



**CITY OF HOUSTON**  
Houston Public Works

# DESIGN-BUILD SERVICES

# Northeast Water Purification Plant Expansion

April 8, 2020





# Drone Site Map: April 1, 2020





# Construction Progress – EWP 1/3 & 6 Site Development

## **DCN-04/Pond 1 Expansion - J. Simmons Group:**

- **Lowered dual 24” storm pipe, and raised single 24” storm pipe at Pond 1**
- **Installed riprap**
- **Hydroseeded disturbed areas**



# DCN-04/Pond 1 – Lowered dual 24" RCP to proper elevation



# DCN-04/Pond 1 – Raised single 24" RCP to design elevation



# DCN-04/Pond 1 – Installing riprap



# DCN-04/Pond 1 – Hydroseeding disturbed areas







# Construction Progress – Site Electrical

- **MDB111A & B Eastward Duct Bank Placement**
- **Manhole FMH 101-1 Placement at Admin Building**

# MDB111A & B Eastward Duct Bank Placement



# Manhole FMH 101-1 Placement at Admin Building





# Construction Progress – EWP 4 Raw Water Corridor

- **Storm Drainage work at sta 142+50**
- **CLSM Placement at sta 134+00**
- **Temporary Road Construction in West Corridor**
- **Hydrostatic pressure test of South 108**
- **Pulling shoring at sta 128+50**



# Storm Drainage Work at STA 142+50



# West Corridor Temporary Road Construction



# West Corridor Temporary Road Construction





# Construction Progress – Central Plant

## 281-FILTER MODULE 1 :

- Forming/Reinforcing/Pouring Walls.
- Reinforcing/Pouring Filter 4/5 Slab(South Half).
- Pouring Top Deck D4.
- Backfilling Filter 1.
- Forming Lower Manifold Deck 5/6.

## 291-TRANSFER PUMP STATION 1:

- Overflow Channel Slab Concrete Pour
- 60" Pipes Encasement Forming & Concrete Pour
- Install Double Containment Plumbing Pipes under Analyzer Room

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

- Installation of Electrical Underslab Conduits.
- Backfilled Electrical Underslab –Tank Farm

## 312- POST CHEMICAL FACILITY 2 LAS

- 312 Facility Excavation

## 282 -FILTER MODULE 2:

- Pouring FD Pump Cans Encasement (Lift 1).
- Laying Under-Slab 36" FTW/ 84" CFE Pipeline.
- Deep area excavations – Bypass Vault & OZW Inlet Box (West)

