



**CITY OF HOUSTON**  
Houston Public Works

# DESIGN-BUILD SERVICES

# Northeast Water Purification Plant Expansion

**February 10, 2021**



**Houston Waterworks Team**

Site Drone Map  
February 4, 2021



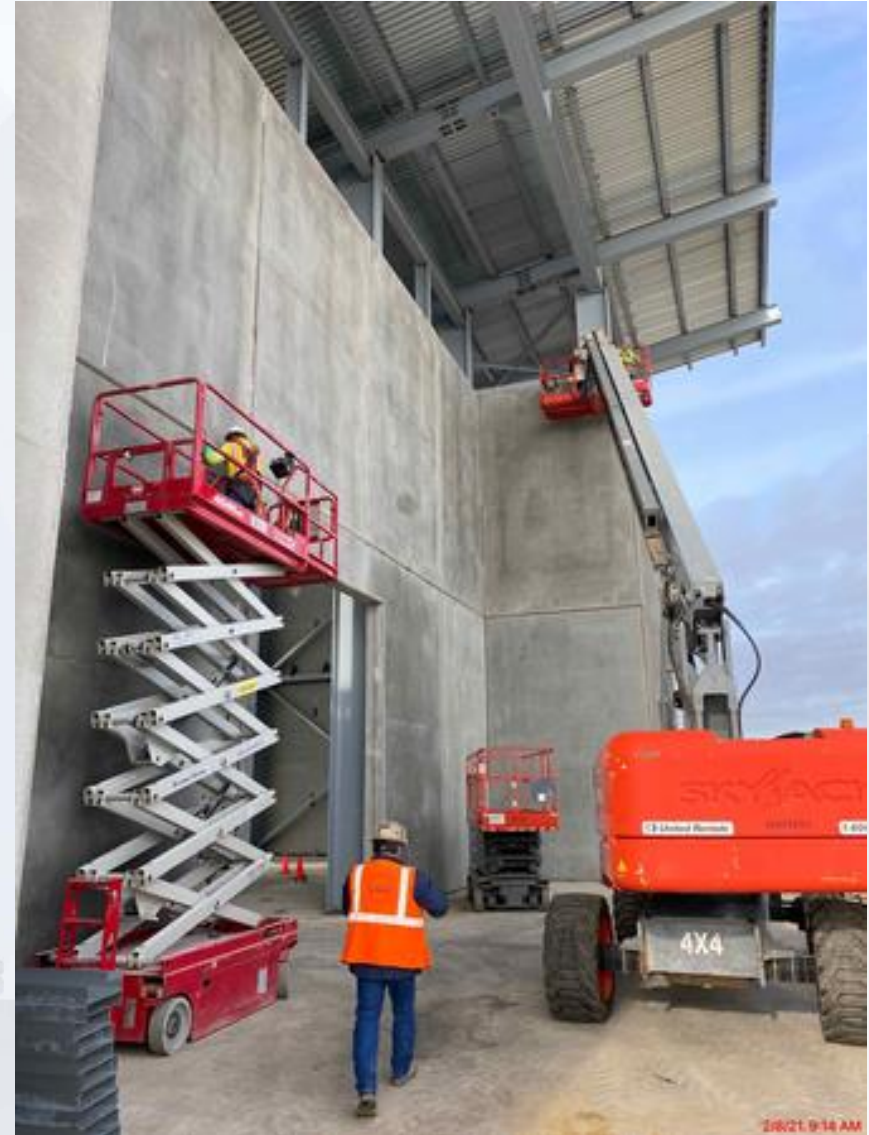


# Construction Progress – Intake Pump Station (IPS)

- Installing structural steel roofing members on Eastside of the building
- Installing precast concrete panels on the Northside
- Installing formwork for the concrete anchor box
- Continue installing the 108" underground pipe
- Installing underground duct bank at building 152



# Installing and grouting precast concrete panels on the Eastside



# Decking and cold metal form installation on the Eastside



# Rustbusters working on the 108" pipe



# Continue installing the dual 108" RW pipe



# Installing underground duct bank at building 152







# Construction Progress – Site Electrical

- **MDB312 Installation and Backfill (North of Facility 111)**
- **Duct Bank Installation from MH080-3 to 080 transformers**
- **Installation of Fiber Duct Bank 281**

