor 5





# Formed and poured the 102" and 120" FW pipe supports in Corridor 5





# Installing the 120" FW Steel pipe by GST 362 in Corridor 5







# Construction Progress – Central Plant

## 281-FILTER MODULE 1 :

- Forming/Reinforcing Walls.
- Pouring Walls.
- East Side Masonry Completion.
- Start of West Side Masonry.
- Reinforcing/Pouring Walkways.
- Drilling anchors & Setting Gallery Pipe supports.

## 291-TRANSFER PUMP STATION 1:

- Watertightness Testing

## 292-TRANSFER PUMP STATION 2:

- Place Underdrain Material under Main Slab
- Pour Seal Slab
- Form up and Reinforcement of Main Slab Sections

## 311-POST CHEMICAL FACILITY 1 SH/CS :

- Backfilling and Compacting Footing and stem walls
- Fabrication of SH Tank –Carbon Steel
- Backfilling Fill Station Area
- Installation of Plumbing Lines/STM lines

## 312 – POST CHEMICAL FACILITY 2 FA/LAS/PEC/SB

- Footing, Stem Walls RFP – Building Area

## 282 -FILTER MODULE 2:

- Forming/Reinforcing Base Slabs.
- Pouring Base Slabs 9/11/13/15.
- Start Reinforcing/Pouring Walls.





