NEWPP EXPANSION

- Project Background & Status
- Amendment Process
- Construction Services
- Early Work Packages (EWPs)
- MWBE Update
- Council Actions
Project Background & Current Status
NEWPP Expansion necessary for growth & subsidence regulations

% of Water Demand Supplied by Surface Water

- Current requirement: 30%
- January 2025 requirement: 60%
- January 2035 requirement: 90%

NEWPP Expansion necessary for growth & subsidence regulations.
NEWPP Expansion is one piece of a regional water delivery plan

- **Luce Bayou Interbasin Transfer (CWA Project)** (2019 completion)
- **Finished Water TM** (2021 Completion)
- **New Plant & Intake** (2024 Completion)
- **Trinity River**
- **Lake Houston**
NEWPP being delivered using progressive design-build

Delivery method selected for:
- Schedule certainty
- Cost certainty
- Ability to have input on design & ensure quality
- Ability to avoid liability gap between designer and builder
Project is midway through the Preliminary Services phase

Preliminary Services

- Basis of Design
  - Component 1
  - Component 2*

Final Design & Construction Services

- GMP Proposal
- Phase 1 (80 mgd) milestone: NLT 8/31/21
- Phase 2 (240 mgd) milestone: NLT 6/30/24

NEWPP Construction

- Early Work Packages
- Transition & Warranty Services
- Final Acceptance

Contract Award & NTP
Amendments 1-7 Approval
GMP Amendment Approval

* Design & pre-construction services
Design of 320 MGD expansion is nearing 30% completion milestone
Design of major facilities is in progress

Admin Building

Dewatering Building

Intake Pump Station
Community awareness and outreach is ongoing

- Website established – greaterhoustonwater.com
- Hotline established – (281) 520-3777
- Two public meetings held:
  - October 25, 2017
  - November 15, 2017
- Over 75 contractor outreach events between February & November of 2017, including:
  - National Association of Minority Contractors
  - PWE Contracts in 5
  - Greater Houston Black Chamber of Commerce
  - Greater Houston Business Procurement Forum
  - Women Contractor’s Association
  - Houston Contractor’s Association
Process for Amending the DB Agreement
Houston is delivering project on behalf of four Authority partners

Cost Share

- North Harris County Regional Water Authority: 35.31%
- West Harris County Regional Water Authority: 25.76%
- North Fort Bend Water Authority: 21.41%
- City of Houston: 16.00%
- Central Harris County Regional Water Authority: 1.53%
Authority & City consensus required to approve amendments

Article VI of the Second Supplement Contracts between each Authority and the City requires Authority consensus for approval of all contract amendments. A weighted vote that exceeds 63% must be achieved to approve an item.

* Weighted consensus based on the following cost share percentages:
  NHCRWA - 35.3%, WHCRWA - 25.8%, NFBWA - 21.4%, Houston - 16%, CHCRWA - 1.5%
Construction Services
Bottom-up approach used to enhance project quality

- **City/PATC**
- **Inspection Team**
- **HWT**

**PROJECT MANAGEMENT TEAM**
- Construction auditing & oversight to ensure City “gets what we are paying for.”
- Separate team from construction team providing quality assurance and materials testing inspection.
- Contractually responsible for construction management and quality control. Area superintendents monitor for quality.
- Quality used as component of selection criteria, dedicated quality managers, package-specific quality management plans.
- Crews invested in quality management plans and participate in preparatory phase. Superintendents responsible for production, safety, and quality.
Construction services includes two separate components

<table>
<thead>
<tr>
<th>Auditing &amp; Oversight (performed by City/PATC)</th>
<th>Construction Management &amp; Inspection (CM&amp;I) (performed by HWT)</th>
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</thead>
<tbody>
<tr>
<td>Texas Code 2269.356 requires independent:</td>
<td>HWT is contractually responsible to both design and construct the NEWPP Expansion. As such, they must be in complete control of all design and construction functions, including CM&amp;I.</td>
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<td>• inspection services</td>
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<td>• construction materials engineering and testing</td>
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<td>• verification testing services</td>
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<td>Services include auditing &amp; field engineering</td>
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<td>Meets requirements of Design-Build (DB) Agreement</td>
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<tr>
<td>Approach approved by Authorities</td>
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<tr>
<td>Approach presented to TTI on May 8, 2017 &amp; approved by Council on June 20, 2017 for EWPs</td>
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<td>DB Agreement requires HWT to:</td>
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<td>• Certify that components conform to the Contract Standards without exception.</td>
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<td>• Supervise, direct, and inspect the Work.</td>
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<td>• Provide full-time construction management and construction inspectors.</td>
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<td>• Guarantee performance at the completion of construction, which require that they manage all aspects of the design, construction, and start-up.</td>
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Early Work Packages (EWPs)
Early Work Packages (EWPs)

