



CITY OF HOUSTON
Houston Public Works

DESIGN-BUILD SERVICES

Northeast Water Purification Plant Expansion

March 24, 2021



Houston Waterworks Team

Site 3D Drone Map March 15, 2021





Construction Progress – Intake Pump Station (IPS)

- Building 142 electrical room dry-in and HVAC duct installation
- Precast concrete panel completed on the West side of the IPS
- Metal decking and TPO roofing installation
- CLSM encasement for the underground 108" pipe
- Fish screen installation at building 142
- CMU installation at the electrical building 152



Building 142 electrical room dry-in and HVAC duct installation



Precast concrete panel completed on the West side of the IPS



Metal decking and TPO roofing installation



CLSM encasement for the underground 108" RW pipe



Fish screen installation at building 142



CMU installation at the electrical building 152





Construction Progress – Site Electrical

- TNT Setting Transformers at 502
- Instillation of 271 Fiber Duct Bank
- SHERMCO Installing Priority Relay Settings at Facility 111



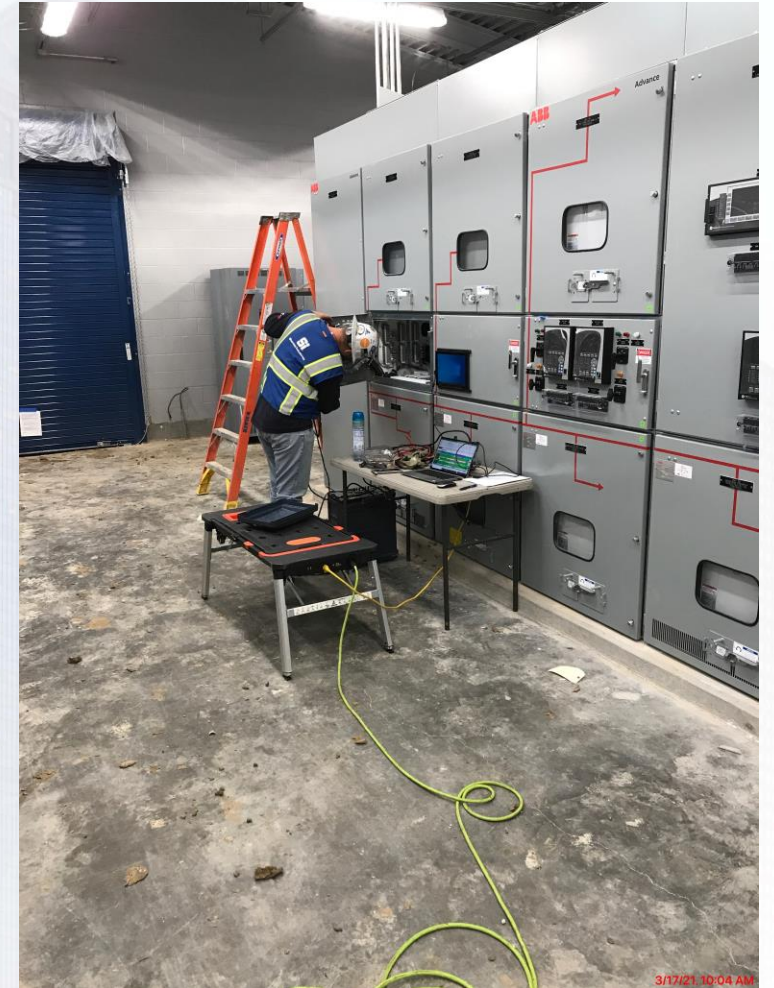
TNT Setting Transformers at 502



Installation of 271 Fiber Duct Bank



SHERMCO Installing Priority Relay Setting at Facility 111

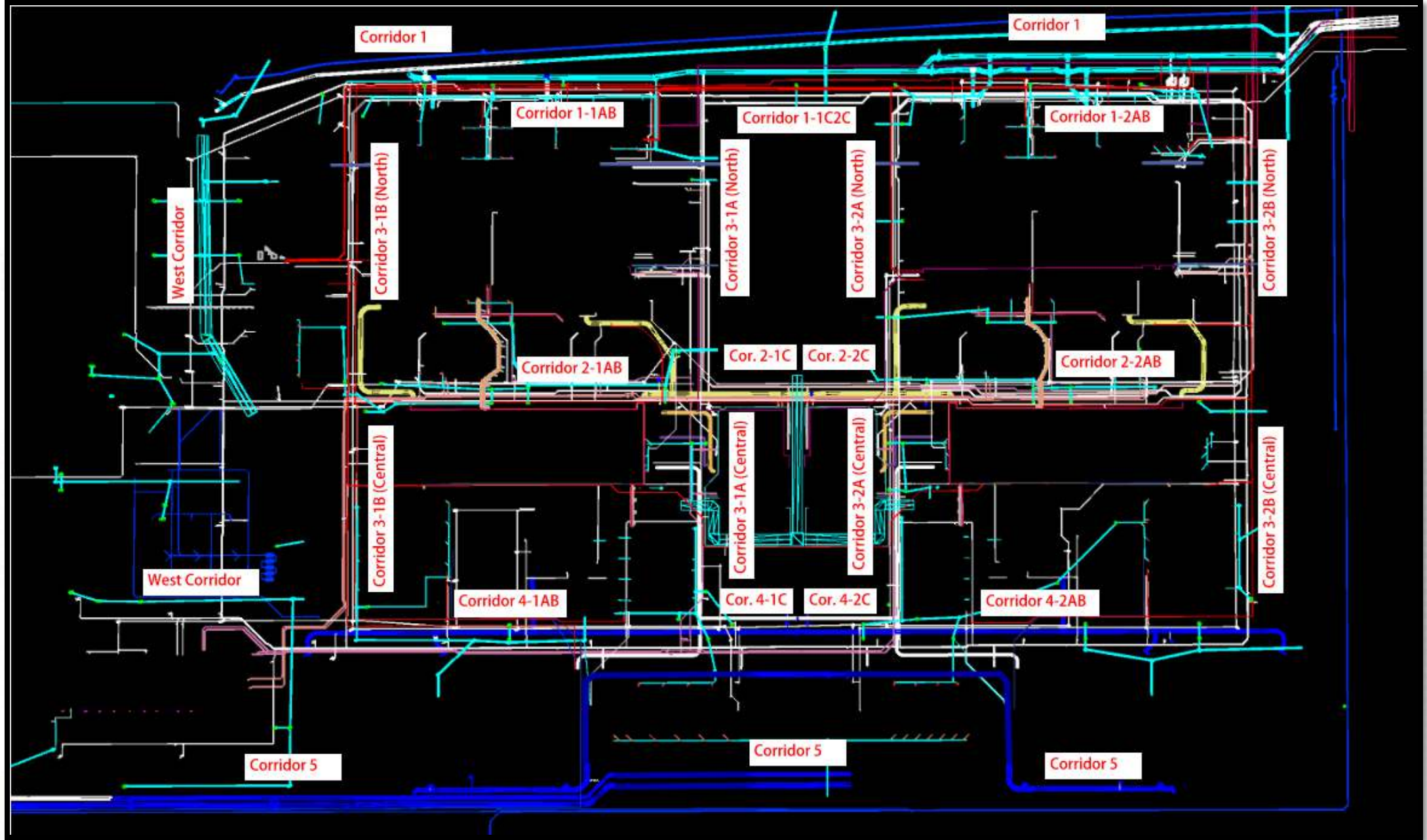




Construction Progress – Yard Piping

- **Welded the 36” tapping saddles on the existing 66” RW main in Corridor 1**
- **Installing 24” RCP Storm and manholes in Corridor 3-1B**
- **Installing 12” & 6” PW lines in Corridor 3-1B**
- **Installing 10” PDR line in Corridor 3-1B North**
- **Installed the 96” Victaulic Coupling for the OZW line in Corridor 2-1AB**
- **Installing the 60” BWS flex couplings at tie-in to Fac. 281 in Corridor 3-1A**
- **Laying the 84” & 120” FW distribution lines in Corridor 5**
- **Bolting and torquing 120” & 84” BFVs on the FW distribution lines in Corridor 5**