# CENTRAL PLANT – Phase 1 Overall



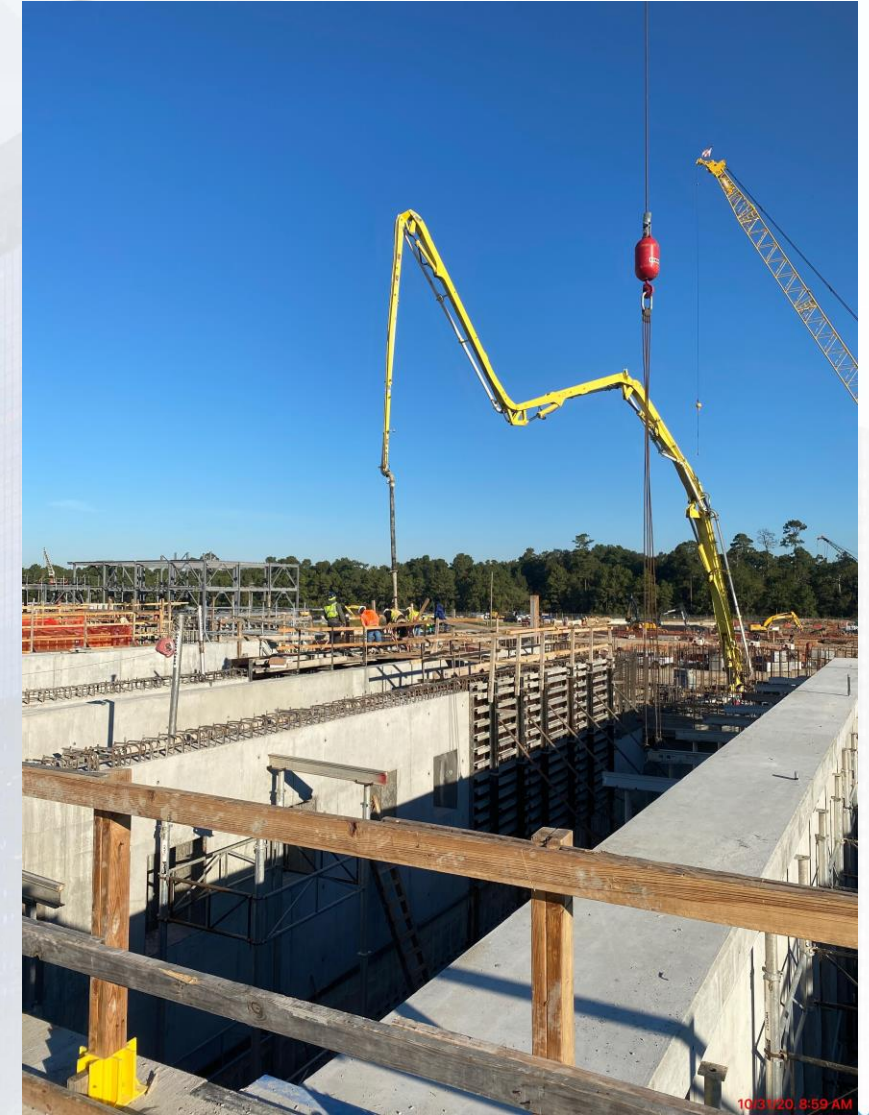


# 281-FILTER MODULE-Forming/Reinforcing West Filter Walls





# 281-FILTER MODULE-Pouring Walls





# 281-FILTER MODULE- East Side Masonry Completion





# 281-FILTER MODULE – Setting Scaffolding for West Side Masonry





# 281-FILTER MODULE- Reinforcing/Pouring Walkways





# 281-FILTER MODULE – Drilling Anchors/Setting Pipe supports in Gallery





# 291-TPS – Top View 11/2/2020





# 291-TPS – Watertightness Testing





# 311-Post Treatment Chemical Facility 1 - Overall view 11/02/2020



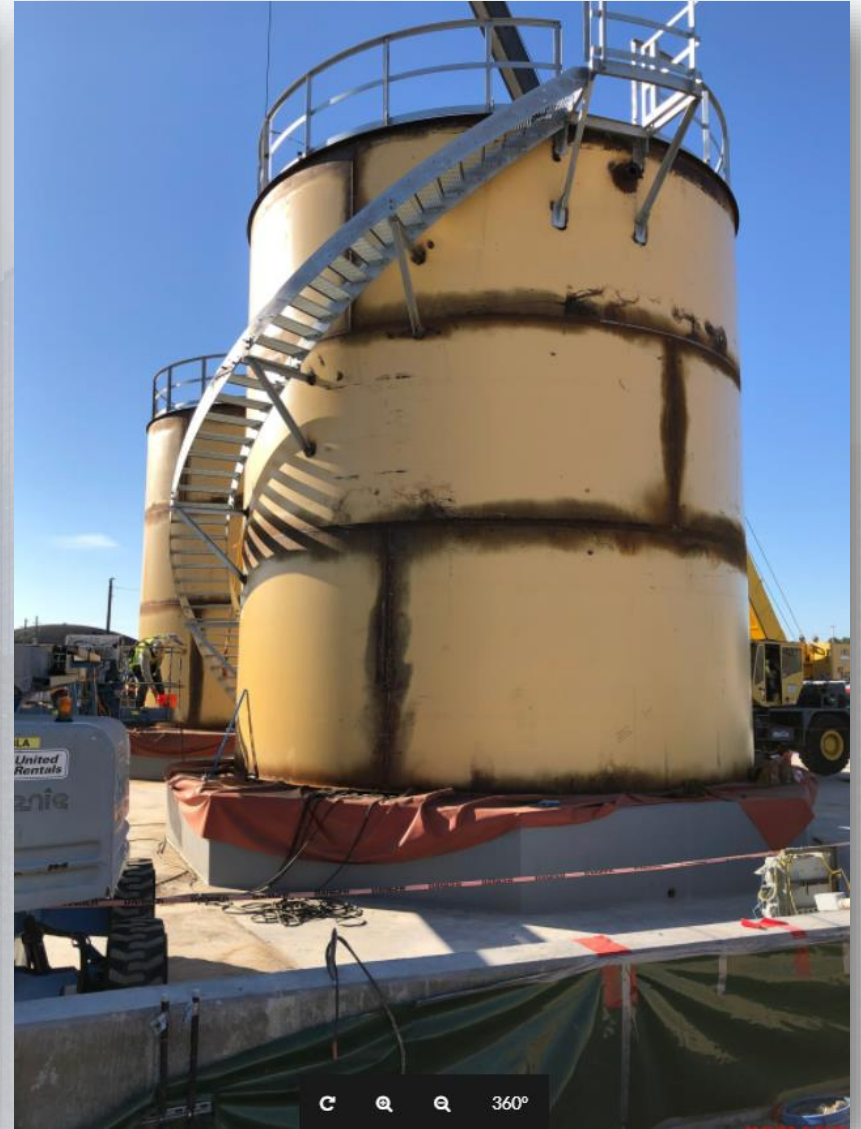


# 311 - Backfilling and Compacting North, West, East areas



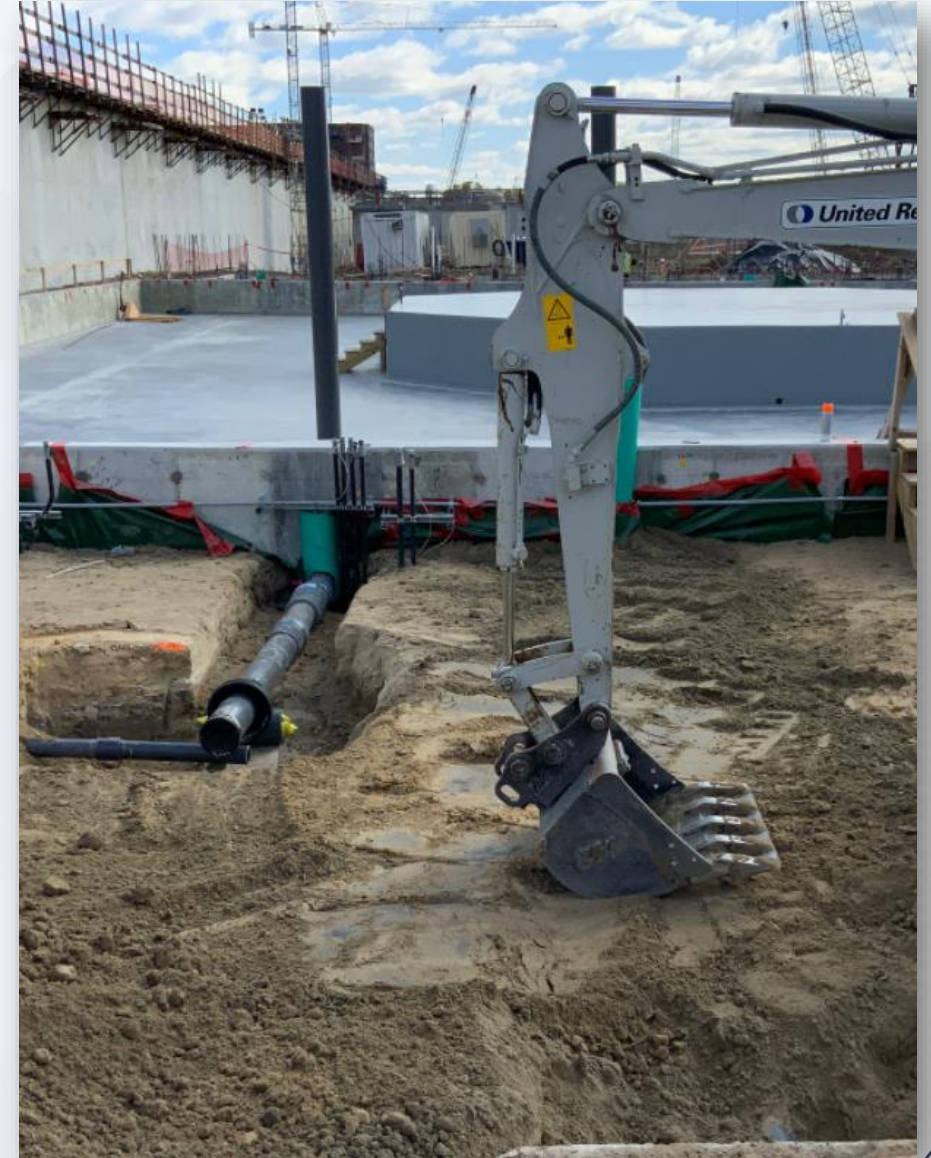


# 311 - Post-Chem Tank Pads: Fabrication of steel SH Tanks





# 311 – Installation and backfilling of STM Lines at Fill Station.





