



**CITY OF HOUSTON**  
Houston Public Works

# DESIGN-BUILD SERVICES

# Northeast Water Purification Plant Expansion

January 29, 2020



**Houston Waterworks Team**



# Drone Site Map: Jan 21, 2020



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

## **HWT Site Crew**

- **Managing soils and sand stockpiles**
- **Maintaining Roads**
- **Pouring concrete pads for safety bollards around holding tanks, water meter, and fire hydrants at Trailer City 2.0**
- **Prepped and placed asphalt paving for Trailer City 1.0.**

## **DCN-04/Pond 1 Expansion:**

- **Hydro-excavate/pothole existing 84” FW line for storm pipe crossing**
- **Clearing and grubbing the existing NEWPP detention pond**



# Trailer City 2.0 – Formed & Poured Bollards & Pads





# Prepping for Asphalt Paving in Trailer City





# Asphalt Paving in Trailer City





# DCN-04/Pond 1 – Hydro-excavating/potholing existing 84” FW





# DCN-04/Pond 1 – Removed Guardrail and clearing existing NEWPP storm detention Pond





# Construction Progress – Existing Plant Duct Bank EWP-6 / Site Electrical BOP

- **Facility 111 Main Electrical Under Slab Duct Bank**
- **Existing Plant Concrete Cutting, Slab Removal and Manhole Staging**
- **Hydro Excavating in Existing Plant**



# Under Slab Conduit Placement at Facility 111





# Existing Plant Concrete Saw Cutting and Slab Removal





# Hydro Excavating North-South Road in Existing Plant





# Construction Progress – EWP 4 Raw Water Corridor

- Trench shoring installation and excavation in West Corridor
- CLSM Placement
- Manhole Installation
- Welding and grouting joints
- Storm Drainage Installation



# Sta 128+50 Pipe Installation



1/21/20 2:29 PM

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# Sta 128+50 Trench





# Sta 128+50 Pipe Installation





# Sta 128+50 Rolling offset at Existing 66" RW



1/21/20, 2:27 PM

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# Sta 142+50 CLSM Placement



1/21/20, 2:34 PM

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# Sta 134+50 Pipe Installation at Tunnel 2.0



1/21/20, 2:32 PM  
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# Sta 134+50 Pipe Installation



1/31/20, 2:32 PM



# Construction Progress – Central Plant

## **281-FILTER MODULE 1 :**

- **Reinforcing & Pouring A2B**
- **Pouring Top Deck D3**
- **Reinforcing/Forming/Pouring Drop Decks ( Manifolds 7-12)**
- **Backfilling A2B sub-grade & below OZW Channel Deck**
- **Top Deck D2 Reinforcing & Area C Shoring**
- **Forming/Pouring Walls**

## **291-TPS:**

- **Installed 84" Interior Wall Spools**
- **Poured 2nd and 3rd lifts of Pump Can Encasements**
- **Installed 60" Suction pipes (East Half)**
- **Backfilled Pump Cans Area W/CLSM (2 Lifts of 5')**