## 292-TRANSFER PUMP STATION 2:

- Pump Can Area Excavation

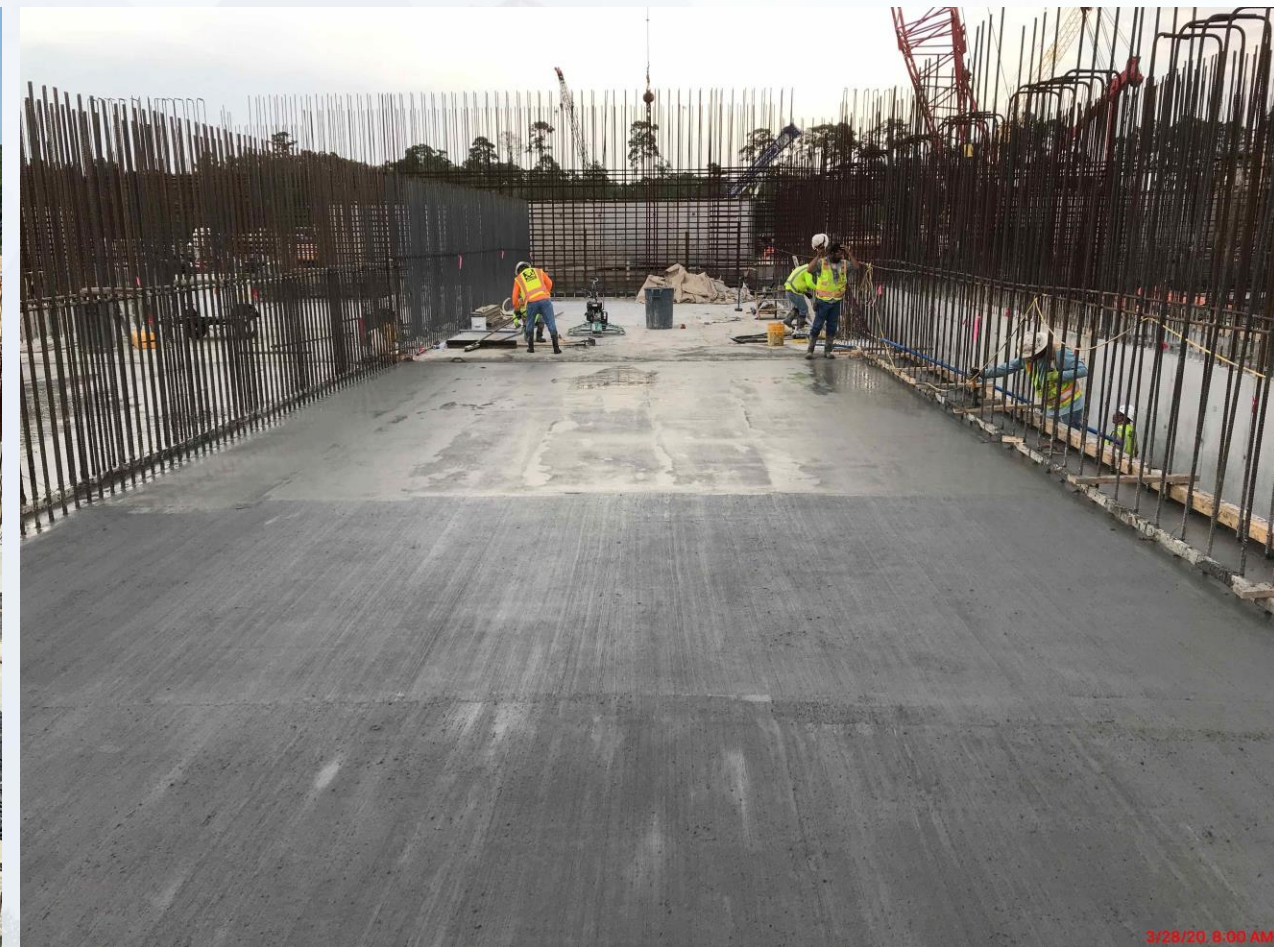