# 311 - Installation of Plumbing and STM Lines





# 312-Post Treatment Chemical Facility 2– Overall view





# 312 - Footings and Stem Wall –RFP





# 312 - Footings and Stem Wall –RFP





# CENTRAL PLANT – Phase 2 Overall





# 282-FILTER MODULE 2- Reinforcing Base Slabs



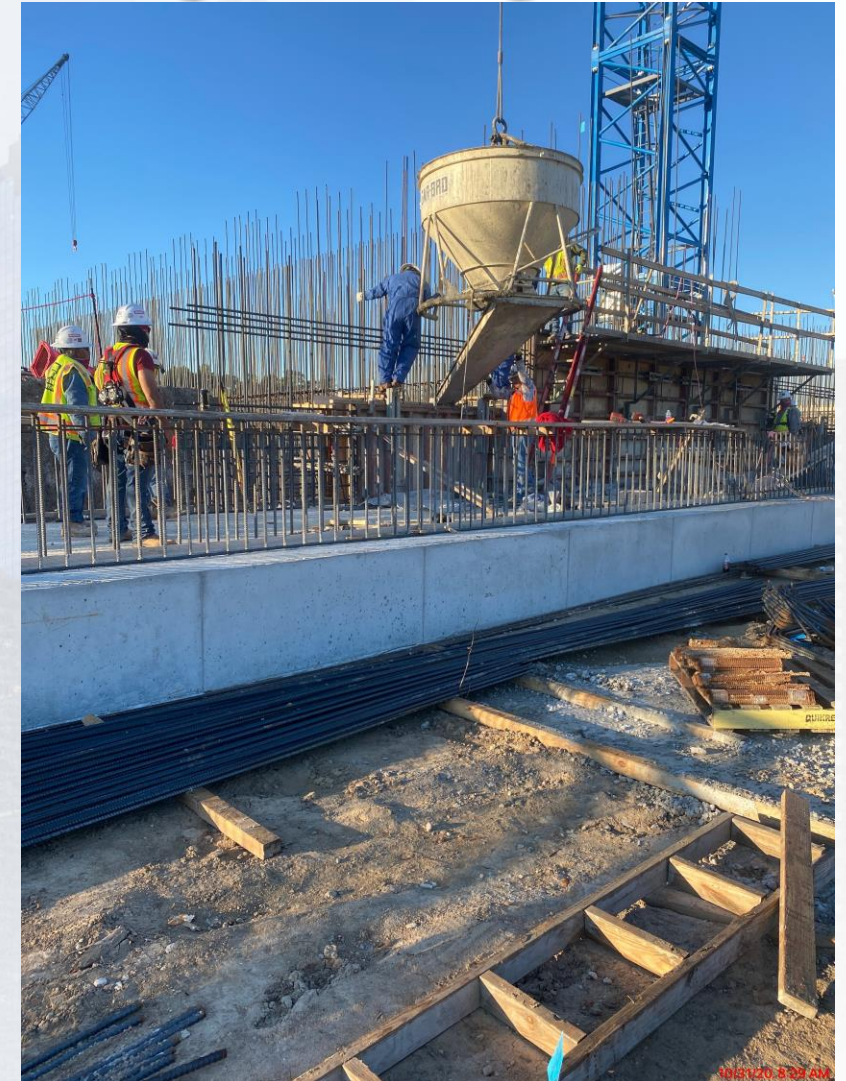


# 282-FILTER MODULE 2- Pouring Base Slabs 13,15,9,11





# 282-FILTER MODULE 2- Start Reinforcing/Pouring Walls





# 292-TPS – Placing Underdrain Material under Main Slab





# 292-TPS – Pouring Seal Slab





# 292-TPS – Form up and Reinforcement of Main Slab Sections







# Construction Progress – LREQ Basins Facilities 601/602

- **601 – Concrete placement for elevated walkway and deck**
- **602 – Continue excavation**
- **602 – Pump Station: Pour wall P10**



# 601 – Concrete placement for elevated walkway and deck





# 602 – Continue excavation





# 602 – Pump Station: Pour wall P10







# Construction Progress – North Plant

## 212-Pretreatment Chemical Facility 2:

- Mudmat
- Sump F/R/P

## 213-Pretreatment Chemical Facility 3:

- Structural Concrete Work
