Item A: Annual Budget for Fiscal Year 2021
2021 Annual Budget

• Includes an Authority-wide summary and 36 separate budgets

• All budgets have been approved by customer representatives
 Authority-Wide Revenues and Expenses

- Revenues - $367,228,770
- Expenses - $360,416,133
- 2.87% expense increase over FY20
Authority-Wide Expenses

Total Expenses: $360,416,133

- Salaries and Benefits: $55,878,463 (15.5%)
- Supplies: $15,985,431 (4.4%)
- Other Services and Charges: $102,412,739 (28.4%)
- Transfers and Misc.: $12,188,780 (3.4%)
- Capital Outlays: $1,497,974 (0.4%)
- Debt Service: $172,452,746 (47.8%)
## Annual Requirement

### Water Projects

<table>
<thead>
<tr>
<th></th>
<th>FY19 Actual</th>
<th>FY20 Budget</th>
<th>FY21 Budget</th>
<th>% Change from FY20 to FY21</th>
</tr>
</thead>
<tbody>
<tr>
<td>TCWSP</td>
<td>$33,786,063</td>
<td>$39,939,885</td>
<td>$39,813,833</td>
<td>(0.32%)</td>
</tr>
<tr>
<td>HRWSS</td>
<td>$7,387,365</td>
<td>$5,393,239</td>
<td>$5,622,620</td>
<td>4.25%</td>
</tr>
<tr>
<td>LRWSS</td>
<td>$3,061,336</td>
<td>$3,498,384</td>
<td>$3,641,934</td>
<td>4.10%</td>
</tr>
<tr>
<td>TCRWSS</td>
<td>$874,884</td>
<td>$1,049,439</td>
<td>$785,046</td>
<td>(25.19%)</td>
</tr>
</tbody>
</table>
## Annual Requirement Wastewater Projects

<table>
<thead>
<tr>
<th></th>
<th>FY19 Actual</th>
<th>FY20 Budget</th>
<th>FY21 Budget</th>
<th>% Change from FY20 to FY21</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRWS</td>
<td>$145,957,967</td>
<td>$152,747,388</td>
<td>$159,424,572</td>
<td>4.37%</td>
</tr>
<tr>
<td>TMCRWS</td>
<td>$18,449,536</td>
<td>$21,177,440</td>
<td>$21,761,469</td>
<td>2.76%</td>
</tr>
<tr>
<td>DCRWS</td>
<td>$15,501,005</td>
<td>$17,759,535</td>
<td>$19,121,361</td>
<td>7.67%</td>
</tr>
<tr>
<td>ROCRWS</td>
<td>$9,253,008</td>
<td>$11,446,798</td>
<td>$11,760,093</td>
<td>2.74%</td>
</tr>
<tr>
<td>MCRWS</td>
<td>$3,254,951</td>
<td>$4,687,668</td>
<td>$6,677,403</td>
<td>42.45%</td>
</tr>
</tbody>
</table>
Item B: Investment Officers’ Report
Consolidated Cash and Investments
As of August 31, 2020
$569,858,541

- **Bond Reserve Funds**
  - Amount: $100,466,457
  - Percentage: 17.63%

- **Construction Funds**
  - Amount: $371,900,965
  - Percentage: 65.26%

- **Operating Funds**
  - Amount: $49,466,177
  - Percentage: 8.68%

- **Interest & Sinking Funds**
  - Amount: $48,024,942
  - Percentage: 8.43%
Item C: Investment Policy and Strategy
Investment Policy: Objectives

- Public Fund Investment Act (PFIA) compliance
- Understanding of the suitability of the investment
- Preservation and safety of principal
- Maintenance of adequate liquidity
- Portfolio marketability
- Diversification of the investment portfolio
- Yield
Authority Cash and Investments

• Working capital, reserves, interest and sinking funds and construction funds

Money Market Funds $ 16.4M
Government Investment Pools $ 65.8M
Government Agency Bullets $156.3M
Government Agency Callable $170.8M
US Treasuries $160.6M

• Benchmark against 3 month, 6 month, year Treasury yields
Revised Investment Policy – Annual Review