# MDB312 Installation and Backfill (North of Facility 111)



# Duct Bank Installation from MH080-3 to 080 transformers



# Installation of Fiber Duct Bank 281

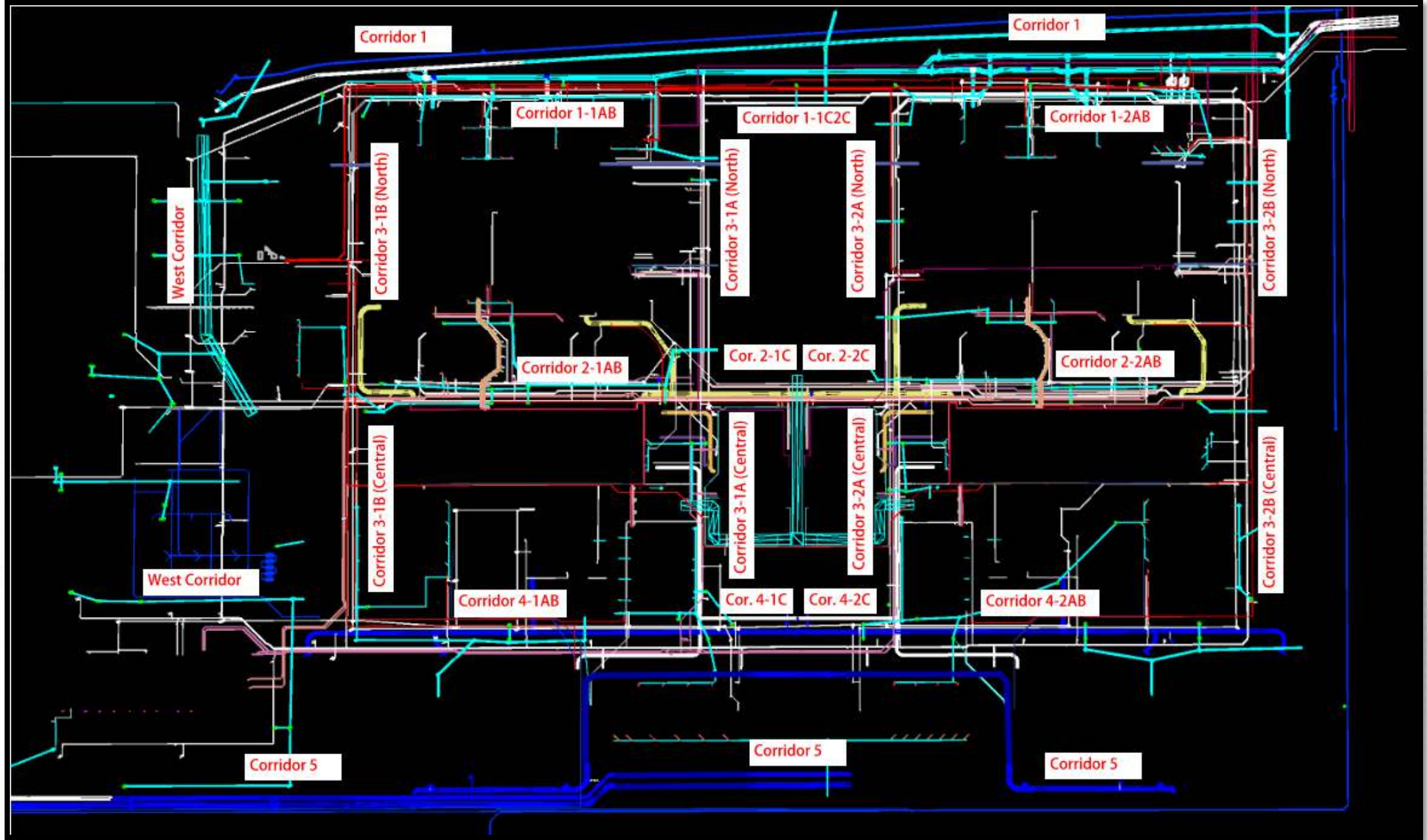




# Construction Progress – Yard Piping

- **Potholing and exposing the existing 66” RW main in Corridor 1**
- **Installing 16” USL line in Corridor 2-1AB**
- **Installing 8” RCYS piping in Corridor 2-1AB/North Plant**
- **Installing 24” & 30” RCP Storm and manholes in Corridor 2-1AB**
- **Installing 2-20” TSL lines in Corridors 2-1AB & 3-1B**
- **Installing 12” PW line in Corridor 3-1B**
- **Installing 6” PDR & SSG in Central Plant**
- **Laying the 96” OZW pipe in Corridor 3-1B**
- **Laying the 84” & 120” FW distribution lines in Corridor 5**
- **Setting the 102” FW tee and 364BFV10102 in Corridor 5 – Phase 2**





# Potholing and exposing the existing 66" RW main in Corridor 1



# Installing 16" USL line in Corridor 2-1AB/North plant





# Installing 8" RCYS piping in Corridor 2-1AB/North Plant



# Installing 24" & 30" Storm RCP and manholes in Corridor 2-1AB



# Installing 2-20" TSL lines in Corridor 2-1AB



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



# Installing 6" PDR & SSG in Central Plant



# Installing 96" OZW pipe in Corridor 3-1B



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



# Setting the 102X108" FW tee and 364BFV10102 in Corridor 5 – Phase 2







# Construction Progress – Central Plant

## 281-FILTER MODULE 1 :

- Trough Installation & Grouting
- Setting PPW Pipe Main Header
- Stairway Installation

## 291-TRANSFER PUMP STATION 1:

- Pour Pump Slab
- CMU Walls Placement for Electrical Building
- Install Oil / Water Separator
- Install, Pour Encasement, and Backfill 1 ¼" PPW Line

## 292-TRANSFER PUMP STATION 2:

- Wall Sections A6 and C4 Concrete pour
- Reinforced and Formed up Wall C6
- Upper Levels Pipe Can Encasements Reinforcement
- Wall A2 Reinforcement

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

- FRP –Equipment Pads.
- Fabrication of SST CS Tanks.

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

- FRP –Containment Area: Tank Pads.
- FRP –Post Chem Building SOG C2/C4.