## **282 -FILTER MODULE 2:**

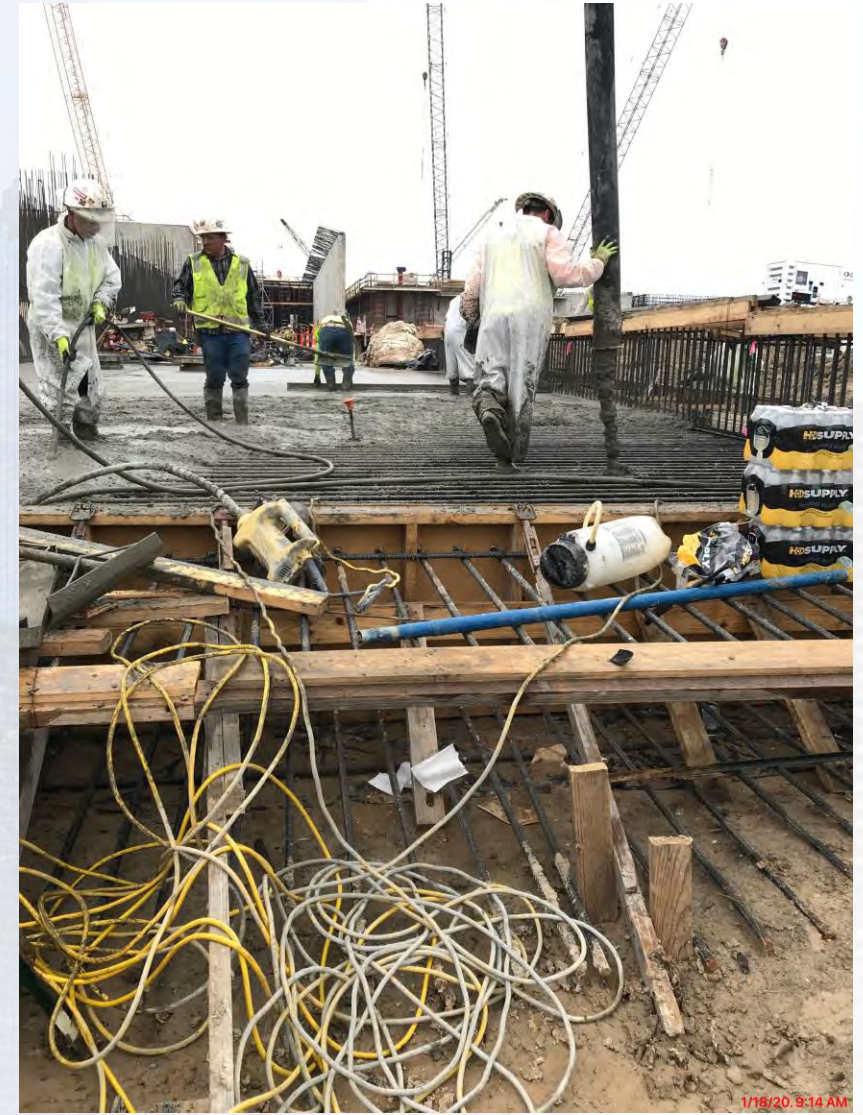
- **Interconnect Vault Sub-grade Preparation & Seal Slab**
- **Tower Crane Seal Slabs**

## **292 – TRANSFER PUMP STATION 2**

- **Mass Excavation**



# 281-FILTER MODULE- Reinforcing & Pouring A2B



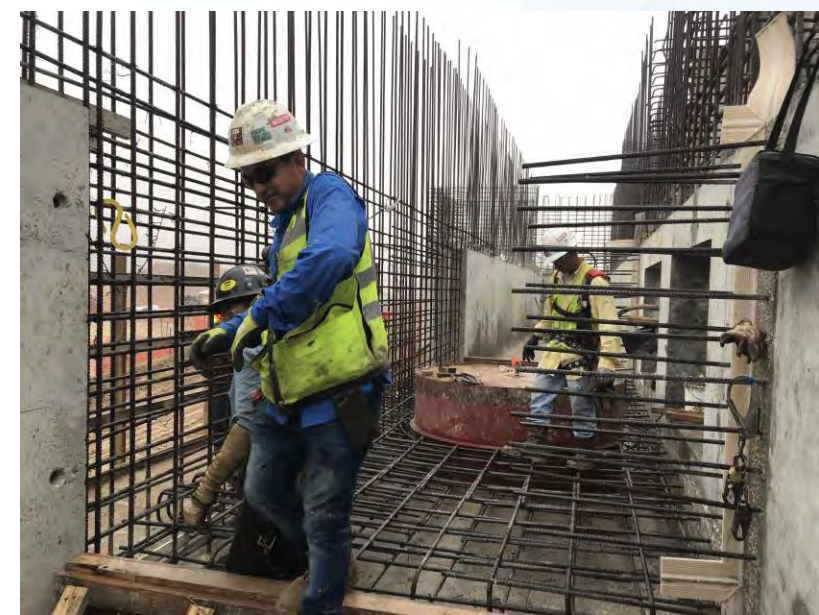


# 281-FILTER MODULE- Pouring Top Deck D3





# 281-FILTER MODULE- Reinforcing/Forming/Pouring Drop Decks ( Manifolds 7-12)





# 281-FILTER MODULE- Backfilling A2B sub-grade & below OZW Channel Deck



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# 281-FILTER MODULE- Top Deck D2 Reinforcing & Area C Shoring