(1) Approved Security Dealers list

(2) Add the option of investing in municipal obligations rated A or better as allowed by the PFIA
Item D: Authority-Wide Printer Consolidation
## CONTRACT CONSOLIDATION TIMELINE

<table>
<thead>
<tr>
<th>FY 2020</th>
<th>FY 2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Office (7)</td>
<td>PDCA (1)</td>
</tr>
<tr>
<td>ROC RWS (1)</td>
<td>MC RWS (1)</td>
</tr>
<tr>
<td>LLP (1)</td>
<td>DC RWS (2)</td>
</tr>
<tr>
<td>WOLF CREEK (1)</td>
<td>TC WSP (1)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FY 2021</th>
<th>FY 2023</th>
<th>FY 2024</th>
</tr>
</thead>
<tbody>
<tr>
<td>C RWS (9)</td>
<td>LLP(1)</td>
<td>TM C RWS (1)</td>
</tr>
<tr>
<td>SRO (1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WOLF CREEK (1)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### INITIATIVES

- **ITGC Consolidated Copier Budget Under IT**
- **Cost Transparency / Board Authorization**
- **Centralized Oversight / Single Contract Efficiencies**
- **Paperless / Cost Reduction Initiatives**

### PRINT / COPY SERVICES

- **$ 135,000** Annual Cost
- **$ 1435.12** Monthly Savings

### Contracts

- **12**
- **Fund Accounts** 8
- **Vendors** 5
- **Leased Copiers** 25
- **Rented Copiers** 4
- **Owned Copier** 1

### FULL COMPETITION FOR DECEMBER 2024 CONTRACT

STANDARDIZE TO SINGLE TEXAS DIR VENDOR – DECEMBER 2020

ROLL NEW REQUIREMENTS IN UPON EXPIRATION DATES

FULL COMPETITION FOR DECEMBER 2024 CONTRACT
RECOMMENDATION

- Management recommends the Board of Directors authorize the consolidation of printers Authority-wide under a single master contract as presented.
Item E:
ITSS – Annual Purchases over $75,000
2021 “MUST PAYS” >$75,000

- Enterprise Network - $345,000 (Recurring Service PO billed monthly)
- Microsoft Enterprise Licensing - $121,000 (Single Purchase)
- CPMS - $165,000 (Single Purchase)
- Ultipro - $198,000 (Recurring Service PO billed quarterly)
- Lawson - $202,040 (Single Purchase)
- ProjectMates - $196,740 (Single Purchase)
- Enterprise Asset Management (Maximo) – $98,580 (Single Purchase)
- Industrial Control System Software - $103,000 (Single Purchase)
- PC Refresh - $155,100 (Incremental based upon project schedule)
- Switch Replacement- $94,000 (Incremental based upon project schedule)
- Northern Region PCS Maintenance Contract - $197,000 (Incremental)
- Managed Detection and Response - $150,000 (Security tools and services)
- Wireless Service - $190,000 (Recurring Service PO billed monthly)
- Copier Service and Lease - $135,000 (Recurring Service PO billed monthly)
Management recommends the Board of Directors approve the purchases as presented.
Item F: Authority Projects – Bids for Project Vehicles
<table>
<thead>
<tr>
<th>VEHICLE</th>
<th>UNIT</th>
<th>DEALER</th>
<th>PROJECT</th>
<th>LOWEST BID TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full Size 1/2 Ton Pickup</td>
<td>4</td>
<td>Parkway Chevrolet</td>
<td>CRWS</td>
<td>$80,981.60</td>
</tr>
<tr>
<td>Full Size 1/2 Ton Pickup</td>
<td>1</td>
<td>Grapevine Dodge Chrysler Jeep</td>
<td>CRWS</td>
<td>$24,729.00</td>
</tr>
<tr>
<td>Sport Utility Vehicle</td>
<td>1</td>
<td>Randall Reed’s Prestige Ford</td>
<td>CRWS</td>
<td>$27,150.00</td>
</tr>
<tr>
<td>Full Size One Ton Pickup</td>
<td>1</td>
<td>Randall Reed’s Prestige Ford</td>
<td>CSG</td>
<td>$32,300.00</td>
</tr>
<tr>
<td>Full Size 1/2 Ton Pickup</td>
<td>1</td>
<td>Randall Reed’s Prestige Ford</td>
<td>CSG</td>
<td>$24,309.00</td>
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<tr>
<td>Full Size 1/2 Ton Pickup</td>
<td>1</td>
<td>Parkway Chevrolet</td>
<td>DCRWS</td>
<td>$25,308.20</td>
</tr>
<tr>
<td>Full Size 1/2 Ton Pickup</td>
<td>1</td>
<td>Parkway Chevrolet</td>
<td>TCWSP</td>
<td>$20,245.40</td>
</tr>
<tr>
<td>Sport Utility Vehicle</td>
<td>1</td>
<td>Randall Reed’s Prestige Ford</td>
<td>TCWSP</td>
<td>$28,175.00</td>
</tr>
<tr>
<td>Full Size 1/2 Ton Pickup</td>
<td>1</td>
<td>Parkway Chevrolet</td>
<td>TMC</td>
<td>$20,245.40</td>
</tr>
<tr>
<td>Sport Utility Vehicle</td>
<td>1</td>
<td>Randall Reed’s Prestige Ford</td>
<td>PDCA</td>
<td>$28,175.00</td>
</tr>
</tbody>
</table>

