NORTH TEXAS MUNICIPAL WATER DISTRICT

501 E. Brown Street • Wylie, Texas 75098
(972) 442-5405 – Phone • (972) 295-6440 – Fax

TO: BOARD OF DIRECTORS

FROM: JENNA COVINGTON, EXECUTIVE DIRECTOR

DATE: JANUARY 20, 2022

SUBJECT: REGULAR MEETING – THURSDAY, JANUARY 27, 2022

With a mix of challenges and achievements, 2022 has started with a lot of activity and progress. I wanted to highlight just a few items for your awareness:

COVID 19 Cases – Since the middle of December, we have seen a steep increase in the number of COVID infection and exposure. In order to protect our employees and maintain operations, we have implemented a few additional steps:

- Reinstated the request for staff meetings to be held by WebEx.
- Updated our isolation/quarantine requirements to match the new CDC standards.
- Began providing COVID 19 Take Home tests for employees.

We are also configuring the Board Room to provide as much social distancing as possible for the Directors. In the event a quorum of the Board is not in physical attendance in the room, we have modified the language on our agenda to allow the meeting to proceed via in-person and virtually.

Temporary Change in Disinfectant – Water Operations is set to begin our annual temporary change in disinfectant on March 1. This process is necessary to help maintain the system and high water quality year-round. During this time, ammonia is temporarily suspended and only chlorine is used to maintain water disinfection from the time it leaves the treatment plant as it travels long distances to the tap. Chlorine levels in the water are consistent with year-round operations. However, the discontinuation of ammonia can make the presence of chlorine more noticeable. The process should be completed on March 29.

Over the years, we have learned that pre-emptive coordination with our member and customer cities as well as communication with the public reduces negative reactions. For the past few years, we have seen a significant reduction in calls to the cities and the District thanks to these efforts.

Strategic Planning – In 2015, the District developed its first Strategic Plan. It contained our long standing vision and mission. Plus we identified goals, and established for the first time ever NTMWD core values. Since then, the District has updated the plan three times and adopted the latest plan in 2019.

As we transition to managing from the plan and reporting progress back to the Board of Directors, we felt it was important to update the plan with current and relevant initiatives as well as review our objectives identified in the current version. Two months ago, I asked our managers throughout

the District to provide input on the initiatives to be contained within the updated plan. The managers returned 114 initiatives. Through a process of combining, prioritizing and editing, we have centered on approximately sixty initiatives within fifteen objectives. These objectives fit into the same four goals in the current plan - Service, Stewardship, Partnership, and People. Moreover, we have included initiatives of special interest to the Board including:

- Long Range Water Supply Planning
- Comprehensive Real Estate Catalog
- Customer City Premium
- Cybersecurity

Over the next few weeks, we will continue to refine the plan including identifying schedules, leads, and resources needed. I plan to bring the next draft to the Board for feedback and questions in the February board meeting. Once we incorporate your input, the staff will recommend the Board to adopt the revised strategic plan at the March board meeting.

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BOARD OF DIRECTORS
REGULAR MEETING (IN PERSON AND BY VIDEOCONFERENCE)
THURSDAY, JANUARY 27, 2022
2:30 P.M.

Notice is hereby given pursuant to V.T.C.A., Government Code, Chapter 551, that the Board of Directors of North Texas Municipal Water District (NTMWD) will hold a regular meeting in person and by videoconference, accessible to the public, on Thursday, January 27, 2022, at 2:30 p.m., at the following meeting location: NTMWD Administrative Offices, 501 E. Brown Street, Wylie, Texas 75098.

The Presiding Officer and a quorum of the Board of Directors will be present at the meeting location or by videoconference with two-way video and audio communication between Board members participating at the meeting location and by videoconference. A quorum of the Board may participate by videoconference for this meeting. This is an interim measure as a COVID precaution. The public may attend the meeting in person at the meeting location. Audio and video of Board members participating by videoconference will be broadcast live and will be visible to members of the public. The meeting will be recorded and available on the NTMWD website after the meeting.

Members of the public wishing to listen to live audio from the meeting may do so by calling in at **(469) 210-7159** or toll free **(844) 621-3956** and entering the following access code: **928 587 040**. Please note this line will not provide for two-way communication and public comment at the meeting must be made in person at the meeting location.

AGENDA

I. CALL TO ORDER

II. INVOCATION

III. PLEDGE OF ALLEGIANCE

IV. PLEDGE OF ALLEGIANCE TO THE TEXAS FLAG

V. ROLL CALL/ANNOUNCEMENT OF QUORUM

VI. OPENING REMARKS

A. President's Remarks concerning current events, conduct of meeting, posted agenda items, committee assignments, and related matters

B. Executive Director's Status Report concerning legislation and regulatory matters, budgets, current projects and ongoing programs of the District including the Regional Water System, Regional Wastewater System, Regional Solid Waste System, Watershed Protection, and Water Conservation

VII. PUBLIC COMMENTS

Prior to the start of the meeting, speakers must complete and submit a "Public Comment Registration Form." During the public comment portion of the meeting, speakers will be recognized by name and asked to provide their comments. The time limit is three (3) minutes per speaker, not to exceed a total of thirty (30) minutes for all speakers. The Board may not discuss these items, but may respond with factual or policy information.

VIII. DISCUSSION ITEMS

A. Update on Sister Grove Regional Water Resource Recovery Facility

B. Update on Long Range Water Supply Plan

IX. EXECUTIVE SESSION (to begin at approximately 3:00 p.m. and end approximately at 4:00 p.m.)

The Presiding Officer will announce that the meeting will move into closed executive session and identify the agenda items to be discussed in executive session. The executive session will conclude so that the public meeting will resume at approximately 4:00 p.m.

A. Update on Long Range Water Supply Plan
(Tex. Gov't Code Sections 551.071 and 551.072)

B. Consult with legal counsel regarding pending or contemplated litigation
(Tex. Gov't Code Section 551.071)

1. *NTMWD v. S.J. Louis Construction of Texas, Ltd., ACT Pipe and Supply, Inc., North American Pipe Corporation, J-M Manufacturing, Inc., d/b/a JM Eagle, Inc.*, Cause No. 429-06607-2019, 429th Judicial District, Collin County, Texas

C. Discuss Security Audit
(Tex. Gov't Code Sections 551.071 and 551.076)

X. RECONVENE INTO REGULAR SESSION

In accordance with Texas Government Code, Chapter 551, the Board of Directors of NTMWD will reconvene into regular session to consider action, if any, on matters discussed in Executive Session.

XI. CONSENT AGENDA ITEMS

The Consent Agenda allows the Board of Directors to approve all routine, noncontroversial items with a single motion, without the need for discussion by the entire Board. Any item may be removed from consent and considered individually upon request of a Board member or NTMWD staff member.

A. **Approval of Regular Board Meeting Minutes - Consent Agenda Item No. 22-01-01**

- Consider approval of December 16, 2021, Board of Directors Regular meeting minutes

B. **Approval of Monthly Construction Report - Consent Agenda Item No. 22-01-02**

- Consider approval of January 2022 Monthly Construction Report

C. **Authorize execution of property acquisition program and adoption of Resolution No. 22-01 to acquire property for the Bonham Water Treatment Plant Intake Improvements project - Consent Agenda Item No. 22-01-03**

- Consider authorizing the Executive Director to execute a property acquisition program with a budget of $86,000 and adoption of Resolution No. 22-01 authorizing use of eminent domain to acquire property for Project No. 101-0582-21, Lake Bonham Intake Improvements

D. **Adoption of Resolution No. 22-02 authorizing the use of the Construction Manager At-Risk (CMAR) delivery methods - Consent Agenda Item No. 22-01-04**

- Consider adoption of Resolution No. 22-02 and authorizing the use of CMAR delivery methods for Leonard Water Treatment Plant Phase II, Project No. 101-0600-21; Bois d'Arc Lake Raw Water Pump Station Phase II, Project No. 101-0601-21; Leonard Water Treatment Plant Terminal Storage Reservoir Phase II Project No. 101-0602-21, and Leonard Water Treatment Plant High Service Pump Station - South, Project No. 101-0603-22

E. **Authorize supplementing of the NTMWD Water Conservation Plan - Consent Agenda Item No. 22-01-05**

- Consider authorizing the supplementing of the 2019 NTMWD Water Conservation Plan in order to comply with the requirements for the Texas Commission on Environmental Quality (TCEQ) for submission of a water use permit application for return flows from Sister Grove Regional Water Resource Recovery Facility

F. **Authorize execution of an engineering services agreement for the East System Control Valve Vault project - Consent Agenda Item No. 22-01-06**

- Consider authorizing the Executive Director to execute an engineering services agreement with Pape-Dawson Engineers, Inc. in the amount of $390,607 for final design on Project No. 101-0604-22, East System Control Valve

XII. AGENDA ITEMS FOR INDIVIDUAL CONSIDERATION

GENERAL / ADMINISTRATIVE SERVICES AGENDA ITEMS

A. **Acceptance of Annual Audit Report for fiscal year 2021 - Administrative Memorandum No. 5794**

- Consider acceptance of the Annual Audit Report included in the Annual Comprehensive Financial Report

WATER AGENDA ITEMS

B. **Authorize execution of a Cost Share Agreement and adopt Resolution No. 22-03 with the Greater Texoma Utility Authority (GTUA) – Administrative Memorandum No. 5795**

- Consider adoption of Resolution No. 22-03 and authorizing the Executive Director to execute a cost share agreement with the GTUA in the amount of $17,331,627 (GTUA Shared Cost: $3,466,325; NTMWD Shared Cost: $13,865,302) to document the distribution of proportionate costs for Project No. 101-0530-19, Lake Texoma Pump Station 2019 Electrical Improvements, Phase I

C. **Authorize execution of engineering services agreement for the Lake Texoma Pump Station 2019 Electrical Improvements Phase I project - Administrative Memorandum No. 5796**

- Consider authorizing the Executive Director to execute an engineering services agreement with CDM Smith, Inc. in the amount of $1,686,867 for final engineering design on Project No. 101-0530-19, Lake Texoma Pump Station 2019 Electrical Improvements, Phase I

D. **Authorize execution of engineering services agreement for the Leonard Water Treatment Plant High Service Pump Station – South project - Administrative Memorandum No. 5797**

- Consider authorizing the Executive Director to execute an engineering services agreement with Carollo Engineers, Inc. in the amount of $8,480,000 for preliminary engineering design, final engineering design, Operations and Maintenance Manuals update, and Startup and Commissioning support for Project No. 101-0603-22, Leonard Water Treatment Plant High Service Pump Station - South

E. **Authorize award of construction contract, inspection services agreement and internal inspection services for the North Water Transmission System SCADA Network Split project - Administrative Memorandum No. 5798**

- Consider authorizing award of a construction contract to Prime Controls, L.P. in the amount of $4,172,601, authorizing inspection services agreement to Mbroh Engineering, Inc. in the amount of $508,530 and authorizing internal inspection costs in the amount of $115,800 for Project No. 101-0556-20, North Transmission System SCADA Network Split

F. **Authorize award of construction contract and internal inspection services for the Farm-to-Market Road (FM) 2514 and Interstate Highway (IH) 30 Pipeline Relocations project - Administrative Memorandum No. 5799**

- Consider authorizing award of construction contract to Canary Construction, Inc. in the amount of $1,610,321 and internal inspection costs in the amount of $214,500 for Project No. 101-0585-21, F.M. 2514 Pipeline Relocations

G. **Authorize award of construction contract and internal inspection services for the Forney Delivery Point No. 1 Site Improvements project - Administrative Memorandum No. 5800**

- Consider authorizing award of construction contract to Schofield Civil Construction, LLC in the amount of $1,957,500 and internal inspection costs in the amount of $176,900 for Project No. 101-0543-19, Forney Delivery Point No. 1 Site Improvements

WASTEWATER AGENDA ITEMS

H. **Authorize award of construction contract and internal inspection services for the Upper East Fork Interceptor System Relocation of 60-inch Wastewater Pipeline project - Administrative Memorandum No. 5801**

- Consider authorizing award of construction contract to McKee Utility Contractors, Inc. in the amount of $10,695,000 and internal inspection costs in the amount of $248,400 for Project No. 101-0544-19, Upper East Fork Interceptor System Relocation of 60-inch Wastewater Pipeline

I. **Authorize award of inspection services agreement for the Sloan Creek Lift Station project - Administrative Memorandum No. 5802**
- Consider authorizing award of inspection services agreement to TEC Consulting, LLC in the amount of $977,560 for Project No. 501-0521-18, Sloan Creek Lift Station

LAND ACQUISITION / RIGHT-OF-WAY AGENDA ITEMS

J. **Authorize execution of an Interlocal Agreement with the City of Wylie for conveyances of real property - Administrative Memorandum No. 5803**
- Consider authorizing the Executive Director to execute an Interlocal Agreement with the City of Wylie for the conveyances of real property, contingent upon execution of the Interlocal Agreement by the City of Wylie; and consider adoption of Resolution No. 22-04 authorizing execution of Interlocal Agreement for conveyances of property

XIII. CLOSING ITEMS

A. Review of items for follow up raised during meeting

B. Opportunity for Board members to request potential future agenda items

XIV. ADJOURNMENT

REQUIRED LEGAL NOTICES

The Board of Directors is authorized by the Texas Open Meetings Act to convene in closed or executive session for certain purposes. These purposes include receiving legal advice from its attorney (Section 551.071); discussing real property matters (Section 551.072); discussing gifts and donations (Section 551.073); discussing personnel matters (Section 551.074); or discussing security personnel or devices (Section 551.076). If the Board of Directors determines to go into executive session on any item on this agenda, the Presiding Officer will announce that an executive session will be held and will identify the item to be discussed and provision of the Open Meetings Act that authorizes the closed or executive session.

Persons with disabilities who plan to attend the NTMWD meeting and who may need auxiliary aids or services are requested to contact Shannon Sauceman in the NTMWD Administrative Offices at (972) 442-5405 as soon as possible. All reasonable efforts will be taken to make the appropriate arrangements.

Pursuant to Section 30.05, Penal Code (criminal trespass), a person may not enter this property with a firearm. Pursuant to Section 30.06, Penal Code (trespass by license holder with a concealed handgun), a person licensed under Subchapter H, Chapter 411, Government Code (handgun licensing law), may not enter this property with a concealed handgun. Pursuant to Section 30.07, Penal Code (trespass by license holder with an openly carried handgun), a person licensed under Subchapter H, Chapter 411, Government Code (handgun licensing law), may not enter this property with a handgun that is carried openly.

NORTH TEXAS MUNICIPAL WATER DISTRICT

JANUARY 2022 CONSENT AGENDA ITEM NO. 22-01-01

DECEMBER 2021 REGULAR BOARD MEETING MINUTES

RECOMMENDATION

The Executive Director and NTMWD staff recommend the Board of Directors approve the minutes of the regular Board meeting held on Thursday, December 16, 2021 as presented. (See attached.)

NORTH TEXAS MUNICIPAL WATER DISTRICT

501 E. Brown Street • Wylie, Texas 75098
(972) 442-5405 – Phone • (972) 295-6440 – Fax

MINUTES OF REGULAR MEETING
OF THE BOARD OF DIRECTORS
DECEMBER 16, 2021

The North Texas Municipal Water District (NTMWD) Board of Directors met in a regular meeting on Thursday, December 16, 2021, at 2:30 p.m. Notice of the meeting was legally posted in accordance with Government Code, Title 551, Open Meetings.

I. CALL TO ORDER

President Phil Dyer called the meeting to order at approximately 2:31 p.m.

President Dyer advised the following regarding the meeting:

The meeting today is being conducted in person with two-way video and audio communication between Board members participating by videoconference, establishing a quorum. The public may attend the meeting in person. Audio and video of Board members participating by videoconference will be visible. Members of the public wishing to listen to live audio from the meeting may do so by calling in.

II. INVOCATION

Director David Hollifield offered the invocation.

III. PLEDGE OF ALLEGIANCE

President Dyer led the Pledge of Allegiance.

IV. PLEDGE OF ALLEGIANCE TO THE TEXAS FLAG

President Dyer led the Pledge of Allegiance to the Texas Flag.

V. ROLL CALL/ANNOUNCEMENT OF QUORUM

The roll was called, and attendance was confirmed as follows:

	DIRECTORS	ABSENT	REMOTE
1	Anderson, Terry Sam		
2	Appolito, Robert		
3	Boren, Kalen		
4	Carr, John		
5	Crump, George		

6	Dyer, Phil		
7	Farmer, Joe		
8	Fuller, Marvin		
9	Gordon, Don		
10	Hollifield, David		
11	Imrie, Chip		
12	Johnson, Blair		
13	Kelley, Ron	√	
14	Kerr, James (Jim)		
15	Kever, Geralyn		
16	May, Jack		
17	Murphy, John		√
18	Parks, Larry		
19	Patrick, Brenda Jean		√
20	Peasley, Richard		
21	Shuyler, Lynn		
22	Stephens, Keith		
23	Sweeden, John	√	
24	VACANT- Princeton		
25	VACANT- Princeton		

The following NTMWD legal and professional consultants attended the meeting:

Lauren Kalisek, Mike Gershon, Sheila Gladstone and Sara Thornton – Lloyd Gosselink Rochelle & Townsend
Lewis Isaacks and Mark Walsh – Saunders Walsh & Beard
Nick Bulaich – Hilltop Securities
Alan Raynor – McCall Parkhurst & Horton
Mike Rickman – Rickman Consulting, LLC
James Beach – Advanced Groundwater Solutions
Tom Gooch – Freese & Nichols, Inc.

VI. OPENING REMARKS

A. President's Remarks concerning current events, conduct of meeting, posted agenda items, committee assignments, and related matters

President Dyer advised that the NTMWD offices will be closed for the Christmas holidays on December 23rd – 24th. He expressed his appreciation for those employees who will be working throughout the holidays to ensure continued services to the communities served by the District.

President Dyer reviewed the tentative list of meetings for January 2021 as follows:

- Wednesday, January 12th – Executive, Finance, and Personnel Committees
- Thursday, January 20th – Long Range Water Supply Work Session
- Wednesday, January 26th – Real Estate, Wastewater, and Water Committees
- Thursday, January 27th – Board Meeting

DRAFT

President Dyer advised that he will be abstaining from voting on Agenda Item No. XII. E, and Director Larry Parks will be abstaining from voting on Agenda Item Nos. XII. F, XII. I and XII. J.

B. Executive Director's Status Report concerning legislation and regulatory matters, budgets, current projects and ongoing programs of the District including the Regional Water System, Regional Wastewater System, Regional Solid Waste System, Watershed Protection, and Water Conservation

Executive Director Jenna Covington reviewed the following:

1) The District has sent out Christmas cards this year to Board Members and City Managers at Member and Customer cities.

2) The memorandum included in the meeting packet was reviewed. It provides an overview of the accomplishments and milestones experienced in 2021.

3) The District has received recognition for financial transparency from the Texas Comptroller's office.

4) Two Consent Agenda items were reviewed. The first is in reference to Item 21-12-04, which is acceptance of the Independent Review performed by Amawalk Consulting Group, LLC of the financial management analysis of NTMWD'S Regional Water System for the three preceding fiscal years. This item was discussed by the Board during a workshop in November. Following acceptance by the Board, this final report will be provided to Member and Customer cities. The Finance Committee will discuss the recommendations and path forward at their meeting in January. The second Consent Item reviewed by the Executive Director was 21-12-06, which is to consider authorizing an application with the Texas Commission on Environmental Quality for a Water Use Permit for the return flows of Sister Grove Regional Water Resource Recovery Facility to public waterways.

VII. PUBLIC COMMENTS

Prior to the start of the meeting, speakers must complete and submit a "Public Comment Registration Form." During the public comment portion of the meeting, speakers will be recognized by name and asked to provide their comments. The time limit is three (3) minutes per speaker, not to exceed a total of thirty (30) minutes for all speakers. The Board may not discuss these items but may respond with factual or policy information.

Mr. Justin Whitman with S.J. Louis Construction addressed the Board regarding the company's commitment to quality work. He spoke of past work history with the District and future projects.

At this time President Dyer advised that the Board would consider Agenda Item XII. A. as the first item of business.

A. **Adoption of Resolution No. 21-57 commending Director Marlo Obera**

- Consider adoption of Resolution No. 21-57 commending Director Marlo Obera for service as a member of the NTMWD Board of Directors

A motion for approval was made by Director Marvin Fuller and seconded by Director Joe Farmer. Director Murphy and Director Patrick were absent from the vote.

Executive Director Covington read Resolution No. 21-57 recognizing Marlo Obera for his service. It was noted that Mr. Obera was elected to a city council position and as such is not eligible to service on the NTMWD Board of Directors.

The Board of Directors voted unanimously to approve Resolution No. 21-57.

VIII. DISCUSSION ITEMS

A. Update on Bois d'Arc Lake

Deputy Director Cesar Baptista provided a location map of the mitigation areas for Bois d'Arc Lake and reviewed that the Section 404 Permit Special Condition 5 requires a mitigation plan for wetlands, stream restorations, woodlands that includes over 12,000 acres of property.

Mr. Baptista provided an overview of the previous contract for mitigation services with Archer Western and the current contract with RES Texas Mitigation, LLC including the financial components. He advised that RES has planted over five million trees, which exceeds the amount required by the permit. Mr. Baptista advised that construction by RES will be completed approximately one year earlier than required in the spring of 2022. Following that there will be a 20-year monitoring period that RES will be responsible for, including the enforcement of no hunting. Aerial photos of the mitigation areas was provided as well as photos of wildlife already inhabiting the area.

Mr. Baptista advised that after construction is complete RES will provide a full report to the US Army Corps of Engineers and it must be approved by them.

Positive comments from several Directors were received. In response to a Director's question, Deputy Director Billy George responded that no specific plans for the property have been made for after the 20-year monitoring period, however he advised that some discussions have been held with some state agencies to possibly turn the land over one of them. Additionally, it was suggested that the presentation provided during the tour, if recorded, be made available to the full Board and possibly the public.

B. Update on Long Range Water Supply Plan

Billy George provided a review of the upcoming schedule for coordinating the Long Range Water Supply Plan. Mr. George reviewed the five areas of water management strategies to be used, as well as the evaluation criteria.

There will be a workshop in January 2022 and components to be discussed were provided.

President Dyer suggested that Directors submit questions to the Executive Director prior to the workshop. Structure of the workshop was discussed.

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IX. EXECUTIVE SESSION

At 3:29 p.m. President Dyer announced the need for an Executive Session of the Board of Directors to discuss the following agenda items:

- Agenda Item Section IX. Item A. pursuant to Texas Government Code, Title 5, Subchapter D., Section 551.071, Consultation with Attorney and Section 551.072, Real Property and,

- Agenda Item Section IX. Item B. (1-4) pursuant to Texas Government Code, Title 5, Subchapter D., Section 551.071, Consultation with Attorney

- Agenda Item Section IX. Item C. pursuant to Texas Government Code, Title 5, Subchapter D., Section 551.071, Consultation with Attorney and Section 551.076 Deliberations Regarding Security Devices or Security Audits

- Agenda Item Section IX. Item D. pursuant to Texas Government Code, Title 5, Subchapter D., Section 551.074 Personnel Matters

A. Update on Long Range Water Supply Plan
(Tex. Gov't Code Sections 551.071 and 551.072)

B. Consult with legal counsel regarding pending or contemplated litigation
(Tex. Gov't Code Section 551.071)

1. *Brian Ferguson v. NTMWD*, Cause No. 366-02745-2021, Collin County, Texas

2. *Loyd D. Johnson Family Limited Partnership No. 1, and LDJ Operations, Archer Western Construction, LLC, and Hammett Excavation, Inc.,* Cause No. CV-19-44384, Fannin County, Texas

3. Apparent Low Bidder for the Plano-McKinney Water Transmission System, Phase I, Relocation of 84-inch and 42-inch Pipelines for Project No. 101-0544-19

4. Update on contractual issues with a contractor performing residuals removal, hauling and disposal

C. Discuss Security Audit
(Tex. Gov't Code Sections 551.071 and 551.076)

D. Discuss Compensation for Deputy Director of Administrative Services
(Tex. Gov't Code Section 551.074)

X. RECONVENE INTO REGULAR SESSION

In accordance with Texas Government Code, Chapter 551, the Board of Directors of NTMWD will reconvene into regular session to consider action, if any, on matters discussed in Executive Session.

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Open Session reconvened at 4:40 p.m. No action was taken in Executive Session. The public teleconference line was reconnected. Action was taken in Open Session on item XII.B as a result of Executive Session.

XI. CONSENT AGENDA ITEMS

Upon a motion by Director Chip Imrie and a second by Director John Carr, the Board of Directors voted unanimously to approve the Consent Agenda items. Director Murphy and Director Patrick were absent from the vote.