*TTI Committee previously briefed on May 8, 2017 regarding EWPs
Early Work Package 1 – Site Prep

**Project Description**
- Clear and grub 90 acre site
- Stormwater management
- Construction access roads
- Construction trailers and utilities
- Mass excavation
- Relocate site utilities
- Dewater site
- Construction electrical drops and lighting
- Site survey – baseline
- Construction fence

**Timeline**
- Jul-17 to Aug-17: GMP/Amendment Negotiations
- Sep-17 to Oct-17: RCA/Council Process
- Nov-17 to Jan-18: Construction
- Council Action/NTP
- Final Completion

**Map**
- Clearing, grubbing, excavation, stormwater, temporary fencing
- Trailers
# Early Work Package 4 – Raw Water Transmission Mains

## Project Description
- Install two 108” pipelines
- Tunnel under West Lake Houston Parkway
- Install electrical ductbank to Intake Pump Station
- Install chemical piping to Intake Pump Station
- Cathodic Protection

## Timeline

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<td>Final Completion</td>
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WATER PURIFICATION PLANT EXPANSION
Early Work Package 2 – West Filters & Concrete Batch Plant

**Project Description**
- Concrete batch plant installation
- Underslab piping for West Filter and Transfer Pumping Station
- Concrete structure for West Filter and Transfer Pumping Station
- Dewatering

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<td>GMP/Amendment Negotiations</td>
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Subconsultant & Subcontractor Participation Update
MWBE Participation for EWP # 1

MWBE Firms include Landtech, Fence Master, Construction Diversity Group, Lazer, and Emerald

Estimated M/WBE Participation for EWP 1*
($13.8M of $17.18M direct construction cost)

- 80.3%
- 19.7%

*Estimated value based on latest GMP direct construction cost. Values to be committed once GMP Amendment executed.
MWBE Participation for EWP # 4

Estimated M/WBE Participation for EWP 4*
($5.5M of $32.2M direct construction cost)

MWBE Firms include Republic Traffic Safety, J Simmons, Fierro Group, Z Logistics, M&D Foundation, AGS Consultants, All Steel.

*Estimated value based on latest GMP direct construction cost. Values to be committed once GMP Amendment executed.
## Authorizations to Date

<table>
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<tr>
<th>Approval For</th>
<th>Appropriated to Date ($)</th>
<th>Authorized to Date ($)</th>
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<tr>
<td>HWT</td>
<td>$ 82,300,000</td>
<td>$ 68,434,000</td>
<td>$ 30,307,950</td>
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<td>PATC</td>
<td>$ 33,917,174</td>
<td>$ 26,394,869</td>
<td>$ 15,183,905</td>
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Subconsultant participation - HWT

Based on Approved Invoices through October 2017

Percentages paid to subconsultant partners through October

- HWT 70.61%
- MWBEs 24.51%
- Regional (Binkley & Barfield, RPS Klotz) 4.88%

Percentages by category through October

CM&I – cost range 4% -7%
TLC Engineering & Geotest are part of CM & I
Subconsultant participation - PATC

Based on Approved Invoices through October 2017

Percentages paid to subconsultant partners through October

Percentages by category through October

MWBEs 24.42%
Regional (SWCA, CP&Y) 8.06%
Carollo 67.52%

Construction Auditing - cost range 1% - 2%; RPH, EJES, and HVJ are part of audit team
Requests for Council Action
## Upcoming Requests for Council Action

<table>
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<tr>
<th>Request for Council Action</th>
<th>Approximate Date</th>
<th>Amount ($)</th>
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<tr>
<td>Approve Amendment 4 – EWP #1</td>
<td>Mid-Dec 2017¹</td>
<td>$37.3M GMP</td>
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<tr>
<td>Approve Amendment 5 – EWP #4</td>
<td>Mid-Jan 2018²</td>
<td>≈ $57M</td>
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<td>Approve Amendment 6 – EWP #2</td>
<td>Late-Feb 2018</td>
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<td>Approve Amendment 7 – EWP #5</td>
<td>Spring 2018</td>
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<td>Approve GMP Amendment</td>
<td>Fall 2018</td>
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<tr>
<td>Approve PATC W.O. #10 Amendment</td>
<td>Dec 2018</td>
<td>TBD</td>
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¹ December action needed to avoid cost and schedule impacts to project.

² January action needed to avoid cost and schedule impacts to project.