Average $20,245.00 per unit.
Item G: Livingston Recreation Facilities – Wolf Creek Park Supervisor’s Residence Construction – Contract Award
Livingston Recreation Facilities

- Wolf Creek Park
- Lake Livingston Spillway
BACKGROUND

- Wolf Creek Park:
  - Opened in 1972 as full-service camping site park on Lake Livingston
  - Camping season is from March 1st through November 30th each year and is closed the remaining months for maintenance
  - Main park road is a state roadway and cannot be gated for security
  - San Jacinto Sheriff’s Department patrols the park from 4:00 PM to 4:00 AM, Wednesday through Saturday
- Additional assistance is required when the Sheriff’s Department is not on patrol
- Full-time resident is the most viable option to decrease response time for campers that are in need of assistance when park office is closed
Residence for Full-Time Park Supervisor

- Construction of 1,800 square foot three-bedroom home
- Project will include reinforced concrete slab and driveway
- The home will have line of sight to the park office and entrance
Wolf Creek Park
Supervisor’s Residence Location

Residence Location

Park Office
## Bid Results – August 13, 2020

<table>
<thead>
<tr>
<th>Bidders</th>
<th>Total Bid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Legacy Builders</td>
<td>$272,560</td>
</tr>
<tr>
<td>Lee Brothers Construction</td>
<td>$299,093</td>
</tr>
<tr>
<td>Fidelis Construction</td>
<td>No Bid</td>
</tr>
</tbody>
</table>
RECOMMENDATION

- Award Construction Contract to Legacy Builders in the amount of $272,560.00 for the construction of a residence for the Park Supervisor of Wolf Creek Park.
Item H: Middle Trinity Basin Flood Mitigation – Authorization for Funding Application and Contract Execution – Resolution No. R-1554 and Form TWDB-0201A
Post-drought “wet cycle”:

• Higher than normal flows in MTRB
• Above the Livingston zone of influence
• Long-term high flows released from flood storage
• Peak flow dynamics attributable to Cedar Creek and Richland-Chambers
Senate Bill 7:

• Hurricane Harvey
• Created FIF
• Appropriated $793 million to TWDB

FIF applications

• Executive Committee authorized abridged and final applications
• Abridged application filed June 2020
• Final application due today, filed Oct. 16
Final Application

Funding:

• TWDB offering 90% grant
• Application scored 10th of 285 total
• $1,053,000 grant, $117,000 local match
Item I: Water Rights Acquisition – Luminant, A Subsidiary of Vistra Energy – Modified Purchase Authorization
Luminant Rights

Certificate of Adjudication No. 08-5040
- Fairfield Lake, impounds 50,600 AF
- Maximum diversion 14,150 AF/Y
- Priority date Dec. 18, 1967

Certificate of Adjudication No. 08-2388
- Run-of-river right
- White Rock Creek
- Maximum diversion 3,188 AF/Y
- Priority date Feb. 1, 1954
Originally Proposed

Certificate of Adjudication No. 08-5040
• Maximum diversion 14,150 AF/Y
• Acquire 4,330 AF/Y @ $775/AF = $3,356,300
• Additional rights @ $775/AF up to $2.3M