## 282 -FILTER MODULE 2:

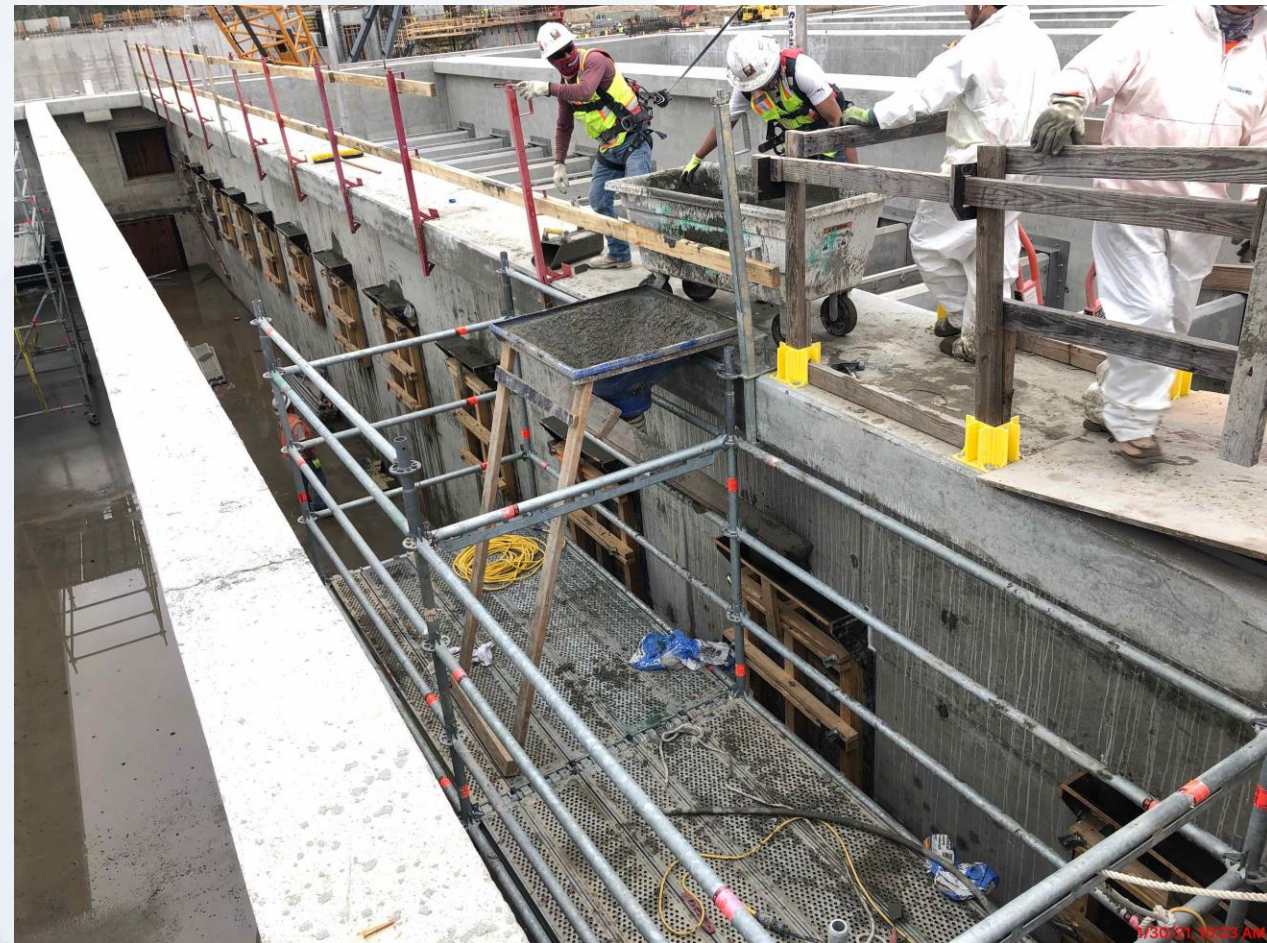
- Finished Installing BWW Pipe.
- Reinforcing/Forming Exterior Tall Walls.
- Pouring Filter Slabs 15 , 16/17.
- Pouring Lower Manifold Decks 13/14.
- Forming/Reinforcing Lower Manifold Decks 15/16.



# CENTRAL PLANT- 1st PHASE OVERALL



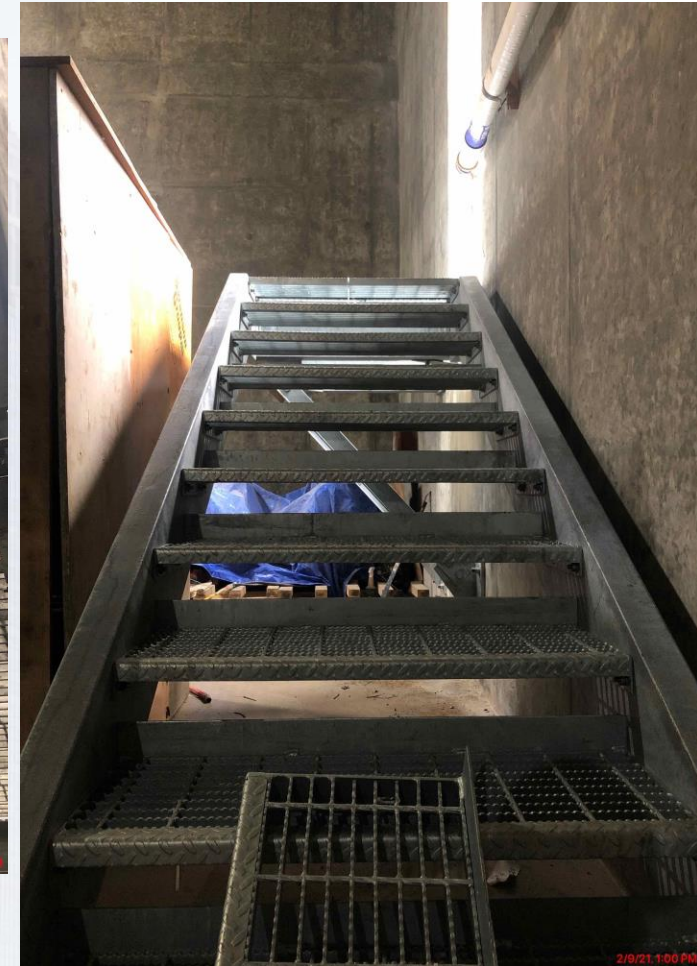
# 281-FILTER MODULE- Setting & Grouting Filter Troughs for ( 5-12 )