- **Setting the 120” FW header piping in Corridor 5 – Phase 2**





Welded the 36" tapping saddles, tested, and patched tape coating at the East Line Stop location of the existing 66" RW main in Corridor 1



Removed the coating, welded, and tested the 36" tapping saddles at the West Line Stop location of the existing 66" RW main in Corridor 1



Covered the tapping saddles and backfilled both locations of the existing 66" RW main in Corridor 1



Installing 24" Storm RCP and manholes in Corridor 3-1B



Installing 12" and 6" PW lines in Corridor 3-1B North



Installing 10" PDR line in Corridor 3-1B North



Installed the 96" Victaulic 257 Coupling for the OZW line in Corridor 2-1AB



Installing the 60" BWS flex couplings at tie-in to Fac. 281 in Corridor 3-1A



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



Bolting and torquing the 120" & 84" BFVs on the FW distribution lines in Corridor 5



Setting the 120" FW header piping in Corridor 5 – Phase 2





Construction Progress – Central Plant

281-FILTER MODULE 1 :

- West Side Masonry
- Finish Trough Installation
- Installing Gallery Piping
- Metal Decking & Roofing Install

291-TRANSFER PUMP STATION 1:

- Completed CMU Walls Placement for Electrical Building
- Place CMU Walls for Analyzer Room
- Install and Pour Encasement for 6" PW and PPW, ¾" SA Lines , and 6" PDR in Mech. Building
- Pour Discharge Pump Mud Slab
- Place Equipment Pads for MV Switchgears and Transformers
- Deliver and Set up MV Switchgears and Transformers in Electrical Room

292-TRANSFER PUMP STATION 2:

- Wall Section B2 and Overflow Channel Columns Concrete pour
- Main Wall Sections Reinforcement
- Main Walls Strip Forms

311-POST CHEMICAL FACILITY 1 SH/CS :

- Surface Preparation and Coating Installation for SH Tanks.
- CMU Placement for Chemical Bldgs.
- Backfill Fill Stations.
- Concrete Pour Tank Fill Stations.