Certificate of Adjudication No. 08-2388
• Maximum diversion 3,188 AF/Y
• Acquire outright @ $775/AF = $2,470,700
Now Proposed

1. Certificate of Adjudication No. 08-2388
   • Maximum diversion 3,188 AF/Y
   • Acquire outright @ $850/AF = $2,709,800

2. One-time payment to Authority of $2,100,000

3. Upon transfer of right and payment, terminate RWSA for consideration totaling $4,809,000
Central Regional Wastewater System
Central Regional Wastewater System
Treatment Plant

Filters
BACKGROUND

- The CRWS facility provides wastewater treatment for 21 Contracting Parties.

- Beginning in the 1970s, the Authority utilized sand filtration as a proven and effective means of filtering effluent. CRWS has 30 sand filters.

- In the 2000s, the Authority looked at alternatives to sand filtration. Cloth media filtration has the advantages of consistent, better quality effluent, twice the hydraulic capacity in the same footprint, and reducing backwash by about 90%.
Cloth Media Filters at CRWS

- Aqua-Aerobics Aqua Diamond Filter™
- Proven technology
- 12 filters currently installed
  - 2008 - 2 filters - Demonstration
  - 2011 - 4 filters - Phase I
  - 2016 - 4 filters - Phase II
  - 2019 - 2 filters - Phase IIIA
- High quality effluent
- Increased capacity per filter
Proposed “Scope of Work”

- Replace operator interface terminals on the 12 existing cloth filters
- Retrofit 4 existing sand filter basins with new cloth media filters (will bring retrofit total to 16)
- Cover the 4 new cloth filters with fabric canopy structures and bird netting
- Decommission the remaining 14 sand filters
Phase IIIB Filter Improvements

- Proposed Diamond Filters
- Existing Diamond Filters
- Decommissioned Sand Filters

Trinity River Authority of Texas
Bid Results – September 16, 2020

<table>
<thead>
<tr>
<th>Bidders</th>
<th>Total Bid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thalle Construction Company (-6.05%)</td>
<td>$15,502,276</td>
</tr>
<tr>
<td>Crescent Constructors, Inc.</td>
<td>$15,827,000</td>
</tr>
<tr>
<td>MWH Constructors</td>
<td>$23,860,854</td>
</tr>
</tbody>
</table>

OPCC = $16.5 Million
Plummer Associates, Inc.
Construction Phase Services

- Meetings/site visits/factory witness testing
- Review of payment applications, schedule, submittals, “Requests for Information,” “Contract Modification Requests,” “Change Orders,” etc.
- Documentation of field changes
- Pipe segmenting
- GIS data assistance
- Record drawings preparation
- Fee: $562,223
Alliance Geotechnical Group, Inc.
Construction Materials Testing Services

• Typical testing:
  • Backfill compaction
  • Material gradation
  • Concrete compression strength
  • Welding inspections

• Fee: $60,000
RECOMMENDATIONS

- Award Construction Contract to Thalle Construction Company in the amount of $15,502,276;
- Approve contract for professional engineering services related to Construction Phase Services for CRWS Effluent Filters Phase IIIB Improvements to Plummer Associates, Inc., in the amount of $562,223; and
- Approve contract for construction materials testing to Alliance Geotechnical Group, Inc., in the amount of $60,000.
Item K: CRWS – Lift Station LS_7M Improvements – Engineering Services Agreement
BACKGROUND

• CRWS consists of five major interceptor systems:
  • Bear Creek
  • Elm Fork
  • West Fork
  • Jefferson Tunnel
  • Mountain Creek

• The Authority owns and operates four wastewater lift stations throughout the CRWS service area.
  • Three are on the Mountain Creek Interceptor System
    • Lift Station LS_7M is in need of rehabilitation (or replacement) and expansion.
PROJECT LOCATION