# 281-FILTER MODULE – Installing PPW Pipe Main Header



# 281-FILTER MODULE – Installing Stairways



# 291-TPS – Aerial View (02/01/2021)



# 291-TPS – Pour Pump Slab



# 291-TPS – CMU Walls Placement for Electrical Building





# 291-TPS – Oil / Water Separator Installation



# 291-TPS – Install, Encase, and Backfill 1 ¼" PPW Line



# 311 – Aerial view – 02/01/2020



# FRP –Equipment Pads



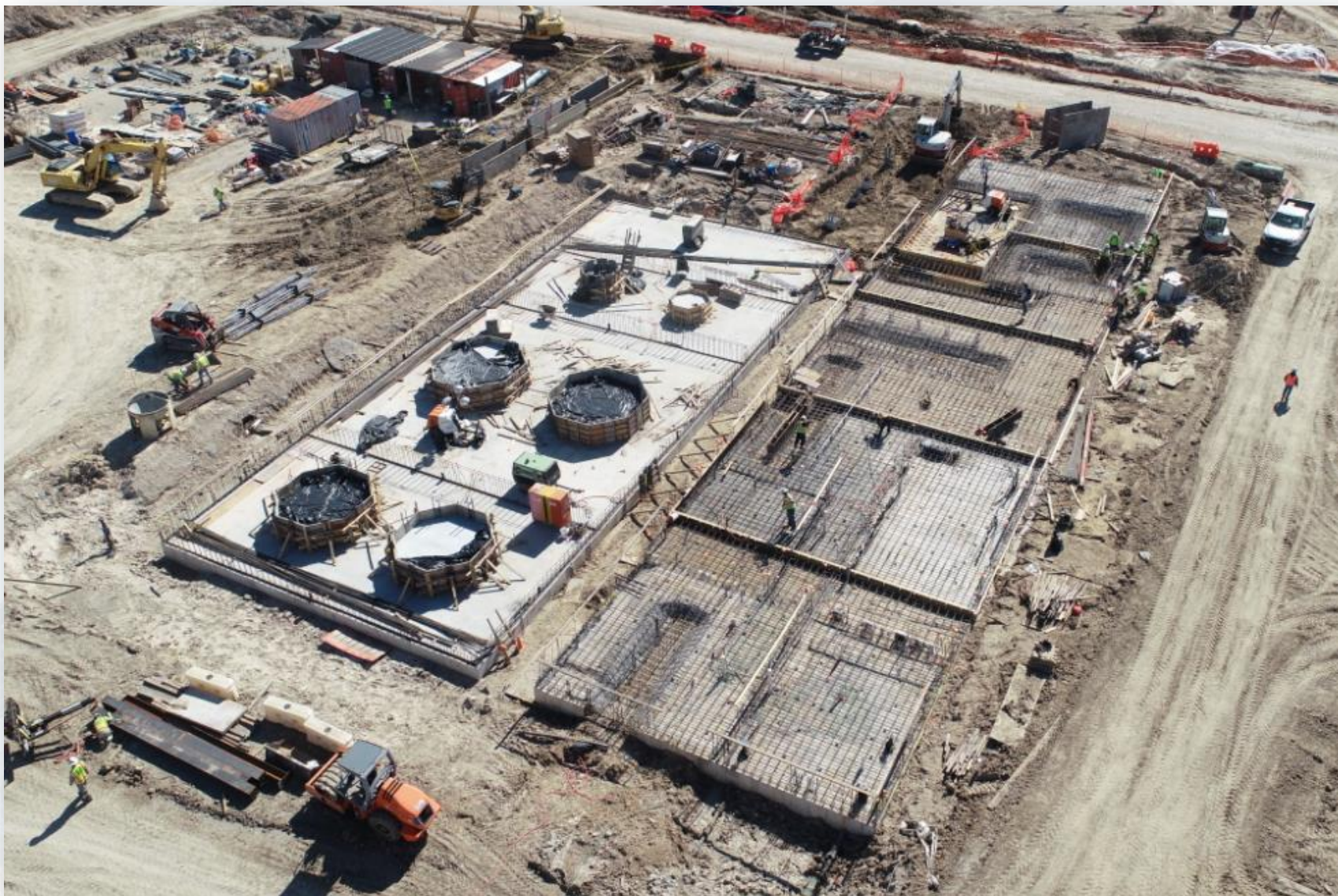
# 311 - Fabrication of SST CS Tanks



# 311 - Fabrication of SST CS Tanks



# 312 - Overall view 02/01/21