A. **Approval of Regular Board Meeting Minutes - Consent Agenda Item No. 21-12-01**
- Consider approval of November 18, 2021, Board of Directors Regular meeting minutes

B. **Approval of Board Work Session Minutes - Consent Agenda Item No. 21-12-02**
- Consider approval of November 11, 2021 Special Board Work Session minutes

C. **Approval of Monthly Construction Report - Consent Agenda Item No. 21-12-03**
- Consider approval of December 2021 Monthly Construction Report

D. **Acceptance of Independent Review of Financial Management Analysis of NTMWD Regional Water System - Consent Agenda Item No. 21-12-04**
- Consider accepting the Independent Review performed by Amawalk Consulting Group, LLC of the financial management analysis of NTMWD'S Regional Water System for the three preceding Fiscal Years

E. **Authorize Amendment to the Texas Commission on Environmental Quality (TCEQ) grant funding agreement - Consent Agenda Item No. 21-12-05**
- Consider authorizing the Executive Director to amend the grand funding agreement with the TCEQ in the amount of $38,051 originally authorized by CAI 18-09-05

F. **Authorize execution of an Application to the (TCEQ) for filing of a Water Use Permit and Adoption of Resolution 21-55 - Consent Agenda Item No. 21-12-06**
- Consider authorizing the Executive Director to file an application with the TCEQ for a Water Use Permit for the return flows of Sister Grove Regional Water Resource Recovery Facility in the amount of $51,137.50

G. **Authorize execution of an Interlocal Agreement with the Northeast Texas Municipal Water District (NETMWD) - Consent Agenda Item No. 21-12-07**
- Consider authorizing the Executive Director to execute an Interlocal Agreement with NETMWD in the amount of $172,000 to develop updated hydrology (naturalized flows and evaporation) for the Cypress River Basin

H. **Authorize additional engineering services on the Upper East Fork Interceptor System - Consent Agenda Item No. 21-12-08**

DRAFT

- Consider authorizing additional engineering services with Garver, LLC in the amount of $335,278 for contracted project management services in the Upper East Fork Interceptor System for Project No. 501-0439-16, Beck Branch Parallel Interceptor Phase II and Plano Spring Creek Force Main Parallel, Project No. 501-0454-17, Indian Creek Force Main No. 2, Phase III, McKamy Trail and Air Release Valves and Project No. 501-0473-17, Plano Spring Creek Lift Station No. 2 Improvements

I. **Authorize legal services for Wylie Water Treatment Plant III Sludge Handling and Reclaimed Water Improvements - Consent Agenda Item No. 21-12-09**

- Consider authorizing legal services in the amount of $40,000 with Saunders, Walsh and Beard, Attorneys and Counselors for Project No. 101-0541-19, Wylie Water Treatment Plant III Sludge Handling and Reclaimed Water Improvements

J. **Adoption of Resolution 21-56 authorizing the conveyance of property at the 121 Regional Disposal Facility to the City of Melissa – Consent Agenda Item No. 21-12-10**

- Consider authorizing the Executive Director to convey approximately 0.99 acres of permanent easement and approximately 1.35 acres of temporary easement located at and near the 121 Regional Disposal Facility

XII. AGENDA ITEMS FOR INDIVIDUAL CONSIDERATION

GENERAL / ADMINISTRATIVE SERVICES AGENDA ITEMS

~~A. **Adoption of Resolution No. 21-57 commending Director Marlo Obera**~~

- ~~Consider adoption of Resolution No. 21-57 commending Director Marlo Obera for service as a member of the NTMWD Board of Directors~~

This item was addressed previously.

B. **Adoption of Resolution No. 21-58 establishing the compensation for the Deputy Director of Administrative Services – Administrative Memorandum No. 5781**

- Consider adoption of Resolution No. 21-58 establishing the compensation to be received by the Deputy Director of Administrative Services

Upon a motion by Director Chip Imrie and a second by Director George Crump, the Board of Directors voted unanimously to adopt Resolution No. 21-58 as discussed in Executive Session. Director Murphy and Director Patrick were absent from the vote.

BOIS D'ARC LAKE AGENDA ITEMS

C. **Authorize First Amendment to the Interlocal Agreement between NTMWD and the City of Bonham – Administrative Memorandum No. 5782**

- Consider authorizing the Executive Director to execute a First Amendment to an Interlocal Agreement with the City of Bonham in the amount of $189,840

Upon a motion by Director Carr and a second by Director Joe Farmer, the Board of Directors voted unanimously to approve. Director Murphy and Director Patrick were absent from the vote.

DRAFT

D. **Authorize additional archeological services on Bois d'Arc Lake Archeological Services project – Administrative Memorandum No. 5783**

- Consider authorizing additional archeological services to existing Archeological Services Agreement with AR Consultants, Inc., in the amount of $10,200,000 on Project No. 101-0237-11, Bois d'Arc Lake Archeological Services

Director Keith Stephens advised that the Water Committee reviewed this item yesterday and voted to recommend the Board authorize additional services to complete artifact analysis, bioarcheological analysis, post-excavation data processing, final report writing, and final curation of artifacts at the Texas Archeological Research Laboratory (TARL) in Austin, Texas as required to complete NTMWD's archeological requirements associated with Bois d'Arc Lake.

Director Carr commented that he had an opportunity last year to be on site and observe the excavation process. He advised the process is intricate and slow. He spoke highly of the process and the need for it.

Upon a motion by Director Keith Stephens and second by Director John Gordon, the Board of Directors voted unanimously to approve. Director Murphy and Director Patrick were absent from the vote.

WATER AGENDA ITEMS

E. **Authorize additional engineering services on Wylie Water Treatment Plant III Plant Water Improvements project – Administrative Memorandum No. 5784**

- Consider authorizing additional engineering services with Kimley-Horn & Associates, Inc. in the amount of $170,500 for final engineering design on Project No. 101-0520-18, Wylie Water Treatment Plant III Plant Water Improvements

Director Keith Stephens advised that the Water Committee reviewed this item yesterday and voted to recommend the Board authorize additional services for hydraulic modeling and update the plant water system configuration to accommodate the new model results.

Upon a motion by Director Keith Stephens and second by Director Don Gordon, the Board of Directors voted unanimously to approve. President Dyer abstained from voting on this item. Director Murphy and Director Patrick were absent from the vote.

F. **Authorize execution of engineering services agreement for Bonham Water Treatment Plant Intake Improvements project - Administrative Memorandum No. 5785**

- Consider authorizing the Executive Director to execute an engineering services agreement with Freese and Nichols, Inc. in the amount of $182,668 for final engineering design on Project No. 101-0582-21, Lake Bonham Intake Improvements

Director Keith Stephens advised that the Water Committee reviewed this item yesterday and voted to recommend the Board authorize an engineering services

agreement for development of engineering design for dredging operations at the Bonham Water Treatment Plant intake structure to restore access to water in Lake Bonham.

Upon a motion by Director Keith Stephens and second by Director James Kerr, the Board of Directors voted unanimously to approve. Director Larry Parks abstained from voting on this item. Director Murphy and Director Patrick were absent from the vote.

G. **Authorize award of construction contract and internal inspection services for Multiple System Maintenance Facilities Central Region, Phase II project - Administrative Memorandum No. 5786**

- Consider authorizing award of construction contract with Tegrity Contractors, Inc. in the amount of $18,547,777 and authorizing internal inspection costs of $367,150 on Project No. 101-0445-16, Maintenance Facilities Central Region, Phase II

Director Keith Stephens advised that the Water Committee reviewed this item yesterday and voted to recommend the Board authorize award of a construction contract and authorize internal inspection services for the Multiple System Maintenance Facilities Central Region, Phase II. The facility will provide needed work and storage space on the Wylie Water Treatment Plant Campus and make facilities available for Fleet Maintenance.

Upon a motion by Director Keith Stephens and second by Director Robert Appolito, the Board of Directors voted unanimously to approve. Director Murphy and Director Patrick were absent from the vote.

H. **Authorize execution of engineering services agreement for Leonard Water Treatment Plant Phase II project - Administrative Memorandum No. 5787**

- Consider authorizing the Executive Director to execute an engineering services agreement with Jacobs Engineering Group, Inc. in the amount of $14,161,000 for final engineering design and construction support on Project No. 101-0600-21, Leonard Water Treatment Plant Phase II

Director Keith Stephens advised that the Water Committee reviewed this item yesterday and voted to recommend the Board authorize funding for engineering services for the final design of Phase II of the Leonard Water Treatment Plant.

The Bois d'Arc Lake supply is planned to increase over four phases of Construction to achieve maximum utilization of water rights and provide treated water supply to the NTMWD's service area. Phase II increases the raw water pumping capacity to 142 million gallons per day, the water storage capacity to 420 million gallons, and the water treatment capacity to 140 million gallons per day.

Upon a motion by Director Keith Stephens and second by Director Blair Johnson, the Board of Directors voted unanimously to approve. Director Murphy and Director Patrick were absent from the vote.

DRAFT

I. **Authorize execution of engineering services agreement for Leonard Water Treatment Plant Terminal Storage Reservoir Phase II project - Administrative Memorandum No. 5788**

- Consider authorizing the Executive Director to execute an engineering services agreement with Freese and Nichols, Inc. in the amount of $1,838,800 for preliminary and final engineering design, Operations and Maintenance Manuals update, and Startup and Commissioning support on Project No. 101-0601-21, Leonard Water Treatment Plant Terminal Storage Reservoir Phase II

Director Keith Stephens advised that the Water Committee reviewed this item yesterday and voted to recommend the Board authorize an engineering service agreement with Freese and Nichols, Inc., to design the required components to add storage capacity by constructing a second cell to the Terminal Storage Reservoir at the Leonard Water Treatment Plant in conjunction with the Leonard Water Treatment Plant expansion.

Upon a motion by Director Keith Stephens and second by Director Chip Imrie, the Board of Directors voted unanimously to approve. Director Larry Parks abstained from voting on this item. Director Murphy and Director Patrick were absent from the vote.

J. **Authorize execution of engineering services agreement for Bois d'Arc Lake Raw Water Pump Station Phase II project - Administrative Memorandum No. 5789**

- Consider authorizing the Executive Director to execute an engineering services agreement with Freese and Nichols, Inc. in the amount of $6,296,700 for preliminary and final engineering design, Operations and Maintenance Manuals update, and Startup and Commissioning support on Project No. 101-0602-21, Bois d'Arc Lake Raw Water Pump Station, Phase II

Director Keith Stephens advised that the Water Committee reviewed this item yesterday and voted to recommend the Board authorize an engineering service agreement with Freese and Nichols, Inc. to design the required components to add capacity to the existing Bois d'Arc Lake Raw Water Pump Station to supply additional raw water for the Leonard Water Treatment Plant expansion.

Upon a motion by Director Keith Stephens and second by Director David Hollifield, the Board of Directors voted unanimously to approve. Director Larry Parks abstained from voting on this item. Director Murphy and Director Patrick were absent from the vote.

K. **Authorize award of construction contract and internal inspection services on Plano-McKinney Water Transmission System Phase 1, Relocation of 84-inch and 42-inch Pipelines project - Administrative Memorandum No. 5790**

- Consider authorizing award of a construction contract with Garney Companies, Inc. in the amount of $6,881,176, and authorizing internal inspection costs of $126,000 on Project No. 101-0544-19, Plano - McKinney Water Transmission System Phase 1, Relocation of 84-inch and 42-inch Pipelines

Director Keith Stephens advised that the Water Committee reviewed this item yesterday and voted to recommend the Board authorize the award of construction

contract for the Plano McKinney Water Transmission System Phase 1, Relocation of 84-inch and 42-inch Pipelines to accommodate the TxDOT widening of FM 2551 and FM 2170 in Parker.

In response to a Director's question, Executive Director Covington responded that TxDOT will reimburse the District for this project.

Upon a motion by Director Keith Stephens and second by Director Chip Imrie, the Board of Directors voted unanimously to approve. Director Murphy and Director Patrick were absent from the vote.

L. **Authorize execution of potable water supply contract with Blackland Water Supply Corporation - Administrative Memorandum No. 5791**

- Consider authorizing execution of potable water supply contract with Blackland Water Supply Corporation for a term of 20 years

Director Keith Stephens advised that the Water Committee reviewed this item yesterday and voted to recommend the Board authorize execution of a Potable Water Supply Contract with Blackland Water Supply Corporation (WSC).

The NTMWD and Blackland WSC wish to enter into a new Potable Water Supply Contract. Blackland WSC is currently an indirect customer of NTMWD and entered into Wholesale Treated Water Contract with the City of Rockwall dated December 17, 2007. City of Rockwall endorses Blackland WSC becoming a direct customer of NTMWD.

Upon a motion by Director Keith Stephens and second by Director Terry Sam Anderson, the Board of Directors voted unanimously to approve. Director Larry Parks abstained from voting on this item. Director Murphy and Director Patrick were absent from the vote.

Water Chair Keith Stephens offered words of appreciation to the Water Committee members for their diligence during a long meeting yesterday.

WASTEWATER AGENDA ITEMS

M. **Authorize award of construction contract on Sloan Creek Lift Station project - Administrative Memorandum No. 5792**

- Consider authorizing award of a construction contract with Archer Western Construction, LLC in the amount of $10,594,325 on Project No. 501-0521-18, Sloan Creek Lift Station

Director George Crump advised that the Wastewater Committee discussed this item on October 27th and recommended the Board authorize award of a construction contract for the Sloan Creek Lift Station project.

This action will approve construction of a new 10 million gallons per day Sloan Creek Lift Station to serve the projected growth within the City of Allen and Town of Fairview pursuant to an interlocal agreement between NTMWD, the City of Allen and the Town of Fairview.

In response to a Director's question, Executive Director Covington responded that this lift station pumps to the Wilson Creek Lift Station.

Upon a motion by Director George Crump and a second by Director Larry Parks, the Board of Directors voted unanimously to approve. Director Murphy and Director Patrick were absent from the vote.

LAND ACQUISITION / RIGHT-OF-WAY AGENDA ITEMS

N. **Authorize execution of right-of-way program and adoption of Resolution No. 21-59 authorizing use of eminent domain to acquire right-of-way for McKinney Delivery Point No. 3 to McKinney Delivery Point No. 4 Pipeline project - Administrative Memorandum No. 5793**

- Consider authorizing the Executive Director to amend a previously executed right-of-way acquisition and adoption of Resolution No. 21-59 authorizing the use of eminent domain to acquire right-of-way in the amount of $10,700,000 for Project No. 101-0505-18, McKinney Delivery Point No. 3 to McKinney Delivery Point No. 4 Pipeline

Director David Hollifield advised that the Real Estate Committee discussed this item on November 11, 2021 and recommended the Board authorize the additional funding and use of eminent domain to acquire right-of-way for McKinney Delivery Point No. 3 to McKinney Point No. 4 Pipeline project.

Upon a motion by Director David Hollifield and a second by Director Geralyn Kever, the Board of Directors voted unanimously to approve. Director Murphy and Director Patrick were absent from the vote.

XIII. CLOSING ITEMS

A. Review of items for follow up raised during meeting

President Dyer expressed appreciation to the staff for their work. He reminded Directors to send questions in for long range water supply workshop.

B. Opportunity for Board members to request potential future agenda items

Director Lynn Shuyler requested printed copies of the photos taken during the Bois d'Arc Lake tour.

XIV. ADJOURNMENT

There being no further business, the meeting adjourned at approximately 4:59 p.m.

APPROVED:

_____
PHIL DYER, President

ATTEST:

_____
RICHARD PEASLEY, Secretary
(Seal)

DRAFT

NORTH TEXAS MUNICIPAL WATER DISTRICT

JANUARY 2022 CONSENT AGENDA ITEM NO. 22-01-02

MONTHLY CONSTRUCTION REPORT

RECOMMENDATION

The Executive Director and NTMWD staff recommend the Board of Directors authorize the Monthly Construction Report in accordance with NTMWD's Board Policies Manual for project changes greater than $100,000 and less than $500,000.

I. CONSTRUCTION CHANGE ORDERS ONLY

WATER SYSTEM

a. None.

WASTEWATER SYSTEM

a. Project No. 301-0497-18, South Mesquite Creek Regional Wastewater Treatment Plant Solids Handling Improvements, Change Order No. 5.

Description	Amount	Days
Original Contract Amount	$26,318,000.00	668
Prior Change Order(s) Total	$134,056.23	38
Proposed Change Order No. 5		
Old sludge drying bed obstructions and debris that need to be excavated and taken to a landfill for disposal	$254,267.04	118
Proposed Change Order No. 5 Increase	**$254,267.04**	**118**
Revised Contract Amounts	**$26,706,323.27**	**824**

Original Completion Dates: Substantial – June 19, 2022; Final – August 18, 2022
Revised Completion Dates: Substantial – November 22, 2022; Final – January 21, 2023

Funding in the amount of $254,267.04 for Change Order No. 5 to BAR Constructors, Inc., is available utilizing the Regional Wastewater System Extendable Commercial Paper (ECP) Program as the appropriation source; actual issuance of ECP will occur as cash needs arise.

b. Project No. 301-0426-16, Sister Grove Regional Water Resource Recovery Facility, CMAR Change Order No. 1

Description	Amount	Days
Original Contract Amount	$359,134,722.91	1,148
Prior Change Order(s) Total	$0.00	0

Proposed Change Order No. 1 (related to BP 1.3 – Amendment No. 2		
Clarifier equipment modification	$196,259.00	0
Proposed Change Order No. 1 Increase	**$196,259.00**	**0**
Revised Contract Amounts	**$359,330,981.90**	**1,148**

Original Completion Dates: Substantial – December 30, 2023; Final – March 4, 2024
Revised Completion Dates: No Change.

Funding in the amount of $196,259.00 for Change Order No. 1 to Garney Companies, Inc. is to be made available in the Regional Wastewater System Clean Water State Revolving Fund (CWSRF) contingent upon Texas Water Development Board Approval of the change order and release of funding.

SOLID WASTE SYSTEM
a. None.

II. AUTHORIZATION TO ISSUE CONSTRUCTION FINAL PAYMENT ONLY

Work on the following projects is substantially complete with only minor deficiencies remaining. Final payment in the total amounts shown will be made on these projects when completion of all deficiency items is verified.

WATER SYSTEM
a. None.

WASTEWATER SYSTEM
a. None.

SOLID WASTE SYSTEM
a. None.

III. CONSTRUCTION CHANGE ORDER AND AUTHORIZATION TO ISSUE FINAL PAYMENT ONLY

Work on the following projects is substantially complete with only minor deficiencies remaining. Final payment in the total amounts shown will be made on these projects when all work associated with the change order shown on the tabulation shall have been completed and accepted, and completion of all deficiency items is verified.

WATER SYSTEM
a. None.

WASTEWATER SYSTEM
a. None.

SOLID WASTE SYSTEM
a. None.

IV. AMENDMENTS TO ENGINEERING, INSPECTION AND/OR LEGAL SERVICES ONLY:

WATER SYSTEM

a. Project No.101-0344-13, Bois d'Arc Lake Dam and Intake Structure; Project No. 101-0366-14, Bois d'Arc Lake Mitigation Property; Project No. 101-0384-15, Leonard Water Treatment Plant; Project No. 101-0425-16, Treated Water Pipeline from Leonard Water Treatment Plant to McKinney No. 4 – Adjust Engineering Services and Inspection Services Agreements as follows:

DESCRIPTION	AMOUNT
Current Engineering Services Agreement (ESA) – Project No. 101-0344-13	$4,417,575.00
Current Inspection Services Agreement (ISA) – Project No. 101-0366-14	$1,205,096.00
Current ISA – Project No. 101-0384-15	$822,458.00
Current ISA – Project No. 101-0425-16	$2,944,645.00
Proposed Change in Services	
Project No. 101-0344-13 – ESA - **Increase**	$165,000.00
Project No. 101-0366-14 – ISA **Decrease** in Contract Amount for Unused Services	($30,000.00)
Project No. 101-0384-15 – ISA **Decrease** in Contract Amount for Unused Services	($50,000.00)
Project No. 101-0425-16 – ISA **Decrease** in Contract Amount for Unused Services	($85,000.00)
Revised Contract Amounts	
Project No. 101-0344-13 – Revised ESA	$4,582,575.00
Project No. 101-0366-14 – Revised ISA	$1,175,096.00
Project No. 101-0384-15 – Revised ISA	$772,458.00
Project No. 101-0425-16 – Revised ISA	$2,859,645.00

No additional funding is requested for both the Engineering Services Agreement and Inspection Services Agreement on these Bois d'Arc Lake projects with Freese and Nichols, Inc.

WASTEWATER SYSTEM

a. Project No. 501-453-17, Indian Creek Lift Station No. 2

DESCRIPTION	AMOUNT

Original ESA	$892,199.00
Prior Additional Services	$76,173.00
Proposed Additional Services	**$360.00**
CAI 12-12-03 approved $121,480.00 for Additional Project Management Services from January 2022 through completion of the lift station (October 2022) and through the contractor's 1-year warranty period The correct amount should have been $121,840.00. This request adds the difference to the contract amount to correct the error.	
Revised ESA Amount	**$1,090,212.00**

Funding in the amount of $360.00 to AECOM Technical Services, Inc., is available in the Upper East Fork Interceptor System 2020 Construction Fund

b. Project No. 501-0454-17, Indian Creek Force Main No. 2

DESCRIPTION	AMOUNT
Original ESA	$1,149,877.00
Prior Additional Services	$293,325.00
Proposed Additional Services	**$34,896.00**
McKamy Trail trenchless construction feasibility evaluation and design changes	$15,300.00
Combination Air Valve design changes at STA 30+64	$14,805.00
Additional coordination meetings and deliverables with cities (The Colony and the City of Plano)	$4,791.00
Revised ESA Amount	**$1,478,098.00**

Funding in the amount of $34,896.00 to HDR, Inc., is available in the Upper East Fork Interceptor System 2020 Construction Fund

c. Project No. Project No. 301-0471-17, Rowlett Creek Regional Wastewater Treatment Plant Peak Flow Management Improvements, Phase II, Additional Engineering Services No. 8

DESCRIPTION	AMOUNT
Original ESA	$5,182,700.00
Prior Additional Services	$534,466.00

Proposed Additional Services	**$282,500.00**
Membrane Bio-Reactor (MBR) operational plan development due to higher influent ammonia load	$165,900.00
Monthly MBR operational performance data support	$36,600.00
MBR on-site operation advisor	$38,500.00
Biosolids odor control chemical evaluation	$41,500.00
Revised ESA Amount	**$5,999,666.00**

Funding in the amount of $282,500.00 to Hazen and Sawyer, is to be made available utilizing the Regional Wastewater System Extendable Commercial Paper (ECP) Program as the appropriation source; actual issuance of ECP will occur as cash needs arise.

SOLID WASTE SYSTEM

a. None.

NORTH TEXAS MUNICIPAL WATER DISTRICT

JANUARY 2022 CONSENT AGENDA ITEM NO. 22-01-03

REGIONAL WATER SYSTEM
BONHAM WATER TREATMENT PLANT
INTAKE IMPROVEMENTS
PROJECT NO. 101-0582-21

PROPERTY ACQUISITION PROGRAM

RESOLUTION NO. 22-01

ACTION *(What)*

Authorize funding and resolution for the acquisition of property needed for the Bonham Water Treatment Plant (WTP) Intake Improvements.

PURPOSE *(Why)*

A dredging project is being undertaken at the Bonham WTP raw water intake structure. A tract of land abutting the WTP site has five existing ponds. Those ponds are needed for the decanting aspect of the dredging project.

RECOMMENDATION

The Executive Director and NTMWD staff recommend the Board of Directors:

1) Authorize the Executive Director to execute a property acquisition program for the Bonham Water Treatment Plant Intake Improvements, Project No. 101-0582-21, with a budget of $86,000; and,

2) Adopt Resolution No. 22-01, *"A Resolution Authorizing the Use of Eminent Domain to Acquire Property for the Bonham Water Treatment Plant Intake Improvements, Project No. 101-0582-21, and Delegating Authority to Initiate Condemnation Proceedings to the NTMWD Executive Director."*

Consultant: N/A

Scope: Property acquisition, and the necessary support services to facilitate the purchasing of property for the project.

Project: No. 101-0582-21, Lake Bonham Intake Improvements

Amount: $86,000

This is an item on the January 26, 2022, Real Estate Committee agenda.

DRIVER(S) FOR THIS PROJECT

☐ Regulatory Compliance	☐ Asset Condition
☒ Capacity	☐ Redundancy/Resiliency
☐ Relocation or External Requests	☐ Operational Efficiency
☐ Safety	☐ Administrative
☐ Policy	☐ Other _____

PROJECT PURPOSE

- The existing Bonham Water Treatment Plant (WTP) Intake Improvements project includes dredging to provide:
  - greater reliability and reduction in sediment at the water supply intake structure
  - access to more capacity at the intake structure
  - sedimentation mitigation at the intake structure
- NTMWD needs additional land to decant water as part of the dredging process.
- The tract of land abutting the northern boundary of the Bonham WTP site has five existing ponds that can be used for decanting.
- NTMWD would like to acquire the portion of the tract that contains the ponds.
- Approximately 5.027 acres of land is required, as described in Exhibit “A” (line list).