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

- FA Steel Tank Installation.
- LAS and SB FRP Tank Installation.
- Concrete Pour Containment Walls.
- Concrete Pour Equipment Pads.

314 – POST CHEMICAL FACILITY 4 SH/CS :

- Continue Mass Excavations
- Installation of Underground Conduits.

282 -FILTER MODULE 2:

- Pouring Exterior Tall Walls.
- Pouring UMD 13/14

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CENTRAL PLANT- 1st PHASE OVERALL



281-FILTER MODULE- Finish Setting Troughs



281-FILTER MODULE- West Side Masonry



281-FILTER MODULE – Installing Gallery Piping (PPW, V)



281-FILTER MODULE – Installing Metal Decking & TPO Roofing



291-TPS – Aerial View (03/02/2021)



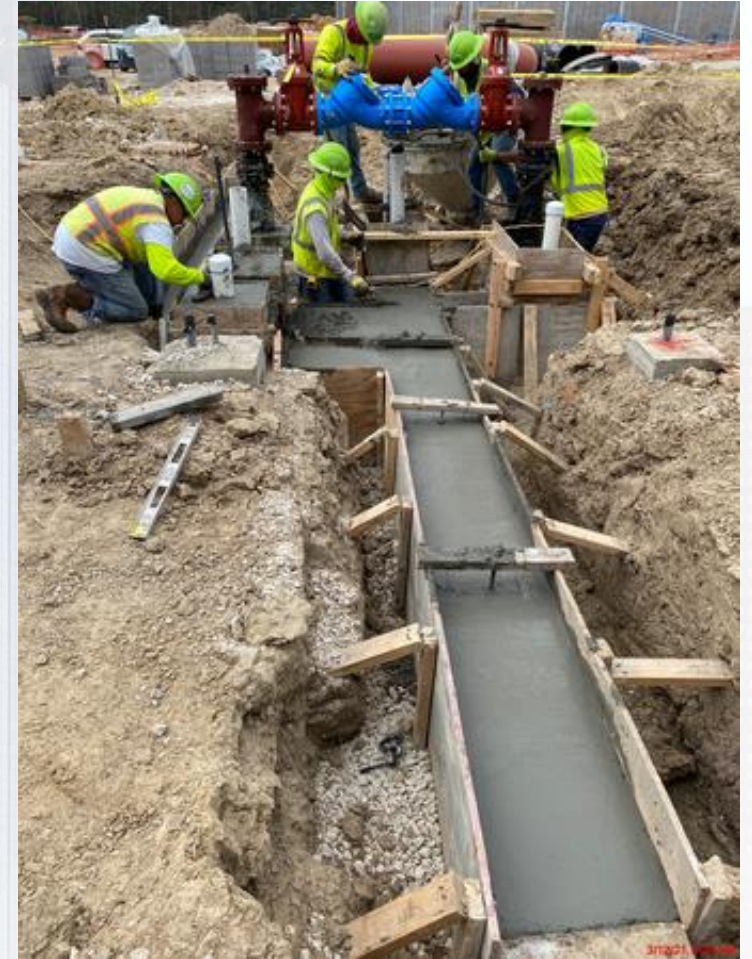
291-TPS – Completed CMU Walls Placement for Electrical Room



291-TPS – CMU Walls Placement for Analyzer Room



291-TPS – Install and Pour Encasement for 6" PW and PPW, ¾" SA Lines, and 6" PDR Lines in Mech. Building



291-TPS – Place Discharge Pump Mud Slab



291-TPS – Place Equipment Pad in Electrical Room



291-TPS – Deliver and Set up MV Switchgears and Transformers in Electrical Room



311 – Aerial view – 03/23/2021



311 - Surface Preparation & Coating SH Tanks



311 – CMU Placement for Chemical Bldgs.