# 281-FILTER MODULE- Forming/Pouring Walls





# TPS – Install 84" Interior Wall Spools





# TPS – Poured 2nd and 3rd lifts of Pump Can Encasements 1,3, and 5





# TPS – Installed 60" Suction pipes (East Half)





# TPS – Backfilled Pump Cans Area W/CLSM (2 Lifts of 5')





# 282-FILTER MODULE- I.C. Vault Sub-Grade preparation & Seal Slab Pour





# 282-FILTER MODULE- Tower Crane Seal Slab



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# 292-TRANSFER PUMP STATION 2- MASS EXCAVATION





# Construction Progress – EWP 6 North Plant

- **Facility 213 Subgrade Prep and Mud Mat**
- **Facility 214 Slab-on-grade F/R/P**
- **Facility 222 Sump and Slab-on-grade F/R/P**
- **Facility 241 Stem Wall F/R/P**
- **Facility 242 Stem Wall F/R/P**
- **Facility 242 Cross Collector Wall F/R/P**
- **Facility 611 Cross Collector slab-on-grade F/R/P**
- **Facility 611 slab-on-grade subgrade preparation**



# Facility 213 Subgrade and Mud Mat Prep





# Facility 214 Slab-on-grade F/R/P





# Facility 222 Slab-on-grade Wall Formwork Erection



10/18/19 11:01 AM

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# Facility 222 78 inch RW Pipe



10/24/19 9:41 AM





# Facility 242 Slab-on-grade F/R/P





# Facility 241/2421 Stem Walls F/R/P/S





# Facility 611 Cross Collector Backfill





# Facility 611 Sedimentation Basin Slab-on-grade



10/28/19 9:14 AM





# Construction Progress – EWP 6 IPS

- **Final Completion of 120" Casing**
- **Completion of Deck Pour 2**
- **Resetting Falsework For Next Phase of Deck Pours**
- **Drone Photo of Completed Phase 1 Deck Pour**



# Final 120" Casing

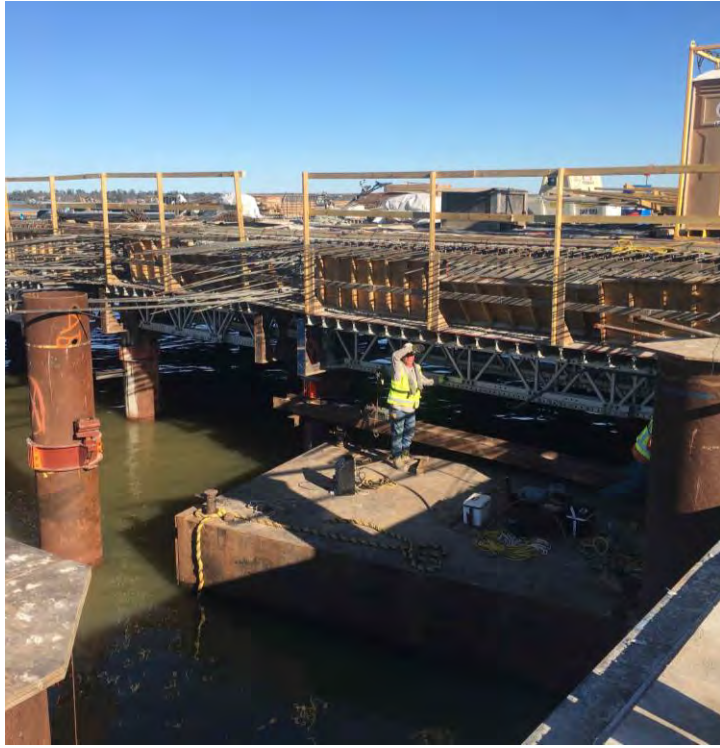






## Deck Pour 2





# Resetting False Work





Drone  
Photo



# Construction Progress – EWP 6 Substation Facility 102

- **Ground steel and install bus supports**
- **Install and ground steel/Install bus supports**



# Dielectric on transformers and topped of the oil, Install two NGR's for transformer, Install ground conduit for the central breaker





# Install and ground steel/Install bus supports





# Construction Progress – BOP LREQ Basins Facilities 601/602

- Facility 601/602 Excavation Progress
- Continue mass excavation at Facility 601
- Rebar install for Base slab around pump station for 601/602