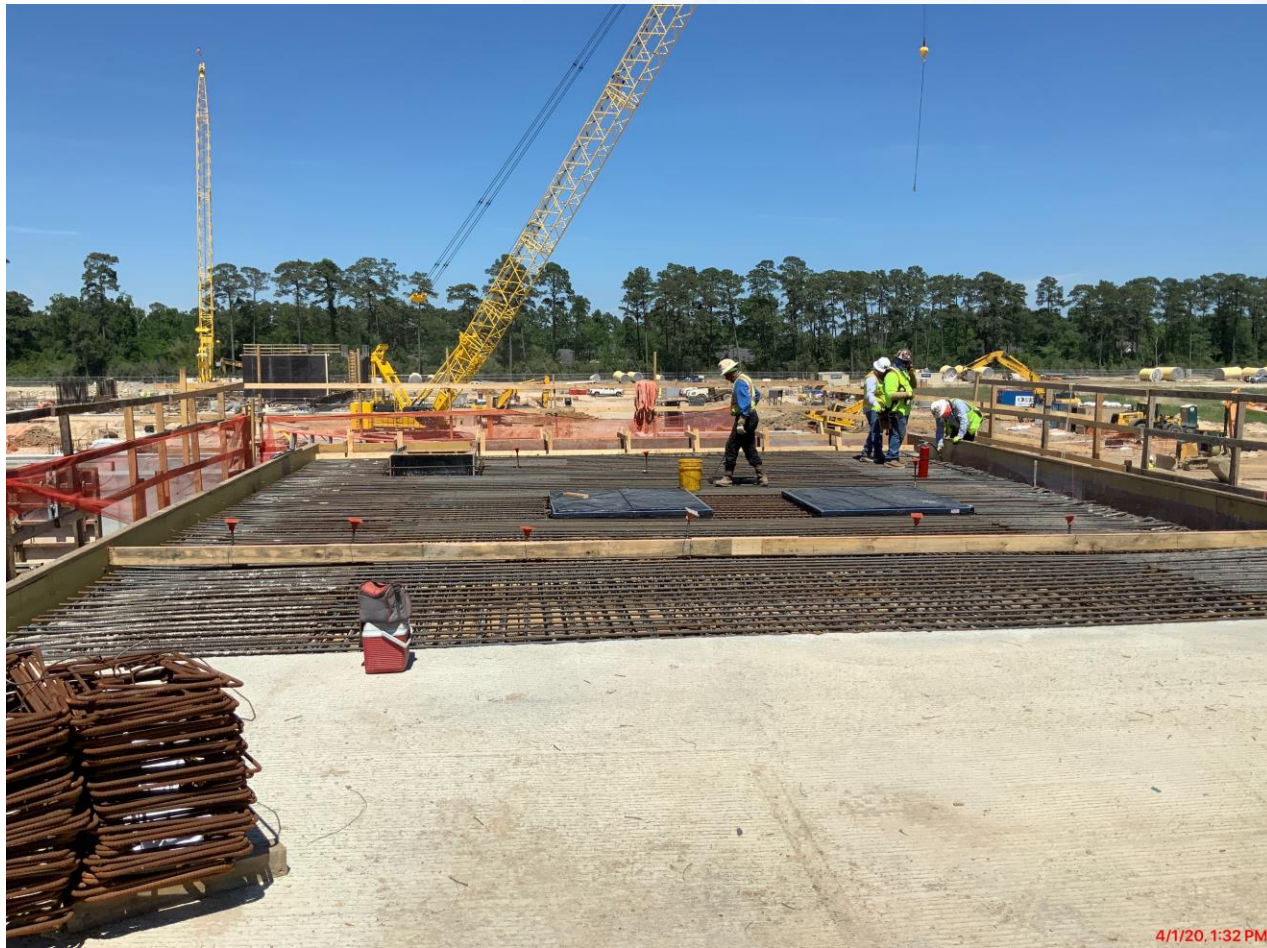
# 281-FILTER MODULE-Reinforcing/Forming/Pouring Walls