311 – FRP Tank Fill Stations



311 – Backfilling Fill Stations



312 - Overall view 03/23/21



312 -Containment Area: FA Steel Tanks Installation



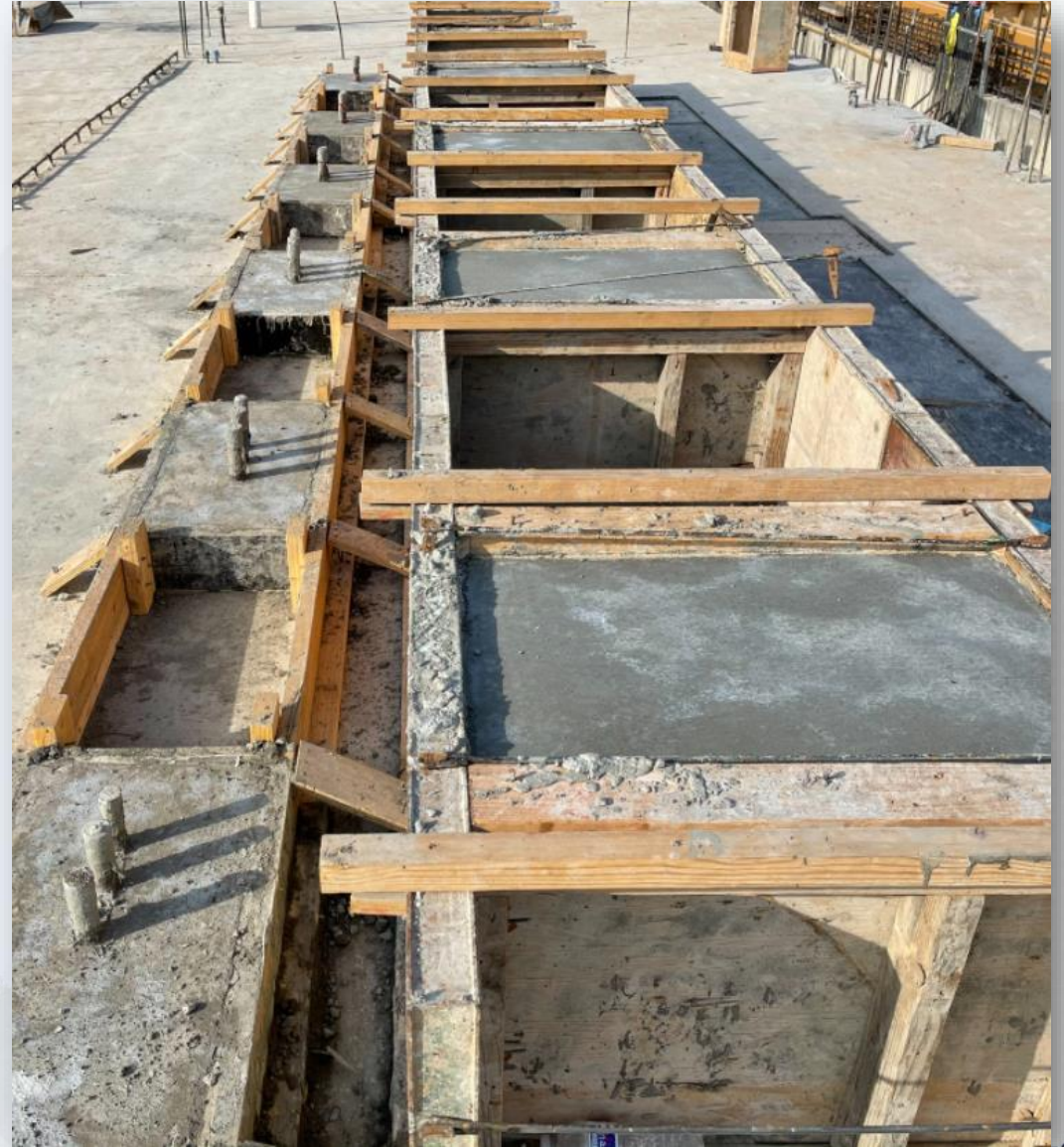
312 -Containment Area: FRP Tank Installation