SUPPORT SERVICES

- Employ the firm of Saunders, Walsh & Beard, Attorneys & Counselors, to act as counsel on the acquisition of property.
- Employ an appraiser to provide appropriate reports.
- Employ contracted land agents or acquisition company(s) to assist in property acquisition.
- Employ a title company to provide professional services related to certain property ownership issues.
- Employ survey services to perform title survey for purchase and acquisition, and verify property lines and potential easement locations when necessary.

FUNDING

FUND(S): Funding in the amount of $86,000 is to be made available in the Regional Water System Capital Improvement Fund.

NORTH TEXAS MUNICIPAL WATER DISTRICT

RESOLUTION NO. 22-01

A RESOLUTION AUTHORIZING THE USE OF EMINENT DOMAIN TO ACQUIRE BOTH THE PROPERTY FOR THE BONHAM WATER TREATMENT PLANT (WTP) INTAKE IMPROVEMENTS, PROJECT NO. 101-0582-21, AND DELEGATING AUTHORITY TO INITIATE CONDEMNATION PROCEEDINGS TO THE NTMWD EXECUTIVE DIRECTOR

WHEREAS, the NTMWD Board of Directors previously authorized the Engineering Services Agreement for the Bonham Water Treatment Plant (WTP) Intake Improvements, Project No 101-0582-21 (Project), by Administrative Memorandum No. 5675; and,

WHEREAS, the Project includes dredging at the water supply intake structure; and,

WHEREAS, NTMWD needs additional land to decant the dredged water; and,

WHEREAS, the tract of land abutting the northern boundary of the Bonham WTP site has five existing ponds that can be used for decanting; and,

WHEREAS, it is necessary to proceed with the acquisition of the portion of the tract of land that contains the ponds required for the Project improvements; and,

WHEREAS, it may be necessary to acquire the land required for the Projects through the use of eminent domain in the event negotiations are unsuccessful; and,

WHEREAS, it may be necessary to hire contracted land agents or acquisition companies, appraisers, and attorneys, in order to negotiate l required for the Projects; and,

WHEREAS, funding in the amount of $86,000 is to be made available in the Regional Water System Capital Improvement Fund for the acquisition of property needed for the Projects.

NOW, THEREFORE, THE BOARD OF DIRECTORS IN A REGULAR MEETING DETERMINES AND RESOLVES THAT:

1. There is a public need for and that the public welfare and convenience are to be served by the improvements associated with the Bonham Water Treatment Plant Intake Improvements, Project No. 101-0582-21.

2. It is in the best interest and is necessary to acquire approximately 5.027 acres in fee simple property for the Project, as described in Exhibit “A” attached hereto, and incorporated by reference herein, to provide the required working area for prosecution of the work, and operation and maintenance of the facilities.

3. The Executive Director is authorized to employ surveyors to assist in the acquisition process, as required.

4. The power to initiate eminent domain proceedings is hereby delegated to the Executive Director and he is hereby authorized to take all steps necessary to acquire the property for the Projects; including the hiring of negotiators, appraisers, Title Company, and attorneys.

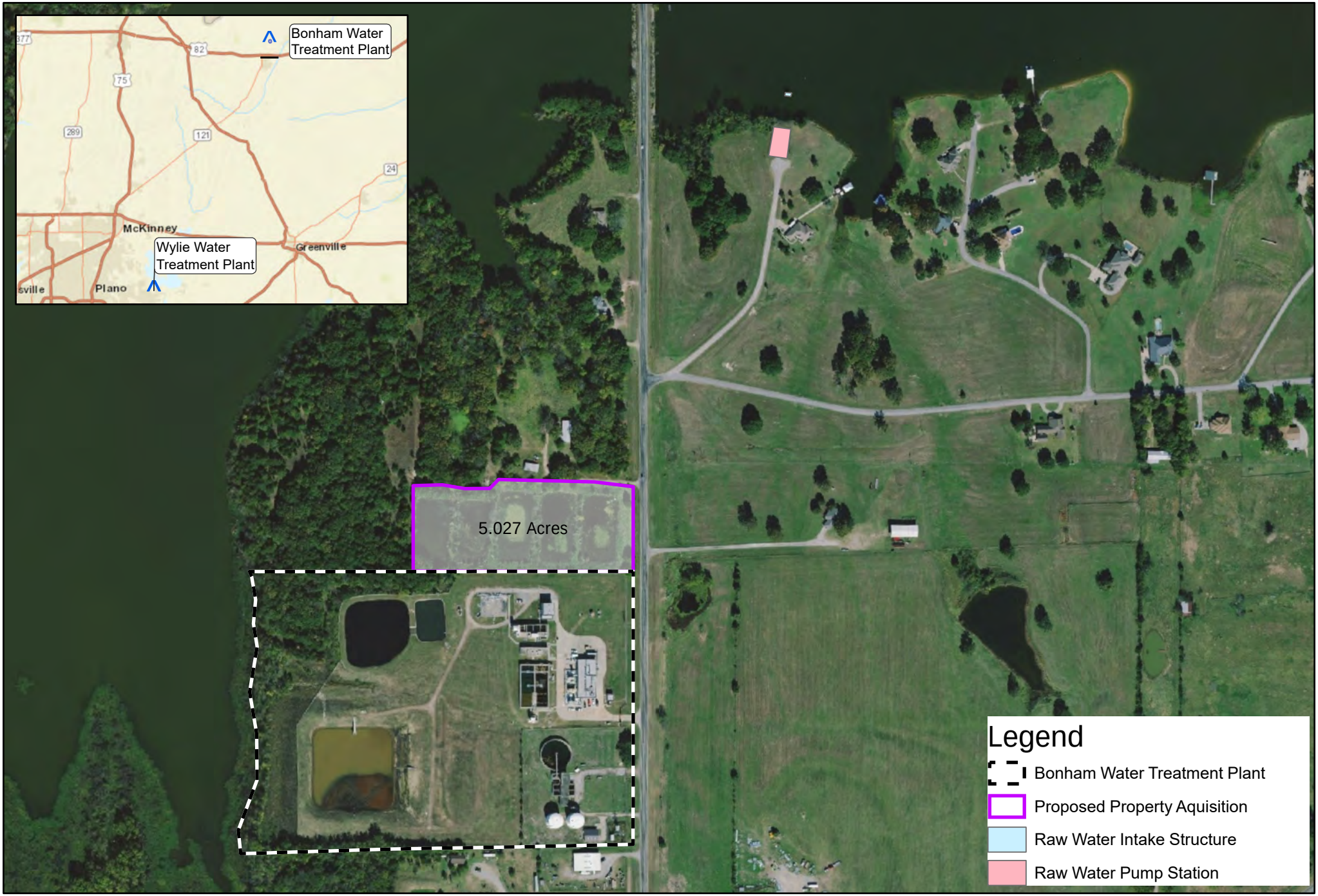
5. The Executive Director is authorized to employ the firm of Saunders, Walsh & Beard, Attorneys and Counselors, to represent the NTMWD in this land transaction; including filing of Petitions for Condemnation on the property when the Executive Director determines the property cannot be secured through negotiations and after issuance of a final offer letter in accordance therewith.

6. A budget of $86,000 is authorized for this property acquisition program.

THIS RESOLUTION ADOPTED BY THE NTMWD BOARD OF DIRECTORS IN A REGULAR MEETING ON JANUARY 27, 2022, IN THE ADMINISTRATIVE OFFICES OF THE NTMWD, WYLIE, TEXAS.

RICHARD PEASLEY, Secretary	**PHIL DYER, President**

(SEAL)



Bonham Water Treatment Plant Intake Improvements
Project No. 101-0582-21
Consent Agenda Item No. 22-01-03

EXHIBIT "A"

REGIONAL WATER SYSTEM
BONHAM WATER TREATMENT PLANT
INTAKE IMPROVEMENTS
PROJECT NO. 101-0582-21

LINE LIST

Parcel No.	Property Owner	Fee Simple (Acres)
01	Suzanne Cooper Stowe, Timothy Gene Cooper, Burnett Cooper, and Michael Wayne Cooper (The Heirs of Lonnie Gene Cooper)	5.027
	TOTAL	**5.027**

NORTH TEXAS MUNICIPAL WATER DISTRICT

JANUARY 2022 CONSENT AGENDA ITEM NO. 22-01-04

REGIONAL WATER SYSTEM
LEONARD WATER TREATMENT PLANT PHASE II
PROJECT NO. 101-0600-21
BOIS D'ARC LAKE RAW WATER PUMP STATION PHASE II
PROJECT NO. 101-0601-21
LEONARD WATER TREATMENT PLANT TERMINAL STORAGE RESERVOIR PHASE II
PROJECT NO. 101-0602-21
LEONARD WATER TREATMENT PLANT HIGH SERVICE PUMP STATION - SOUTH
PROJECT NO. 101-0603-22

RESOLUTION NO. 22-02

AUTHORIZATION TO USE
CONSTRUCTION MANAGER AT-RISK DELIVERY METHOD

ACTION (*What*)

Adopt Resolution No. 22-02 authorizing the use of the Construction Manager At-Risk (CMAR) delivery method for the following projects: Phase II improvements to the Leonard Water Treatment Plant (WTP), the Bois d'Arc Lake Raw Water Pump Station (RWPS), the Leonard WTP Terminal Storage Reservoir (TSR) and the addition of the Leonard WTP High Service Pump Station (HSPS) - South.

PURPOSE (*Why*)

Bois d'Arc Lake is planned to expand in four phases of construction to use all of Bois d'Arc Lake (BDL) water rights and provide treated water supply to the NTMWD's service area. Phase II will increase the water treatment capacity to 140 million gallons per day (MGD), the raw water pumping capacity to 142 MGD, the water storage capacity to 420 million gallons (MG), and the high service pumping capacity to 175 MGD. NTMWD staff is requesting that the Board authorize the use of the Construction Manager At-Risk alternate delivery method to deliver these four projects as a complete system.

RECOMMENDATION

The Executive Director and NTMWD staff recommend the Board of Directors adopt Resolution No. 22-02, *"A Resolution Authorizing Use of Construction Manger At-Risk Delivery Method under Texas Government Code, Chapter 2269 for: Leonard Water Treatment Plant Phase II, Project No. 101-0600-21; Bois d'Arc Lake Raw Water Pump Station Phase II, Project No. 101-0601-21; Leonard Water Treatment Plant Terminal Storage Reservoir Phase II Project No. 101-0602-21, and Leonard Water Treatment Plant High Service Pump Station - South, Project No. 101-0603-22*."

Projects: No. 101-0600-21, Leonard Water Treatment Plant Phase II
No. 101-0601-21, Leonard Water Treatment Plant Terminal Storage Reservoir Phase II
No. 101-0602-21, Bois d'Arc Lake Raw Water Pump Station Phase II
No. 101-0603-22, Leonard Water Treatment Plant High Service Pump Station - South

Amount: N/A

DRIVER(S) FOR THIS PROJECT

☐ Regulatory Compliance (Pre-emptive)	☐ Asset Condition
☒ Capacity	☐ Redundancy/Resiliency
☐ Relocation or External Requests	☐ Operational Efficiency
☐ Safety	☐ Administrative
☐ Policy	☐ Other _____

BACKGROUND

- In December 2021, the Board of Directors approved Administrative Memorandum No. 5787, which authorized engineering services for Jacobs Engineering Group, Inc. (Jacobs) to design facilities that will allow an expansion of the Leonard WTP to 140 MGD.
- Also in December 2021, the Board of Directors authorized Freese and Nichols, Inc. (FNI) to design the second cell of the Leonard WTP TSR and facilities to allow additional pumping capacity at the BDL RWPS. These actions were approved in Administrative Memorandum Nos. 5788 and 5789, respectively.
- The use of CMAR delivery method would bring the design and the construction phase of these four projects under the oversight of an overall construction manager, who would carry the primary responsibilities for managing the project schedule, procurements, shutdowns and multiple trade contractor coordination.

PROJECT PURPOSE

These projects expand the capacity of each facility, which allows increased use of Bois d'Arc Lake as a water supply. The additional water supply and treatment capacity are needed by 2026; and to reach that objective, all four projects need to be completed in the correct sequence. Approval of this Administrative Memorandum and Resolution will allow the scopes of work of all four projects to be under the same CMAR. The Construction Manager At-Risk (CMAR) Delivery Method allows the design of the Leonard WTP Phase II, the second cell of the Leonard WTP TSR, the BDL RWPS and the Leonard WTP HSPS to continue simultaneously while taking advantage of the construction manager's ability to phase the construction and develop work packages in a manner that matches NTMWD's schedule. The contract with the CMAR will be structured in a similar manner to the latest CMAR contract developed by Saunders, Walsh, and Beard, LLC, and will include the option for NTMWD to terminate the agreement during the preliminary phase if the need arises.

CONSTRUCTION MANAGER AT-RISK DELIVERY METHOD

- In 2011, the Texas Legislature enacted legislation that allows public entities, such as NTMWD, to elect to operate under the new Chapter 2269 of the Texas Government Code, which authorizes the use of several alternative delivery methods for construction projects, including CMAR.

- In the CMAR method, contracts are executed with a construction manager.
- The experience of the construction manager adds to the overall efficiency by incorporating working knowledge of field operations throughout the design process.
- One of the largest potential benefits of this interaction is the construction manager's input with regards to the project schedule and alternate design approaches that could shorten construction time.
- Experience in the construction industry has shown that, among other advantages, the CMAR Delivery Method can provide the opportunity for compressed overall design and construction times and allow for phased procurement that can leverage the strategic timing of certain material purchases for cost savings.
- In examining the ability to utilize this alternative delivery system, legal counsel has advised of the statutory need for the Board of Directors to specifically elect to utilize the alternative methods set forth in Chapter 2269 instead of the usual procurement requirements for this particular project.
- The Executive Director and NTMWD staff recommend the Board specifically authorize the use of the CMAR Delivery Method under Chapter 2269 of the Texas Government Code and to supersede for this project the operation of Chapter 271 of the Texas Local Government Code and any other applicable law, rule, or regulation governing competitive bidding by the NTMWD.

NORTH TEXAS MUNICIPAL WATER DISTRICT

RESOLUTION NO. 22-02

A RESOLUTION AUTHORIZING USE OF CONSTRUCTION MANAGER AT-RISK DELIVERY METHOD UNDER TEXAS GOVERNMENT CODE, CHAPTER 2269, FOR:

LEONARD WATER TREATMENT PLANT PHASE II
PROJECT NO. 101-0600-21,
LEONARD WATER TREATMENT PLANT TERMINAL STORAGE RESERVOIR PHASE II
PROJECT NO. 101-0601-21,
BOIS D'ARC LAKE RAW WATER PUMP STATION PHASE II
PROJECT NO. 101-0602-21, AND
LEONARD WATER TREATMENT PLANT HIGH SERVICE PUMP STATION - SOUTH
PROJECT NO. 101-0603-22

BE IT RESOLVED BY THE BOARD OF DIRECTORS OF NORTH TEXAS MUNICIPAL WATER DISTRICT:

SECTION 1

That the North Texas Municipal Water District (NTMWD) authorizes the use of the Construction Manager At-Risk Delivery Method under Chapter 2269 of the Texas Government Code for the Leonard Water Treatment Plant Phase II, Project No. 101-0600-21; the Leonard Water Treatment Plant Terminal Storage Reservoir Phase II, Project No. 101-0601-21; the Bois d'Arc Lake Raw Water Pump Station Phase II, No. 101-0602-21; and the Leonard Water Treatment Plant High Service Pump Station - South, Project No. 101-0603-22, which were independently authorized under Administrative Memorandum Nos. 5787, 5788, 5789, and Consent Agenda Item No.22-01-04.

The NTMWD, through this resolution, specifically elects to be governed by Chapter 2269 of the Texas Government Code for the procurement and delivery of the Leonard Water Treatment Plant Phase II project, the Leonard Water Treatment Plant Terminal Storage Reservoir Phase II project, the Bois d'Arc Lake Raw Water Pump Station project, and the Leonard Water Treatment Plant High Service Pump Station Phase II project, referenced above, superseding Chapter 271 of the Texas Local Government Code and any other applicable law, rule, or regulation governing competitive bidding by the NTMWD for these projects.

SECTION 2

That this resolution shall take effect and be in full force and effect from and after the date of its adoption, and it is so resolved that all resolutions of the Board of Directors of the NTMWD in conflict herewith are hereby amended or repealed to the extent of such conflict.

THIS RESOLUTION ADOPTED BY THE NTMWD BOARD OF DIRECTORS IN A REGULAR MEETING ON JANUARY 27, 2022, IN THE ADMINISTRATIVE OFFICES OF THE NTMWD, WYLIE, TEXAS.

_____ _____

RICHARD PEASLEY, Secretary **PHIL DYER, President**

(SEAL)

NORTH TEXAS MUNICIPAL WATER DISTRICT

JANUARY 2022 CONSENT AGENDA ITEM NO. 22-01-05

2019 WATER CONSERVATION PLAN
JANUARY 2022 SUPPLEMENTS

ACTION *(What)*

Authorize supplementing of the 2019 NTMWD Water Conservation Plan in order to comply with the requirements of the Texas Commission on Environmental Quality (TCEQ) for submission of a water use permit application for return flows from Sister Grove Regional Water Resource Recovery Facility (RWRRF).

PURPOSE *(Why)*

Facilitate an application to secure authorization for the District to divert and use the return flows from the Sister Grove RWRRF in Lavon Lake to meet the needs of current member cities, and current and future customers.

RECOMMENDATION

The Executive Director and NTMWD staff recommend that the Board of Directors authorize the supplementing of the NTMWD Water Conservation Plan, February 2019.

DRIVER(S) FOR THIS PROJECT

☒ Regulatory Compliance	☐ Asset Condition
☒ Capacity	☐ Redundancy/Resiliency
☐ Relocation or External Requests	☐ Operational Efficiency
☐ Safety	

PROJECT PURPOSE

- Additions of new water sources must be documented in the NTMWD Water Conservation Plan, February 2019.
- The Sister Grove RWRRF is permitted to discharge up to 64 million gallons per day of wastewater return flows (“Sister Grove RWRRF Return Flows”); and reuse of wastewater return flows is a recommended water management strategy for the District in the 2021 Region C Water Plan.
- The District is filing an amendment application with the TCEQ to seek the right to convey return flows from Sister Grove RWRFF for subsequent diversion and use from Lavon Lake.
- Texas Administrative Code (TAC) Title 30, Part 1, Rule 288.7(a) addresses water conservation plans that accompany an application for a water right and requires and evaluation of other feasible alternatives to new water development.
- The analysis for other feasible alternatives as required by TAC Title 30, Part 1, Rule 288.7(a) is being added to the February 2019 Water Conservation Plan as Appendix J.

- Included is the NTMWD's amended Water Conservation Plan.

PROJECT COMPONENTS
- Development of Appendix J for inclusion in the 2019 Water Conservation Plan.

SUMMARY OF SUPPLEMENTS

- The addition of Appendix J as a supplement to the 2019 Water Conservation Plan is required as part of the water use permit application for Sister Grove RWWRF return flows.
- Appendix J describes there are no feasible alternatives to the reuse of return flows from Sister Grove RWRRF at this time. Furthermore, this project is consistent with NTMWD's conservation goals to fully develop its available reuse to meet its future water needs.

FUNDING

FUND(S): No additional funding is requested.

2019 NORTH TEXAS MUNICIPAL WATER DISTRICT WATER CONSERVATION PLAN

JANUARY 2019, SUPPLEMENTED JANUARY 2022

FREESE AND NICHOLS, INC.
TEXAS REGISTERED
ENGINEERING FIRM
F-2144

Prepared by:

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FOREWORD

This 2019 Water Conservation Plan (Plan) was prepared by Freese and Nichols, Inc. for the North Texas Municipal Water District (NTMWD), pursuant to Texas Commission on Environmental Quality (TCEQ) rules. Some material is based on the existing water conservation plans listed in Appendix A.

Questions regarding the 2019 Water Conservation Plan should be addressed to the following:

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This 2019 Water Conservation Plan is based on the Texas Administrative Code in effect on January 18, 2019 and considers water conservation best management practices from Texas Water Development Board (TWDB) Report 362, *Water Conservation Best Management Practices Guide*. In 2007, the state legislature created the Water Conservation Advisory Council (WCAC) as a council with expertise in water conservation representing various interests. One of the WCAC's charges is to regularly review existing Best Management Practices (BMPs) and add additional new BMPs as appropriate. The draft WCAC BMPs available as of November 30, 2018 have also been considered in the preparation of this Plan.

None of the currently proposed WCAC BMPs will cause this Plan to be obsolete. The most current annual report form should be obtained from TCEQ[1] when preparing the annual report (Appendix F) to submit to the TCEQ. A copy of the annual report should be sent to the TWDB as well as to the TCEQ.

[1]Superscripted numbers match references listed in Appendix A.

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1. INTRODUCTION AND OBJECTIVES

The North Texas Municipal Water District ("NTMWD" or the "District") is a regional wholesale supplier of water for 13 Member Cities and 60 other water suppliers in Collin, Dallas, Denton, Fannin, Grayson, Hopkins, Hunt, Kaufman, Rains, Rockwall and Van Zandt Counties. NTMWD currently provides water for over 1.7 million people throughout North Central Texas. The District has developed this updated Water Conservation Plan as a replacement for previous District water conservation plans dated August 2004, April 2006, March 2008, and April 2014.

Water supply has always been a key issue in the development of Texas. In recent years, the increasing population and economic development of North Central Texas have led to growing demands for water supplies. At the same time, local and less expensive sources of water supply are largely already developed. Additional supplies to meet future demands will be expensive and difficult to secure. Severe drought conditions in recent years have highlighted the importance of efficient use of our existing supplies to make them last as long as possible. Extending current supplies will delay the need for new supplies, minimize the environmental impacts associated with developing new supplies, and delay the high cost of additional water supply development.

Recognizing the need for efficient use of existing water supplies, the TCEQ has developed guidelines and requirements governing the development of water conservation and drought contingency plans for wholesale water suppliers[2]. The TCEQ guidelines and requirements for wholesale suppliers are included in Appendix B. NTMWD has developed this water conservation plan in accordance with TCEQ guidelines and requirements.

NTMWD also recognizes that in order to achieve its goals of maximizing water conservation and efficiency, it is necessary to develop and implement a water conservation plan that goes beyond basic compliance with TCEQ guidelines and requirements. This Plan reflects NTMWD's commitment to enhanced water conservation and efficiency strategies – particularly those best management practices established by the Water Conservation Implementation Task Force[3] and the WCAC, which were incorporated, where practicable, in the development of these water conservation measures. The Water Conservation Implementation Task Force developed the TWDB Report 362 *Water Conservation Best Management Practices Guide* in partial fulfillment of the Texas Legislature's charge to the TCEQ and TWDB to develop recommendations for optimum levels of water use efficiency and conservation in the State. In 2007, the state legislature created the WCAC which was given several charges, one of which is monitoring new

technologies for possible inclusion in the best management practice guide. The WCAC regularly reviews, updates, and creates new best management practices through a collaborative process. As best management practices are developed, they are published online at http://www.savetexaswater.org/bmp/index.asp. NTMWD has participated in the WCAC since its inception and for many years has had a member or alternate on the council.

NTMWD has, where practicable, implemented those best management practices that are appropriate for a wholesale water supplier of its type, reflecting the intent of the best management practices to provide flexibility to wholesalers in implementing those practices that are appropriate for their individual circumstances.

As a wholesale supplier of water to customers, NTMWD does not have any direct control over the end user of water, nor does it have the authority to create ordinances or enforce the measures laid out in this Plan for end users. In order to work within the confines of its role as a wholesaler, NTMWD has developed Model Water Conservation Plans which can be used by Member Cities and Customers, who then have the ability to enforce those measures through ordinances or regulations on end users. (See Appendix C.)

NTMWD has also made significant financial and other investments to promote water conservation and efficiency, including public education and awareness programs and other initiatives targeted toward reducing water use. Specifically, the District maintains active participation in the WCAC, the Alliance for Water Efficiency (on behalf of itself and its Member Cities), EPA Water Sense, and the Water Efficiency Network of North Texas. The District also developed and financed the *Water IQ* Program, a highly successful public awareness campaign that is has been used statewide to promote water conservation.

NTMWD understands that achieving the highest practicable levels of water conservation and efficiency requires more than meeting the TCEQ requirement to update its plan every five years. To that end, the District continually reassesses ways to improve on its water conservation and efficiency. The District is committed to evaluating and implementing new BMPs, as appropriate, whenever new opportunities to improve upon water conservation and efficiency are identified. The efforts by the District also include receiving input from water conservation advocacy groups, like the Sierra Club and the National Wildlife Federation, to further enhance water conservation and efficiency.

The objectives of this Water Conservation Plan are as follows:

- To reduce water consumption from the levels that would prevail without conservation efforts.