JOE POOL LAKE

Cedar Hill 21” Gravity Line

TRA 30” Force Main

CEEDAR HILL STATE PARK

LS_7M
FACILITY HISTORY

- 1987: Constructed to serve the cities of Cedar Hill and Grand Prairie
- 2007: Expanded to 10 million gallons per day capacity
  - Pumps replaced
  - Civil and electrical improvements
  - Condition of unlined concrete walls not addressed
- 2018: Triennial Evaluation reports severe corrosion on the walls of the wet well
- 2019: Phase VI update to the CRWS Inflow and Infiltration Assessment identifies projected 2050 flow demands. Additional capacity needed.
FACILITY CONDITION
PATH FORWARD

• Field Assessment is proposed:
  • Determine the structural integrity of the wet well
  • Determine the condition of the pumps
    • Quantify useful life expectancy
    • Hydraulic capacity for use in expansion

• Field Assessment data will be used in the development of design alternatives as part of Preliminary Engineering

• Kimley-Horn and Associates, Inc., selected to provide professional engineering services
PROPOSED "SCOPE OF WORK"

- Project start-up, management, and QA/QC
- Perform Field Assessment
- Provide Technical Memorandum and conduct workshop to discuss findings
- Special Services
- Fee: $150,925
RECOMMENDATION

- Award contract to Kimley-Horn and Associates, Inc., for professional engineering services related to a field assessment for the Lift Station LS_7M Improvements project, in the amount of $150,925.
Item L:
CRWS – Meter Station Rehabilitation Group 2 – Engineering Services Agreement
CRWS provides collection and treatment services to 20 customer cities in the DFW Metroplex and DFW Airport. Comprised of five major interceptor systems:

- Bear Creek
- Elm Fork
- West Fork
- Jefferson Tunnel
- Mountain Creek

The Authority owns and operates 122 meter stations in the System to allocate costs to the customer cities and DFW Airport.
BACKGROUND

- 2016: CRWS Meter Station Evaluation conducted:
  - 15 meter stations were identified for rehabilitation or replacement
  - Those 15 meter stations were prioritized and grouped into multiple projects to facilitate timely design and construction
- April 2020: Group 1 (3 stations) presented to Board
- October 2020: Group 2 (4 stations) presented to Board
- 2023: Group 3 (3 stations) to be presented to Board
Meter Station Rehabilitation
Group 2

Contracting Parties
Irving 1957
Grand Prairie 1957
Farmers Branch 1957
Dallas 1957
Carrollton 1967
Arlington 1973
Bedford 1973
Euless 1973
DFW Airport 1973
Mansfield 1973
Grapevine 1974
Colleyville 1975
N. Richland Hills 1975
Hurst 1975
Coppell 1976
Fort Worth 1976
Keller 1984
Duncanville 1984
Cedar Hill 1985
Southlake 1988
Addison 1996
BACKGROUND

- Meter Station “MS1_1E”
  - Elm Fork Interceptor System
  - Measures flow for the City of Irving
  - Project Driver: Condition
  - 2019: corrosion caused a failure in a portion of 30-inch concrete pipe
    - owned by City of Irving
    - slip-lined with a 24-inch polyethylene pipe
    - Partial manhole rehabilitation
  - Project will include replacement of 160 linear feet (LF) of the repaired pipe (24-inch repair is now a flow restriction).
  - TRA will fund design of overall project.
  - Irving will fund construction of 160 LF repair via Interlocal Agreement between the Authority and the City of Irving.
MS1_1E Corrosion and Emergency Repair Failure

City of Irving 42-inch

City of Irving 24-inch

MS1_1E

TRA 104-inch
BACKGROUND

- Meter Station “MS11_0W”
  - West Fork Interceptor System
  - Measures flow for the City of Fort Worth
  - Project Driver: Capacity and safety
BACKGROUND

- Meter Station “MS12_2W”
  - West Fork Interceptor System
  - Measures flow for the City of Arlington
  - Project Driver: Outdated meter technology and maintenance
BACKGROUND

- Meter Station “MS10_0M”
  - Mountain CreekInterceptor System
  - Measures flow for the City of Mansfield
  - Project Driver: Outdated meter technology and maintenance
Proposed “Scope of Work” - AECOM

- Project Start-up, Management, and QA/QC
- Meter Station Condition Evaluation
- Evaluation of Replacement Meter Technology
- Topographic Survey, Geotechnical Investigation, Environmental Assessment, Cultural Resources Evaluation, Easement Legal Descriptions, and Exhibit Preparation
Proposed “Scope of Work” - AECOM