# 312 - FRP SOG Containment Area: Tank Pads





# 312 - FRP SOG Chem Building: Concrete Pour C2/C4 SOG



# CENTRAL PLANT – 2nd PHASE OVERALL



# 282- Finish Placing BWW Pipe



# 282-FILTER MODULE 2- Reinforcing/Forming Exterior Tall Walls



# 282-FILTER MODULE 2- Filter 15, 16/17 Slab Pour

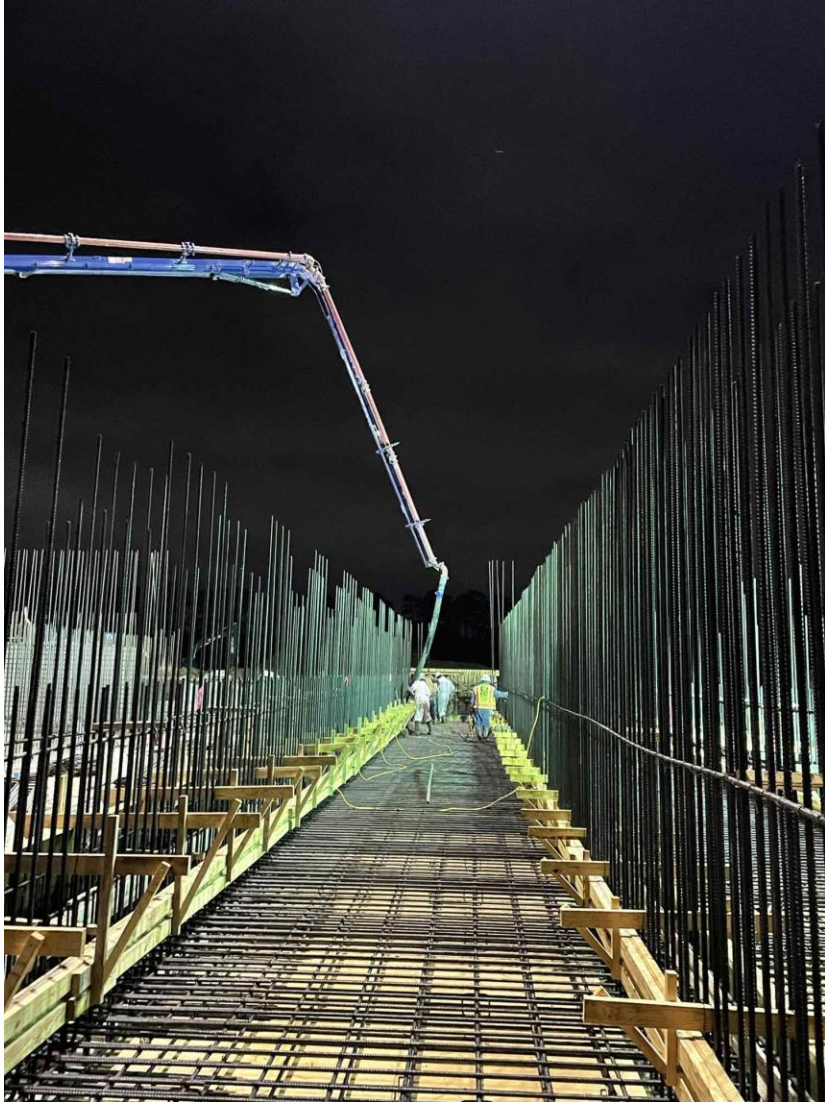


# 282-FILTER MODULE 2- Forming/Reinforcing Lower Manifold Decks

## 15/16



## 282- Pouring Lower Manifold Decks 13/14



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# 292-TPS – Arial View (02-01-2021)