- To reduce the loss and waste of water.
- To improve efficiency in the use of water.
- To encourage efficient outdoor water use.
- To maximize the level of recycling and reuse in the water supply.
- To extend the life of current water supplies by reducing the rate of growth in demand.

2. DEFINITIONS AND ABBREVIATIONS

1. ATHLETIC FIELD means a public sports competition field, the essential feature of which is turf grass, used primarily for organized sports practice, competition or exhibition events for schools; professional sports and league play sanctioned by the utility providing retail water supply.

2. COOL SEASON GRASSES are varieties of turf grass that grow best in cool climates primarily in northern and central regions of the U.S. Cool season grasses include perennial and annual rye grass, Kentucky blue grass and fescues.

3. CUSTOMERS include those entities to whom NTMWD provides wholesale water that are not Member Cities of NTMWD.

4. DRIP IRRIGATION is a type of micro-irrigation system that operates at low pressure and delivers water in slow, small drips to individual plants or groups of plants through a network of plastic conduits and emitters; also called trickle irrigation.

5. EVAPOTRANSPIRATION (abbreviated as ET) represents the amount of water lost from plant material to evaporation and transpiration. The amount of ET can be estimated based on the temperature, wind, and relative humidity.

6. ET/SMART CONTROLLERS are irrigation controllers that adjust their schedule and run times based on weather (ET) data. These controllers are designed to replace the amount of water lost to evapotranspiration.

7. EXECUTIVE DIRECTOR means the Executive Director of NTMWD and includes a person the Executive Director has designated to administer or perform any task, duty, function, role, or action related to this Plan or on behalf of the Executive Director.

8. IRRIGATION SYSTEM means a permanently installed, custom-made, site-specific system of delivering water generally for landscape irrigation via a system of pipes or other conduits installed below ground.

9. LANDSCAPE means any plant material on a property, including any tree, shrub, vine, herb, flower, succulent, ground cover, grass or turf species, that is growing or has been planted out of doors.

10. MEMBER CITIES include the cities of Allen, Farmersville, Forney, Frisco, Garland, McKinney, Mesquite, Plano, Princeton, Richardson, Rockwall, Royse City, and Wylie, Texas, which are members of NTMWD.

11. MUNICIPAL USE means the use of potable water provided by a public water supplier as well as the use of treated wastewater effluent for residential, commercial, industrial, agricultural, institutional, and wholesale uses.

12. REGULATED IRRIGATION PROPERTY means any (customer class, i.e. commercial) property that uses 1 million gallons of water or more for irrigation purposes in a single calendar year or is greater than 1 acre in size.

13. RESIDENTIAL GALLONS PER CAPITA PER DAY (Residential GPCD) means the total gallons sold for residential use by a public water supplier divided by the residential population served and then divided by the number of days in the year.

14. NTMWD RETAIL CUSTOMERS include those customers to whom NTMWD provides retail water.

15. TOTAL GALLONS PER CAPITA PER DAY (Total GPCD) means the total amount of water diverted and/or pumped for potable use divided by the total permanent population divided by the days of the year. Diversion volumes of reuse as defined in TAC 288.1 shall be credited against total diversion volumes for the purposes of calculating GPCD for targets and goals.

16. WATER CONSERVATION PLAN means this Water Conservation Plan approved and adopted by the NTMWD Board of Directors on January 24, 2019.

Abbreviations

Abbreviation	Full Nomenclature
BMP	Best Management Practices
NTMWD or District	North Texas Municipal Water District
TCEQ	Texas Commission on Environmental Quality
TWDB	Texas Water Development Board
WCAC	Water Conservation Advisory Council
WCP or Plan	Water Conservation Plan

3. REGULATORY BASIS FOR WATER CONSERVATION PLAN

3.1 TCEQ Rules Governing Wholesale Water Conservation Plans

The TCEQ rules governing development of water conservation plans for wholesale water suppliers are contained in Title 30, Chapter 288, Subchapter A, Rule 288.5 of the Texas Administrative Code, which is included in Appendix B. For the purpose of these rules, a water conservation plan is defined as "[a] strategy or combination of strategies for reducing the volume of water withdrawn from a water supply source, for reducing the loss or waste of water, for maintaining or improving the efficiency in the use of water, for increasing the recycling and reuse of water, and for preventing the pollution of water. A water conservation plan may be a separate document identified as such or may be contained within another water management document."[2] The water conservation plan elements required by the TCEQ water conservation rules for wholesale suppliers that are addressed in this Water Conservation Plan are listed below. In addition to being a wholesale provider under TCEQ rules, NTMWD also acts as a retail water provider, and the TCEQ water conservation rules for retail water providers are addressed in Section 9 of this Plan.

Minimum Conservation Plan Requirements for Wholesale Water Suppliers

NTMWD is a wholesale water supplier to Member Cities and Customers in North Central Texas (NTMWD's Customers include cities, water supply corporations, and utility districts). The minimum requirements in the Texas Administrative Code for water conservation plans for wholesale water suppliers are covered in this Plan as follows:

- 288.5(1)(A) – Description of Service Area – Section 4 and Appendix D
- 288.5(1)(B) – Specific, Quantified Goals – Section 5
- 288.5(1)(C) – Measure and Account for Water Diverted – Section 6.1.1
- 288.5(1)(D) – Monitoring and Record Management Program – Section 6.1.2
- 288.5(1)(E) – Program of Metering and Leak Detection and Repair – Section 6.1.3
- 288.5(1)(F) – Requirement for Water Conservation Plans by Wholesale Customers – Section 6.2
- 288.5(1)(G) – Reservoir System Operation Plan – Section 6.3
- 288.5(1)(H) – Means of Implementation and Enforcement – Section 6.4

- 288.5(1)(I) – Documentation of Coordination with Regional Water Planning Group – Section 6.5
- 288.5(3) – Review and Update of Plan – Section 8

Texas Administrative Code 288.7(a) imposes additional requirements for Water Conservation Plans submitted with a water right application for new or additional state water. NTMWD is not currently seeking a water right application for new or additional state water. If the District should seek a new water right, this 2019 Water Conservation Plan would need to be amended through the addition of an appendix addressing these requirements.

Additional Conservation Strategies

The Texas Administrative Code lists additional water conservation strategies that can be adopted by a wholesale supplier but are not required. Additional strategies adopted by NTMWD include the following:

- 288.5(2)(C) – Program for Reuse and/or Recycling – Section 7.1
- 288.5(2)(D) – Other Measures
  - Section 7.2 (public education),
  - Section 7.5 (model water conservation plans),
  - Sections 7.5.1 and 7.5.2 (landscape water management measures),
  - Section 7.11 (zero discharge from water treatment plants); and
  - Section 7.12 (in-house conservation measures).

3.2 Guidance and Methodology for Reporting on Water Conservation and Water Use

In addition to TCEQ rules regarding water conservation, this Plan also incorporates elements of the Guidance and Methodology for Reporting on Water Conservation and Water Use developed by TWDB and TCEQ, in consultation with the WCAC (the "Guidance"). The Guidance was developed in response to a charge by the 82nd Texas Legislature to develop water use and calculation methodology and guidance for preparation of water use reports and water conservation plans in accordance with TCEQ rules. While the Guidance is targeted toward retail water providers, the Guidance provides helpful resources for wholesalers such as NTMWD to determine water use and water loss for purposes of its Water Conservation Plan. NTMWD has

also incorporated features of the Guidance into the Model Water Conservation and Model Water Resource and Emergency Management Plans that it develops for use by its Member Cities and Customers. Copies of the Model Water Conservation Plans and Model Water Resource and Emergency Management Plans are included herewith as Appendix C.

3.3 Texas Water Development Board Water Conservation Planning Tool

The TWDB is currently developing a water conservation planning tool to be utilized by utilities to evaluate various best management practices. The tool will come pre-loaded with data submitted by utilities as part of the water use surveys and will have a library of best management practices with water savings and associated cost. The tool was released on December 14, 2018 and was not available in time for the development of this Water Conservation Plan, NTMWD intends to utilize the tool for future planning. In addition, NTMWD encourages each of its Member Cities and Customers to utilize the tool, to the extent practical, for water conservation planning. The TWDB is offering a training workshop on the tool in December 2018, and the tool should be available to for use by utilities after the training. The District is also hosting a training in January 2019 for its Member Cities and Customers.

4. DESCRIPTION OF THE NTMWD SERVICE AREA

NTMWD provides treated potable water to 13 Member Cities and 60 other Customers (some direct and some indirect) in North Central Texas. Figure 4-1 shows a schematic diagram of NTMWD's system and its Member Cities and Customers. Figure 4-2** shows the NTMWD service area, which covers over 2,200 square miles in Collin, Dallas, Denton, Fannin, Grayson, Hopkins, Hunt, Kaufman, Rains, Rockwall and Van Zandt Counties.

NTMWD obtains its raw water supplies from Lavon Lake, Lake Texoma, Jim Chapman Lake, Lake Tawakoni, the Upper Sabine Basin, Lake Bonham, reuse of treated wastewater effluent from its Wilson Creek Regional Wastewater Treatment Plant, and reuse of treated wastewater through the East Fork Water Reuse Project. Table 4-1 shows the permitted and contracted supplies as well as the 2018 currently available supply.

Table 4-1 NTMWD Permitted and Current Supply Amounts (ac-ft/yr)

Source	Permitted or Contracted	2018 Current Supply	Notes
Lavon Lake	118,670	94,500	Estimated firm yield with minimum pool of 467
Lake Texoma	197,000	78,800	Assume 4:1 blend with other sources
Jim Chapman Lake	57,214	44,700	NTMWD's share of firm yield based on minimum elevation of 415.5
Lake Bonham	5,340	1,900	Limited to Bonham demand
Reuse - Wilson Creek Reg. WWTP*	71,882	46,600	Based on projected return flows
East Fork Water Reuse Project	157,393	41,400	Yield based on analysis of available diversions during the critical period for Lake Lavon with projected return flows
Main Stem Pump Station	56,050	0	Contract with TRA; not online until 2019
Upper Sabine Basin (Lake Tawakoni and Lake Fork)	11,100	51,000	11,100 is permanent, additional 39,900 is temporary and contract expires in 2025
Bois d'Arc Lake	175,000	0	Texas Water Right Permit; Supply is not online until 2022
Total	**849,649**	**358,900**	

** The NTMWD service area shown in Figure 4.2 includes the entire service area of all of the entities to which NTMWD provides water. Actual NTMWD facilities do not extend into Grayson, Hopkins, Hunt, Rains, and Van Zandt Counties. Some of NTMWD's customers have other sources of water supply in addition to NTMWD.

The permitted supply available to NTMWD as of 2018 is 849,649 acre-feet per year. The reliable supply from existing sources is less than the permitted supply because of reservoir yields, current return flow levels, and water quality concerns. The current reliable supply is 358,900 acre-feet per year, and NTMWD is seeking additional supplies to meet its projected demands. NTMWD operates four water treatment plants in Wylie, Texas, near Lavon Lake, with a total treatment capacity of 770 MGD, along with the 30 MGD Tawakoni water treatment plant northeast of Terrell. The fourth Wylie Water Treatment Plant is currently undergoing a 70 MGD expansion. Upon completion of construction, the total treatment capacity at Wylie will be 840 MGD. NTMWD also operates the 6.6 MGD Bonham water treatment plant.

Appendix D to this Water Conservation Plan is a water utility profile for NTMWD, based on the format recommended by the TCEQ. Table 4-2 summarizes key facts from the Water Utility Profile.

Figure 4-1 North Texas Municipal Water District System Schematic

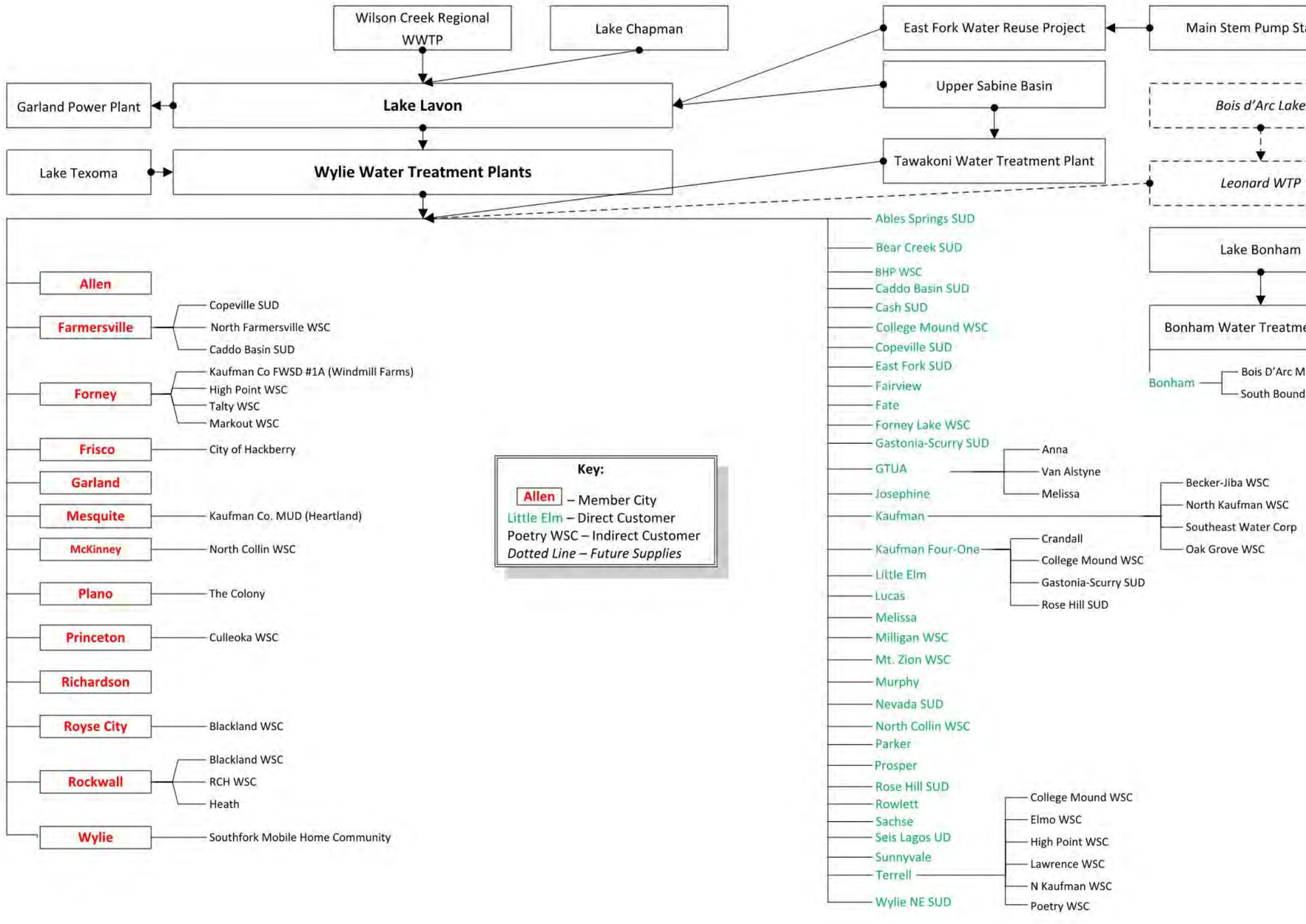


Figure 4-2 North Texas Municipal Water District Current Service Area Map

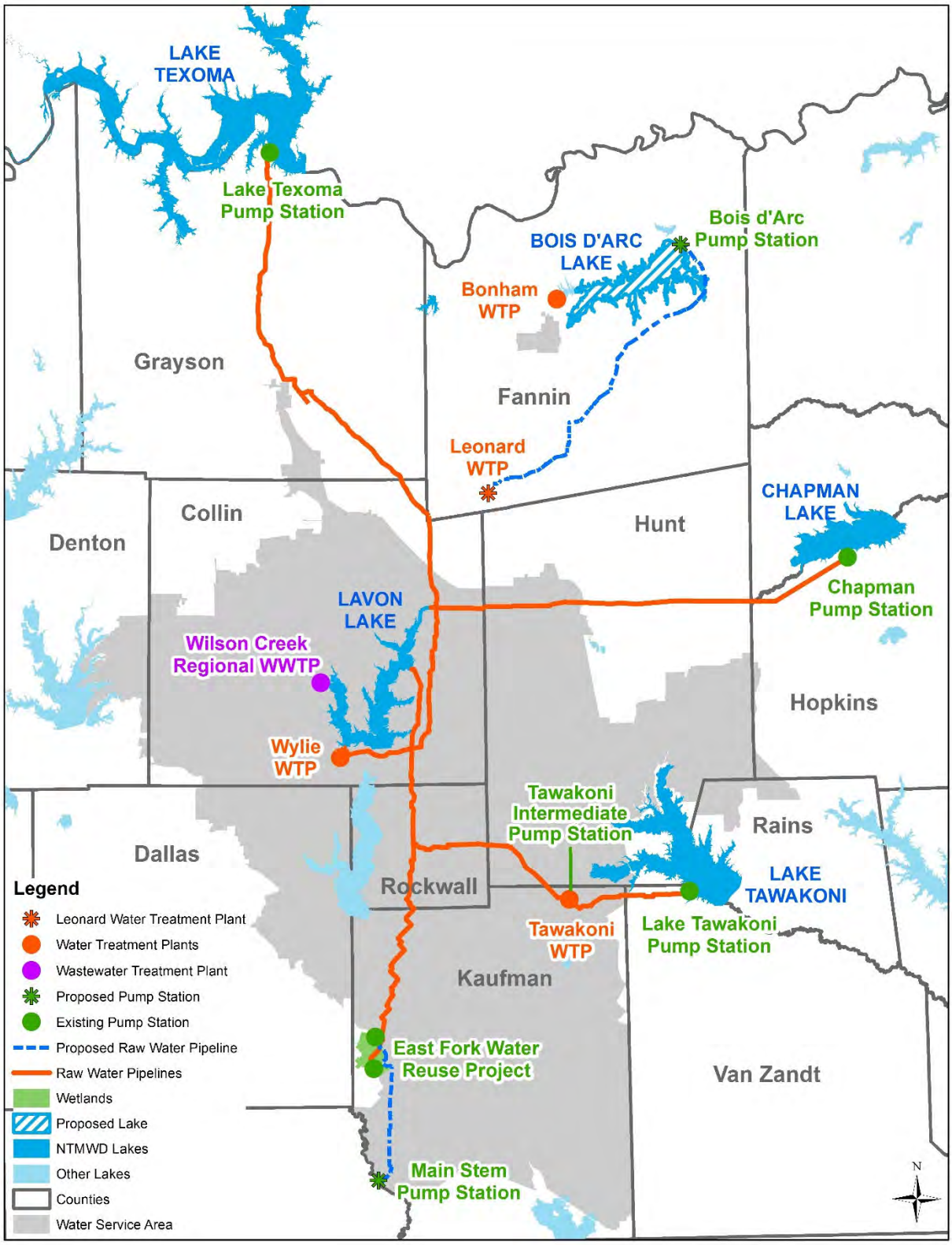


Table 4-2 Summary of Water Utility Profile for North Texas Municipal Water District

Water Service Area = 2,200 square miles

Miles of Raw and Potable Water Transmission Pipeline = 576 miles

Population:

Current Population Served = 1.7 million in 2017 (estimated)
Projected 2070 Population = 4.12 million (current & projected Member Cities & Customers)

Connections:

Current Retail Connections = 29 in 2018

Information on Water Sales for the Last Five Years:

Year	Total Municipal Raw Water Diverted (Million Gallons)	Estimated Population	Raw Water Total GPCD (GPCD)	Raw Water Total GPCD with Credit for Indirect Reuse (GPCD)	Ratio of Peak Day to Average Day
2013	295,504	1,534,084	172*	133*	1.84
2014	265,108	1,572,330	151*	118*	1.64
2015	300,497	1,602,714	167*	130*	2.05
2016	307,040	1,667,020	165	135	1.87
2017	313,897	1,699,173	165	129	1.59

*Years with drought restrictions.

Water Supply Sources (as of 2018) = Lavon Lake, Lake Texoma, Jim Chapman Lake, Lake Tawakoni, Lake Bonham, Reuse from Wilson Creek Regional Wastewater Treatment Plant, East Fork Water Reuse Project, and Upper Sabine Raw Water Supply.

Water Supply Sources in development (estimated completion) = Main Stem Pump Station (2019) and Bois d'Arc Lake (2022).

Treatment and Distribution System:
Treatment Plant Capacity = 806.6 MGD in August 2018
Ground storage = 92.9 million gallons (50.9 MG at Plants, 42 MG remote)

Current Wastewater Flow = 49,419 million gallons in 2017

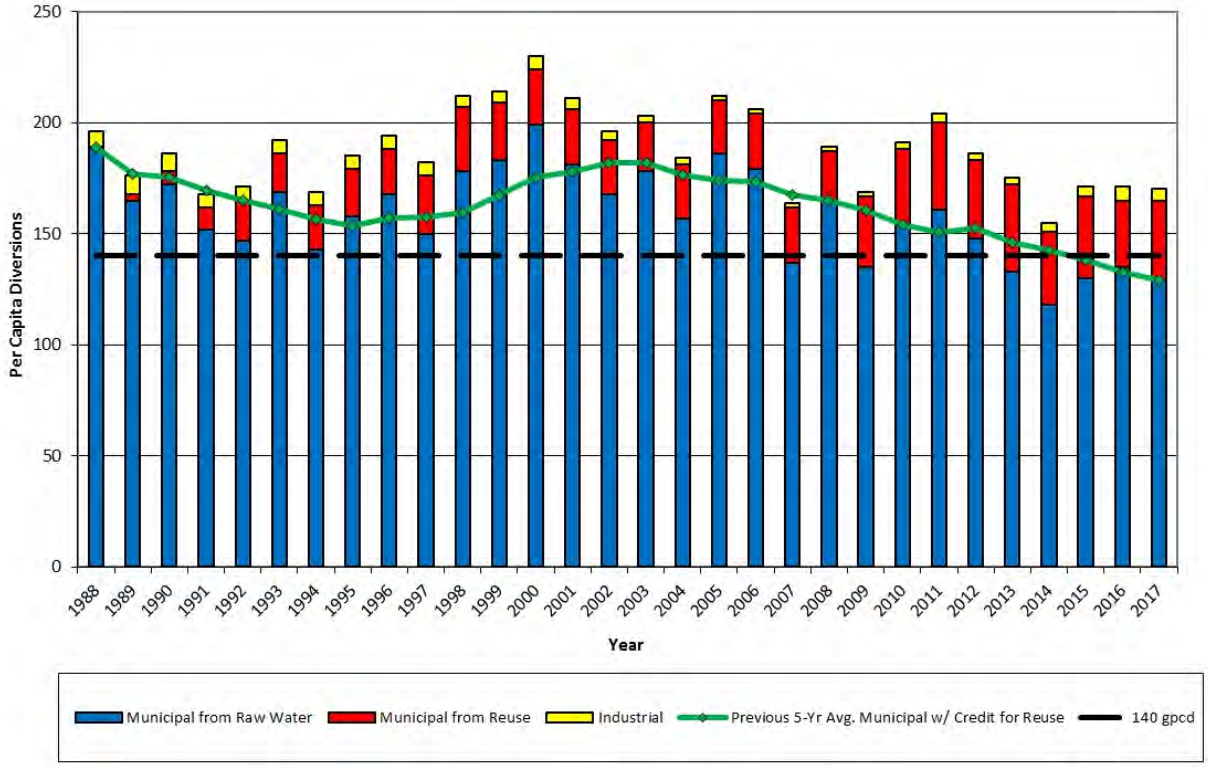
5. SPECIFICATION OF WATER CONSERVATION GOALS

As a wholesale water supplier, NTMWD does not control the water use of its Member Cities and Customers and does not have a direct relationship with the retail customers who are the ultimate consumers of the water. The Total GPCD for NTMWD's system can be affected by changes in per capita use by its Member Cities and Customers and can also be affected by how much water NTMWD is asked to supply to high per capita use customers or low per capita use customers. These factors are not controlled by NTMWD. In order to gain a more accurate understanding of water use within its service area and assist Member Cities and Customers in conservation efforts, NTMWD, where practicable, works with its Member Cities and Customers to utilize the Guidance and Methodology for Reporting on Water Conservation and Water Use. This document was developed by TWDB and TCEQ, in consultation with the WCAC, and was used by NTMWD for sector-based water use reporting. NTMWD also affords its Member Cities access to the Alliance for Water Efficiency's Tracking Tools at the District's expense, which enable the Member Cities to more adequately track water use by sector.