- Preliminary and Final Design
  - 60%, 90%, and 100% plans and contract documents
  - Expedited bid package for MS1_1E
  - Separate bid package for remaining 3 meter stations
- Construction Advertisement
- Special Services
- Fee: $959,058
RECOMMENDATION

- Award contract to AECOM Technical Services, Inc., for professional services related to the preliminary and final design of Meter Station Rehabilitation Group 2, in the amount of $959,058.
Item M: CRWS – Phase II Solids Management Improvements – Retainage Reduction
Central Regional Wastewater System

Contracting Parties

<table>
<thead>
<tr>
<th>City</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Irving</td>
<td>1957</td>
</tr>
<tr>
<td>Grand Prairie</td>
<td>1957</td>
</tr>
<tr>
<td>Farmers Branch</td>
<td>1957</td>
</tr>
<tr>
<td>Dallas</td>
<td>1957</td>
</tr>
<tr>
<td>Carrollton</td>
<td>1967</td>
</tr>
<tr>
<td>Arlington</td>
<td>1973</td>
</tr>
<tr>
<td>Bedford</td>
<td>1973</td>
</tr>
<tr>
<td>Euless</td>
<td>1973</td>
</tr>
<tr>
<td>D/FW Airport</td>
<td>1973</td>
</tr>
<tr>
<td>Mansfield</td>
<td>1973</td>
</tr>
<tr>
<td>Grapevine</td>
<td>1974</td>
</tr>
<tr>
<td>Colleyville</td>
<td>1975</td>
</tr>
<tr>
<td>N. Richland Hills</td>
<td>1975</td>
</tr>
<tr>
<td>Hurst</td>
<td>1975</td>
</tr>
<tr>
<td>Coppell</td>
<td>1976</td>
</tr>
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<td>Fort Worth</td>
<td>1976</td>
</tr>
<tr>
<td>Keller</td>
<td>1984</td>
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<td>Duncanville</td>
<td>1984</td>
</tr>
<tr>
<td>Cedar Hill</td>
<td>1985</td>
</tr>
<tr>
<td>Southlake</td>
<td>1988</td>
</tr>
<tr>
<td>Addison</td>
<td>1996</td>
</tr>
</tbody>
</table>
The CRWS facility provides wastewater treatment for 21 Contracting Parties.

Improvements ($261 million) are being delivered in various “phases”:

- Phase I (Design-Bid-Build, Eagle Contracting, L.P.):
  - New primary sludge pumps
  - New screening station
  - New gravity thickener
  - Odor control facilities
  - STATUS: Complete
BACKGROUND

- Phase II (Design-Bid-Build, Eagle Contracting, L.P.):
  - Expansion of the primary sludge pumps
  - Installation of primary sludge screening equipment
  - Demolition of existing dissolved air flotation thickeners
  - Demolition of Filter Press No. 3
  - Two new belt presses
  - Refurbishment of three existing belt presses
  - STATUS: Substantially Complete
  - Reduction of Retainage recommended
Phase III-A (Construction Management At-Risk, McCarthy-Black and Veatch):
- Modifications to the existing pre-dewatering and thickening buildings
- Site civil improvements
- STATUS: Complete

Phase III-B (Competitive Sealed Proposals, MWH Constructors):
- Thermal Hydrolysis Process
- STATUS: 70% complete
Retainage Reduction

- Original Contract Amount $20,900,000
- Final Contract Amount $22,881,594

- Original retainage withheld = $2,288,159.40 (10%)
- Partial retainage released on 4/24/20 = $1,143,866.53 (5%)
- Current retainage being held = $1,143,866.53 (5%)

- Requested retainage to be released = $855,093.23 (4%)

- Proposed retainage to continue holding = $288,773.30 (1%)
RECOMMENDATION

• Release retainage in the amount of $855,093.23 on the Phase II Solids Management Improvements project at the Central Wastewater Treatment Plant, finding that satisfactory progress is being made by Eagle Contracting, L.P.
Item N: DCRWS – Influent Coarse Screen Improvements – Contract Award, Engineering Services Agreement, and Materials Testing Services Agreement
Denton Creek Regional Wastewater System Treatment Plant