# 281-FILTER MODULE- Reinforcing/Pouring Filter 4/5 Slab(South-Half)



# 281-FILTER MODULE- Pouring Gallery Deck ( D4)



# 281-FILTER MODULE- Backfilling Filter 1



# 281-FILTER MODULE- Forming Lower Manifold Decks 5/6



# 291– Overflow Channel Slab Concrete Pour



# 291– 60" Pipes Encasement Form up & Concrete Pour



# 291– Install Double Containment Plumbing Pipes under Analyzer Room





# 311-PostChemical: Installation of underslab Elect. Conduits



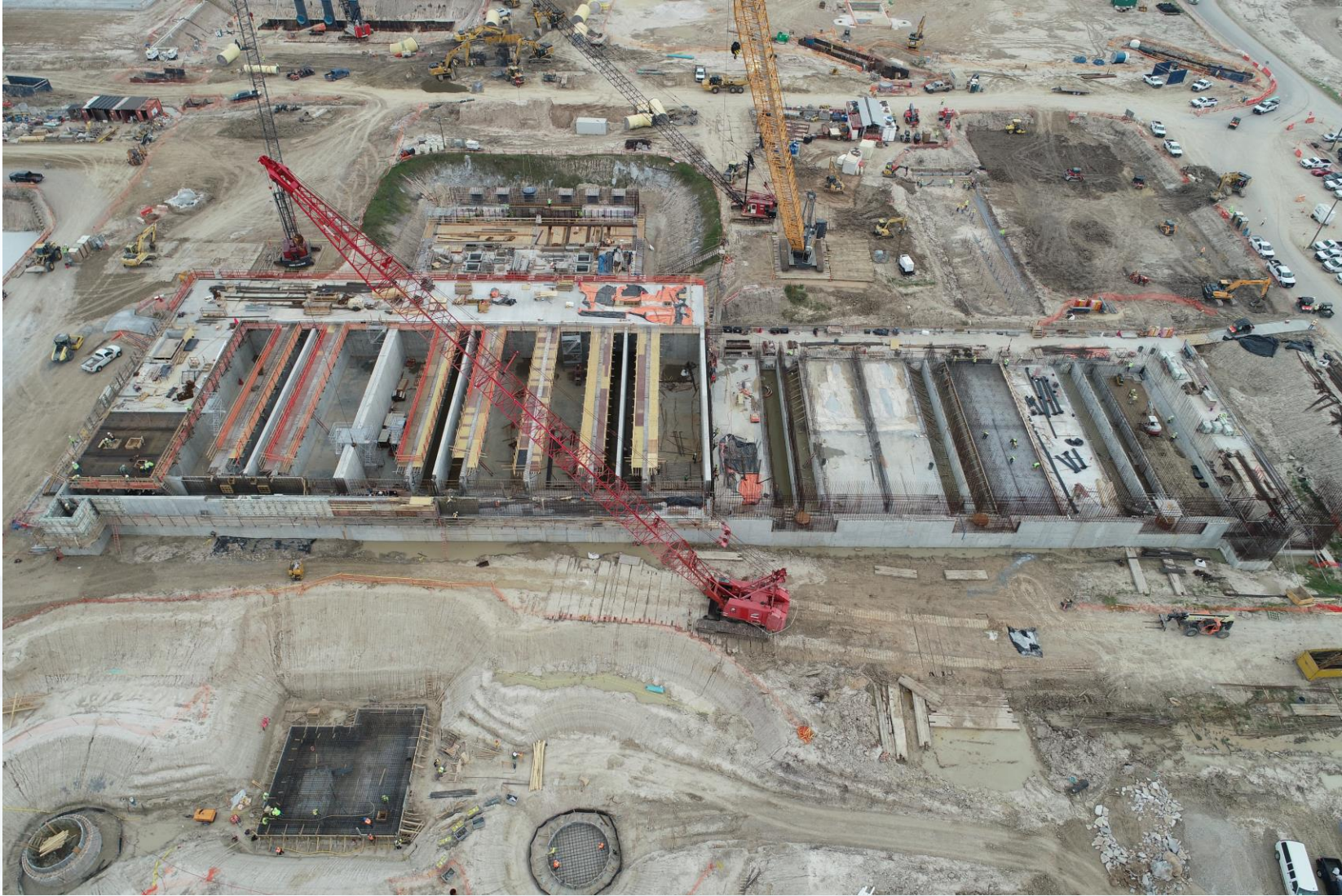
# 311-PostChemical:Backfill Containment Area