Figure 5-1 shows the historical total GPCD, with credit for indirect reuse, for the NTMWD from 1988-2017. The figure shows the amount of per capita from municipal use, industrial use and from municipal reuse. As is the case with most suppliers, there is great variability in per capita use due to weather and other factors. A 5-year average total GPCD with credit for indirect reuse is plotted to show long-term trends. Since the early 2000s, NTMWD has experienced a steady decline in their 5-year average total GPCD. This data currently reflects the impacts of drought restrictions in 2006-2007 and 2011-2015 which led to lower demands in those years. Currently, the 5-year average for total GPCD, with credit for indirect reuse, is approximately 129 GPCD, which is below the State goal for water use outlined in the Water Conservation Implementation Task Force Report 362, as well as the 2016 Region C Water Plan.[7,††]

†† Note that both Water Conservation Implementation Task Force Report 362 and the 2016 Region C Water Plan identify a goal of 140 GPCD incorporating a credit for both direct and indirect reuse. NTMWD has mirrored that approach in its calculation of Total GPCD with a credit for indirect reuse.

Figure 5-1 North Texas Municipal Water District Total GPCD Analysis



NTMWD has control over the operation of its water supply, treatment, and delivery system and takes direct action to keep that system efficient. In areas under its direct control, NTMWD adopts the following goals for water conservation and efficiency:

- Keep the level of nonrevenue water in the system below 5 percent in 2018 and subsequent years, as discussed in Section 6.1.
- Maintain universal metering of customers, meter calibration, and meter replacement and repair, as discussed in Section 6.1.
- Maintain a program of leak detection and repair, as discussed on Section 6.1.
- Continue to utilize wastewater reuse as a major source of water supply, as discussed in Section 7.1. Seek TCEQ authorization for additional reuse to increase the efficiency of the NTMWD water supply system.
- Raise public awareness of water conservation and encourage responsible public behavior by a public education program, as discussed in Section 7.2.
- Continue to recycle wash water from NTMWD water treatment plants, as discussed in Section 7.11.

- Continue to implement other in-house water conservation efforts, as discussed in Section 7.12.

As a wholesale provider, NTMWD will continue to assist its Member Cities and Customers in the development of water conservation programs. NTMWD has developed a Model Water Conservation Plan for NTMWD Member Cities and Customers[3] and a Model Water Resource and Emergency Management Plan that its Member Cities and Customers can use to develop their own water conservation and drought contingency plans. As part of the Model Water Conservation Plan, NTMWD requires Member Cities and Customers to provide annual water conservation reports. NTMWD reviews these reports and compiles the information as part of its own annual conservation report, which is used to manage NTMWD's water conservation program. Annual water conservation reports also provide for the reporting of annual sector-based water use information, where practicable.

Table 5-1 shows the projected Total GPCD and Total GPCD with credit for indirect reuse for NTMWD. NTMWD has outlined its 5- and 10-year Total GPCD goals and Total GPCD with a credit for indirect reuse, as the GPCD goals recommended by the Region C Water Planning Group and approved by the TWDB incorporate a credit for indirect reuse. The projected per capita use approved by the TWDB includes the estimated effect of low-flow plumbing fixtures but does not include the effect of new water conservation measures that may be adopted by NTMWD Member Cities and Customers. Table 5-1 also shows NTMWD's targets for reduction in Total GPCD and Total GPCD, with credit for indirect reuse, as a result of implementing this Water Conservation Plan and the plans to be developed by its Member Cities and Customers. The data shown on the table reflect the following:

- The adjusted 5-year moving average of the current Total GPCD and Total GPCD with credit for indirect reuse was used rather than a historical 5-year average based on the fact the District was in drought restrictions from 2013-2015. The adjusted per capita numbers were determined utilizing a demand model removing the impact of drought restrictions on demands in those years.
- The target for the 5-year (2024) Total GPCD for all NTMWD Member Cities and Customers is 164 gallons per capita per day, as shown in Table 5-1 (5-year goal). This represents a reduction of 9 gallons per capita per day.

- The target for the 10-year (2029) Total GPCD for all NTMWD Member Cities and Customers is 157 gallons per capita per day, as shown in Table 5-1 (10-year goal). This represents a reduction of 16 gallons per capita per day.
- The target for the 5-year (2024) Total GPCD with credit for indirect reuse for all NTMWD Member Cities and Customers is 128 gallons per capita per day as shown in Table 5-1 (5-year goal). This represents a reduction of 9 gallons per capita per day.
- The target for the 10-year (2029) Total GPCD with credit for indirect reuse for all NTMWD Member Cities and Customers is 121 gallons per capita per day, as shown in Table 5-1 (10-year goal). This represents a reduction of 16 gallons per capita per day.

The per capita use in recent years includes reductions due to drought measures that have been implemented in the past five years. In addition to these drought measures, NTMWD has continued to increase the percentage of its supply that comes from reuse, as shown in Table 5-1. The goal is for a 5-year average and some years (dry years) will be higher. A series of dry years might lead to an average exceeding the goal.

Table 5-1 5-Year and 10-Year Total GPCD Goals

Description	Current Average (GPCD)	5-Year Goal (2024) (GPCD)	10-Year Goal (2029) (GPCD)
Current 5-Year Average Per Capita Total Use	173		
Current 5-Year Average Per Capita Municipal Use from Reuse	36		
Current 5-Year Average Per Capita Municipal Use with Credit for Reuse	137		
Expected Reduction Due to Low-Flow Plumbing Fixtures		1	3
Projected Reduction Due to Elements in this Plan		8	13
Water Conservation Goals (Based on 5-Year Average)		**164**	**157**
Water Conservation Goals (Based on 5-Year Average with credit for reuse)		**128**	**121**

6. BASIC WATER CONSERVATION STRATEGIES

6.1 Metering, Water Use Records, Control of Nonrevenue Water, and Leak Detection and Repair

One of the key elements in water conservation is careful tracking of water use and control of losses. Accurate metering of water diversions and deliveries, detection and repair of leaks in the raw water transmission and potable water distribution systems and regular monitoring of nonrevenue water are important elements of NTMWD's program to control losses. To that end, in 2012 the NTMWD Board of Directors authorized an expenditure of $4.8 million in flow metering improvements, including new meters for several of its water treatment plants. These metering upgrades allow for more accurate metering and ultimately, more careful monitoring of water use and water loss control.

6.1.1 Practices to Measure and Account for the Amount of Water Diverted

NTMWD meters its raw water diversions by meters with accuracy of ±2%. These meters are calibrated on an annual basis by NTMWD and are repaired and/or replaced as needed.

6.1.2 Monitoring and Record Management Program for Determining Deliveries, Sales, and Losses

As a wholesale water supplier, NTMWD has instituted a program of careful monitoring and record management to assure that its Member Cities and Customers are charged appropriately for their water use. The program includes the following elements:

- Deliveries to all Member Cities and Customers are metered by meters with accuracy of ±2%, which are read monthly by NTMWD personnel. These readings are used to bill Member Cities and wholesale Customers.
- The meters used to measure deliveries to the Member Cities and wholesale Customers are calibrated quarterly and tested, as necessary.
- Potable drinking water leaving NTMWD's water treatment plants is metered by meters with accuracy of ±2%.
- Plant potable water discharge meters are calibrated at least quarterly and more frequently if necessary.
- All meter readings are sent to Member Cities and Customers so that they can compare the readings against the operation of their systems.

- NTMWD monitors nonrevenue water in its delivery system. (For NTMWD, nonrevenue water is defined as raw water diverted from Lavon Lake less metered sales to Member Cities and Customers and line flushing use.) Historical records show that NTMWD's nonrevenue water has been as high as 9.0 percent and as low as 5.7 percent of raw water diversions and averaged 7.25 percent between 2013 and 2017.
- NTMWD maintains and manages electronic records of raw water deliveries, sales to Member Cities and Customers, and tracks losses between the raw water system and treated water sales.
- Some NTMWD Member Cities and Customers have leak detection crews that are utilized and available for other Member Cities and Customers.

One of the goals of NTMWD's water conservation program is to maintain nonrevenue water below 5 percent in every year.

6.1.3 Leak Detection and Repair

NTMWD's metering program for raw and potable water is described in Sections 6.1.1 and 6.1.2. NTMWD has an active program to control, detect, and repair leaks:

- All NTMWD water transmission pipelines are reinforced concrete cylinder pipe or steel cylinder pipe with an internal protective liner and an external protective coating. Because of the multiple layers of material, these pipelines have very long service lives and are not subject to frequent development of leaks.
- Most joints in NTMWD water transmission pipelines are designed with bell and spigot joint construction including a rubber gasket. Some joints are welded.
- All NTMWD water transmission pipelines are constructed in legally defined and identified rights-of-way, properly registered with authorities in each county.
- NTMWD personnel routinely inspect NTMWD facilities and water transmission pipelines for leaks or mechanical problems. Repairs are undertaken as soon as practicable in order to minimize waste.
- NTMWD operates a program for right-of-way identification for construction projects adjacent to NTMWD facilities and water transmission pipelines in order to minimize leaks caused by pipeline damage during construction.

- NTMWD's metering program allows comparison of measured flows in the system and metered deliveries to Member Cities and Customers, which can be used to identify leaks.
- NTMWD's regular monitoring of nonrevenue water (on a monthly basis) provides a further check for problems in the distribution system.
- NTMWD personnel perform regular inspections of its system to detect unauthorized connections.

6.2 Requirement for Water Conservation Plans by Wholesale Customers

NTMWD has developed language for all contracts for the wholesale sale of water by NTMWD entered into, renewed, or extended after the adoption of this Plan that will require the wholesale customer and any wholesale customers of that wholesale customer to develop and implement a water conservation plan meeting the requirements of Title 30, Part 1, Chapter 288, Subchapter A, Rule 288.2 of the Texas Administrative Code.

All wholesale contracts with Customers entered into, renewed, or extended after the adoption of this Plan will include the following language:

> *Customer agrees to adopt, implement, and enforce any and all ordinances and policies related to water conservation and drought management as required by the Texas Water Code, rules of the TCEQ and/or as may be adopted by the Board of Directors of NTMWD. NTMWD's obligations pursuant to this Contract shall be subject to the Customer preparing and implementing any water conservation plans and drought contingency plans adopted by NTMWD and required or approved by the TCEQ, the Board, or any federal, state, or local regulatory authority with power to require or approve water conservation and drought contingency plans. Upon execution of this Contract, Customer shall submit its water conservation plan or water conservation measures, and drought contingency plan, to NTMWD for review and approval, and Customer agrees to amend its water conservation plan or other water conservation measures, and drought contingency plan as requested by NTMWD in order to comply with the requirements of NTMWD's water conservation plan and drought contingency plan, program and/or rules. Customer shall also submit any changes or amendments to its water conservation plan or water conservation measures, and drought contingency plan, to NTMWD for review and approval.*

NTMWD has adopted a water conservation plan and a drought contingency plan, and may amend both from time to time. If Customer fails to implement NTMWD's and its own drought contingency plan when trigger conditions occur, NTMWD may implement rationing and collect the rate for water withdrawn as provided in Section 8(h) of this Contract, as well as enforce any contractual, statutory, or common law remedies available. The amount of water that is provided pursuant to this Contract when Customer is not in compliance with NTMWD's water conservation plan and drought contingency plan will be reduced to the amount estimated as necessary to satisfy Customer's demand if Customer was operating in compliance with both NTMWD's and Customer's drought contingency plans.

If NTMWD authorizes Customer to resell water from the System pursuant to the conditions included herein, Customer shall require through a contract condition that any successive user(s) of water from the System must implement water conservation measures that comply with the NTMWD's and Customer's water conservation plans, measures, programs, and/or rules.

6.3 Reservoir System Operation Plan

NTMWD currently has a long-term water supply of 849,649 acre-feet per year from the following permitted and contractual sources:

Lavon Lake water right	118,670 acre-feet per year
Lake Texoma†	197,000 acre-feet per year
Jim Chapman Lake	57,214 acre-feet per year
Lake Bonham	5,340 acre-feet per year
Reuse - Wilson Creek Reg. WWTP*	71,882 acre-feet per year
East Fork Water Reuse Project*	157,393 acre-feet per year
Main Stem Pump Station**	56,050 acre-feet per year
Upper Sabine Basin	11,100 acre-feet per year
Bois d'Arc Lake	175,000 acre-feet per year
TOTAL	**849,649 acre-feet per year**

* Availability from Wilson Creek Regional WWTP and East Fork Water Reuse Project is limited to actual discharges and is currently less than amount authorized.

** Contract with Trinity River Authority

† Availability from Lake Texoma is limited due to issues with zebra mussels and salt levels.

In addition, NTMWD has entered into a short-term interim contract for 40,000 acre-feet per year from the Sabine River Authority (decreasing incrementally over time and expiring in 2025). The current reliable

water supply in 2018 (based on current return flows and supplies available in a drought of record) is about 359,000 acre-feet per year.

Water from Jim Chapman Lake is pumped by pipeline to the Lavon Lake watershed, where it flows into Lavon Lake. A pipeline from Lake Texoma brings water from the lake directly to NTMWD's Water Treatment Plant in Wylie. Treated wastewater effluent from the Wilson Creek Regional Wastewater Treatment Plant is returned to the Lavon Lake watershed. Water from East Fork Water Reuse Project is pumped to Lavon Lake. Water from Lake Tawakoni (Upper Sabine Basin) is pumped to the Lake Tawakoni Water Treatment Plant and also delivered as raw water to Lavon Lake. Water from Lake Bonham is pumped to the NTMWD Bonham Water Treatment Plant. NTMWD has developed a reservoir system operation plan for its various sources of supply to maximize the efficiency of operation within existing water rights. The NTMWD reservoir system operation plan includes pumping from alternative sources before Lavon Lake reaches extremely low elevations to avoid water supply problems that would be caused by low water surface elevations. The plan minimizes pumping into the Lavon Lake during flood conditions. The plan also avoids unnecessary pumping from alternative sources to minimize energy use and avoid causing low elevations in other sources. Overall, the operation of the reservoir system is intended to optimize the use of the District's sources (within the constraints of existing water rights) while keeping energy use for pumping as low as practical, maintaining water quality and avoiding unnecessary impacts on recreational users of the reservoirs and fish and wildlife.

6.4 Water Conservation Plan Implementation and Enforcement

The Executive Director of NTMWD is authorized to implement and enforce the Water Conservation Plan. Appendix F includes the TCEQ-required water conservation implementation report. NTMWD will submit this report to the TCEQ by the required date of May 1 of every year. This report lists the various water conservation strategies that have been implemented, including the date the strategy was implemented. The report also lists the 5-year and 10-year per capita water use goals from the previous water conservation plan, and the amount of water saved. This report will be used to review the effectiveness of NTMWD's water conservation program, and results will be reported to the NTMWD Water Committee of the NTMWD Board and the Board of Directors.

As a wholesale provider of water, NTMWD has no direct enforcement authority over those conservation practices ultimately implemented and enforced by its Member Cities and Customers. However, as discussed herein, NTMWD makes best efforts to ensure implementation and enforcement of its Water

Conservation Plan via outreach, technical assistance, and the contractual requirements discussed in Section 6.2. Further, NTMWD's annual water conservation report provides a means by which NTMWD can measure its success and quantify water savings via conservation initiatives, thereby optimizing implementation of the Plan over time.

6.5 Coordination with Regional Water Planning Groups

NTMWD's service area is located within two regional water planning areas, Region C and the North East Texas Region (Region D). Appendix G includes copies of the letters sent to the Chairs of the Region C and North East Texas Region water planning groups with a copy of this Water Conservation Plan.

7. ENHANCED WATER CONSERVATION STRATEGIES

NTMWD has implemented a number of enhanced water conservation measures which allow the District to serve as a regional leader and resource for water conservation efforts throughout its service area. These enhanced water conservation measures are outlined below.

7.1 Reuse and Recycling of Wastewater

NTMWD's Wilson Creek Regional Wastewater Treatment Plant discharges treated effluent into Wilson Creek upstream from Lavon Lake. NTMWD reused 54,919 acre-feet of treated wastewater from the Wilson Creek WWTP for municipal purposes in 2017. In addition, NTMWD has developed the East Fork Water Reuse Project, which diverted 44,072 acre-feet in 2017. With the addition of the Main Stem Pump Station the District will be able to increase flows through the East Fork Water Reuse Project up to an additional 56,100 acre-feet per year. These three projects represent the largest municipal water supply based on reuse in the State of Texas. When fully developed, the three projects will provide up to 42 percent of the NTMWD's currently permitted water supplies.

The 18 wastewater treatment plants that NTMWD owns and/or operates use treated effluent for all necessary wastewater plant washdowns and for wastewater plant site irrigation. NTMWD also makes treated wastewater from its plants available for direct reuse for landscape irrigation use. In fiscal year 2018, approximately 523 million gallons of NTMWD's treated wastewater were reused for off-site irrigation.

NTMWD has been recognized, both at the state and national level, for its reuse program:

- North Central Texas Council of Governments CLIDE Award – 2013; in recognition of the East Fork Water Reuse Project
- ACEC Engineering Excellence Award – 2012; in recognition of the East Fork Water Reuse Project.
- TCEQ Texas Environmental Excellence Awards – 2011; in recognition of the East Fork Water Reuse Project
- WEAT Sidney L. Allison Award – 2010; in recognition of the East Fork Water Reuse Project.
- Water Reuse Association Large Project of the Year - 2008; in recognition of the East Fork Water Reuse Project.

- Texans By Nature – 2018 Conservation Wrangle Award; in recognition of the East Fork Water Reuse Project.

7.2 Public Education Program

As a regional wholesale water supplier, NTMWD has few opportunities to directly interact with end users of water throughout its service area. However, NTMWD's public education program is intended to educate water suppliers and end users in conservation efforts, and to assist and supplement the public education efforts of its Member Cities and Customers to reach end users and effect water savings. NTMWD's public education efforts include the following elements:

- Beginning in 2006 and continuing through 2018, NTMWD has invested $16.6 million in the development and implementation of the "Water IQ: Know Your Water" campaign, including newspaper ads, radio spots, billboards, a web site, and other forms of communication all intended to educate the public regarding water use and water conservation. During the 2017 campaign, over a quarter of a million people were reached by the program through media relations, outreach and interactive media. The total audience reached through the campaign in 2017 was over 88million impressions**.**
- "Water4Otter" is a water conservation campaign for kids launched by the North Texas Municipal Water District (NTMWD) in 2014. It is based on the insight that most parents agree they would listen if their kids asked them to conserve water. The Texas Water Development Board awarded the NTMWD a conservation grant to develop Water4Otter as a model program that could be used throughout the state. Since the program piloted in November 2014, the live, 45-minute Water4Otter program has reached nearly 19,500 students through 161 performances across North Texas.
- NTMWD has prepared and presented programs to area cities, civic organizations and other groups concerning the need for water conservation and strategies that can be implemented on an individual and corporate level. Presentations have been made to Rotary Clubs, Lions Clubs, Chambers of Commerce, Leadership Training Classes, Boy Scouts, Girl Scouts, mayors, city councils, city staff, etc.
- NTMWD provided funding for the conversion of the Texas Smartscape CD-ROM into an interactive web site. Texas Smartscape is an educational tool designed to assist citizens with

the design and development of landscaping using Texas native and drought tolerant plants. NTMWD promotes the use of the Texas Smartscape web site (www.txsmartscape.com).

- NTMWD provides conservation brochures and information to interested civic groups and schools. Information includes brochures on water-saving measures and xeriscape landscaping.
- NTMWD participates in special events to distribute water conservation information to the public.
- NTMWD participates in the Water Educators Network of North Texas to enhance regional programs and develop water efficiency brochures, videos, Collin County Newcomers outreach, in addition to numerous other activities for regional cooperation and water awareness.
- NTMWD has partnered with Texas A&M AgriLife Extension Service to provide proven, scientific-based best management practices to the region through public events, seminars, and brochures.
- NTMWD has partnered with Dallas Water Utilities and Tarrant Regional Water District to host an annual Water Conservation Symposium, a half-day event where leading water conservation experts present best management practices. In 2018, the 12th annual North Conservation Symposium was held with over 130 attendees. Other regions of the state, including the Central and Gulf Coast regions, have organized similar symposiums modeled after the North Texas example.
- NTMWD is an EPA Water Sense Partner and participates in the EPA Water Sense sponsored "Fix a Leak Week." NTMWD encourages all Member Cities and Customers to become EPA Water Sense Partners.
- NTMWD operates the John Bunker Sands Wetland Center in cooperation with the Rosewood Corporation. NTMWD provides a portion of the funding for the operation and maintenance cost of the Center, as well as the personnel cost. As part of its mission, the Center provides education to the public, area school districts, wildlife and conservation organizations, and research institutions in the areas of water supply, water conservation and reuse.

- NTMWD has been a supporting participant and member of the Texas Water Smart education campaign and participates at Texas Water Smart meetings, conferences, and media events designed to increase public awareness and education on water conservation.
- NTMWD has been recognized at the state and national level for its water conservation program with the following awards:
  - ADDY Award – 2017; in recognition of Water IQ "Journey of Water" Campaign
  - ADDY Award – 2015; in recognition of "Water4Otter" Youth Campaign
  - ADDY Award – 2011; in recognition of Water IQ "Waste Water – Waste Money" Campaign
  - WCAC Blue Legacy Award – 2015; in recognition of the "Water My Yard" program to install weather stations throughout the District's service area.
  - WCAC Large Supplier Water Conservation and Stewardship Award – 2011; in recognition of outstanding and innovative commitment to conservation of Texas' water resources.
  - Texas AWWA Watermark Award – 2011; in recognition of the 2010 "Water IQ" media campaign.
  - TCEQ Texas Excellence Environmental Awards – 2011; in recognition of the NTMWD water conservation program.
  - Texan By Nature Certification – 2018; in honor of commitment to conservation benefiting people, prosperity, and natural resources.
- The District frequently evaluates opportunities to partner on public education with other entities in the region and around the State. One such opportunity is the possibility of a state-wide conservation campaign being discussed by the TWDB. If this opportunity is approved through the State it is possible that the District may transition from Water IQ to this campaign or a regional conservation campaign with other entities in the region.

7.3 Interactive Weather Stations / Water My Yard Program

NTMWD has developed the Water My Yard program to install weather stations throughout its service area to provide consumers with a weekly e-mail and information through the Water My Yard website in determining an adequate amount of supplemental water that is needed to maintain healthy grass in specific locations. This service represents the largest network of weather stations providing ET-based irrigation recommendations in the State of Texas and provides the public advanced information regarding

outdoor irrigation needs, thereby reducing water use. Through a series of selections on the type of irrigation system a consumer has, a weekly email is provided that will determine how long (in minutes) that an irrigation system needs to run based on the past seven days of weather. This recommendation provides the actual amount of supplemental water that is required for a healthy lawn based on research of the Texas A&M Agrilife Extension Service and proven technologies. This innovative program has been available to those within the NTMWD service area since May 2013. The District currently has over 39,000 subscribers within their service area receiving weekly watering advice.

Table 7-1 Weekly Water Advice Subscribers

Station	Subscriptions
Allen	745
Cash	4
Farmersville	178
Forney	294
Frisco*	27,990
Garland	721
McKinney	1,759
Melissa	225
Mesquite	434
Murphy	298
Plano	3,164
Princeton	333
Richardson	1,253
Rockwall	562
Royse City	231
Sachse	197
Seagoville	18
Tawakoni	7
Wylie	687
Total	39,100

*Frisco owns and operates their own system of weather stations and provides a weekly newsletter to subscribers

7.4 Technical Assistance and Outreach

Beginning in 2003, NTMWD has held a series of water conservation workshops for staff of its Member Cities and Customers. These workshops have covered a number of conservation-related topics, including TCEQ requirements for water conservation and drought contingency plans, advanced water conservation strategies, current NTMWD water conservation efforts, water conservation programs of the cities, current drought status, progress on future water supplies, and related topics. These workshops also provide

training and education regarding water use accounting, irrigation evaluations, industrial, commercial, and institutional (ICI) audits, and other procedures.

NTMWD encourages its Member Cities and Customers to develop and implement rebate and bulk purchasing programs, where such programs may benefit the Member Cities and Customers in achieving overall water savings. Further, NTMWD provides technical assistance to those Member Cities and Customers who wish to implement rebate and bulk purchasing programs.