Influent Screens
BACKGROUND

- DCRWS serves Fort Worth, Haslet, Keller, Roanoke, and Southlake; the towns of Argyle, Flower Mound, Northlake, and Westlake; and the Circle T Municipal Utility District Nos. 1 and 3
- Influent Screen Structure
  - Installed in 2010 as part of the 11.5 million gallon per day (MGD) expansion
  - Comprised of three channels:
    - Two contain fine screens
    - One designated as “future”
BACKGROUND

- 2014 DCRWS Master Plan recommended coarse screens upstream of existing fine screens due to:
  - Non-dispersibles
  - Interceptor improvements (enlarging diameter up to 84-inches), which could allow larger debris into the system and damage the fine screens
  - Future peak flow storage - having additional screening for flows to be stored is desired to minimize debris to be cleaned out of the basin
BACKGROUND

- 2019: Freese & Nichols, Inc., selected to design improvements
- Scope included:
  - Conveyors from the new coarse screens to the screenings container
  - New screenings container cover system to more easily meet Texas Commission on Environmental Quality requirements
  - Expanded driveway for more streamlined access to screenings container
# Bid Results – September 17, 2020

**Engineer’s OPCC = $2,014,000**

<table>
<thead>
<tr>
<th>Bidders</th>
<th>Total Bid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Felix Construction (-31%)</td>
<td>$1,386,268</td>
</tr>
<tr>
<td>Red River Construction Co.</td>
<td>$1,534,600</td>
</tr>
<tr>
<td>Crescent Constructors, Inc.</td>
<td>$1,757,000</td>
</tr>
<tr>
<td>Schofield Civil Construction, LLC</td>
<td>$1,768,565</td>
</tr>
<tr>
<td>Heritage Constructors, Inc.</td>
<td>$1,959,474</td>
</tr>
</tbody>
</table>

Trinity River Authority of Texas
Freese & Nichols, Inc.
Construction Phase Services

• Meetings/site visits/factory witness testing
• Review of payment applications, schedule, submittals, “Requests for Information,” “Contract Modification Requests,” etc.
• Documentation of field changes
• GIS data assistance
• Pipe segmenting
• Record Drawings
• Fee: $389,976
Gorrondona and Associates, Inc.
Construction Materials Testing Services

- Typical testing:
  - Backfill compaction
  - Material gradation
  - Concrete compression strength

- Fee: $65,000
RECOMMENDATIONS

- Award construction contract to Felix Construction in the amount of $1,386,268;
- Approve contract for professional engineering services related to Construction Phase Services for DCRWS Influent Coarse Screen Improvements to Freese and Nichols, Inc., in the amount of $389,976; and
- Approve contract for construction materials testing to Gorriondoana and Associates, Inc., in the amount of $65,000.
Item O:
DCRWS – Denton Creek Pressure System Force Main and Lift Station Improvements – Engineering Services Agreement
Denton Creek Regional Wastewater System

Project Location

Map showing the location of Denton Creek Regional Wastewater System with major cities and roads labeled.
BACKGROUND

- DCRWS consists of four major interceptor systems:
  - Henrietta Creek
  - Cade Branch
  - Denton Creek Wastewater Transportation System
  - Denton Creek Pressure System
- Denton Creek Pressure System (DCPS)
  - Kirkwood Lift Station (LS)
  - Force Main: 29,000 linear feet (LF) (20-inches to 30-inches)
BACKGROUND

• Kirkwood LS:
  • Constructed in 1996
  • Located in Southlake
  • Receives flow from Roanoke, Southlake, and Westlake
  • Existing firm capacity of 8 million gallons per day (MGD)

• DCPS force main:
  • Constructed in 1996
  • Generally routed along the Highway 114 corridor through Southlake, Trophy Club, Westlake, and Roanoke
  • 29,000 LF of 20-inch to 30-inch pipeline
  • Conveys flow from Kirkwood LS to Denton Creek Wastewater Treatment Plant.
BACKGROUND

- 2013: Phase II update to the DCRWS Inflow and Infiltration Assessment was completed:
  - Identified increased projected flows in the DCPS service area
  - Increased projected flow demands required improvements to 11,000 LF of force main from the Kirkwood LS to the Authority's meter station MS1_5DCPS
  - Increased projected flow demands required a capacity expansion at the Kirkwood LS
- 2014: Rehabilitation of Kirkwood LS included electrical capacity improvements in preparation for the increased pumping demands
- Pump replacements to be included in DCPS force main relief project to provide more comprehensive design
PROJECT LOCATION

KIRKWOOD LIFT STATION

DCPS FORCE MAIN

MS1_5DCPS

STATE HIGHWAY 114

KIRKWOOD LIFT STATION
BACKGROUND

- In October 2019, the Board of Directors approved preliminary engineering services with Garver, LLC, for the DCPS Force Main and Lift Station Improvements.