312 -Containment Area: FRP Containment Walls



312 - FRP Chem Building Equipment pads



314 – Mass excavation



314 – Installation of Underground Conduits



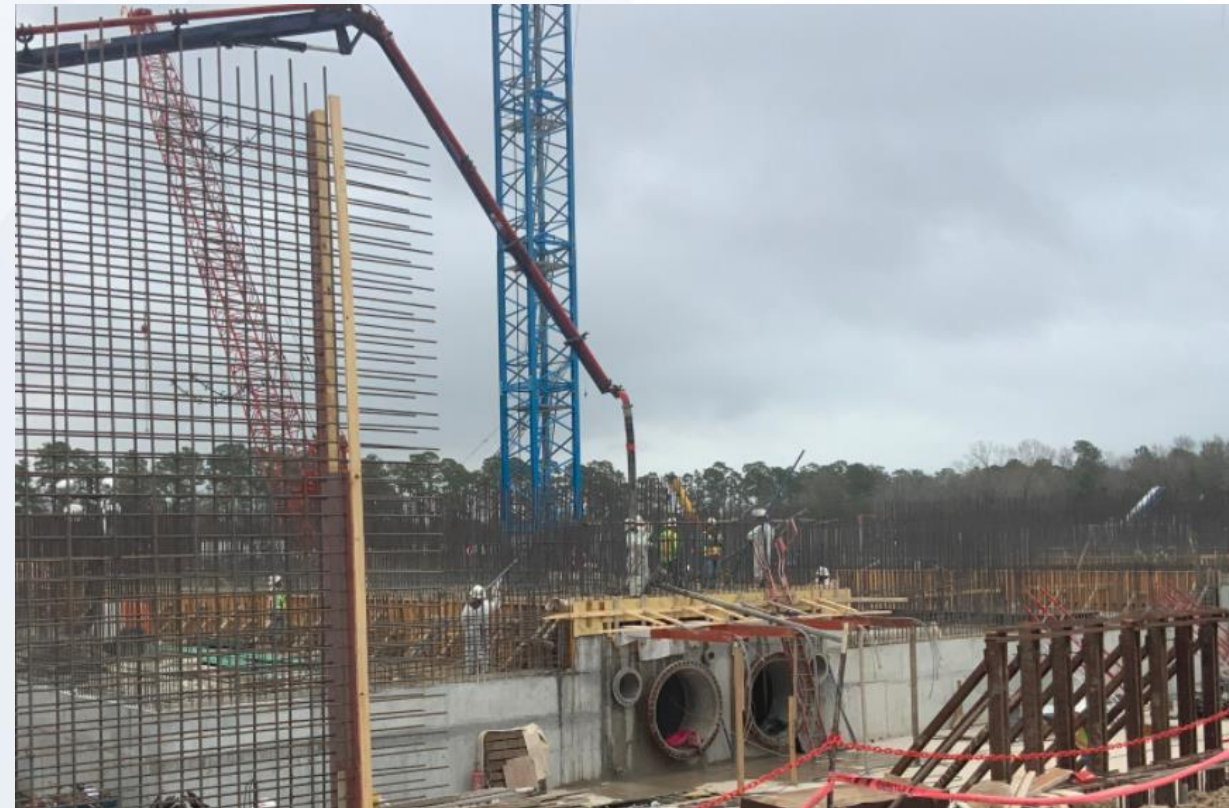
CENTRAL PLANT – 2nd PHASE OVERALL



282-FILTER MODULE 2- Pouring Exterior Tall Walls



282-FILTER MODULE 2- UMD 13/14 Pour



292-TPS – Aerial View (03-02-2021)



292-TPS – Pour Wall Section B2 and Columns at Overflow Channel



292-TPS – Main Wall Sections Reinforcement



292-TPS – Main Walls Strip Forms





Construction Progress – LREQ Basins Facilities 601/602

- **601 – Install 72" Wall Pieces**
- **602 – Concrete Placement Slab Section 4**
- **602 – Concrete Placement Slab Section 6**
- **602 – Formwork and Rebar Installation Slab Section 5**
- **602 – Concrete Placement Slab Section 5**