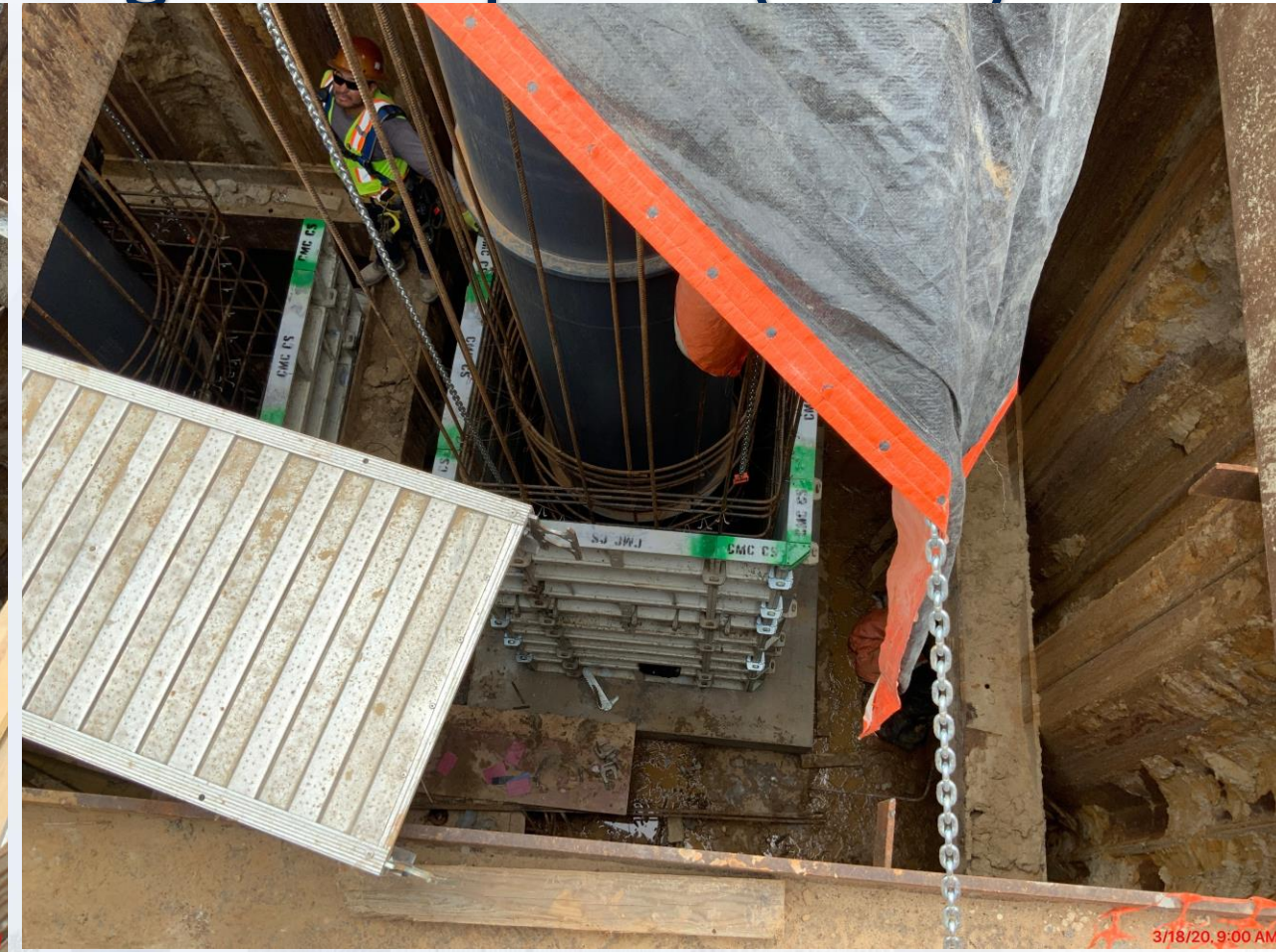
# 312-Post Chemical: Facility Excavation.



# CENTRAL PLANT- 1st PHASE



# 282-FILTER MODULE 2- Encasing FD Pump Cans ( Lift 2)



# 282-FILTER MODULE 2- Laying Under-slab 36" FTW/ 84" CFE Pipeline



# 282-FILTER MODULE 2- Bypass Vault & SDPS(West) Slab Forming & Reinforcing



# 292 – Pump Can Area Excavation





# CENTRAL PLANT – 2nd PHASE





# Construction Progress – North Plant

## 221-Rapid Mix Train 1 :

- Forming/Reinforcing/Pouring Walls

## 222-Rapid Mix Train 2:

- Completed PDR Piping
- Backfill and Place mud mat for mixing chamber slab
- RM-SL-4 FRP

## 241-FlocSed Train 1

- 24" PDR installation

## 242-FlocSed Train 2

- Ported Wall PW-1 FRP
- Distribution Channel Wall FRP

## 252-Ozone Contractor 2:

- Placed Outlet Box Walls

## 502-Gravity Thickener Complex 2

- Thickened Sludge Sump Wall Basin #4 FRP
- Backfill and install underdrain at Basin #4
- Service Bldg Mat Foundation FRP
- Thickened Sludge Sump SOG Basin #3 FRP

## 611-Liquid Residuals Clarifier Facility 1:

- Valve Vault of OF sump FRP



# Facility 221 Slab-on-Grade Placement and Erecting Wall Formwork



# Facility 222 RM-SL-4 Mud Mat



# Facility 242 Ported Wall FRP



# Facility 252 Outlet Box



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# Facility 502 Basin #4 Underdrain Pipe