# 292-TPS – Pour Wall Sections A6 and C4



# 292-TPS – Reinforced and Formed Up Wall C6



# 292-TPS – Upper Levels Pump Can Encasement Reinforcement



# 292-TPS – Wall A2 Reinforcement



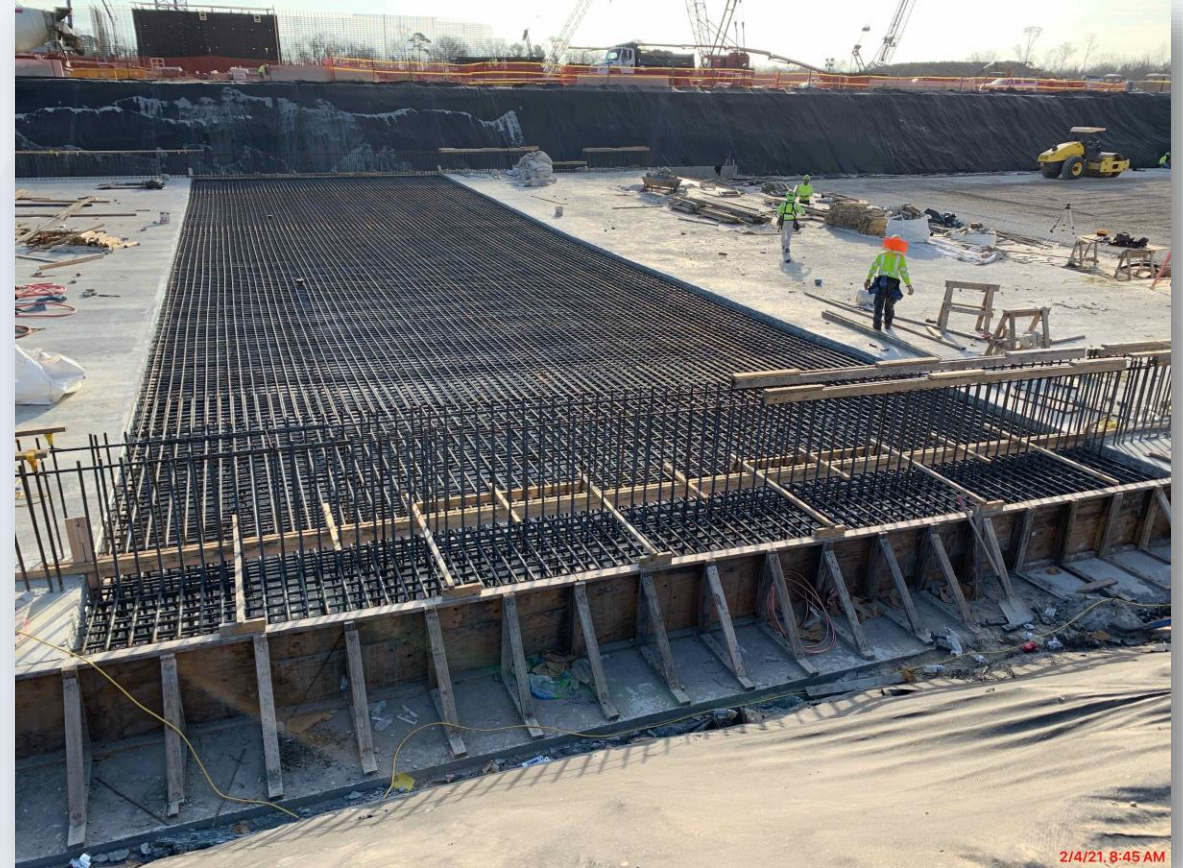


# Construction Progress – LREQ Basins Facilities 601/602

- **602 – Rebar Installation Main Base Slab (2)**
- **602 – Concrete Pour Main Base Slab (2)**
- **602 – Continue Formwork and Rock Placement for South Area Seal Slab**



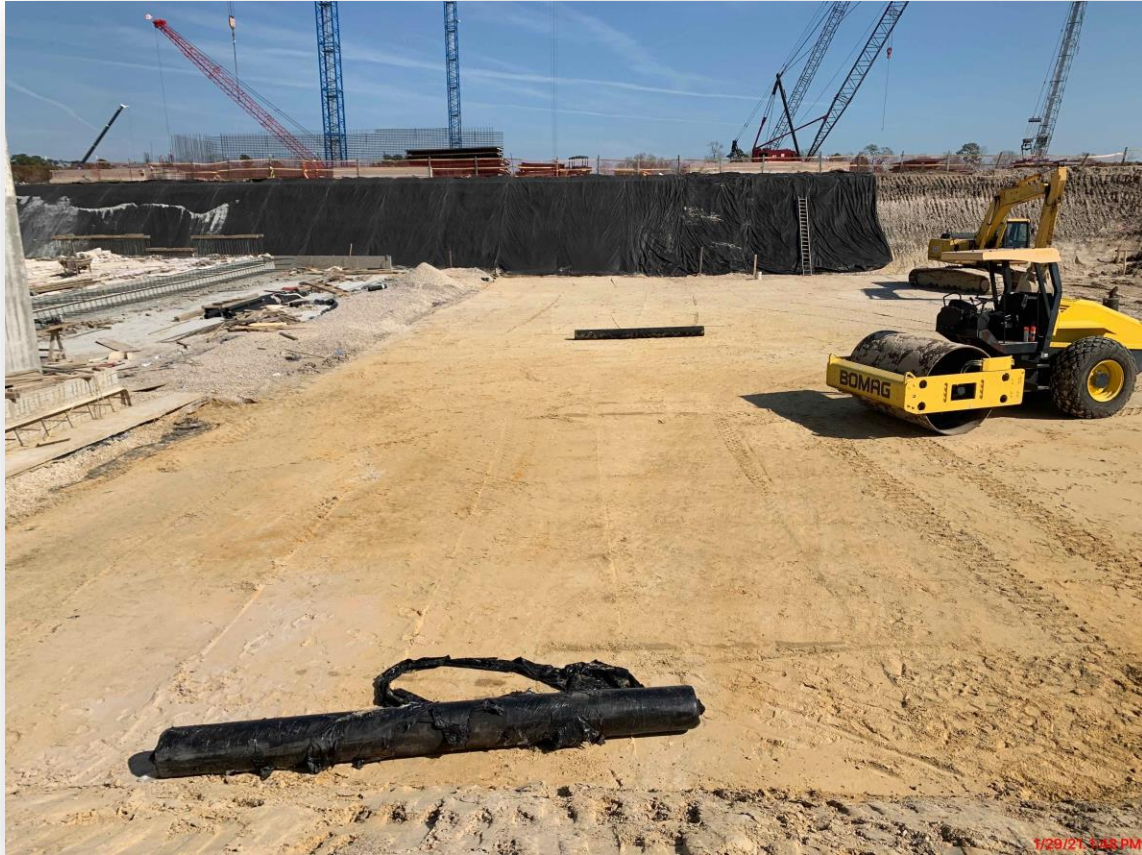
# 602 – Rebar Installation Main Base Slab (2)