601 – Install 72" Wall Pieces



602 – Concrete Placement Slab Section 4



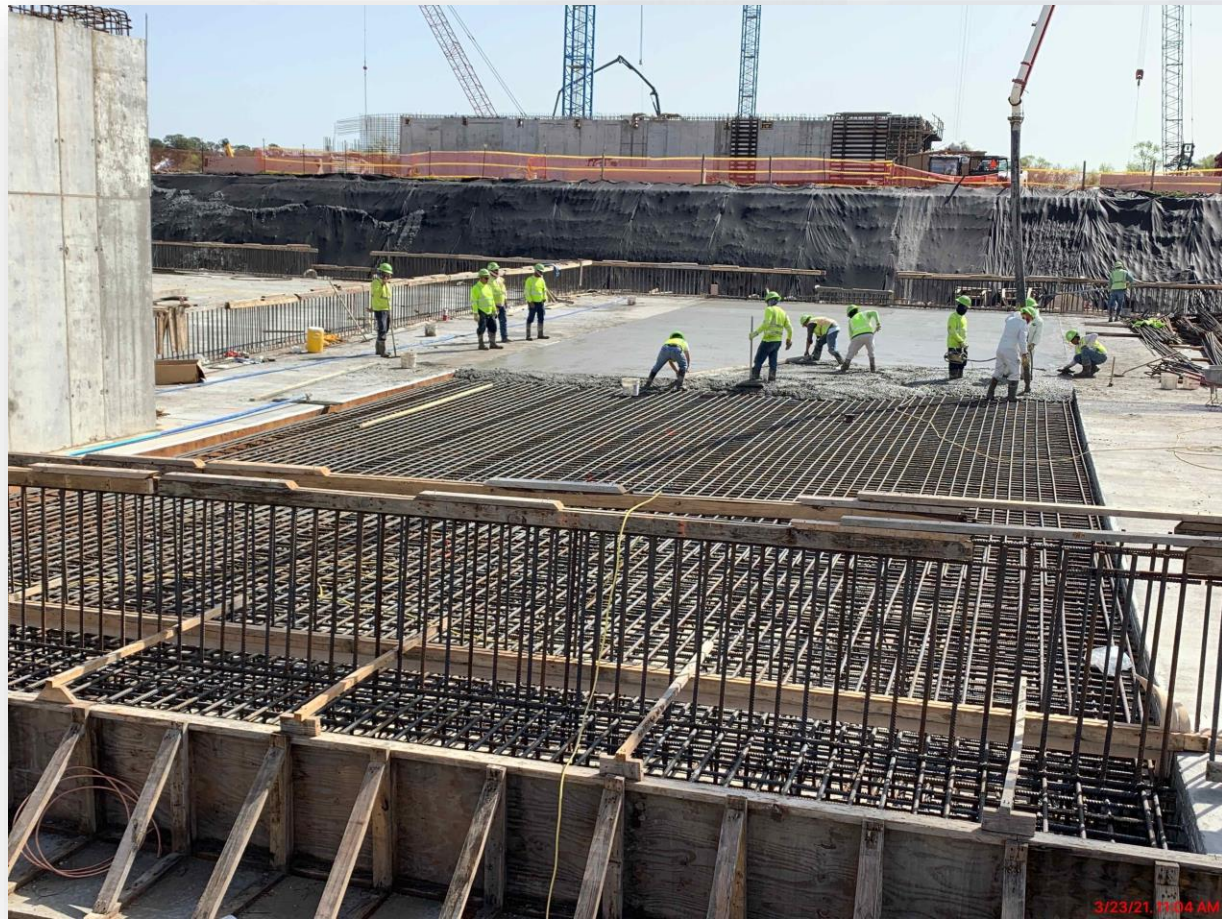
602 – Concrete Placement Slab Section 6



602 – Formwork and Rebar Installation Slab Section 5



602 – Concrete Placement Slab Section 5





Construction Progress – North Plant

201-Chlorine Dioxide Facility 1:

- Area-A Tanks Pads Concrete Pour

211-Pretreatment Chemical Facility 1:

- Area-A Slab Concrete Pour

213-Pretreatment Chemical Facility 3:

- Lime Slurry Tank Top Shell Welding

221-Rapid Mix Train 1:

- Slab on Grade Placement
- Walls F/R/P

224-Rapid Mix Train 4:

- Slab on Grade F/R/P

241-Flocculation & Sedimentation Train 1:

- Slab On Grade Placement
- Knife Walls F/R/P

242-Flocculation & Sedimentation Train 2:

- CWC Walls and Elevated Slabs F/R/P
- PMSL Mixer Storage

503-Gravity Thickener Complex 3:

- TSSB Elevated Slab Formwork

504-Gravity Thickener Complex 4:

- GT-8 Wall-3 F/R/P

611-Liquid Residuals Clarifier Facility 1:

- EL-SL-6 F/R/P

801-Basin Drain Pump Station 1

- Caisson Third Lift F/R/P



201-Chlorine Dioxide Facility 1: Area-A Tanks Pads Concrete Pour



3/16/21 3:34 PM

211-Pretreatment Chemical Facility 1: Area-A Slab Concrete Pour



11/18/21, 10:34 AM
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213-Pretreatment Chemical Facility 3: Lime Slurry Tank Top Shell Welding



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



224-Rapid Mix Train 4: Slab on Grade F/R/P



241-FlocSed Train 1: Slab on Grade Placement and Knife Walls F/R/P



242-FlocSed Train 2: PMSL Motor Storage & CWC Walls/Elevated Decks F/R/P



503-Gravity Thickener Complex 3: TSSB Elevated Slab Formwork



3/16/21, 3:12 PM

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504-Gravity Thickener Complex 4: GT-8 Wall-3 F/R/P



3/16/21, 3:26 PM
HOUSTON waterworks Team



611-Liquid Residuals Clarifier Facility 1: EL-S-6 F/R/P



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





Construction Progress – South Plant

- Commenced footing and floor reinforcing at GST 361.
- Completed wall panel pouring at GST 361.
- Continued shoring erection at GST 362.
- Completed interior shotcrete diaphragm and commenced exterior at GST 362.
- Commenced Forming footers for the electrical room at Fac 401.
- Installing under slab electrical & plumbing utilities at Fac 401.
- Final backfilling around 48" and 102" header at Fac 401.
- Site work to prepare for supports for 78" at Fac 402.
- Facility 111 expected to be energized with permanent power from Facility 102 ~ soon.
- Commenced punch-list at Fac 111.
- Continued installation fire piping on the 2nd & 3rd floor at Fac 520.
- Continued installation of HVAC at the 2nd & 3rd floor at Fac 520.
- Completed delivery and placement of switchgear and MCC's at the electrical room 2nd floor at Fac 520.
- Continued installing caulking in-between precast panels at Fac 520.
- Continued installing CMU at the 3rd floor at Fac 520.
- Commenced installation of CMU near the stairs at the 2nd and 3rd floor at Fac 520.
- Completed placement of mixers at Fac 510.
- Commenced installation of structural steel stairs and bridge at Fac 510.
- Commenced ductile iron process piping at facility 510 + 520.