# Facility 502 Basin #3 SOG FRP





# Facility 502 Service Bldg FRP





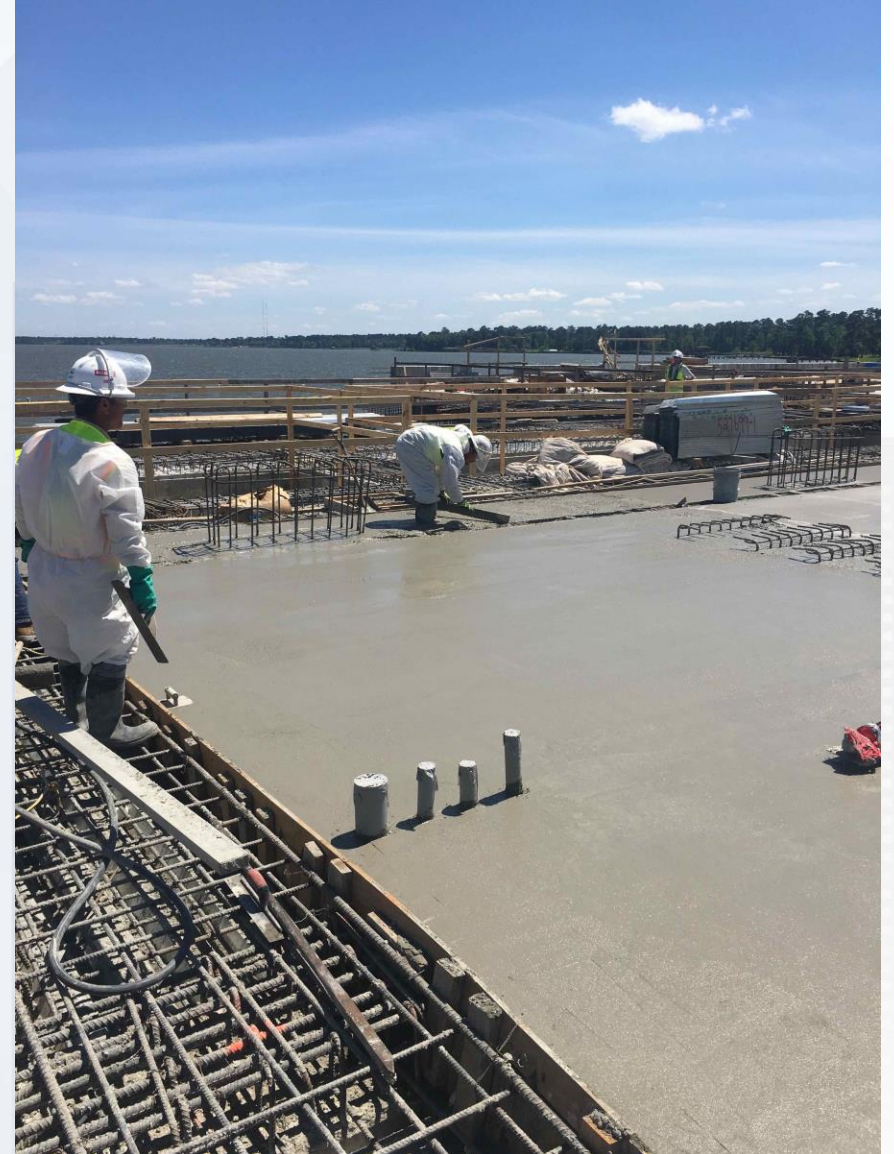
# Construction Progress – EWP 6 IPS


- **Setting of Precast Caps for Bridge**
- **Pouring Phase 3 Deck**

# Setting of Caps For IPS Bridge



# Pouring Phase 3 Deck





# Construction Progress – BOP LREQ Basins Facilities 601/602

- **Seal Slab Pour South Area of 601**
- **Formwork Installation South Area of 601**
- **Main Base Slab Pour #7 North Area of 601**
- **Rebar Installation for Main Base Slab #5 North Area of 601**