# 602 – Concrete Pour Main Base Slab (2)



# 602 – Continue Formwork and Rock Placement for South Area Seal Slab







# Construction Progress – North Plant

## 211-Pretreatment Chemical Facility 1:

- Area-A Footings F/R/P

## 213-Pretreatment Chemical Facility 3:

- Lime Slurry Tank Welding

## 214-Pretreatment Chemical Facility 4:

- SSG Pipe Installation

## 221-Rapid Mix Train 1:

- Slab on Grade F/R/P

## 224-Rapid Mix Train 4:

- Excavation

## 251-Ozone Contractor Train 1:

- 96-Inch Clarified Water Intake Pipe

## 261-Ozone Generation Facility 1:

- Building Footings and Stem Walls

## 241-Flocculation & Sedimentation Train 1:

- Slab On Grade F/R/P

## 242-Flocculation & Sedimentation Train 2:

- CWC Second Lift Walls F/R/P

## 501-Gravity Thickener Complex 1:

- TSSB Excavation

## 502-Gravity Thickener Complex 2:

- TSSB Elevated Slab F/R/P

## 611-Liquid Residuals Clarifier Facility 1:

- Thickened Slab F/R/P

## 801-Basin Drain Pump Station 1

- Caisson Second Lift F/R/P

## 802-Basin Drain Pump Station 2:

- Caisson First Lift F/R/P



# 211-Pretreatment Chemical Facility 1: Area-A Footings F/R/P



# 213-Pretreatment Chemical Facility 3: Lime Slurry Tank Welding



# 214-Pretreatment Chemical Facility 4: SSG Pipe Installation



2/1/21, 3:52 PM

# 221-Rapid Mix Train 1: RM-SL-4 F/R/P



# 224-Rapid Mix Train 4: Excavation



# 241-FlocSed Train 1: Slab 35 Concrete Placement



# 242-FlocSed Train 2: CWC Second Lift Walls F/R/P





# 251-Ozone Contractor Train 1: 96-Inch Clarified Water Intake Pipe



# 261-Ozone Generation Facility 1: Building Footings and Stem Walls



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# 501-Gravity Thickener Complex 1: TSSB Excavation



# 502-Gravity Thickener Complex 2: TSSB Elevated Slab F/R/P



# 611-Liquid Residuals Clarifier Facility 1: Thickened Slab F/R/P



# 801-Basin Drain Pump Station 1: Caisson Second Lift F/R/P



# 802-Basin Drain Pump Station 2: Caisson First Lift Sinking



Houston Waterworks Team





# Construction Progress – South Plant

- Final foundation soil prep completed at GST 361, and LTP has commenced.
- Commenced wall panel installation at GST 362.
- Continued dome shoring at GST 362.
- Continued under slab electrical and plumbing at Fac 401.
- Pouring footers and foundation walls (Pump room) at Fac 401.
- Continued can encasement at Fac 402 pump cans.
- Facility 111 expected to be energized with permanent power from Facility 102 ~ by mid-March.
- Installation of low voltage wiring and electrical devices at Fac 111.
- Conditioning units energized at Fac 111.
- Delivery of switchgear at Fac 520.
- Continued installation of masonry at 3rd floor (Control room) at Fac 520.
- Continued installation of sprinkler piping on the 2nd floor at Fac 520.
- Continued installation of HVAC and plumbing at Fac 520.
- Prefab platform steel at the Sludge Equalization Tank 510.





# GST 361 & 362 AERIAL VIEW

January 15, 2021



# Pad prep is complete at GST 361



# Commenced wall panel installation at GST 362



# Continued dome shoring at GST 362



# HSPS 401, MSB 111, HSPS 402 AERIAL VIEW

January 15, 2021



HSPS 401

MSB 111

HSPS 402

# Continued under slab electrical and plumbing at Fac 401



# Pouring footers and foundation walls (Pump room) at Fac 401



# Continued to FRP can encasements at Fac 402 pump cans





# Installation of low voltage and electrical devices at Fac 111



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

January 15, 2021



520

510

# Delivery of switchgear for Fac 520



# Continued installation of masonry at 3rd floor (Control room) at Fac 520



# Installation of fire sprinkler piping 2<sup>nd</sup> floor at Fac 520



# Commenced ductwork rough-in at Fac 520



# Prefab platform steel at Sludge Equalization Tank 510





# Construction Progress – Administration Building

- Installation of CFMF for Storefront
- Continued Installation of Plumbing Piping
- Installed Roofing at MB
- Installation of the Bridge Crane at MB