GST 361 & 362 AERIAL VIEW

March 4, 2021



GST 361

GST 362

GROUND STORAGE TANK 361



Commenced footing and floor reinforcing at GST 361



Completed wall panel pouring at GST 361

GROUND STORAGE TANK 362



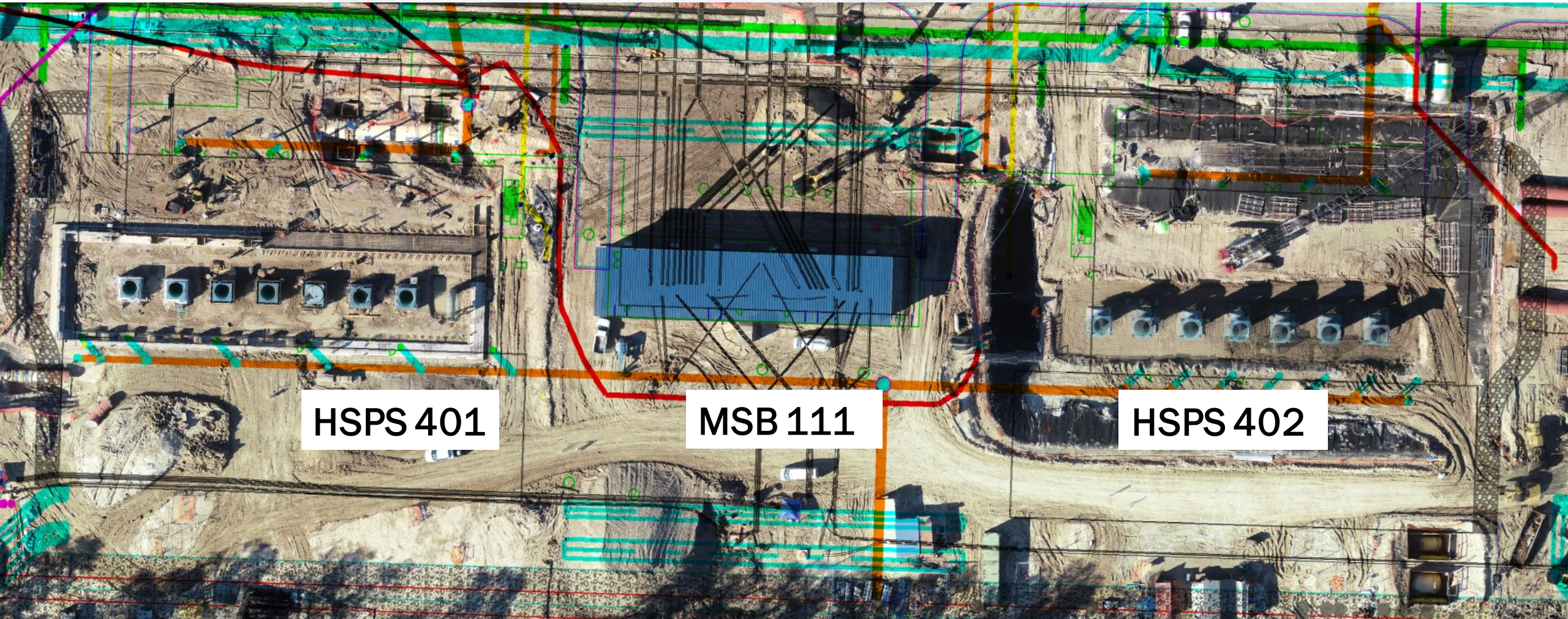
Continued shoring erection at GST 362



Completed interior shotcrete diaphragm and commenced exterior at GST 362

HSPS 401, MSB 111, HSPS 402 AERIAL VIEW

March 4, 2021



HSPS 401

MSB 111

HSPS 402

HIGH SERVICE PUMP STATION 401



Forming footers for the pump room at Fac 401



Installing under slab electrical & plumbing utilities at Fac 401



Final backfilling around 48" and 102" header at Fac 401

HIGH SERVICE PUMP STATION 402



Site work to prepare for supports for 78" at Fac 402

MAIN SWITCHGEAR BUILDING 111



Ready to be energized with permanent power from Facility 102 ~



Commenced punch-list

**DEWATERING BUILDING 520 &
THICKENED SLUDGE EQUALIZATION TANK 510 AERIAL VIEW**
March 4, 2021



DEWATERING BUILDING 520



Continued installing fire protection piping on the 2nd & 3rd floor at Fac 520