- Chemical Coating Process

## 222-Rapid Mix Train 2:

- Elevated Slab(s) F/R/P
- WL-3C Curing

## 241-FlocSed Train 1:

- Trench Walls F/R/P

## 242-FlocSed Train 2:

- Structural Concrete Work

## 243-FlocSed Train 3:

- E/W Corridor Encasement

## 251-Ozone Contactor Train 1:

- Influent Sump F/R/P

## 252-Ozone Contractor Train 2:

- Wall-3 F/R/P

## 502-Gravity Thickener Complex 2:

- Wall 5 F/R/P

## 611-LiquidResidualsClarifierFacility 1

- PS-EW-1 F/R/P
- WDW-3 F/R/P





# Facility 212 – Mudmat & Sump F/R/P





# Facility 213 – Chemical Coating Process



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# Facility 222 – RM-ESL-3 F/R/P & WL-3C Curing





# Facility 241 – TW-6 Curing & TW-9 F/R/P





# Facility 242 – CWC Walls F/R/P, ESL Columns, ESL F/R/P





# Facility 243 – 24" PDR E/W Corridor Encasement





# Facility 251 – Ozone Contractor – Influent Sump F/R/P





# Facility 252 – Ozone Contractor - Wall-3 F/R/P



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# Facility 502 – Gravity Thickener #3 Wall-5 F/R/P



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# Facility 611 – PS-EW-1 & WDW-3 F/R/P







# Construction Progress – South Plant

- **102” Outlet Pipe at GST 362 Installation.**
- **Load Transfer Platform Installation at GST 362 Awaits Final Lift.**
- **MSB 111 Standing Seam Metal Roof Installation Completed.**
- **MSB 111 MEP and Protective Coating on Walls Installation.**
- **Installation of 78” Inlet Pipes, Backfilling, Encasement, and Hydro-Testing at HSPS 401.**
- **Installation of Pump Cans and Epoxy Grout at HSPS 402.**
- **Concrete Pours at 3rd Floor, Bridge Crane Installation, and Steel Roof Installation at the Dewatering Building 520.**
- **Installation of Masonry Block Walls at Dewatering Building 520 Paused due to block shortage.**
- **Installation of Concrete Walls at Sludge Equalization Building 510 Continues.**





