



Construction Quality Assurance and Quality Control Overview

Transportation, Technology & Infrastructure Committee

December 10, 2018



APPROACH

- State of Texas Requirements
- Industry Best Practices
- Collaboration between Design-Builder and Project Management Team
- Full Team Participation
- Commitment to Excellence

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Background

2

Construction Quality Assurance & Quality Control

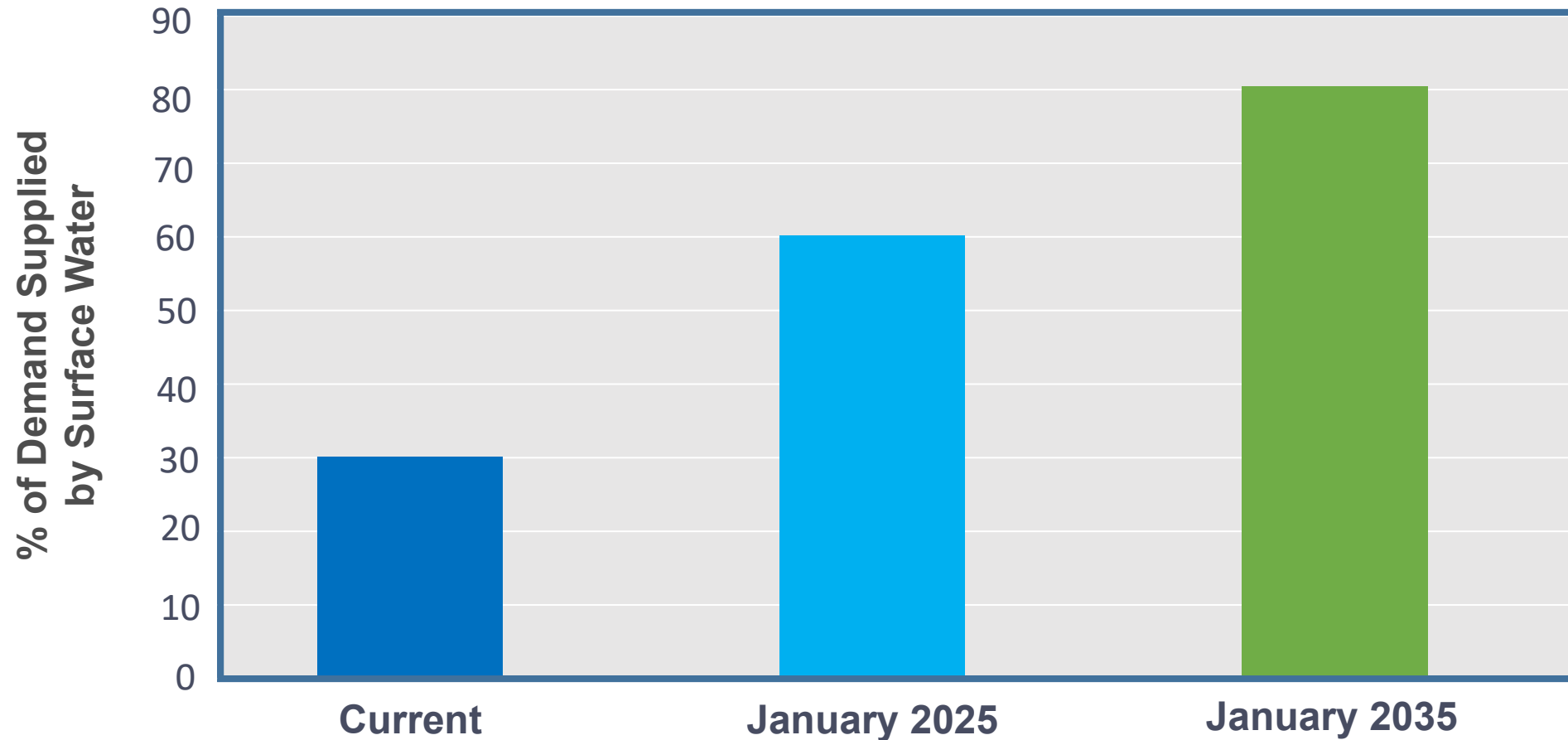
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Upcoming Requests for Council Action