In addition, NTMWD staff participates in the following technical assistance and outreach for Member Cities and Customers:

- Dedicated conservation coordinator on NTMWD staff to field conservation-related queries from Member Cities and Customers and coordinate with media regarding conservation issues.
- Provision of training for Member Cities and Customers regarding Industrial, Commercial, and Institutional retail customer audits.
- Provision of online portal on NTMWD website for Member Cities and Customers to communicate and share information on water conservation programs.
- Presenting at meetings and conferences to various commercial, institutional, and industry stakeholder groups: landscapers, irrigators, tree and nursery growers, pool and spa industries, school district facility managers, and hospitality industry groups.
- Holding regularly scheduled meetings with Member Cities and Customers for water supply updates, Water IQ campaign strategies, and legislative activities related to water and water conservation.
- Provision of web-based water conservation tips on the NTMWD website, Water IQ website, and Water My Yard website, in addition to links to other water related agencies for additional resources.
- Purchasing American Water Works Association Research Foundation publications for use by Member Cities and Customers to further enhance resources for water efficiency, water rate structures, etc.
- Member/partner of EPA Water Sense
- Member/partner of the Alliance for Water Efficiency (NTMWD membership, as well as membership paid for by NTMWD for Member Cities)
- Member/partner for the Texas Water Foundation

- Member of American Water Works Association and American Water Works Association Research Foundation
- Member of WENNT (Water Efficiency Network of North Texas)
- Hosting TWDB Water Loss Audit Training
- Hosting a training on the TWDB Water Conservation Planning Tool

7.5 NTMWD Model Water Conservation Plan for NTMWD Member Cities and Customers

In order to assist its Member Cities and Customers in the development of their own water conservation plans, NTMWD has developed a Model Water Conservation Plan for NTMWD Member Cities and Customers[5]. The Model Water Conservation Plan addresses the TCEQ requirements for water conservation plans for municipal use by public water suppliers[1] and includes advanced water conservation strategies beyond TCEQ requirements that mirror the NTMWD plan. NTMWD continues to assist Member Cities and Customers in the development of their water conservation plans using the Model Conservation Plan as a guide.

7.5.1 Compulsory Landscape and Water Management Measures

The following landscape water management measures are included in the NTMWD Model Water Conservation Plan to be utilized by Member Cities and Customers. These measures represent minimum measures to be implemented and enforced in order to irrigate the landscape appropriately and are to remain in effect on a permanent basis unless water resource management stages are declared.

1. Landscape Water Management Measures

- Limit landscape watering with sprinklers or irrigation systems at each service address to no more than two days per week (April 1 – October 31), with education that less than twice per week is usually adequate. Additional watering of landscape may be provided by hand-held hose with shutoff nozzle, use of dedicated irrigation drip zones, and/or soaker hose provided no runoff occurs.
- Limit landscape watering with sprinklers or irrigation systems at each service address to no more than one day per week beginning November 1 and ending March 31 of each year, with education that less than once per week is usually adequate.
- Estimated savings from the year-round watering restrictions, mentioned above, since the District terminated drought stages in 2015 is approximately 2.5 to 3.5 percent of water use on an average annual basis. Savings are higher in the summer and lower in the winter.

- Prohibit lawn irrigation watering from 10 AM to 6 PM (April 1 – October 31).
- Prohibit the use of irrigation systems that water impervious surfaces. (Wind-driven water drift will be taken into consideration.)
- Prohibit outdoor watering during precipitation or freeze events.
- Prohibition of use of poorly maintained sprinkler systems that waste water.
- Prohibit excess water runoff or other obvious waste.
- Require rain and freeze sensors and/or ET or Smart controllers on all new irrigation systems. Rain and freeze sensors and/or ET or Smart controllers must be maintained to function properly.
- Prohibit overseeding, sodding, sprigging, broadcasting or plugging with cool season grasses or watering cool season grasses, except for golf courses and athletic fields.
- Require that irrigation systems be inspected at the same time as initial backflow preventer inspection.
- Requirement that all new irrigation systems be in compliance with state design and installation regulations (Texas Administrative Code Title 30, Chapter 344).
- Require the owner of a regulated irrigation property to obtain an evaluation of any permanently-installed irrigation system on a periodic basis. The irrigation evaluation shall be conducted by a licensed irrigator in the State of Texas and be submitted to the local water provider (i.e., city, water supply corporation).

2. Additional Water Management Measures

- Prohibit the use of potable water to fill or refill residential, amenity, and any other natural or manmade ponds. A pond is considered to be a still body of water with a surface area of 500 square feet or more.
- Non-commercial car washing can be done only when using a water hose with a shut-off nozzle.
- Hotels and motels shall offer a linen reuse water conservation option to customers.
- Restaurants, bars, and other commercial food or beverage establishments may not provide drinking water to customers unless a specific request is made by the customer for drinking water.

- Adoption of an increasing block water rate structure, if not already in place.

7.5.2 Additional Water Conservation Measures in the NTMWD Model Water Conservation Plan

NTMWD also urges its Member Cities and Customers to consider including the following additional water conservation measures from the NTMWD Model Water Conservation Plan in their plans:

1. Landscape Water Management Regulations

- Requirement that all existing irrigation systems be retrofitted with rain and freeze sensors and/or ET or Smart controllers capable of multiple programming. Rain and freeze sensors and/or ET or Smart controllers must be maintained to function properly.
- Requirement that all new athletic fields be irrigated by a separate irrigation system from surrounding areas.
- Implementation of other measures to encourage off-peak water use.

2. Landscape Ordinance

- Landscape ordinances are developed by cities to guide developers in landscaping requirements for the city. A model landscape ordinance is provided in as part of the Model Plan and is intended as a guideline for adopting a landscape ordinance to promote water efficient landscape design.
- Native, drought tolerant or adaptive plants should be encouraged.
- Drip irrigation systems should be promoted.
- ET/Smart controllers that only allow sprinkler systems to irrigate when necessary should be promoted.

3. Water Audits

- Water audits are useful in finding ways in which water can be used more efficiently at a specific location. NTMWD recommends that Member Cities and Customers offer water audits to customers.
- Member Cities and Customers are required to develop regulations, ordinances, policies, or procedures for enforcement of water conservation guidelines.

4. Rebates

- In addition to the conservation measures described above, the NTMWD also recommends that Member Cities and Customers consider the following water conservation incentive:
    - Commercial clothes washer rebates for the purchase and installation of high efficiency card- or coin-operated commercial clothes washers.
    - Low-flow toilet replacement and rebate programs;
    - Rebates for rain/freeze sensors and/or ET or Smart controllers;
    - Low-flow showerhead and sink aerators replacement programs or rebates;
    - Residential water efficient clothes washer rebates;
    - Pressure reducing valve installation programs or rebates;
    - Rain barrel rebates;
    - Pool cover rebates;
    - On-demand hot water heater rebates; and/or
    - Other water conservation incentive programs.

7.6 Annual Reports

One element of NTMWD's Model Water Conservation Plan for NTMWD Member Cities and Customers is a requirement that Member Cities and Customers complete annual conservation reports by March 31 of the following year and submit them to NTMWD. A copy of the annual report is included herewith as Appendix E. NTMWD compiles these reports and uses them to help generate its own annual water conservation report.

NTMWD's annual water conservation report is used to review the effectiveness of its water conservation program and results will be reported to the NTMWD Water Committee of the NTMWD Board and the Board of Directors. The completion of this annual water conservation report allows NTMWD to track the effectiveness of its water conservation programs over time and reassess those programs that are not providing water savings, ensuring maximum water use efficiency and greater levels of conservation.

7.7 Water Conservation Symposium

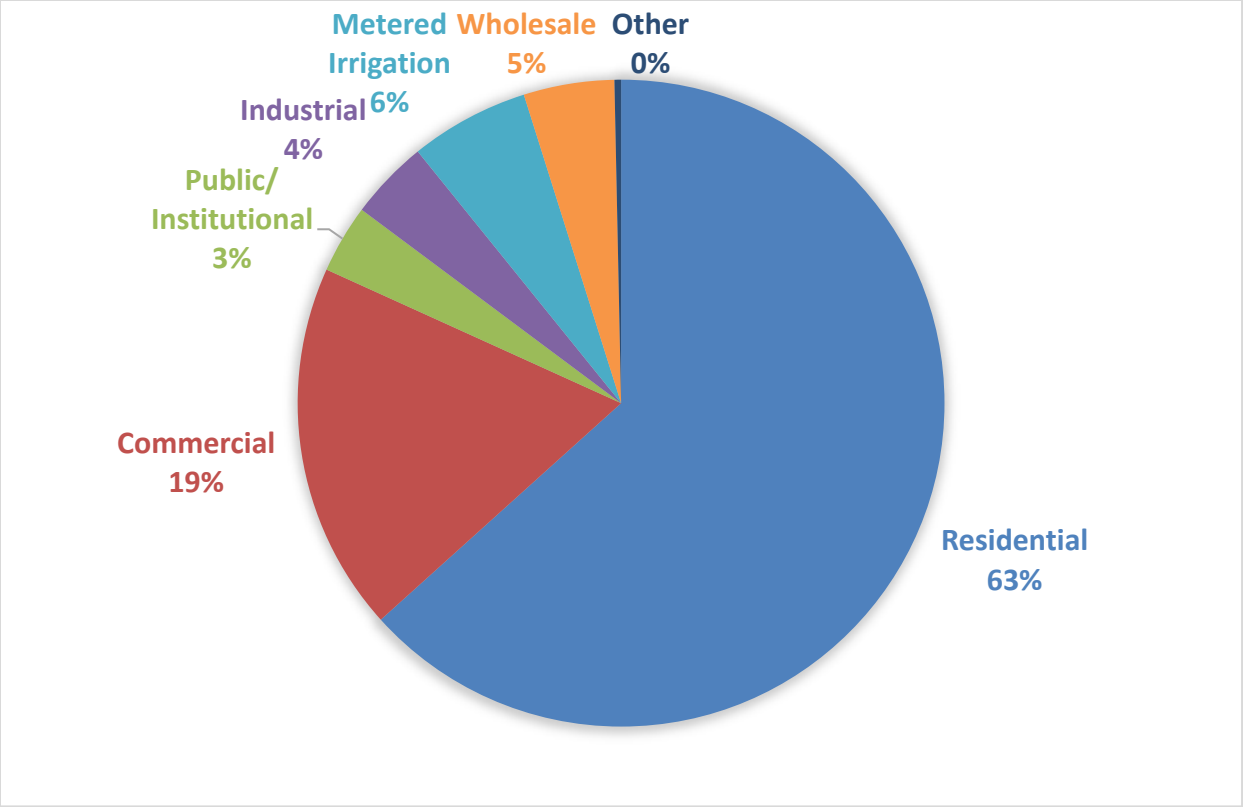
NTMWD has partnered with Dallas Water Utilities and Tarrant Regional Water District to host the annual North Texas Regional Water Conservation Symposium (Symposium). The Symposium is a half-day event

bringing together leading water conservation experts from Texas and around the country to present water conservation best management practices to a wide audience of water utility staff. In 2018, the 12th annual North Texas Regional Water Conservation Symposium was attended by over 130 professionals.

7.8 Industrial, Commercial and Institutional Customers

Based on the annual reporting data collected from Member Cities and Customers from 2017, approximately 25 percent of the District's treated water sales went to supply Industrial, Commercial and Institutional (ICI) users within their service area see Figure 7-1.

Figure 7-1 NTMWD Water Sales by Category in 2017



In order to target programs for this customer base, the District hired Alan Plummer and Associates, Inc. to conduct the "North Texas Municipal Water District Industrial, Commercial, and Institutional Water Use Efficiency Study." The primary scope items in the study are as follows:

- Develop ICI Customer Database
- Calculate per Capita Consumptions
- Identify, Define and Categorize

- Establish Base Use Estimates
- Identify Trends
- Select sectors for detailed analysis
- Benchmarking
- Identify Potential for Reduction
- Estimate Potential Demand Reduction by Strategy
- Program Development

The kick-off meeting was held on September 10, 2018 and the project is currently in the process of data collection. It is not anticipated that any recommended programs will be identified prior to the publication of this Plan. Once the results are published, the District will develop, in cooperation with the District's Member Cities and Customers and in collaboration with ICI water users within the District's service area, a program to reduce the per unit or per capita ICI water use within the District.

7.9 Industrial Pretreatment

As part of its wastewater system, NTMWD has developed industrial pretreatment programs for the cities of Allen, Forney, Frisco, McKinney, Mesquite, Murphy, Plano, Richardson, Rockwall, Terrell, and Wylie. The pretreatment programs developed by NTMWD are adopted and implemented by the cities, which are also responsible for enforcement of the programs. By reducing allowable volumes of specific pollutants and encouraging pretreatment of industrial wastes, this joint effort by NTMWD and the cities has improved water quality in the region's streams and reservoirs. NTMWD industrial pretreatment personnel are also available to assist cities on request in the review or design of systems to allow industrial recycling and reuse of wastewater. Such systems have reduced water use by some industries, while also reducing wastewater volumes and saving money for the industries.

7.10 Watershed Protection

The NTMWD monitors and samples about fourteen sites monthly on Lavon Lake to evaluate the water quality of the reservoir. Additionally, the major hydraulic inputs into Lake Lavon are monitored to evaluate the nutrient and pollutant loading. Studies are performed periodically to evaluate and model hydraulics, nutrient loading and pollutant loading of the reservoir.

The District monitors and performs monthly sampling of the major tributaries that will be contributing water to the future Bois d'Arc Lake. The information is used to evaluate nutrient loading and pollutant loading of the future reservoir.

NTMWD regularly monitors and samples its other water supplies, including Lake Tawakoni, Lake Jim Chapman, Lake Texoma, and the East Fork Reuse Project to evaluate water quality and the impact of pollutant loading over time.

The District also monitors and samples the effluent of each of the NTMWD-operated wastewater treatment plants. That information is used to evaluate hydraulics, nutrient, and pollutant loading of the receiving waterbody.

7.11 Zero Discharge from Water Treatment Plants

Since 1975, NTMWD's water treatment plants have aimed to operate with zero discharge. Wash water from filter washing and sludge from the water treatment process are pumped to lagoons for solar drying. After settling of solids, suitable water is decanted from the lagoons and recycled to the head of the water treatment plant for treatment. This approach saves water and contributes to NTMWD's excellent control of nonrevenue water in treatment and distribution.

7.12 In-House Water Conservation Efforts

NTMWD has implemented an in-house water conservation program, including the following elements:

- Wherever possible, landscapes will use native or adapted drought tolerant plants, trees, and shrubs.
- Irrigation at NTMWD facilities will occur between 11 p.m. and 5 a.m. in the peak consumption summer months (April 1 and ending October 31) in order to lower evaporation losses.
- Irrigation will be limited to the amount needed to promote survival and health of plants and lawns.
- Irrigation will be avoided on Saturday and Sunday if possible, since these are periods of high water use by the public.
- Irrigation will be done with treated wastewater effluent wherever feasible and reasonable.

8. ADOPTION OF WATER CONSERVATION PLAN; PERIODIC REVIEW AND UPDATE OF PLAN

Appendix H contains a copy of the minutes of the NTMWD Board of Directors meeting at which this Water Conservation Plan was adopted.

TCEQ requires that water conservation plans be reviewed and, if necessary, updated every five years to coincide with the regional water planning process. This Water Conservation Plan will be updated as required by TCEQ, and in addition, will be continually reassessed for opportunities to improve water efficiency and conservation based on new or updated information.

9. CONSERVATION PLAN REQUIREMENTS FOR A PUBLIC WATER SUPPLIER

9.1 Introduction

In addition to serving as a wholesale water supplier, NTMWD is also a public water supplier of potable water, providing direct retail service to 29 customers who do not have access to retail service from other sources. The TCEQ has established rules for the development of water conservation plans for public water suppliers that provide retail service. The rules for water conservation plans for public water suppliers are contained in Title 30, Part 1, Chapter 288, Subchapter B, Rule 288.2 of the Texas Administrative Code. These rules are included in Appendix B.

An additional requirement for public water suppliers, beyond the requirements for wholesale water suppliers, is that they must report 5-year and 10-year goals for residential per capita water use in addition to such reporting for municipal per capita water use. Table 9-1 shows the residential per capita goals for the 29 direct retail service customers.

Table 9-1 5-Year and 10-Year Residential GPCD Goals

Description	Assumed Average (GPCD)	5-Year Goal (2017) (GPCD)	10-Year Goal (2022) (GPCD)
Assumed Current 5-Year Average Per Capita Residential Use	100		
Expected Reduction Due to Low-Flow Plumbing Fixtures		1	3
Projected Reduction Due to Elements in this Plan		8	13
Water Conservation Goals (Based on 5-Year Average)		**91**	**84**

NTMWD's Water Conservation Plan, specifically Sections 1-8 of the Plan, address the majority of requirements in the TCEQ rules pertaining to water conservation plans for public water suppliers. This section of the Plan summarizes the TCEQ requirements for public water suppliers, indicates where they are met in the Plan, and covers any additional information needed to meet public water supplier requirements.

9.2 State Requirements for Water Conservation Plans for Public Water Suppliers

Title 30, Part 1, Chapter 288, Subchapter B, Rule 288.2 of the Texas Administrative Code contains the requirements for water conservation plans for public water suppliers. This rule is included in Appendix B.

Minimum Requirements

TCEQ's minimum requirements for water conservation plans for public water suppliers are addressed below:

- 288.2(a)(1)(A) – Utility Profile – Included in Appendix D.
- 288.2(a)(1)(B) – Record Management System –Section 6.1.2
- 288.2(a)(1)(C) – Specific, Quantifiable Goals – Addressed in Section 5 (for municipal use) and Section 9.1 (for residential use).
- 288.2(a)(1)(D) – Metering of Diversions – Addressed in Section 6.1.1.
- 288.2(a)(1)(E) – Universal Metering – Addressed in Section 6.1. Deliveries to all of NTMWD's retail customers (like deliveries to all of its wholesale customers) are metered. NTMWD tracks use for its retail customers to ensure that the meters remain in good working order. NTMWD has implemented a meter replacement program, in accordance with AWWA standards. At a minimum, all customer meters will be replaced every 15 years.
- 288.2(a)(1)(F) – Measures to Determine and Control Water Loss – Addressed in Section 6.1 and Section 6.1.2.
- 288.2(a)(1)(G) – Program of Continuing Public Education and Information – Addressed in Section 7.2. NTMWD also will also communicate directly with its retail customers by including brochures and other material on water conservation in monthly invoicing.
- 288.2(a)(1)(H) – Non-Promotional Rate Structure –NTMWD has a three-tiered increasing block rate structure for its residential customers as follows:
  - Monthly minimum charge of $15.00 with up to 2,000 gallons
  - Base rate of $3.50 per 1,000 gallons for water use of 2,000 to 10,000 gallons
  - 2nd tier rate of $5.38 per 1,000 gallons from 10,000 to 20,000 gallons
  - 3rd tier rate of $6.72 per 1,000 gallons for water use above 20,000 gallons
- 288.2(a)(1)(I) – Reservoir System Operation Plan – Addressed in Section 6.3.

- 288.2(a)(1)(J) – Means of Implementation and Enforcement – For their retail account, NTMWD can enforce any of the measures in the Plan.
- 288.2(a)(1)(K) – Documentation of Coordination with Regional Water Planning Groups – Addressed in Section 6.5.
- 288.2(c) – Review and Update of Plan – Section 8.

Additional Requirements for Suppliers Serving a Current Population of 5,000 or More

TCEQ has additional requirements for water conservation plans for public water suppliers serving more than 5,000 people. Including its wholesale customers, NTMWD serves more than 5,000 people. Those additional TCEQ requirements are addressed below:

- 288.2(a)(2)(A) – Program of Leak Detection, Repair, and Water Loss Accounting – NTMWD performs a regular review of water sales to their retail customers to track water losses.
- 288.2(a)(2)(B) – Record Management System – NTMWD's retail customers include 29 retail accounts. NTMWD has no retail industrial customers. The vast majority of NTMWD's sales are to wholesale suppliers. NTMWD makes records available for residential use by retail customers, commercial use by retail customers, public use by retail customers, and wholesale sales. NTMWD maintains electronic files by customer class for its retail customers.

Additional Conservation Strategies

TCEQ also lists additional water conservation strategies which may be implemented by a public water supplier but are not required. This water conservation plan includes several of those strategies:

- 288.2 (a)(3)(D) - Program for reuse and/or recycling of wastewater is described in Section 7.1.
- 288.2(a)(3)(H) – Other measures:
  - Sections 7.3, 7.4, and 7.5 describe additional measures NTMWD has adopted to encourage water conservation by its Member Cities and Customers.
  - Section 7.6 describes NTMWD's plans to monitor the effectiveness of the water conservation program.
  - Section 7.2 describes NTMWD's public education program.
  - Section 7.11 describes NTMWD's program to maintain zero discharge from its water treatment plants.
  - Section 7.12 describes NTMWD's in-house water conservation efforts.

APPENDIX A

LIST OF REFERENCES

APPENDIX A

LIST OF REFERENCES

1. Texas Commission on Environmental Quality Water Conservation Implementation Report. https://www.tceq.texas.gov/assets/public/permitting/forms/20645.pdf

2. Title 30 of the Texas Administrative Code, Part 1, Chapter 288, Subchapter A, Rules 288.1 and 288.5, and Subchapter B, Rule 288.22, downloaded from http://texreg.sos.state.tx.us/public/readtac$ext.ViewTAC?tac_view=4&ti=30&pt=1&ch=288, November 2019.

3. Water Conservation Implementation Task Force: "Texas Water Development Board Report 362, Water Conservation Best Management Practices Guide," prepared for the Texas Water Development Board, Austin, November 2004.

4. Texas Water Development Board, Texas Commission on Environmental Quality, Water Conservation Advisory Council: Guidance and Methodology for Reporting on Water Conservation and Water Use, December 2012

5. Freese and Nichols, Inc.: Model Water Conservation Plan for NTMWD Members Cities and Customers, prepared for the North Texas Municipal Water District, Fort Worth, January 2019.

6. Freese and Nichols, Inc.: Model Water Resource and Emergency Management Plan for NTMWD Members Cities and Customers, prepared for the North Texas Municipal Water District, Fort Worth, January 2019.

7. Freese and Nichols Inc, Alan Plummer Associates, Inc., CP & Y Inc., Cooksey Communications. "2016 Region C Water Plan"

APPENDIX B

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

RULES ON MUNICIPAL WATER CONSERVATION AND DROUGHT CONTINGENCY PLANS FOR WHOLESALE WATER SUPPLIERS

APPENDIX B

TEXAS COMMISSION OF ENVIRONMENTAL QUALITY RULES ON MUNICIPAL WATER CONSERVATION AND DROUGHT CONTINGENCY PLANS FOR WHOLESALE WATER SUPPLIERS

TITLE 30	ENVIRONMENTAL QUALITY
PART 1	TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
CHAPTER 288	WATER CONSERVATION PLANS, DROUGHT CONTINGENCY PLANS, GUIDELINES AND REQUIREMENTS
SUBCHAPTER A	WATER CONSERVATION PLANS
RULE §288.1	**Definitions**

The following words and terms, when used in this chapter, shall have the following meanings, unless the context clearly indicates otherwise.

(1) Agricultural or Agriculture--Any of the following activities:

(A) cultivating the soil to produce crops for human food, animal feed, or planting seed or for the production of fibers;

(B) the practice of floriculture, viticulture, silviculture, and horticulture, including the cultivation of plants in containers or non-soil media by a nursery grower;

(C) raising, feeding, or keeping animals for breeding purposes or for the production of food or fiber, leather, pelts, or other tangible products having a commercial value;

(D) raising or keeping equine animals;

(E) wildlife management; and

(F) planting cover crops, including cover crops cultivated for transplantation, or leaving land idle for the purpose of participating in any governmental program or normal crop or livestock rotation procedure.

(2) Agricultural use--Any use or activity involving agriculture, including irrigation.

(3) Best management practices--Voluntary efficiency measures that save a quantifiable amount of water, either directly or indirectly, and that can be implemented within a specific time frame.

(4) Conservation--Those practices, techniques, and technologies that reduce the consumption of water, reduce the loss or waste of water, improve the efficiency in the use of water, or increase the recycling and reuse of water so that a water supply is made available for future or alternative uses.

(5) Commercial use--The use of water by a place of business, such as a hotel, restaurant, or office building. This does not include multi-family residences or agricultural, industrial, or institutional users.

(6) Drought contingency plan--A strategy or combination of strategies for temporary supply and demand management responses to temporary and potentially recurring water supply shortages and other water supply emergencies. A drought contingency plan may be a separate document identified as such or may be contained within another water management document(s).

(7) Industrial use--The use of water in processes designed to convert materials of a lower order of value into forms having greater usability and commercial value, and the development of power by means other than hydroelectric, but does not include agricultural use.

(8) Institutional use--The use of water by an establishment dedicated to public service, such as a school, university, church, hospital, nursing home, prison or government facility. All facilities dedicated to public service are considered institutional regardless of ownership.

(9) Irrigation--The agricultural use of water for the irrigation of crops, trees, and pastureland, including, but not limited to, golf courses and parks which do not receive water from a public water supplier.

(10) Irrigation water use efficiency--The percentage of that amount of irrigation water which is beneficially used by agriculture crops or other vegetation relative to the amount of water diverted from the source(s) of supply. Beneficial uses of water for irrigation purposes include, but are not limited to,

evapotranspiration needs for vegetative maintenance and growth, salinity management, and leaching requirements associated with irrigation.

(11) Mining use--The use of water for mining processes including hydraulic use, drilling, washing sand and gravel, and oil field re-pressuring.

(12) Municipal use--The use of potable water provided by a public water supplier as well as the use of sewage effluent for residential, commercial, industrial, agricultural, institutional, and wholesale uses.