# GST 361 & 362 AERIAL VIEW

GST 361

GST 362

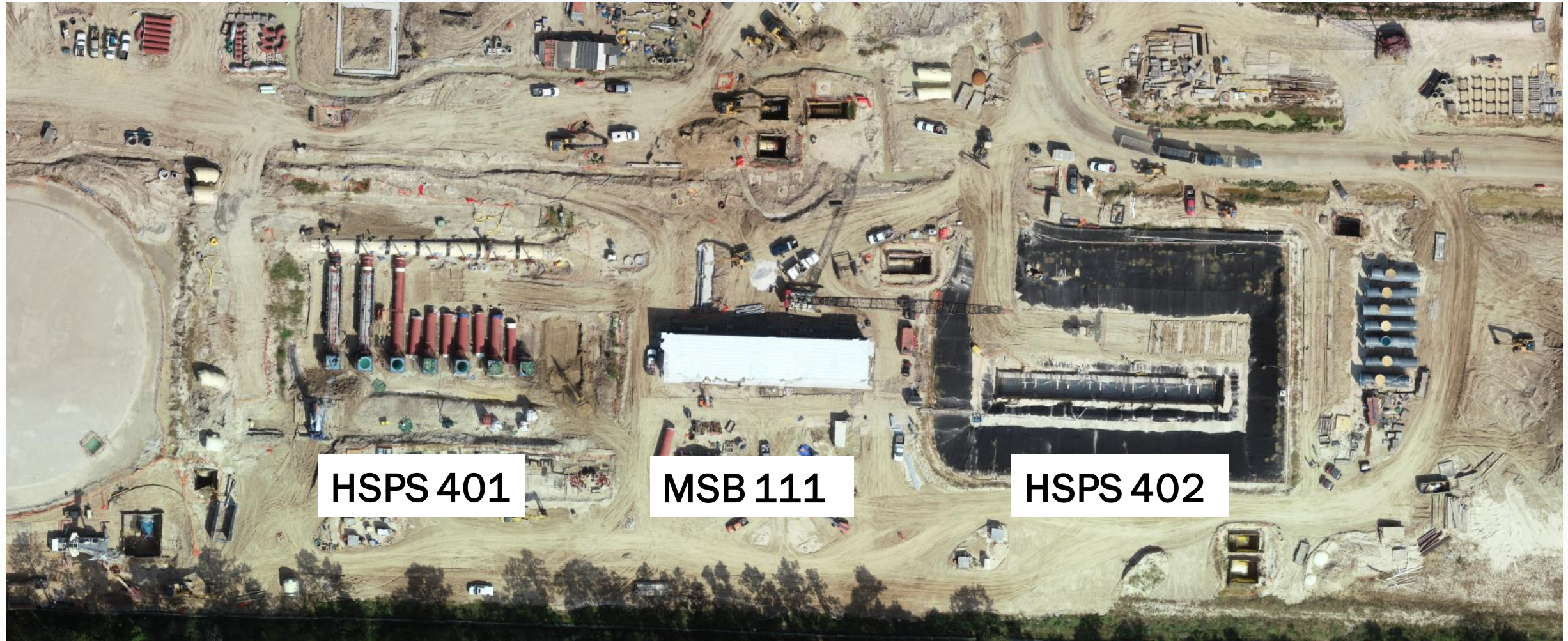




# 102" Outlet Pipe at GST 362 installation



# HSPS 401, MSB 111, HSPS 402 AERIAL VIEW



HSPS 401

MSB 111

HSPS 402



# MSB 111 Standing Seam Metal Roof Installation Completed





# MSB 111 – Installation of MEP and application of Protective Coating on Walls





# Installation of 78" Inlet Pipes, Backfilling, Encasement, and Hydro-Testing at HSPS 401





# Installation of Pump Cans and Epoxy Grout at HSPS 402





# DEWATERING BUILDING 520 & THICKENED SLUDGE EQUALIZATION BUILDING 510 AERIAL VIEW





# Dewatering Building 520





# Concrete Pours at 3<sup>rd</sup> Floor, Bridge Crane Installation, and Steel Roof Installation at the Dewatering Building 520





# Installation of Masonry Block Walls at Dewatering Building 520 Paused Due to Block Shortage





# Installation of Concrete Walls at Sludge Equalization Building 510 Continues







# Construction Progress – Administration Building

- Completed Erection of Beams and Columns at AB
- Reinforced Roof at MB
- Placed Leave-out at BW
- Reinforced SOG at BW