1

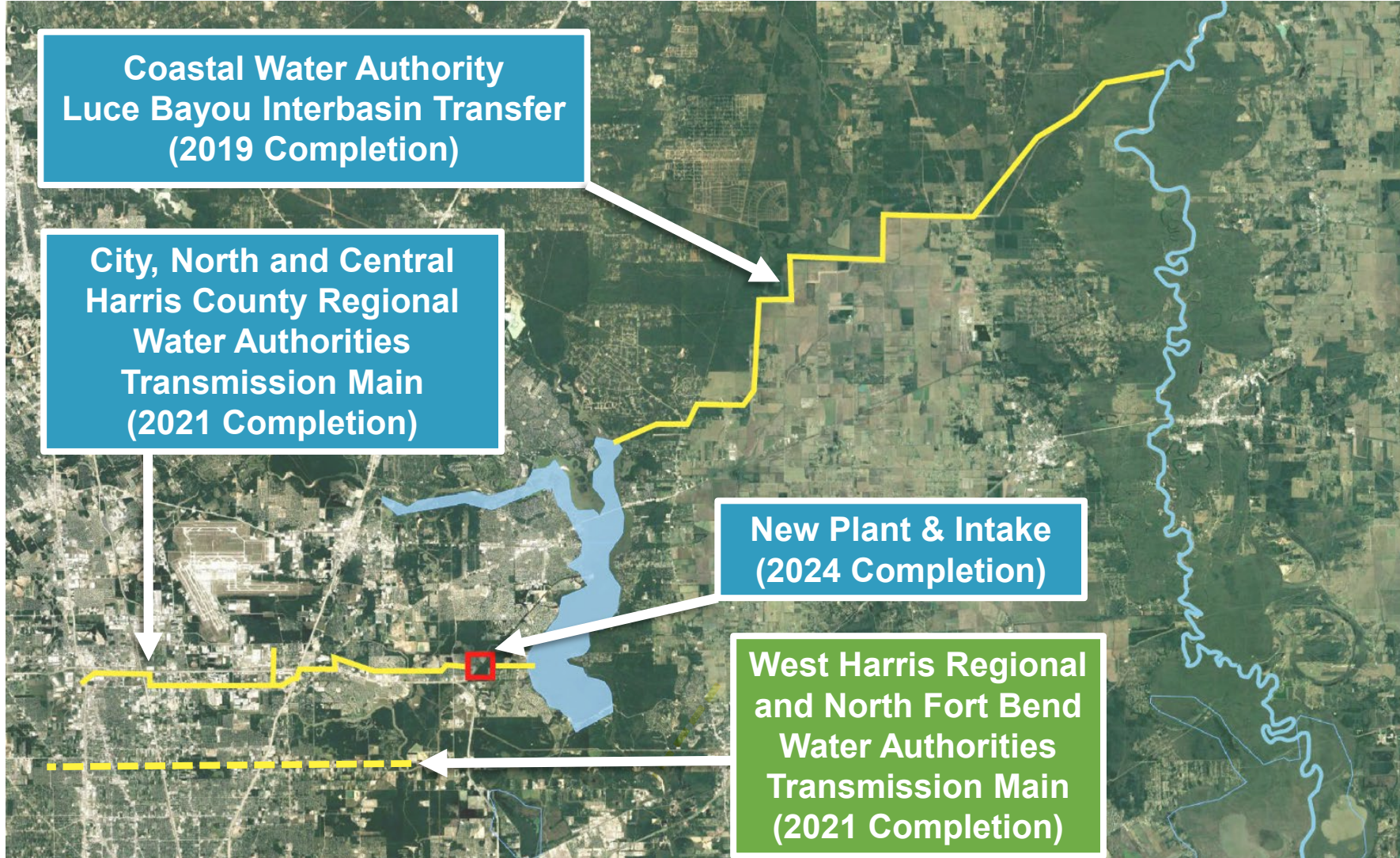
BACKGROUND

SUBSIDENCE REQUIREMENTS *



**As mandated by Harris-Galveston and Fort Bend Subsidence Districts, both of which were created by the Texas legislature for regulating groundwater withdrawals.*