(13) Nursery grower--A person engaged in the practice of floriculture, viticulture, silviculture, and horticulture, including the cultivation of plants in containers or nonsoil media, who grows more than 50% of the products that the person either sells or leases, regardless of the variety sold, leased, or grown. For the purpose of this definition, grow means the actual cultivation or propagation of the product beyond the mere holding or maintaining of the item prior to sale or lease, and typically includes activities associated with the production or multiplying of stock such as the development of new plants from cuttings, grafts, plugs, or seedlings.

(14) Pollution--The alteration of the physical, thermal, chemical, or biological quality of, or the contamination of, any water in the state that renders the water harmful, detrimental, or injurious to humans, animal life, vegetation, or property, or to the public health, safety, or welfare, or impairs the usefulness or the public enjoyment of the water for any lawful or reasonable purpose.

(15) Public water supplier--An individual or entity that supplies water to the public for human consumption.

(16) Regional water planning group--A group established by the Texas Water Development Board to prepare a regional water plan under Texas Water Code, §16.053.

(17) Residential gallons per capita per day--The total gallons sold for residential use by a public water supplier divided by the residential population served and then divided by the number of days in the year.

(18) Residential use--The use of water that is billed to single and multi-family residences, which applies to indoor and outdoor uses.

(19) Retail public water supplier--An individual or entity that for compensation supplies water to the public for human consumption. The term does not include an individual or entity that supplies water to itself or its employees or tenants when that water is not resold to or used by others.

(20) Reuse--The authorized use for one or more beneficial purposes of use of water that remains unconsumed after the water is used for the original purpose of use and before that water is either disposed of or discharged or otherwise allowed to flow into a watercourse, lake, or other body of state-owned water.

(21) Total use--The volume of raw or potable water provided by a public water supplier to billed customer sectors or nonrevenue uses and the volume lost during conveyance, treatment, or transmission of that water.

(22) Total gallons per capita per day (GPCD)--The total amount of water diverted and/or pumped for potable use divided by the total permanent population divided by the days of the year. Diversion volumes of reuse as defined in this chapter shall be credited against total diversion volumes for the purposes of calculating GPCD for targets and goals.

(23) Water conservation coordinator--The person designated by a retail public water supplier that is responsible for implementing a water conservation plan.

(24) Water conservation plan--A strategy or combination of strategies for reducing the volume of water withdrawn from a water supply source, for reducing the loss or waste of water, for maintaining or improving the efficiency in the use of water, for increasing the recycling and reuse of water, and for preventing the pollution of water. A water conservation plan may be a separate document identified as such or may be contained within another water management document(s).

(25) Wholesale public water supplier--An individual or entity that for compensation supplies water to another for resale to the public for human consumption. The term does not include an individual or entity that supplies water to itself or its employees or tenants as an incident of that employee service or tenancy when that water is not resold to or used by others, or an individual or entity that conveys water to another individual or entity, but does not own the right to the water which is conveyed, whether or not for a delivery fee.

(26) Wholesale use--Water sold from one entity or public water supplier to other retail water purveyors for resale to individual customers.

Source Note: The provisions of this §288.1 adopted to be effective May 3, 1993, 18 TexReg 2558; amended to be effective February 21, 1999, 24 TexReg 949; amended to be effective April 27, 2000, 25 TexReg 3544; amended to be effective August 15, 2002, 27 TexReg 7146; amended to be effective October 7, 2004, 29 TexReg 9384; amended to be effective January 10, 2008, 33 TexReg 193; amended to be effective December 6, 2012, 37 TexReg 9515; amended to be effective August 16, 2018, 43 TexReg 5218

TITLE 30	ENVIRONMENTAL QUALITY
PART 1	TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
CHAPTER 288	WATER CONSERVATION PLANS, DROUGHT CONTINGENCY PLANS, GUIDELINES AND REQUIREMENTS
SUBCHAPTER A	WATER CONSERVATION PLANS
RULE §288.2	**Water Conservation Plans for Municipal Uses by Public Water Suppliers**

(a) A water conservation plan for municipal water use by public water suppliers must provide information in response to the following. If the plan does not provide information for each requirement, the public water supplier shall include in the plan an explanation of why the requirement is not applicable.

(1) Minimum requirements. All water conservation plans for municipal uses by public water suppliers must include the following elements:

(A) a utility profile in accordance with the Texas Water Use Methodology, including, but not limited to, information regarding population and customer data, water use data (including total gallons per capita per day (GPCD) and residential GPCD), water supply system data, and wastewater system data;

(B) a record management system which allows for the classification of water sales and uses into the most detailed level of water use data currently available to it, including, if possible, the sectors listed in clauses (i) - (vi) of this subparagraph. Any new billing system purchased by a public water supplier must be capable of reporting detailed water use data as described in clauses (i) - (vi) of this subparagraph:

(i) residential;

(I) single family;

(II) multi-family;

(ii) commercial;

(iii) institutional;

(iv) industrial;

(v) agricultural; and,

(vi) wholesale.

(C) specific, quantified five-year and ten-year targets for water savings to include goals for water loss programs and goals for municipal use in total GPCD and residential GPCD. The goals established by a public water supplier under this subparagraph are not enforceable;

(D) metering device(s), within an accuracy of plus or minus 5.0% in order to measure and account for the amount of water diverted from the source of supply;

(E) a program for universal metering of both customer and public uses of water, for meter testing and repair, and for periodic meter replacement;

(F) measures to determine and control water loss (for example, periodic visual inspections along distribution lines; annual or monthly audit of the water system to determine illegal connections; abandoned services; etc.);

(G) a program of continuing public education and information regarding water conservation;

(H) a water rate structure which is not "promotional," i.e., a rate structure which is cost-based and which does not encourage the excessive use of water;

(I) a reservoir systems operations plan, if applicable, providing for the coordinated operation of reservoirs owned by the applicant within a common watershed or river basin in order to optimize available water supplies; and

(J) a means of implementation and enforcement which shall be evidenced by:

(i) a copy of the ordinance, resolution, or tariff indicating official adoption of the water conservation plan by the water supplier; and

(ii) a description of the authority by which the water supplier will implement and enforce the conservation plan; and

(K) documentation of coordination with the regional water planning groups for the service area of the public water supplier in order to ensure consistency with the appropriate approved regional water plans.

(2) Additional content requirements. Water conservation plans for municipal uses by public drinking water suppliers serving a current population of 5,000 or more and/or a projected

population of 5,000 or more within the next ten years subsequent to the effective date of the plan must include the following elements:

(A) a program of leak detection, repair, and water loss accounting for the water transmission, delivery, and distribution system;

(B) a requirement in every wholesale water supply contract entered into or renewed after official adoption of the plan (by either ordinance, resolution, or tariff), and including any contract extension, that each successive wholesale customer develop and implement a water conservation plan or water conservation measures using the applicable elements in this chapter. If the customer intends to resell the water, the contract between the initial supplier and customer must provide that the contract for the resale of the water must have water conservation requirements so that each successive customer in the resale of the water will be required to implement water conservation measures in accordance with the provisions of this chapter.

(3) Additional conservation strategies. Any combination of the following strategies shall be selected by the water supplier, in addition to the minimum requirements in paragraphs (1) and (2) of this subsection, if they are necessary to achieve the stated water conservation goals of the plan. The commission may require that any of the following strategies be implemented by the water supplier if the commission determines that the strategy is necessary to achieve the goals of the water conservation plan:

(A) conservation-oriented water rates and water rate structures such as uniform or increasing block rate schedules, and/or seasonal rates, but not flat rate or decreasing block rates;

(B) adoption of ordinances, plumbing codes, and/or rules requiring water-conserving plumbing fixtures to be installed in new structures and existing structures undergoing substantial modification or addition;

(C) a program for the replacement or retrofit of water-conserving plumbing fixtures in existing structures;

(D) reuse and/or recycling of wastewater and/or graywater;

(E) a program for pressure control and/or reduction in the distribution system and/or for customer connections;

(F) a program and/or ordinance(s) for landscape water management;

(G) a method for monitoring the effectiveness and efficiency of the water conservation plan; and

(H) any other water conservation practice, method, or technique which the water supplier shows to be appropriate for achieving the stated goal or goals of the water conservation plan.

(b) A water conservation plan prepared in accordance with 31 TAC §363.15 (relating to Required Water Conservation Plan) of the Texas Water Development Board and substantially meeting the requirements of this section and other applicable commission rules may be submitted to meet application requirements in accordance with a memorandum of understanding between the commission and the Texas Water Development Board.

(c) A public water supplier for municipal use shall review and update its water conservation plan, as appropriate, based on an assessment of previous five-year and ten-year targets and any other new or updated information. The public water supplier for municipal use shall review and update the next revision of its water conservation plan every five years to coincide with the regional water planning group.

Source Note: The provisions of this §288.2 adopted to be effective May 3, 1993, 18 TexReg 2558; amended to be effective February 21, 1999, 24 TexReg 949; amended to be effective April 27, 2000, 25 TexReg 3544; amended to be effective October 7, 2004, 29 TexReg 9384; amended to be effective December 6, 2012, 37 TexReg 9515

TITLE 30	ENVIRONMENTAL QUALITY
PART 1	TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
CHAPTER 288	WATER CONSERVATION PLANS, DROUGHT CONTINGENCY PLANS, GUIDELINES AND REQUIREMENTS
SUBCHAPTER A	WATER CONSERVATION PLANS
RULE §288.5	**Water Conservation Plans for Wholesale Water Suppliers**

A water conservation plan for a wholesale water supplier must provide information in response to each of the following paragraphs. If the plan does not provide information for each requirement, the wholesale water supplier shall include in the plan an explanation of why the requirement is not applicable.

(1) Minimum requirements. All water conservation plans for wholesale water suppliers must include the following elements:

(A) a description of the wholesaler's service area, including population and customer data, water use data, water supply system data, and wastewater data;

(B) specific, quantified five-year and ten-year targets for water savings including, where appropriate, target goals for municipal use in gallons per capita per day for the wholesaler's service area, maximum acceptable water loss, and the basis for the development of these goals. The goals established by wholesale water suppliers under this subparagraph are not enforceable;

(C) a description as to which practice(s) and/or device(s) will be utilized to measure and account for the amount of water diverted from the source(s) of supply;

(D) a monitoring and record management program for determining water deliveries, sales, and losses;

(E) a program of metering and leak detection and repair for the wholesaler's water storage, delivery, and distribution system;

(F) a requirement in every water supply contract entered into or renewed after official adoption of the water conservation plan, and including any contract extension, that each successive wholesale customer develop and implement a water conservation plan or water conservation measures using the applicable elements of this chapter. If the customer intends to resell the water, then the contract between the initial supplier and customer must provide that the contract for the resale of the water must have water conservation requirements so that each successive customer in the resale of the water will be required to implement water conservation measures in accordance with applicable provisions of this chapter;

(G) a reservoir systems operations plan, if applicable, providing for the coordinated operation of reservoirs owned by the applicant within a common watershed or river basin. The reservoir systems operations plans shall include optimization of water supplies as one of the significant goals of the plan;

(H) a means for implementation and enforcement, which shall be evidenced by a copy of the ordinance, rule, resolution, or tariff, indicating official adoption of the water conservation plan by the water supplier; and a description of the authority by which the water supplier will implement and enforce the conservation plan; and

(I) documentation of coordination with the regional water planning groups for the service area of the wholesale water supplier in order to ensure consistency with the appropriate approved regional water plans.

(2) Additional conservation strategies. Any combination of the following strategies shall be selected by the water wholesaler, in addition to the minimum requirements of paragraph (1) of this section, if they are necessary in order to achieve the stated water conservation goals of the plan. The commission may require by commission order that any of the following strategies be implemented by the water supplier if the commission determines that the strategies are necessary in order for the conservation plan to be achieved:

(A) conservation-oriented water rates and water rate structures such as uniform or increasing block rate schedules, and/or seasonal rates, but not flat rate or decreasing block rates;

(B) a program to assist agricultural customers in the development of conservation pollution prevention and abatement plans;

(C) a program for reuse and/or recycling of wastewater and/or graywater; and

(D) any other water conservation practice, method, or technique which the wholesaler shows to be appropriate for achieving the stated goal or goals of the water conservation plan.

(3) Review and update requirements. The wholesale water supplier shall review and update its water conservation plan, as appropriate, based on an assessment of previous five-year and ten-year targets and any other new or updated information. A wholesale water supplier shall review and update the next revision of its water conservation plan every five years to coincide with the regional water planning group.

Source Note: The provisions of this §288.5 adopted to be effective May 3, 1993, 18 TexReg 2558; amended to be effective February 21, 1999, 24 TexReg 949; amended to be effective April 27, 2000, 25 TexReg 3544; amended to be effective October 7, 2004, 29 TexReg 9384; amended to be effective December 6, 2012, 37 TexReg 9515

APPENDIX C

MODEL WATER CONSERVATION PLAN AND MODEL WATER RESOURCE AND EMERGENCY MANAGEMENT PLAN

APPENDIX D

NORTH TEXAS MUNICIPAL WATER DISTRICT

WATER UTILITY PROFILE BASED ON TCEQ FORMAT

APPENDIX D

North Texas Municipal Water District Water Utility Profile Based on TCEQ Format

Name of Utility:	North Texas Municipal Water District
Address & Zip:	P.O. Box 2408, Wylie, TX 75098
Telephone Number:	(972) 442-5405
Fax Number:	(972) 295-6440
Form Completed by:	Denise Hickey
Title:	Water Resource & Public Education Manager
Signature:	
Date:	

Name and phone number of person responsible for implementing a water conservation program:

Name:	Denise Hickey
Phone Number:	(972) 442-5405

I. CUSTOMER DATA

A. Population and Service Area Data

Service area map is included as Figure 3.2.

1. Service area size (square miles): 2,200
2. Current population of service area: 1,699,173 (Estimated 2017 total population of member cities and customers)
3. Current (2012) population served by utility:
   - water: 1,699,173
   - wastewater: 1,461,289
4. Population served by utility for the previous five years:

Year	Estimated Population
2013	1,534,084
2014	1,572,330
2015	1,602,714
2016	1,667,020
2017	1,699,173

Populations are based on estimates generated by NTWMD each year

5. Projected population for service area in the following decades:

Year	Estimated Population
2020	1,797,279
2030	2,093,105
2040	2,454,133
2050	2,889,282
2060	3,333,931
2070	3,814,388

Projected 2020-2070 population for current and potential Member Cities and Customers from Region C projections for the 2016 regional water plan (as approved by TWDB)

6. List source(s)/method(s) for the calculation of current and projected population:

As described above, the estimates are total populations of current Member Cities and Customers, based on yearly estimates generated by NTWMD and projections made for the *2016 Region C Water Plan* and approved by the TWDB.

B. Customers Data

List the names of all wholesale customers, amount of annual contract, and amount of the annual use for each for the previous year:

Note: NTMWD is primarily a wholesale water provider. However, NTMWD does provide retail service to 29 retail customers.

Customer	Contracted Amount (Acre-Feet)	Year 2017 Water Delivered (Acre-Feet)
Member Cities		
Allen	Demand Based Contract with Minimum Take or Pay	16,855
Farmersville		571
Forney		5,443
Frisco		30,388
Garland		31,565
McKinney		32,912
Mesquite		17,034
Plano		63,078
Princeton		1,481
Richardson		24,864
Rockwall		9,687
Royse City		1,321
Wylie		5,119
Subtotal Members		**240,318**
Customers		
Ables Springs SUD	Demand Based Contract with Minimum Take or Pay	248
Bear Creek SUD		658
BHP WSC		366
Bonham		1,458
Caddo Basin SUD		960
Cash SUD		799
College Mound WSC		489
Copeville SUD		254

Customer	Contracted Amount (Acre-Feet)	Year 2017 Water Delivered (Acre-Feet)
Crandall	Demand Based Contract with Minimum Take or Pay	395
East Fork SUD		1,367
Fairview		2,363
Fate		1,190
Forney Lake WSC		970
Gastonia-Scurry SUD		1,036
GTUA		1,811
Josephine		178
Kaufman		1,198
Little Elm		4,183
Lucas		1,592
Melissa		952
Milligan WSC		316
Mt. Zion WSC		261
Murphy		3,985
Nevada WSC		281
N. Collin WSC		898
Parker		1,302
Prosper		4,714
Rose Hill SUD		309
Rowlett		6,885
Sachse		3,118
Seis Lagos MUD		347
Sunnyvale		1,606
Terrell		3,696
Wylie NE SUD		666
Subtotal Customers		**50,851**
Retail Customers		
Subtotal		10
Total		**291,179**

II. WATER USE DATA FOR SERVICE AREA

A. Water Delivery

Indicate if the water provided under wholesale contracts is treated or raw water and the annual amount for each for previous year.

Total amount sold for Year 2017 (acre-feet)

Treated	291,179
Raw	0

B. Water Accounting Data

1. Total amount of water diverted at point of diversion(s) for previous five years (in acre-feet) for all water uses:

Raw Water Diversions from Lavon Lake, Lake Bonham and Lake Tawakoni (acre-feet)

Year	2013	2014	2015	2016	2017
January	17,736	17,555	16,998	17,587	18,362
February	16,348	15,977	15,308	17,941	17,213
March	20,788	18,756	17,085	19,890	21,778
April	21,637	20,848	18,043	21,418	22,021
May	25,840	24,161	17,928	22,350	28,892
June	26,683	24,175	24,446	27,378	27,914
July	32,323	26,352	36,325	37,081	32,484
August	39,218	27,005	45,693	37,043	32,725
September	33,189	29,112	38,371	32,939	35,468
October	24,727	25,366	32,881	30,686	31,439
November	18,650	18,342	19,314	23,202	24,712
December	18,365	17,460	18,103	19,525	20,889
Total	**295,504**	**265,108**	**300,497**	**307,040**	**313,897**

2. Wholesale population served and total amount of water diverted for **municipal** use for previous five years:

Year	Total Population Served	Total Annual Water Diverted for Municipal Use (Acre-Feet)
2013	1,534,084	295,504
2014	1,572,330	265,108
2015	1,602,714	300,497
2016	1,667,020	307,040
2017	1,699,173	313,897

C. Projected Water Demands

If applicable, project and attach water supply demands for the next ten years using information such as population trends, historical water use, and economic growth in the service area over the next ten years and any additional water supply requirement from such growth.

Year	Projected Demand (AF/Y) (with Plumbing Code Reductions)	Source of data
2020	371,743	2016 Region C Plan
2021	377,603	Interpolated
2022	383,462	Interpolated
2023	389,322	Interpolated
2024	395,181	Interpolated
2025	401,041	Interpolated
2026	406,900	Interpolated
2027	412,760	Interpolated
2028	418,619	Interpolated
2029	424,479	Interpolated
2030	430,338	2016 Region C Plan
2040	504,964	*2016 Region C Plan*
2050	582,350	*2016 Region C Plan*
2060	646,378	*2016 Region C Plan*
2070	710,535	*2016 Region C Plan*

Note: Projections are for current and potential customers. Projections include TWDB estimated reductions for plumbing fixtures. Projections are from Region C Water Planning Group information for the 2016 Plan, as approved by TWDB.

III. WATER SUPPLY SYSTEM DATA

A. Water Supply Sources

List all current water supply sources and the amounts available with each:

Type[a]	Source	Amount Authorized (AF/Y)
Surface Water	Lavon Lake - municipal right	114,670
Surface Water	Lavon Lake - industrial or municipal	4,000
Surface Water	Lake Bonham	5,340
Surface Water	Lake Texoma[b]	197,000
Surface Water	Jim Chapman Lake	57,214
Surface Water	Upper Sabine Basin (contracted)	11,100
Indirect Reuse	Wilson Creek WWTP[c]	71,882
Indirect Reuse	East Fork Reuse Project[c]	157,393
Indirect Reuse	Main Stem Pump Station	56,100
Total		**674,699**

Notes: a. NTMWD dos not have any groundwater supplies.

b. Availability from Lake Texoma is limited due to issues with zebra mussels and salt levels.

c. Availability from Wilson Creek WWTP and East Fork Raw Water Supply Project is limited to actual discharges and is currently less than amount authorized.

B. Treatment and Distribution System

1. Design daily capacity of system:

Plant 1	70	MGD
Plant 2	280	MGD
Plant 3	280	MGD
Plant 4	140	MGD
Lake Tawakoni	30	MGD
Lake Bonham	6.6	MGD
Total	806.6	MGD

2. Storage capacity:

Elevated	0	MG
Ground	92.9	MG

3. If surface water, do you recycle filter backwash to the head of the plant?
   Yes X No ___. Approximately 5 MGD.

4. Please describe the water system and attach. Include the number of treatment plants, wells, and storage tanks. If possible, attach a sketch of the system layout.

Plate 1 at the back of the report is a map of the NTMWD water system. Raw water is diverted from Lavon Lake and is blended with raw water from Lake Texoma at the Wylie WTP. (Raw water from , Jim Chapman Lake, the East Fork Reuse Project, Main Stem Pump Station and the Upper Sabine Basin is pumped to the Lavon Lake watershed through pipelines and delivered by bed and banks of streams. Treated effluent from Wilson Creek WWTP is released into Wilson Creek and delivered to Lavon Lake by the bed and banks.) The raw water is treated at four water treatment plants with a total treatment capacity of 770 mgd, all located near Lavon Lake in Wylie. NTMWD also operates the Bonham WTP which treats raw water from Lake Bonham and the Tawakoni WTP which can utilize Upper Sabine Basin raw water. The treated water is delivered to NTMWD Member Cities and Customers through the system of pump stations and pipelines shown on Plate 1. Treated water is delivered to member cities and customers through air gaps into ground storage facilities owned by the member cities and customers.