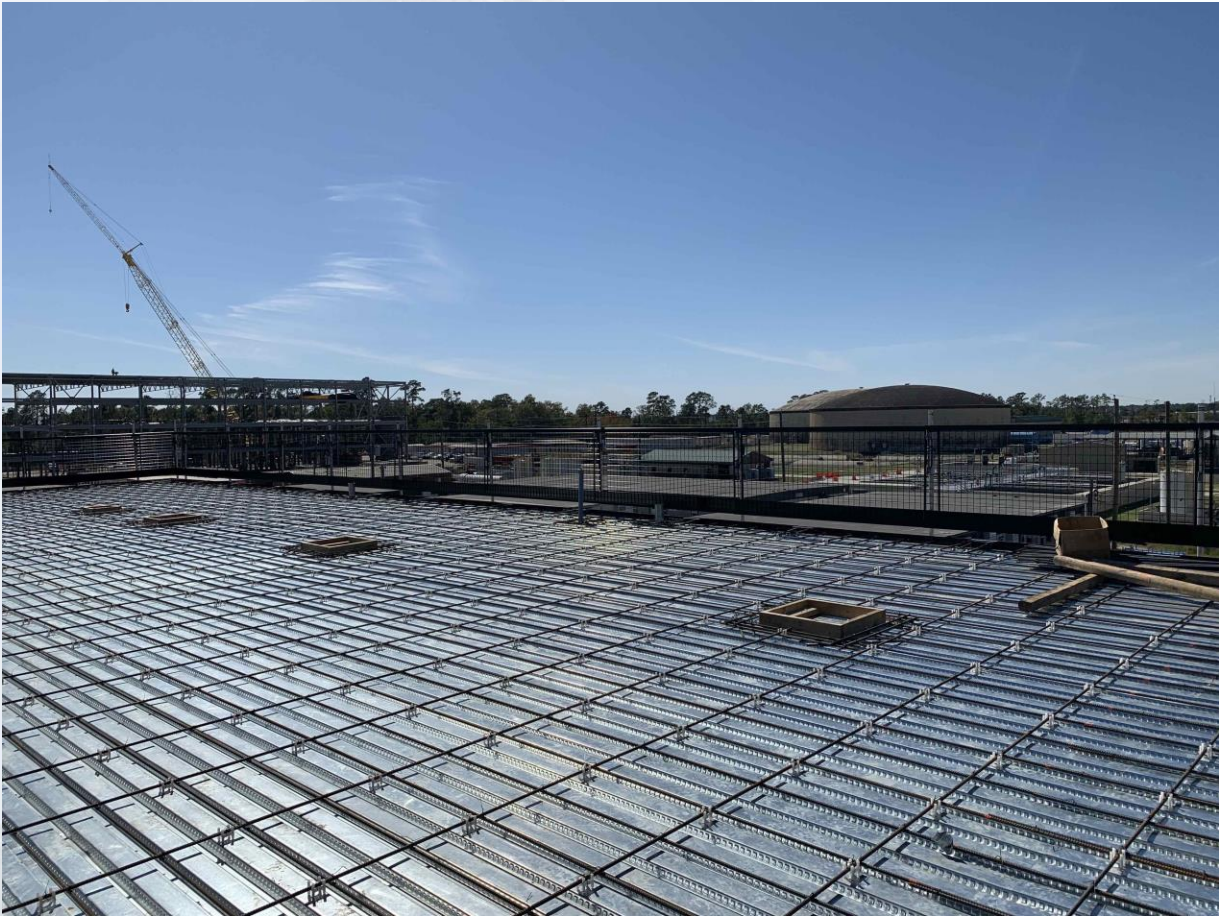


# Completed Erection of Beams and Columns at AB





# Reinforcement of Roof at MB





# Placement of Leave-out at BW





# Reinforcement of SOG at BW