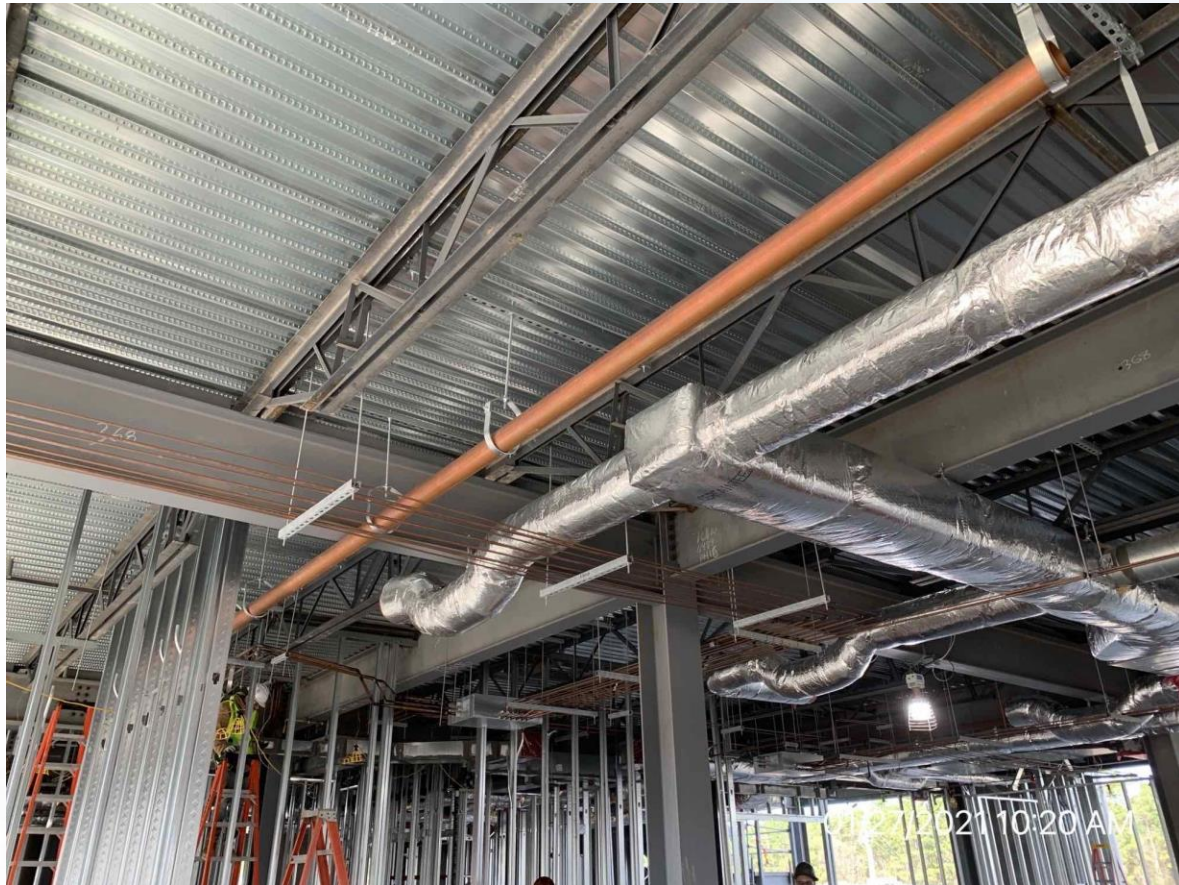




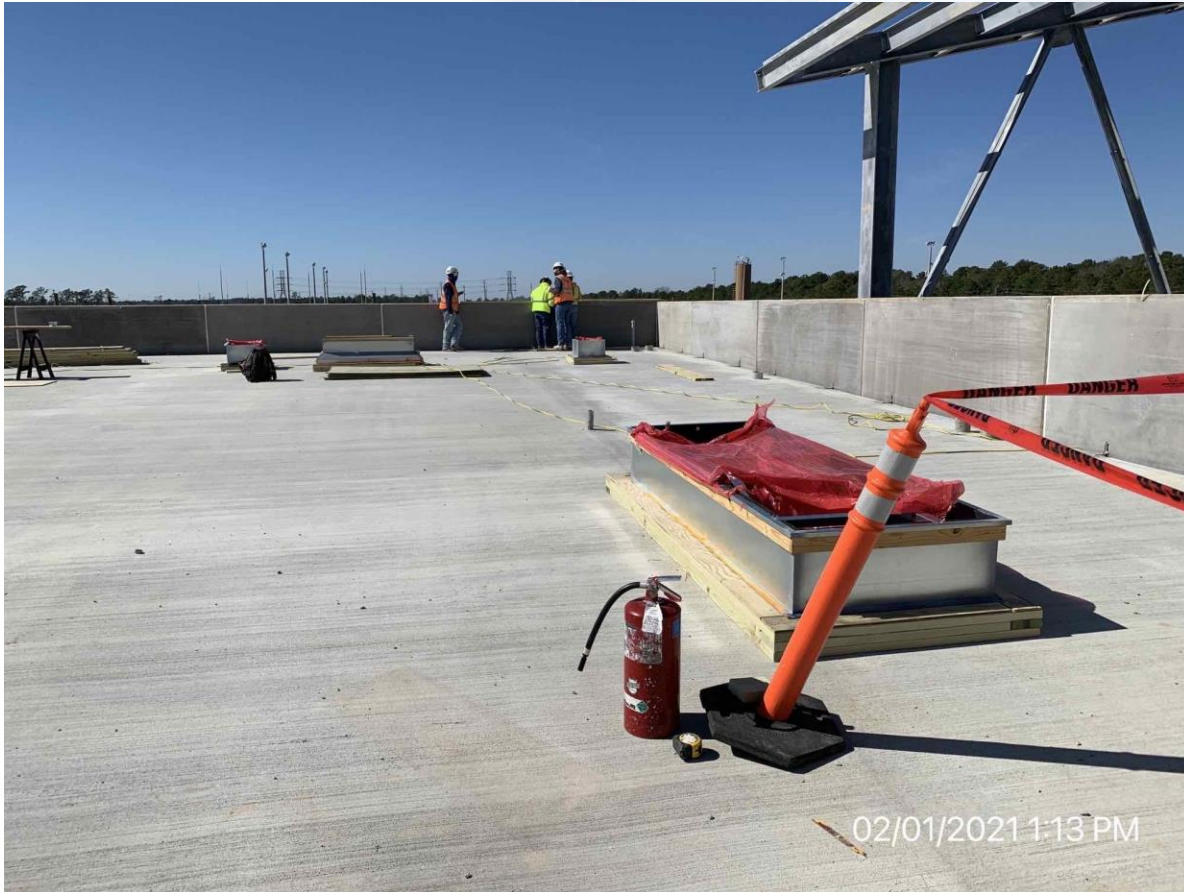
# Installation of CFMF for Storefront



# Continued Installation of Plumbing Piping



# Installation of Roofing at MB



# Installation of the Bridge Crane at MB