# Seal Slab Pour South Area of 601



# Formwork Installation South Area of 601



# Main Base Slab Pour #7 North Area of 601





# Rebar Installation for Main Base Slab #5 North Area of 601





# Construction Progress – Yard Piping

- **Welding 66” RW steel pipe line in Corridor 1**
- **Set 84” FW GST1 BFV in Corridor 4**
- **Installing and welding 108” RW steel pipe line in Corridor 1**
- **Installing and welding 84” & 96” FW steel pipe in Corridor 4**
- **Installing and welding 120” FW steel pipe in Corridor 5 and between HSPS & GST**
- **Installing and welding 60” BWS steel pipe in Corridor 4**
- **Installing Storm Sewer manholes, RCP laterals, and catch basins in Admin area**
- **Installing 30” RCY ductile iron pipe line in Corridor 3**
- **Installing 24” PW in Corridor 4**



# Set 84" FW GST1 BFV in Corridor 4



# Installing 108" RW steel pipe line in Corridor 1



# Grouting valve support for 84" BFV on FW steel pipe in Corridor 4



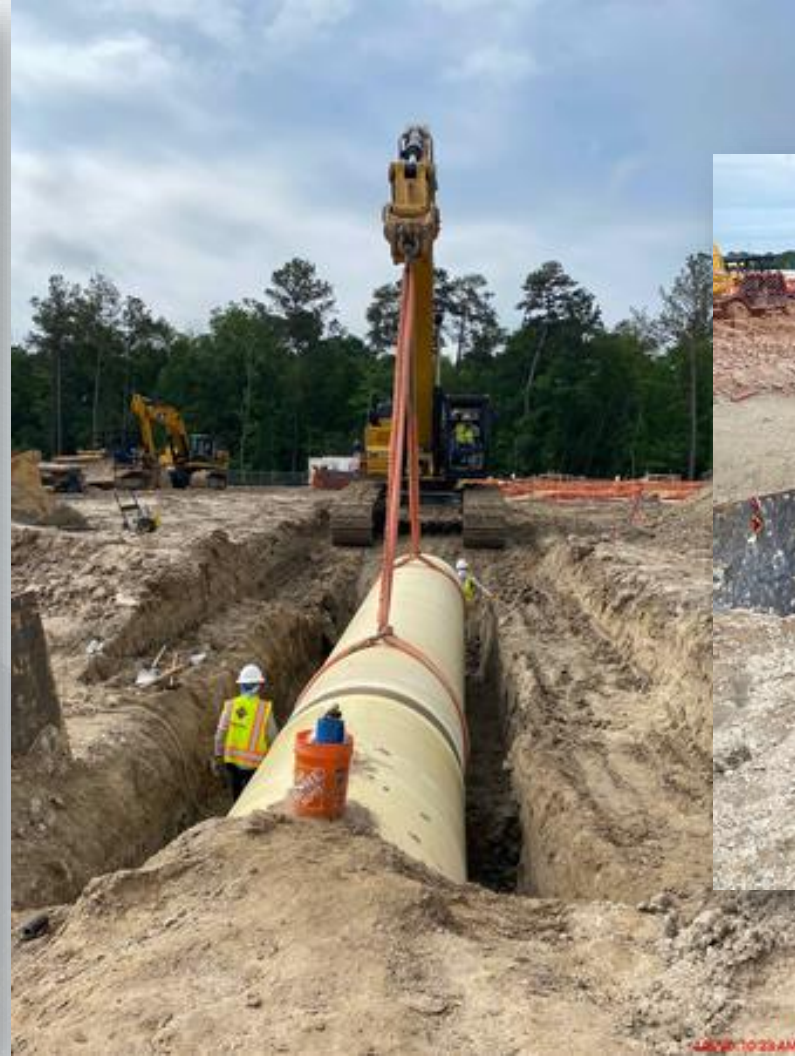
# Installing 120" FW steel pipe between GST & HSPS