# Facility 601/602 Excavation Progress





# Continue mass excavation at Facility 601





# Continue mass excavation at Facility 601





# Rebar install for Base slab around pump station for 601/602





# Construction Progress – Yard Piping

- Installing and welding 66” RW steel pipe line in Corridor 1
- Installing and welding 108” RW steel pipe line in Corridor 1
- Installing 84” & 96” FW steel pipe in Corridor 4
- Installing two 16” TSL ductile iron pipe lines in Corridor 2
- Installing two 16” Centrate lines in Corridor 4
- Installing Double 8’x4’ storm box culverts in Admin area
- Hydro-excavating to locate the existing 66” RW Pipe
- Installing 24” PW in Corridor 4
- Installing 24” Decant line in Corridor 2



# Laying and backfilling 66" RW steel pipe line in Corridor 1





# Laying and backfilling 108-in RW steel pipe line in Corridor 1





# Installing 84" & 96" FW steel pipe in Corridor 4





# Installing two 16" TSL ductile iron pipe lines in Corridor 2





# Installing two 16" Centrate lines in Corridor 4





# Installing Double 8'x4' storm box culverts in Admin area





# Hydro-excavating to locate the existing 66" RW Pipe



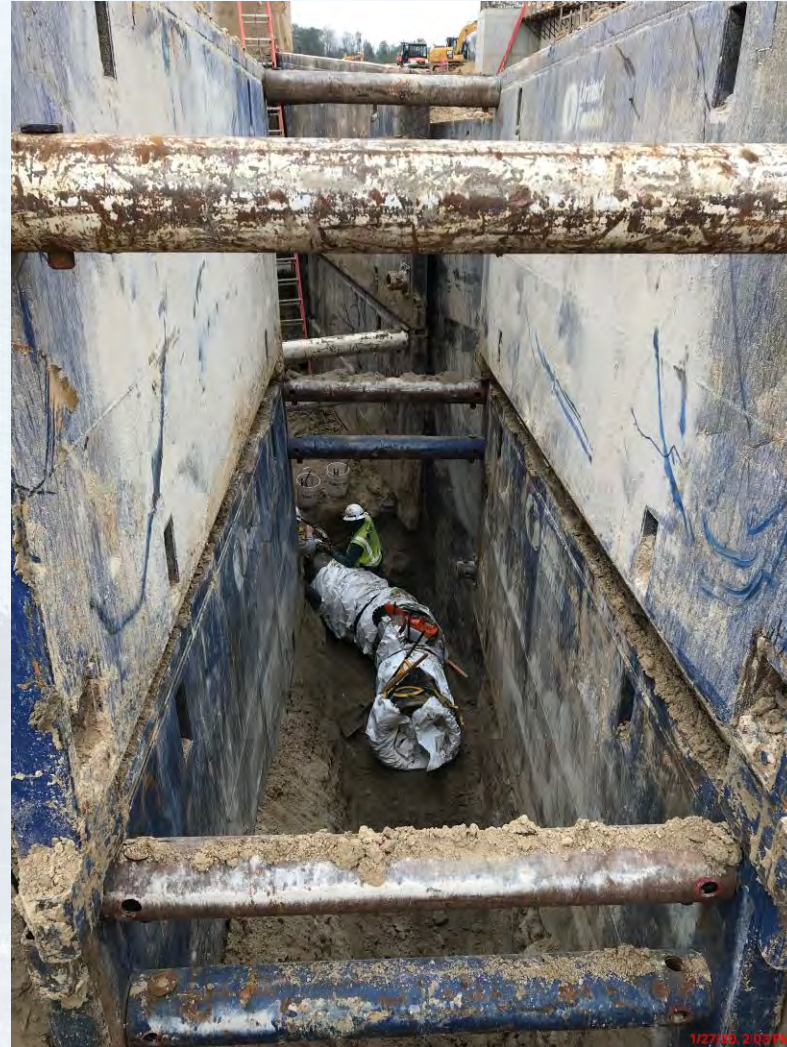


# Installing 24" PW in Corridor 4





# Installing 24" DEC line in Corridor 2





# Construction Progress – Administration Building

- Backfilling Admin and Maintenance pads to EL 46 and 48, respectively.
- Performed density tests of 8" lifts.



# Backfill and Compaction





# Performed Density Tests





# Construction Progress – South Plant

- Putting mud slab and excavation for 45° 84" pipe
- Installing electrical conduit at Main Switchgear 111
- Excavation and dewatering for HSPS 401 pump cans



# Putting mud slab and excavation for 45° 84" pipe





# Installing electrical conduit at Main Switchgear 111





# Excavation and dewatering for HSPS 401 pump cans