BIG PICTURE PLAN

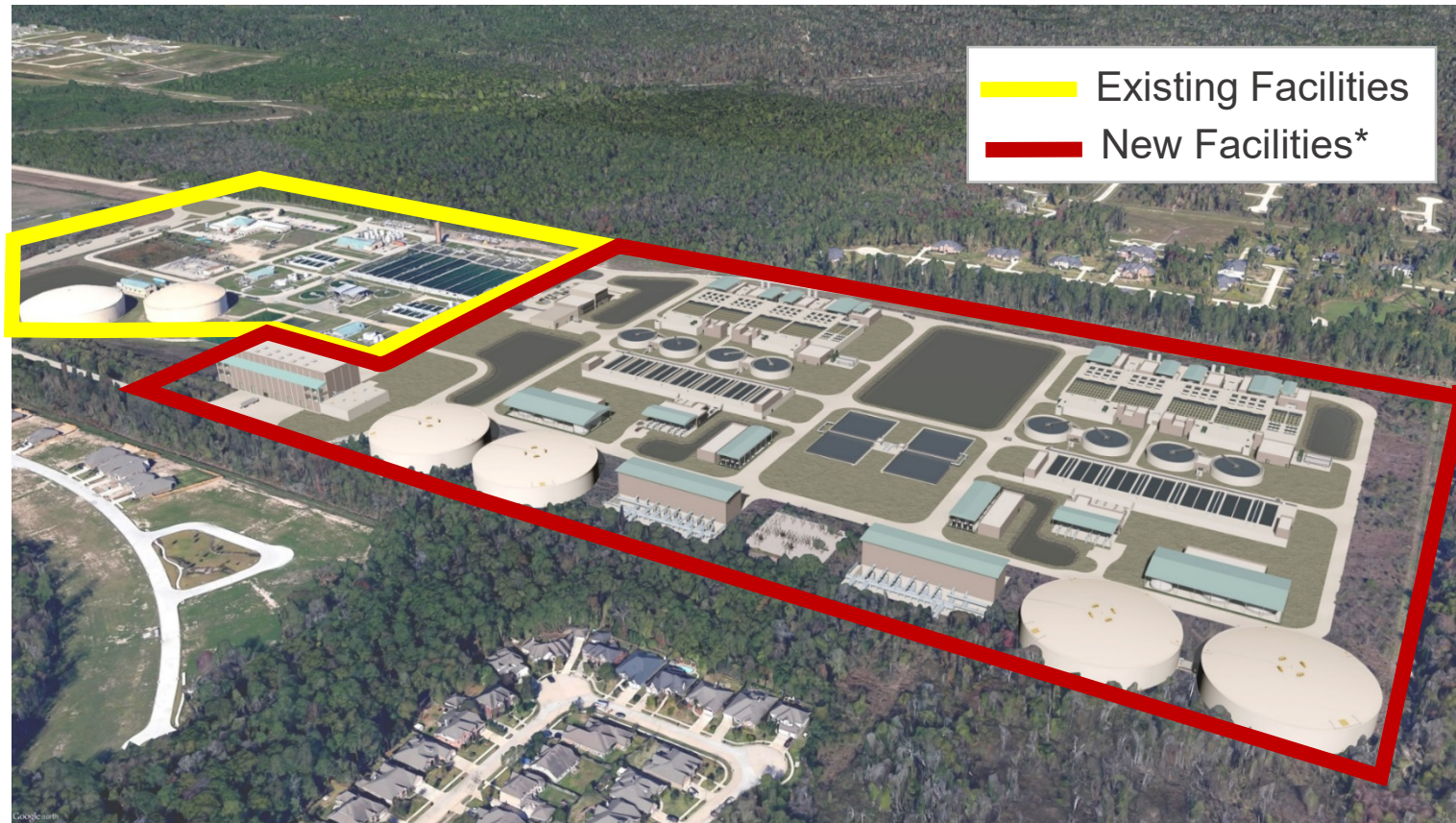


LEGEND

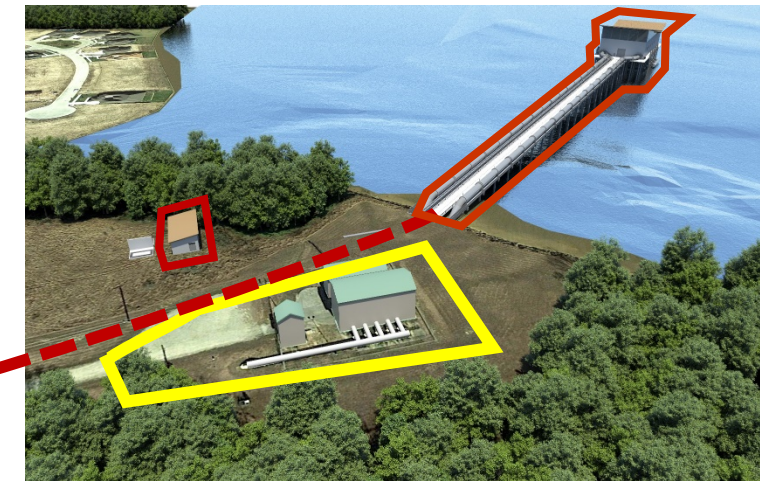
- Project with City participation
- Project by others

