Design/Build Approach Delivers Cost Savings, Simplified Construction for Dallas Water Utilities

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Agenda

- DWU Facts
- Project Team
- Proposed Interceptor
- Alignment Challenges
- Project Status
- Design Build
- Project Timeline





DWU Fact Sheet

- Founded 1881
- Funded
 - W, WW Revenues & Storm Fees
 - No tax dollars
- 700 Sq. Mile Service Area
- Approx. 1,650 Employees
- W & WW Assets \$5.79 B





DWU Fact Sheet

- 2.5M Treated Water Customers
 - 1.3M Retail
 - 1.2M Wholesale
 - 23 wholesale treated W
 - 2 wholesale untreated W
 - 11 wholesale WW
- Operation + Capital = \$1.23B
 - (\$871M + \$355M) FY 23-24



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DALLAS WATER ASSETS

- 7 Reservoirs (6 connected)
- 5,020 Miles Water Mains
- 3 WTPs 900 MGD total
- 23 Pump Stations
- 10 Elevated Storage Tanks
- 12 Ground Storage Tanks
- Treated 154 B gallons FY 22/23





DALLAS WASTEWATER ASSETS

- 2 WWTPs 310 MGD
- 15 Pump Stations
- 4,063 Miles WW Mains
- Treated 74BG FY 23/23



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DALLAS STORMWATER ASSETS

- 8 Pump Stations
 - 5.7B gallons/day
- 1,963 Miles Storm Sewers
- 30 Miles of Levees
- 39,000 Acres of Flood Plain







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BROOKHOLLOW / HARRY HINES INTERCEPTOR IMPROVEMENTS







PROJECT TEAM



RISHI BHATTARAI, PE – Pipeline Program Manager TRACEY LONG, PE – Project Manager

Hazen NEEPA SHAH, PE – Design Project Manager



EXISTING ALIGNMENT



PID 5763 & 5982
BROOK HOLLOW
(HARRY HINES BLVD)
21,000 LF | 90"/96" WW



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HARRY HINES INTERCEPTOR



- PHASE 3 -5.600 LF 90" WW

- PHASE 2 -6.900 LF - 90" WW

- PHASE 1-8,300 LF - 96" WW

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of (* 1

ALIGNMENT CHALLENGES



TXDOT Crossing

RR Crossings

Hospital District





ALIGNMENT CHALLENGES



Private Bridge



Box Culverts



High-Power Electric



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ALIGNMENT CHALLENGES



Major Arterial

Complex Intersections

Deep Construction





CURRENT PROJECT STATUS

- ORIGINAL DESIGN 90% COMPLETE
- CONSTRUCTION COST HIGHER THAN BUDGET
 - Design Build
 - Competitive Sealed Proposals
- DESIGN ALTERNATIVES
 - Curves
 - Manhole Spacing
 - Odor Control



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DESIGN BUILD



- Client defines
 - Criteria and weights
 - Consideration of alternative designs
- Less constraints + more flexibility = more creative projects & lower costs



FIXED PRICE DESIGN BUILD (DB)

- Conceptual or partial design (often 10-30%)
- DB selected on fixed price and quals for design & construction
- DB completes design & construction
- Includes Job Order Contracting (JOC) & Purchase Order (PO) Agreements
- Open to Change Orders (CO)





FIXED PRICE PROS & CONS

FIXED PRICE PROS

- Single point of responsibility
- One procurement process
- Start construction before complete design
- Schedule savings
- Costs known early on
- Competitive cost process
- Best for performance-based projects (few preferences)
- Best for alternative design/construction
 approaches

FIXED PRICE CONS

- High procurement costs
- Longer procurement time than progressive DB
- Open to Change Orders
- Little opportunity for owner input beyond preliminary design
- Parties assume unfamiliar risks
- Need bridging consultant (can be concept designer)





Competitive Sealed Proposal (CSP)



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Competitive Sealed Proposal (CSP)



Competitive Sealed Proposals (CSP)

Evaluation Criteria	Points
Price	40
Project Approach and Schedule	25
Experience/Past Performance Key Personnel	20
MWBE Participation	15
SAMPI F	-
Maximum Score	100

Example of criteria to determine best value Contractor

 If including Alternative Design Concepts, evaluation becomes complex



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Competitive Sealed Proposals (CSP) Pros and Cons

CSP PROS

- Relationships well understood
- Alternative most similar to current contract structure
- Owner determines evaluation criteria
- More control over selection of Contractor

I CSP CONS

- Lack of Contractor involvement during design phase
- Change Orders
- Not necessarily the least expensive option



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CURRENT 90% DESIGN DOCUMENT = ADVANCED BRIDGING DOCUMENT

- The information reduces uncertainty & costs
- CAD FILES could be made available
- Geotechnical information available

RFP WILL BE FOR PHASE 1 (8,300 LF - 96" WW)



PROCUREMENT WILL ENCOURAGE ALTERNATIVE DESIGN OPTIONS

- Require bid based on current 90% design
- Encourage alternative design options



SELECTION CRITERIA WILL CONSIDER:

- Cost
- Base bid
- Alternative design bid
- Contractors Approach
- Qualifications (Experience, key staff, financial soundness, etc.)
- MWBE Participation
- Schedule for substantial completion



KEY CONSTRAINTS, ISSUES, AND REQUIREMENTS:

- Curve limitations
- Manhole spacing
- Two-pass methods
- Contract term refinement
- Phasing by length/cost
- Local, state, and federal requirements



PROJECT TIMELINE

- DEVELOP BID DOCUMENTS / RFQ/RFP JANUARY 2025
- ADVERTISE JUNE 2025
- NEGOTIATE WITH SHORTLISTED CONTRACTOR(S)
- AWARD PROJECT OCTOBER 2025



QUESTIONS?

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RECOMMENDATION

Desire for Cost Savings with alternative designs guides preference

- Status of current 90% design
- Deviations from standards may reduce costs

FIXED PRICE DESIGN BUILD (FPDB)

OR

COMPETITIVE SEALED PROPOSAL (CSP)





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