- Preliminary Design Report recommendations include:
  - Existing force main condition assessment
  - Single line replacement instead of parallel system
  - General alignment selection
  - Hydraulic modeling and design calculations
  - Replace 11,000 LF of 20-inch force main with 24-inch force main
  - Increase firm pumping capacity from 8 MGD to 12 MGD
  - Variable Frequency Drives for all new pumps
  - 30% design for lift station and force main
Proposed “Scope of Work”

- Final Design Engineering Services
  - Finalize pump selection
  - Plans and specifications for force main and LS improvements
  - Opinion of Probable Construction Cost (60%, 90%, 100%)
- Project Start-up, Management, and QA/QC
- Surveying, Geotechnical Investigation, Environmental Assessment
- Easement Document Development
- Permit Acquisition
- Construction Advertisement
- Special Services
- Fees: $983,414
RECOMMENDATION

- Award contract to Garver, LLC, for professional engineering services related to final design for the Denton Creek Pressure System Force Main and Lift Station Improvements project, in the amount of $983,414.
Item P:
ROCRWS – Bear Creek Lift Station and Force Main – Change Order No. 06 – Utility Transformer Service Voltage Rating Increase
Red Oak Creek Regional Wastewater System
BACKGROUND

- ROCRWS is comprised of three major interceptors:
  - Bear Creek
  - Little Creek
  - Red Oak Creek

- Bear Creek Interceptor System (BCIS) serves Glenn Heights, Lancaster, and Red Oak

- BCIS flows are conveyed to Bear Creek Lift Station (BCLS)
BACKGROUND

- Bear Creek Lift Station
  - Constructed in 1991 (2.5 million gallons per day (MGD))
  - Rehabilitated in 2012 (3.6 MGD)
- 2019: Board approved expansion to 8.4 MGD and a new force main to meet projected 2060 demand
BACKGROUND

- During design, the initial ONCOR reviewer indicated to Freese and Nichols, Inc. (FNI), that the service feed from the utility meter to the lift station site was 15 kilovolts (kV). This was reflected in the contract documents.

- Following award of the construction contract to Red River Construction Co. the electrical subcontractor was informed by ONCOR that the service feed was 25 kV.

- This increase requires modification to the electrical rating for the transformer and switch gear.
Scope of “Change Order No. 06”

- Changed Work Includes:
  1) Increased Transformer Cost (15kV to 25 kV)
  2) Increased Wire Cost (#2 to #1/0)
  3) Increased Pad Mounted Switch Cost (15kV to 25kV)
  4) Increased Loadbreak Cost (15kV to 25kV)
  5) Increased Cost for Electrical testing (15kV to 25kV)
  6) Credit for not performing in-person witness testing

- Cost: $59,405.41

- FNI has agreed to $30,000 credit to TRA, resulting in net cost to TRA = $29,405.41
RECOMMENDATION

• Execute Change Order No. 06 between the Authority and Red River Construction in the amount of $59,405.41, increasing the contract value from $11,505,474.57 to $11,564,879.98 to account for the cost of the increased voltage rating of the primary distribution equipment.
Item R:
Summary Report of Change Orders
Item S: Summary Report of Quantity Overruns
Item T:
Summary Report of General Manager-Approved Emergency Repairs Under the Emergency Pipeline Contract
Item U: Condemnation Status Report
Item V:
Report on Selected Matters Pending Before the Texas Commission on Environmental Quality (TCEQ) and the Public Utility Commission of Texas (PUC) and Litigation Status Report Through October 5, 2020
Item W: Bid Awards

Northern Region Projects – Bids for Supplies, Spare Parts and Services