Continued installation of HVAC at the 2nd & 3rd floor at Fac 520

DEWATERING BUILDING 520

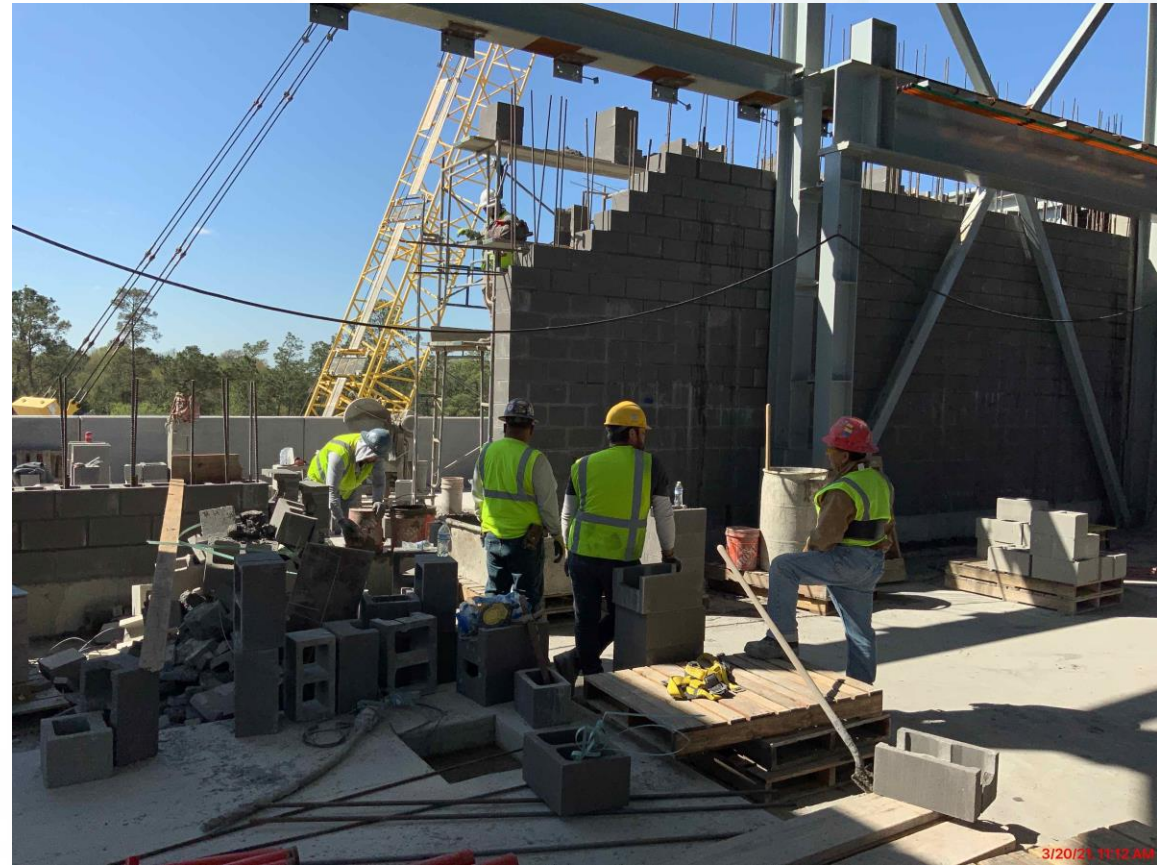


Centrifuges have been put into Maintenance mode and have been rotated per manufacturer recommendations



Continued installing caulking in-between precast panels

DEWATERING BUILDING 520



Continued installing CMU at the 3rd floor



Commenced installation of CMU near the stairs at the 2nd and 3rd floors

Sludge Equalization Tank 510



Commenced placement of mixers



Commenced installation of structural steel stairs and bridge



Construction Progress – Administration Building

- Installed HVAC Equipment
- Installed Oil & Water Separator
- Installed Curtain Wall Supports
- Installed Fire Riser Pipe
- Installed Roof Rigid Installation and TPO for AB Roof

Installation of AB HVAC Equipment



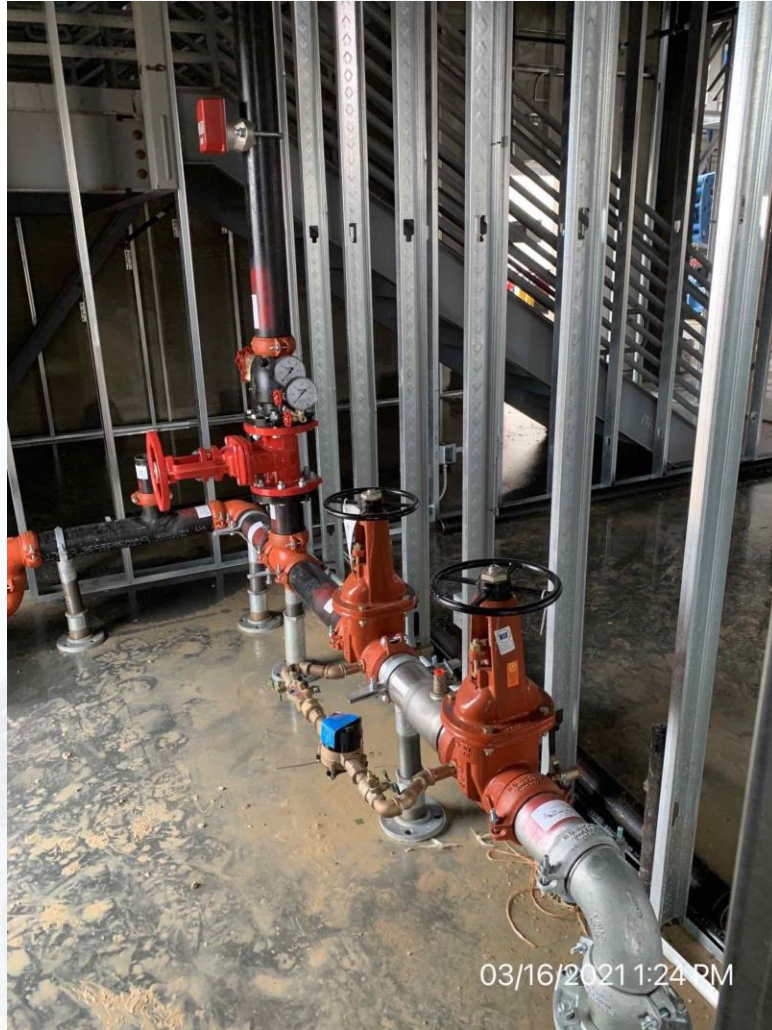
Installation of Oil & Water Separator



Installation of Curtain Wall Supports



Installation of Fire Riser Pipe



Installation of Roof Rigid Installation and TPO