CONSTRUCTION

Treatment Facilities



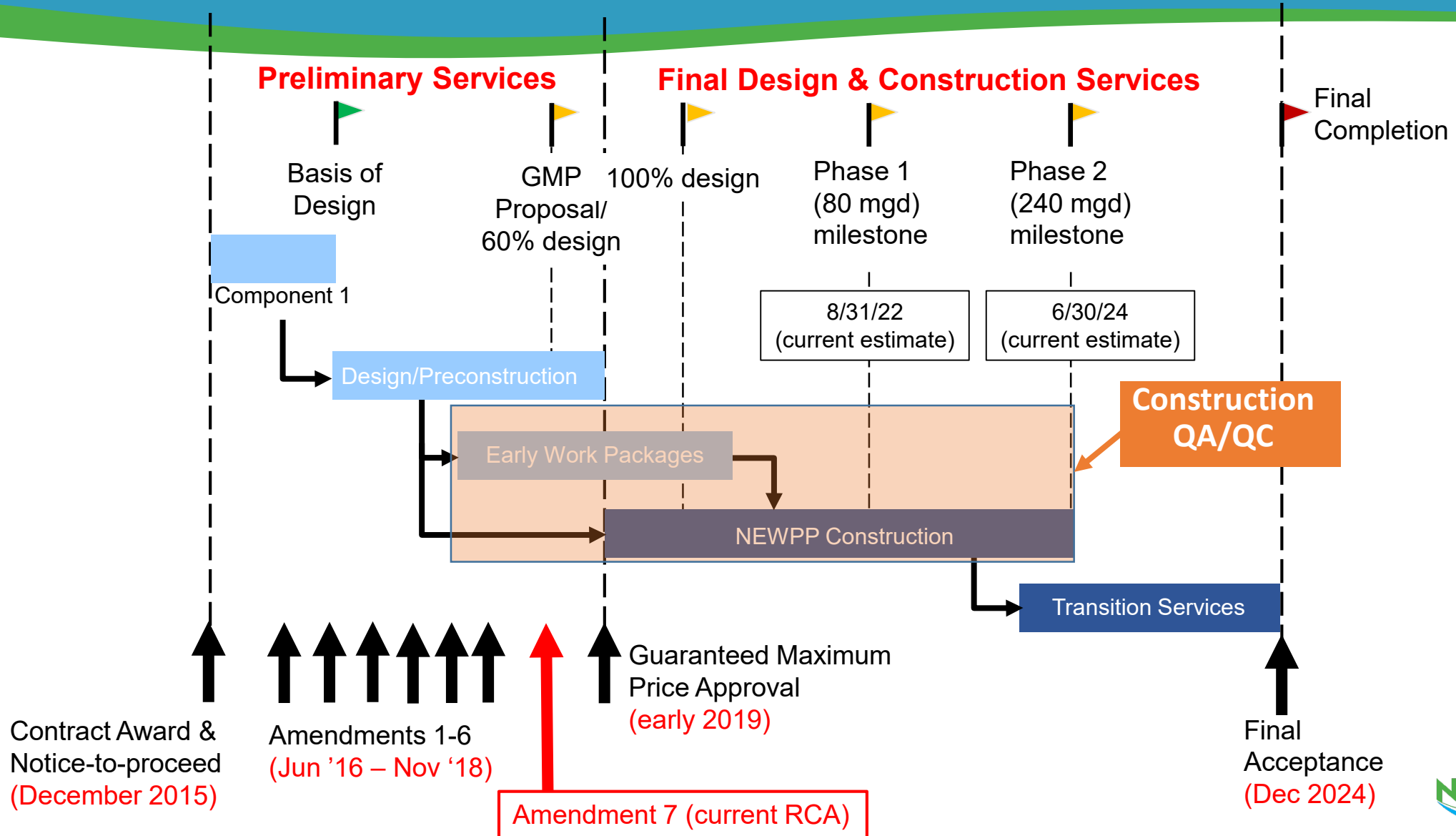
Intake Pump Station



Raw Water Pipelines
(2-108" diameter pipes, 1.4 miles each)

**New facilities shown are renderings of the completed project*

SCHEDULE



2

CONSTRUCTION QUALITY ASSURANCE & QUALITY CONTROL

WHAT IS QUALITY ASSURANCE AND QUALITY CONTROL?