# Installing 120" FW steel pipe in Corridor 5



# Installing 60" BWS steel pipe in Corridor 4

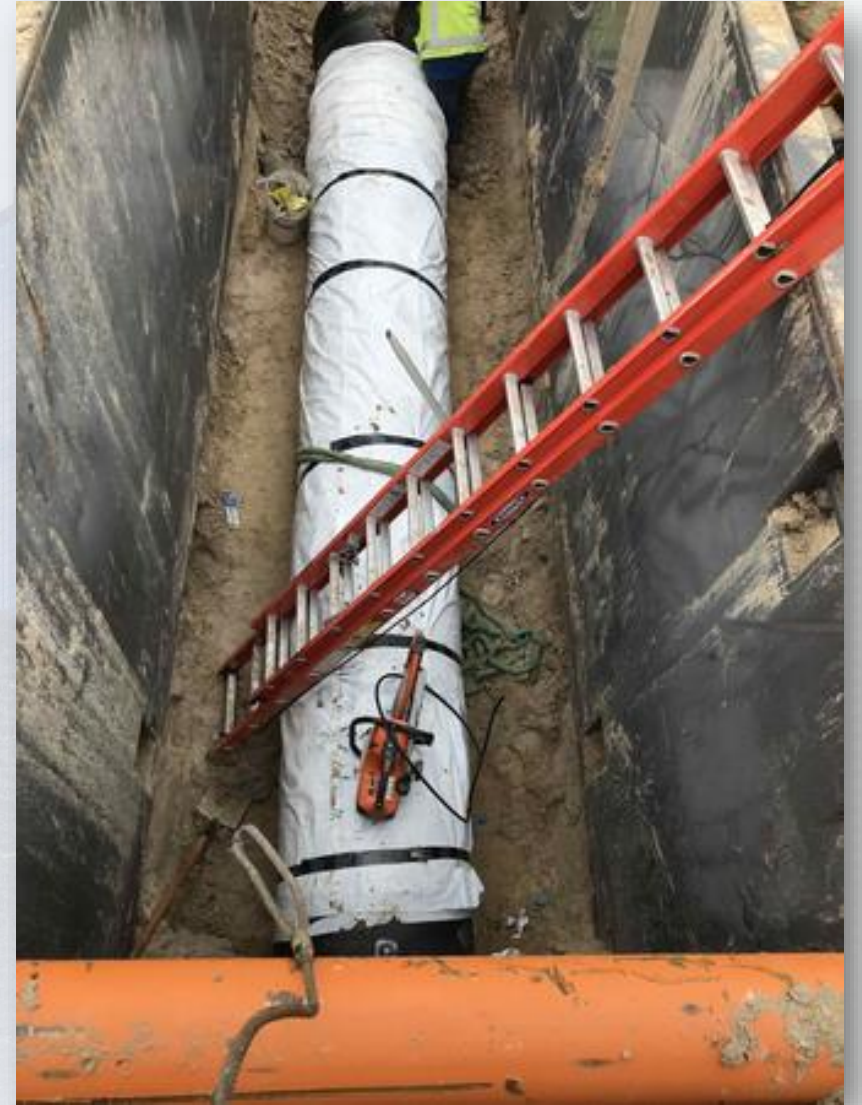




# Installing Storm Sewer manholes, RCP laterals, and catch basins in Admin area



# Installing 30" RCY piping in Corridor 3



# Installing 24" PW piping in Corridor 4





# Construction Progress – Administration Building

- Placed Vapor Barrier and Reinforcement for Elevator Pit
- Installed Pipe Encasement Under Grade Beam
- Poured Seal Slab in Maintenance Building

# Placement of Vapor Barrier and Reinforcement of Elevator Pit



# Installation of Pipe Encasement Under Grade Beam



# Pipe Encasement Pour



# Placement of Seal Slab in Maintenance Building







# Construction Progress – South Plant

- **Ongoing 84" pipe installation at GST 361**
- **102" pipe partially backfilled at GST 362**
- **SOG rebar installation at Facility 520**
- **CMU mockups installation at Facility 111**
- **Pump cans leveling and anchor bolts placement at HSPS 401**



# Ongoing 84" pipe installation at GST 361



# 102" pipe partially backfilled at GST 362



# SOG rebar installation at Facility 520



# CMU mockups installation at Facility 111



# Pump cans leveling and anchor bolts placement at HSPS 401