Quality Assurance (QA)

Process Oriented

Proactive – Prevent Defects

Establish Processes, Create Checklists, Require Documentation

For Example – Set Speed Limits

Quality Control (QC)

Product Oriented

Reactive – Identify Defects

Observe, Test, Complete Checklists, Document

For Example - Enforce Speed Limits

COMPLIANCE WITH STATE OF TEXAS REQUIREMENTS



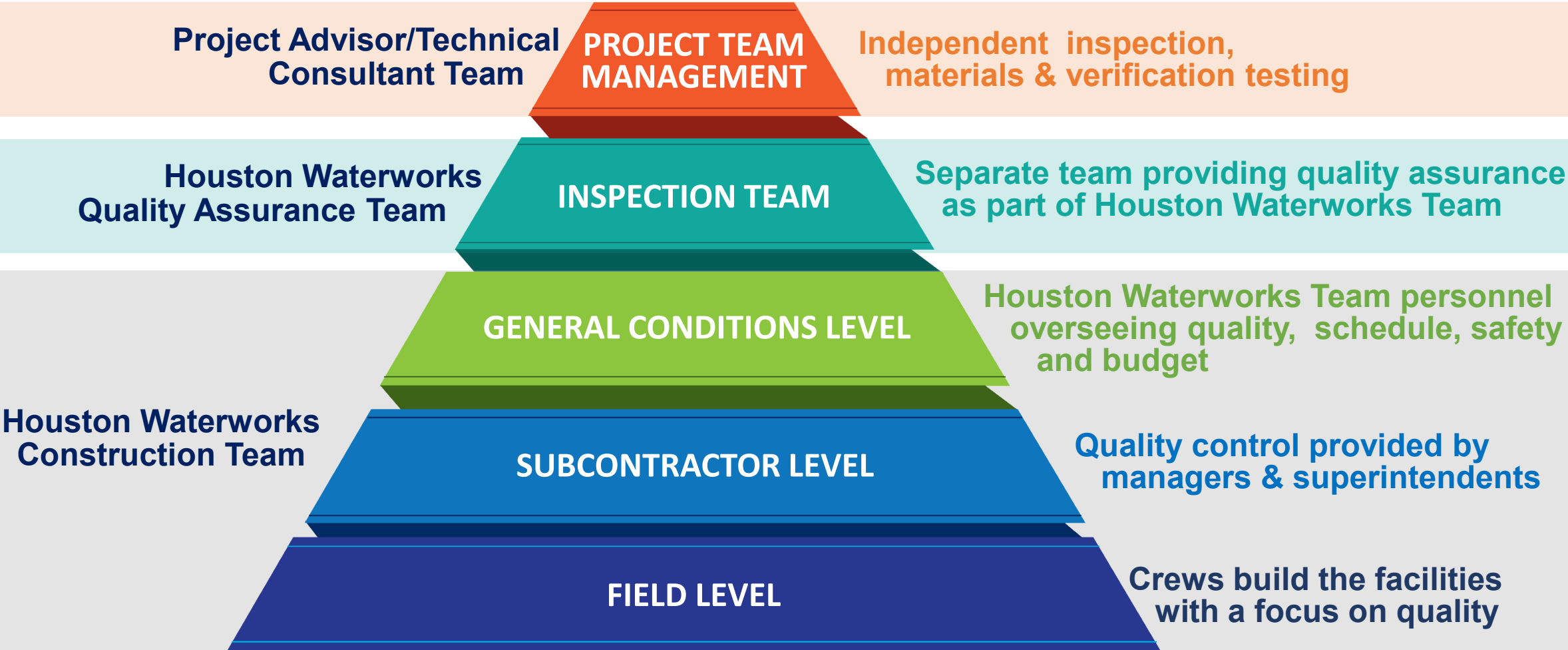
Texas Administrative
Code 2269

Services required to be provided independently * of the design-build firm

- Inspection services
- Construction materials engineering and testing
- Verification testing services

* Project Advisor/Technical Consultant (Carollo Engineers, Inc.) is contracted with the City to provide the services mentioned above.

SHARED APPROACH TO QUALITY



ROLES ARE CLEARLY DEFINED

Houston Public Works

LEGEND

- ■ Working Relationship
- Contractual Relationship

Design/Builder (Houston Waterworks Team)

- Design and Construct
- Certify components conform to the Contract Standards
- Supervise, direct, and inspect the Work
- Provide full-time construction management and construction inspectors
- Guarantee performance at the completion of construction, which require that they manage all aspects of the design, construction, and start-up

Project Advisor/Technical Consultant (Carollo Engineers)

- Independent services in compliance with state law :
- Inspection services
 - Construction materials engineering and testing
 - Verification testing services

3

UPCOMING REQUESTS FOR COUNCIL ACTION

UPCOMING REQUESTS FOR COUNCIL ACTION

Approval Action	Date	Amount
Amendment #7 – Early Work Package 6	December 2018	\$230.5M
Guaranteed Maximum Price Amendment	Early 2019	TBD
Project Advisor/Technical Consultant Amendment		

QUESTIONS?

greaterhoustonwater.com