IV. WASTEWATER SYSTEM DATA

A. Wastewater System Data (if applicable)

1. Design capacity of wastewater treatment plant(s): 151.455 MGD

2. Briefly describe NTMWD's wastewater systems. Identify treatment plants with the TCEQ name and number, the operator, owner, and, if wastewater is discharged, the receiving stream. Please provide a location map showing the plants. Plants are described below. Locations are shown on Plate 1:

Treatment Plant Name	TCEQ Number	Permitted Discharge (MGD)	Operator	Owner	Receiving Stream
Bear Creek	14577-001	0.250	NTMWD	World Land Developers	Bear Creek to Lake Ray Hubbard
Buffalo Creek	12047-001	2.250	NTMWD	NTMWD	Bufallo Creek
Farmersville #1	10442-001	0.225	NTMWD	NTMWD	Unnamed tributary of Elm Creek
Farmersville #2	10442-002	0.530	NTMWD	NTMWD	Unnamed tributary of Elm Creek
Floyd Branch	10257-001	4.750	NTMWD	NTMWD	Floyd Branch to Cottonwood Creek
Muddy Creek	14216-001	10.000	NTMWD	NTMWD	Muddy Creek to Lake Ray Hubbard
Panther Creek	14245-001	10.000	NTMWD	NTMWD	Unnamed tributary of Panther Creek
Royse City	10366-001	0.500	NTMWD	NTMWD	Sabine Creek
Rowlett Creek	10363-001	24.000	NTMWD	NTMWD	Rowlett Creek
Sabine Creek	14469-001	1.500	NTMWD	NTMWD	Parker Creek
Seis Lagos	11451-001	0.250	NTMWD	NTMWD	Unnamed tributary of Lake Lavon
South Mesquite	10221-001	33.000	NTMWD	NTMWD	South Mesquite Creek
Squabble Creek	10262-001	1.200	NTMWD	NTMWD	Squabble Creek
Stewart Creek West	14008-001	5.000	NTMWD	NTMWD	Stewart Creek
Wilson Creek	12446-001	56.000	NTMWD	NTMWD	Lake Lavon Seg.# 0821
Wylie	10384-001	2.000	NTMWD	NTMWD	Unnamed tributary thence to Muddy Creek

B. Wastewater Data for Service Area (if applicable)

1. Percent of water service area served by wastewater system: 33%

2. Monthly volume treated for previous three years (in 1,000 gallons):

Year	2015	2016	2017
January	4,085,761	4,751,881	4,194,457
February	3,771,574	3,815,368	3,869,681
March	5,681,118	4,991,721	4,002,884
April	5,096,343	5,258,603	4,245,198
May	7,594,902	4,672,745	3,887,873
June	4,749,788	5,165,519	4,587,522
July	3,600,199	3,855,731	4,435,141
August	3,418,242	3,996,239	4,491,332
September	3,344,622	3,832,589	3,805,243
October	4,490,369	3,850,655	3,894,988
November	6,120,924	4,104,081	3,771,256
December	6,281,372	3,780,048	4,270,793
Total	**58,235,212**	**52,075,179**	**49,456,366**

SUMMARY OF YEAR 2017
NTMWD MEMBER CITY AND CUSTOMER WATER CONSERVATION REPORT

Water Utility Reporting:	**NTMWD**
Filled Out By:	**FNI**
Phone Number:	**817-735-7300**
Email:	
Date Completed:	**4/30/2018**
Year Covered:	**2017**
# of Connections	**590,072**
Estimated Population	**1,721,899**
Source:	**Various; see individual tabs**
# of Backflow Preventers:	**118,275**

Recorded Deliveries and Sales by Month (in Million Gallons):

Month	Deliveries from NTMWD	Other Supplies	Sales by Category							
			Residential	Commercial	Public/ Institutional	Industrial	Metered Irrigation	Wholesale	Other	Total
January	5,170.393	58.328	3,161.109	973.881	105.615	246.083	166.953	221.264	15.819	4,890.723
February	5,007.794	51.347	2,966.258	935.839	119.905	202.444	116.739	221.148	17.764	4,580.097
March	6,409.334	60.983	3,136.356	981.434	130.025	275.335	149.545	268.750	17.645	4,959.091
April	6,964.101	59.068	3,788.070	1,070.990	174.361	271.865	235.719	241.642	21.971	5,804.617
May	8,388.845	77.579	4,227.877	1,187.393	212.359	266.914	361.337	326.884	22.776	6,605.540
June	8,113.817	74.728	4,835.690	1,383.358	314.066	292.594	492.416	328.271	20.760	7,667.155
July	10,221.993	74.357	5,002.027	1,427.249	263.960	297.068	564.141	368.665	21.537	7,944.646
August	9,847.866	74.354	5,663.826	1,509.551	353.421	301.967	642.826	381.096	22.622	8,875.310
September	10,278.117	78.873	5,447.232	1,542.420	335.076	329.288	658.658	421.505	27.193	8,761.372
October	9,808.625	73.697	5,356.940	1,527.220	342.715	274.560	635.478	378.245	37.649	8,552.807
November	7,577.438	57.871	4,374.864	1,358.501	290.043	279.973	488.864	289.910	25.427	7,107.581
December	5,848.645	65.697	3,773.492	1,171.657	154.203	218.780	349.437	255.005	18.618	5,941.193
TOTAL	**93,636.969**	**806.880**	**51,733.740**	**15,069.494**	**2,795.748**	**3,256.871**	**4,862.113**	**3,702.385**	**269.781**	**81,690.132**

Peak Day Usage

Peak Day (MG)	**513.277**
Average Day (MG)	258.750
Peak/Average Day Ratio	1.984

Authorized Consumption and Water Loss

Total System Input Volume:	90,741.464
Billed Metered:	77,987.747
Billed Unmetered:	145.122
Unbilled Metered:	762.906
Unbilled Unmetered:	3,074.194
Total Authorized Consumption:	81,969.969
Water Losses:	8,771.496
Total Loss Percent:	9.67%
Goal for Total Loss Percent:	12.00%

Per Capita Use (Gallons per person per day)

Municipal Use (MG)	82,353
Residential Use (MG)	51,733.740
Total Per Capita Use (gpcd)	144
Municipal Per Capita Use (gpcd)	131
Residential Per Capita Use (gpcd)	82
5-year Per Capita Goal	145
10-year Per Capita Goal	140

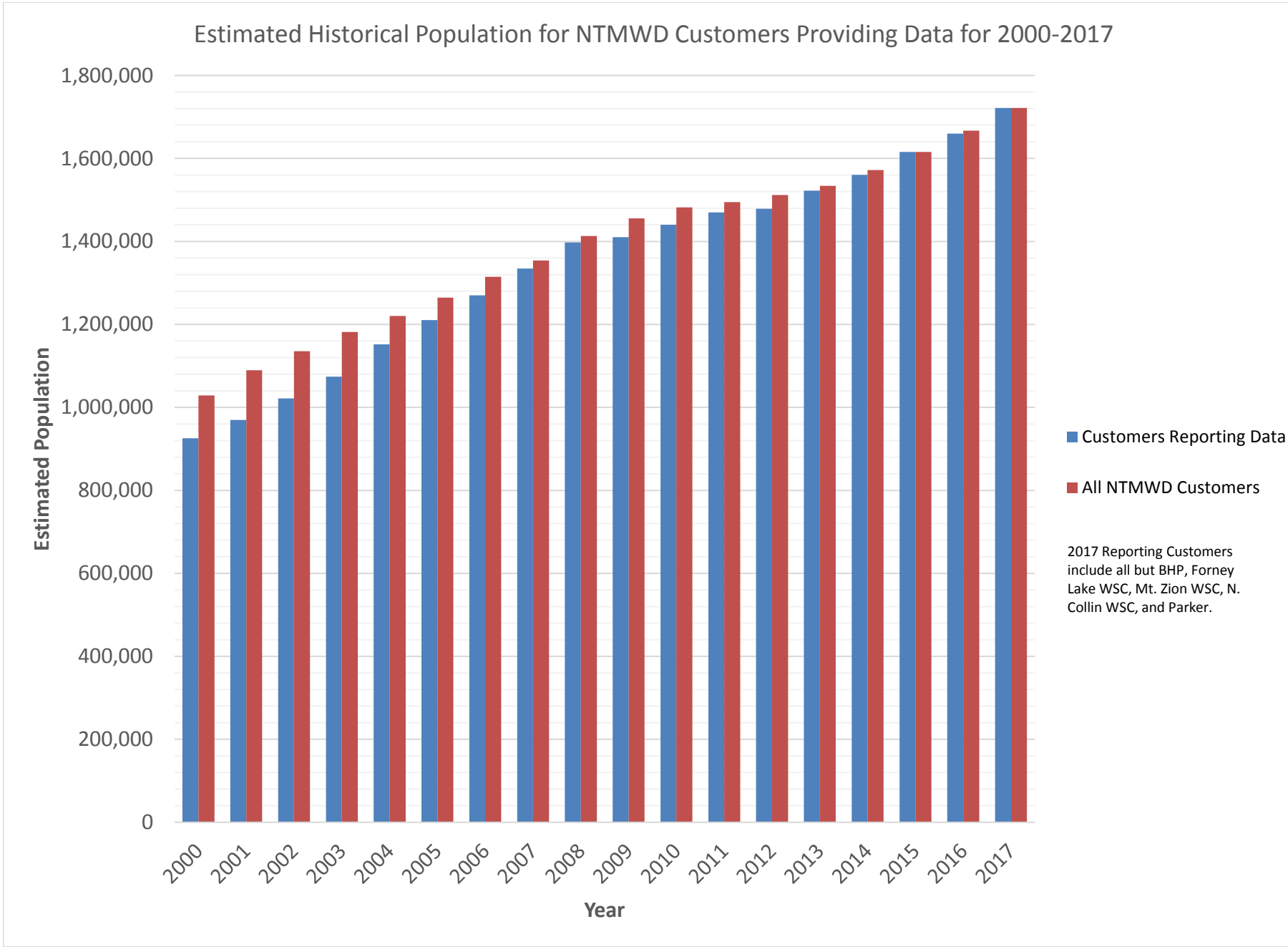
Historical Water Use Data for NTMWD

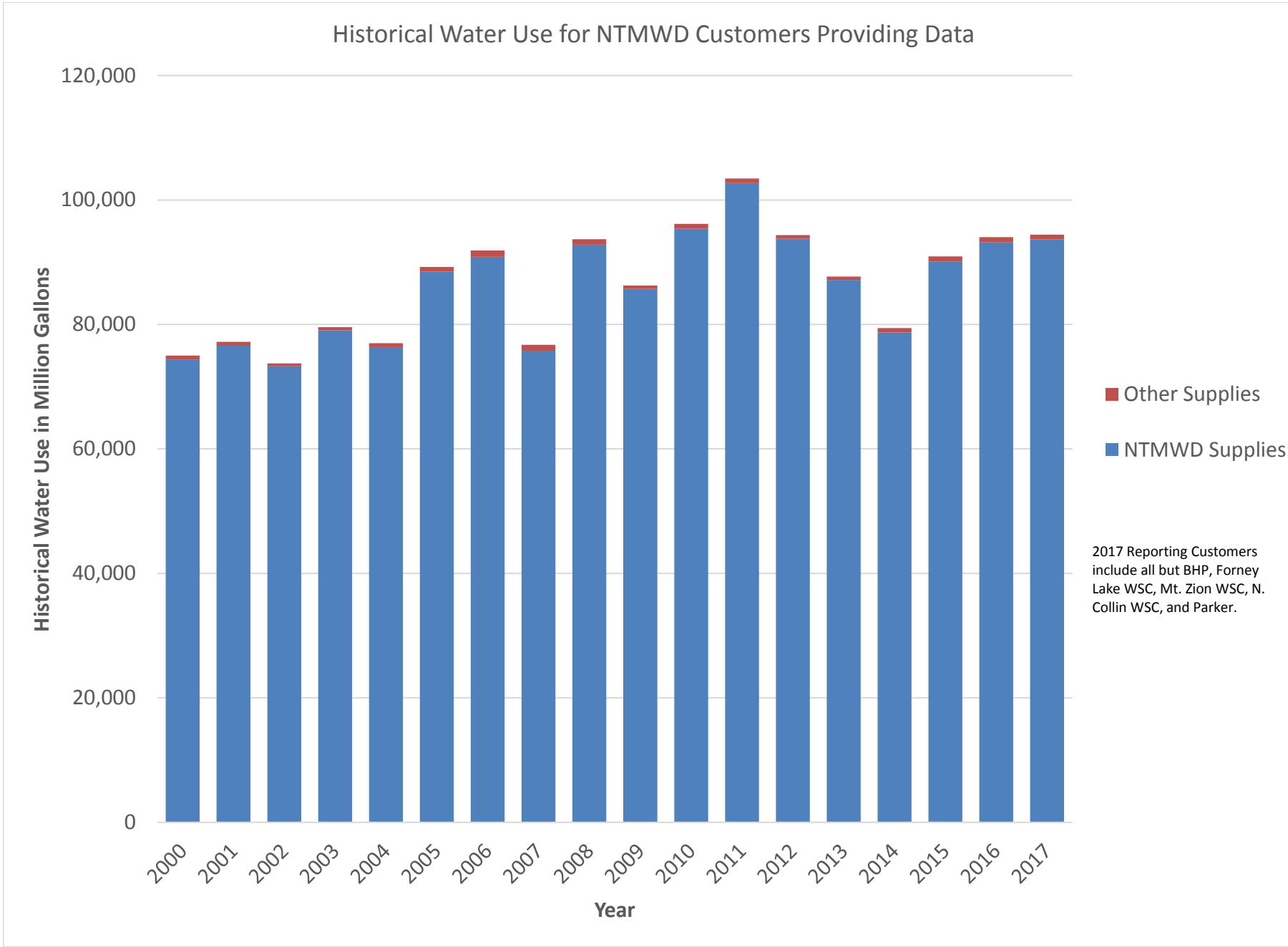
Year	Connections	Estimated Population	Deliveries from NTMWD (MG)	Other Supplies (MG)	Metered Sales by Category (Million Gallons)							
					Residential	Commercial	Public/ Institutional	Industrial	Metered Irrigation	Wholesale	Other	Total
1990	156,830	586,454	39,246	524	21,425	11,402	133	34		264	78	33,336
1991	156,576	600,162	36,719	526	20,139	10,609	125	32		279	73	31,257
1992	157,948	619,873	37,270	607	20,774	11,037	136	35		289	80	32,351
1993	171,229	656,529	43,015	869	23,634	12,212	154	39		351	90	36,481
1994	183,821	697,655	41,246	1,139	23,557	12,170	155	39		434	91	36,445
1995	189,669	723,207	46,577	1,359	25,682	13,074	171	43		464	100	39,534
1996	202,068	750,734	49,023	1,598	27,457	13,937	194	49		471	114	42,222
1997	206,050	785,268	51,096	762	28,483	14,664	219	56		542	128	44,092
1998	231,778	821,441	64,789	1,037	37,544	17,846	266	67		634	155	56,512
1999	262,824	883,270	68,570	658	39,039	20,283	278	254		699	162	60,716
2000	311,139	925,399	74,359	634	43,454	21,433	390	292		1,012	169	66,749
2001	327,171	970,025	76,588	621	43,169	20,891	361	272		1,134	167	65,995
2002	341,370	1,021,726	73,248	494	37,187	21,465	519	383		1,409	166	61,129
2003	359,188	1,073,848	79,032	518	44,347	21,451	968	631		1,691	355	69,443
2004	388,985	1,152,181	76,359	612	42,605	21,809	858	667		1,119	285	67,342
2005	412,301	1,210,539	88,503	729	51,810	25,432	1,437	894		2,191	442	82,205
2006	430,471	1,270,354	90,858	1,026	55,207	23,367	1,535	863		2,432	367	83,771
2007	447,324	1,334,711	75,775	963	43,350	18,967	1,603	1,100		2,477	470	67,967
2008	467,923	1,397,488	92,817	885	54,070	21,420	2,555	1,280		2,838	249	82,411
2009	471,475	1,410,416	85,687	578	48,903	19,392	2,642	1,219		2,838	267	75,261
2010	477,502	1,439,945	95,399	742	54,435	20,902	3,352	1,294		2,899	347	83,230
2011	500,666	1,469,951	102,697	754	61,807	21,572	4,056	1,769		3,740	93	93,037
2012	512,219	1,478,897	93,748	600	55,771	18,635	3,634	1,672		3,246	173	83,131
2013	525,858	1,522,230	87,148	550	52,151	17,810	3,223	1,718		3,094	225	78,222
2014	544,322	1,560,566	78,725	693	46,232	14,572	2,931	2,336		2,989	216	69,275
2015	554,414	1,615,861	90,128	817	52,364	17,064	3,926	2,728		3,524	319	79,925
2016	567,011	1,660,113	93,192	840	50,277	14,502	2,760	3,085	4,283	3,410	364	78,680
2017	590,072	1,721,899	93,637	807	51,734	15,069	2,796	3,257	4,862	3,702	270	81,690

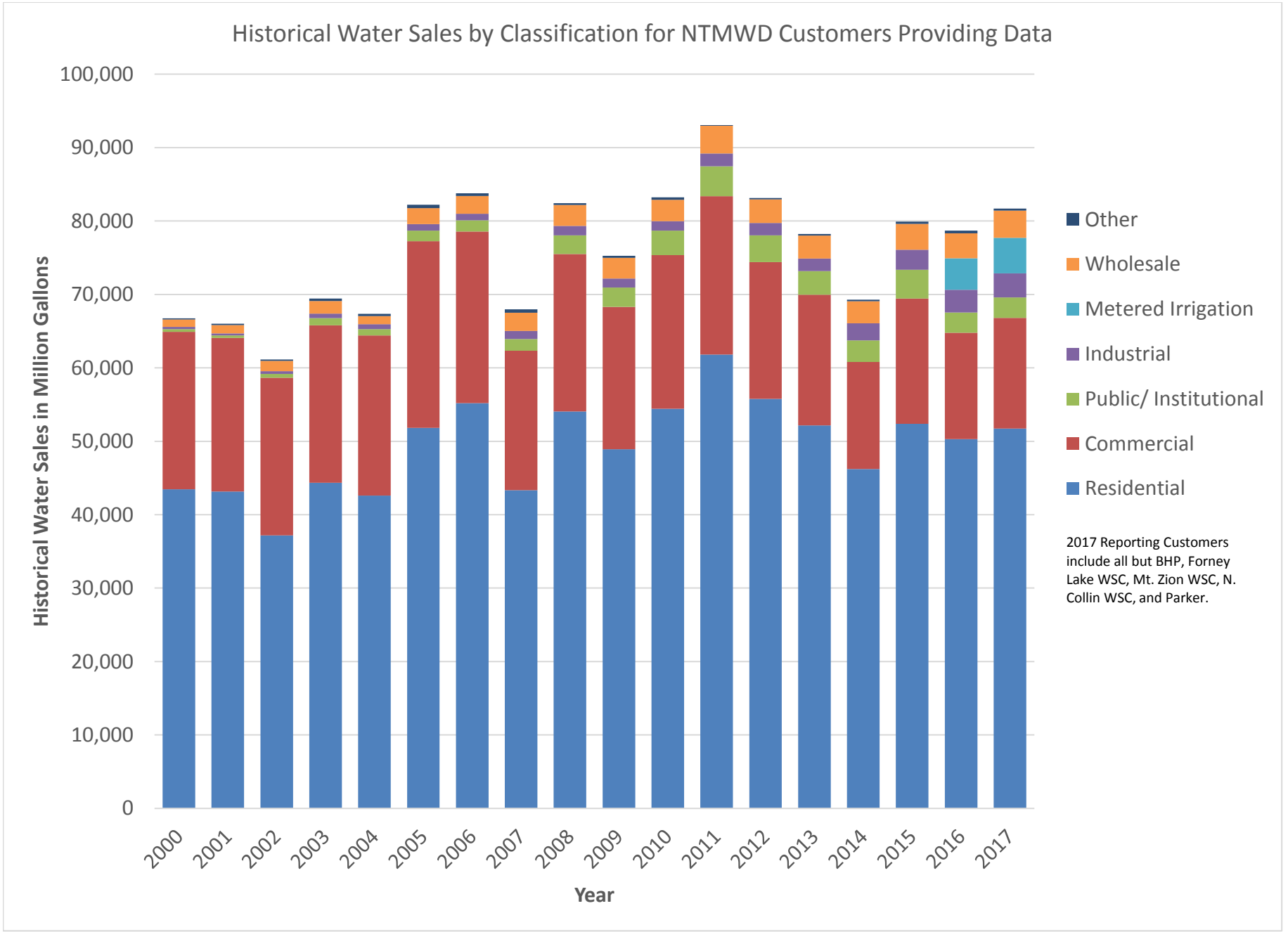
Historical Per Capita Use Data and Water Loss for NTMWD

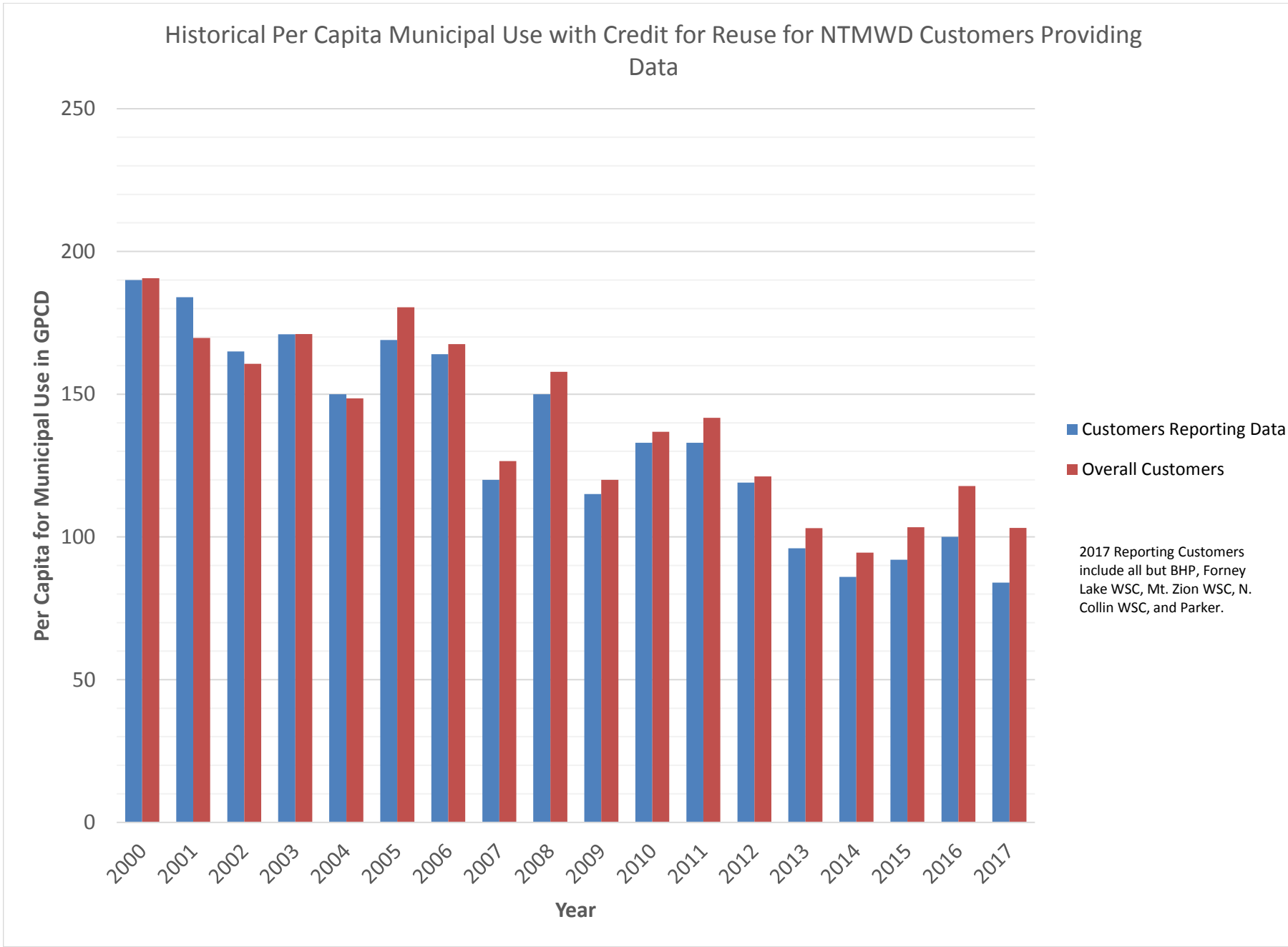
Year	Estimated Population	Deliveries from NTMWD (MG)	% Reuse	Reuse (MG)	In-City Municipal Use (MG)	In-City Municipal Use with Credit for Reuse	Per Capita Municipal Use (gpcd)	Per Capita Municipal Use with Reuse Credit	In-City Residential Use (MG)	Per Capita Residential Use (gpcd)	Other Supplies (MG)	Wholesale Sales (MG)	Billed Metered (MG)	Billed Unmetered (MG)	Unbilled Metered (MG)	Unbilled Unmetered (MG)	Water Losses (MG)	% Water Loss
1995																		
1996																		
1997																		
1998																		
1999																		
2000	925,399	74,359	12.69%	9,438	73,521	64,083	218	190	43,454	129	634	1,012	66,749	0	602	557	7,085	9.45%
2001	970,025	76,588	14.04%	10,752	75,635	64,883	214	184	43,169	122	621	1,134	65,995	0	617	577	10,020	12.98%
2002	1,021,726	73,248	14.38%	10,535	71,784	61,249	193	165	37,187	100	494	1,409	61,129	0	636	606	11,372	15.42%
2003	1,073,848	79,032	12.68%	10,019	76,873	66,854	197	171	44,347	113	518	1,691	69,443	0	646	607	8,855	11.13%
2004	1,152,181	76,359	16.04%	12,246	74,901	62,655	179	150	42,605	101	612	1,119	67,175	0	664	718	8,247	10.71%
2005	1,210,539	88,503	12.86%	11,379	85,705	74,326	195	169	51,810	117	729	2,191	82,017	0	689	779	5,559	6.23%
2006	1,270,354	90,858	14.03%	12,749	88,221	75,472	191	164	55,207	119	1,026	2,531	83,969	0	697	870	6,547	7.12%
2007	1,334,711	75,775	19.34%	14,658	72,691	58,033	149	120	43,331	89	963	2,623	68,110	0	807	916	7,055	9.19%
2008	1,397,488	92,817	13.88%	12,882	89,335	76,453	175	150	53,266	104	885	3,023	81,920	0	335	2,013	8,924	9.52%
2009	1,410,416	85,687	26.52%	22,724	81,940	59,216	159	115	47,862	93	578	2,943	74,848	0	80	1,586	9,186	10.65%
2010	1,439,945	95,399	22.96%	21,904	91,601	69,697	174	133	54,392	103	742	3,101	83,006	0	87	1,493	11,299	11.75%
2011	1,469,951	102,697	25.63%	26,321	97,850	71,529	182	133	61,487	115	754	3,740	92,678	0	76	1,465	8,862	8.57%
2012	1,488,911	93,754	25.92%	24,301	89,256	64,955	164	119	55,553	102	677	3,246	82,871	0	101	1,089	10,044	10.64%
2013	1,513,675	87,148	34.06%	29,683	82,661	52,978	150	96	51,886	94	550	3,090	77,920	0	116	828	8,557	9.76%
2014	1,560,566	78,725	32.14%	25,302	73,877	48,575	130	86	46,234	81	693	2,999	69,106	0	112	1,300	8,721	10.98%
2015	1,615,861	90,128	33.18%	29,905	84,374	54,469	143	92	52,364	89	817	3,524	79,724	0	92	1,523	9,380	10.31%
2016	1,660,113	93,192	23.96%	22,329	82,891	60,562	137	100	50,277	83	840	3,410	78,424	0	75	3,510	11,718	12.46%
2017	1,721,899	93,637	31.67%	29,655	82,353	52,698	131	84	51,734	82	807	3,702	77,988	145	763	3,074	8,771	9.67%

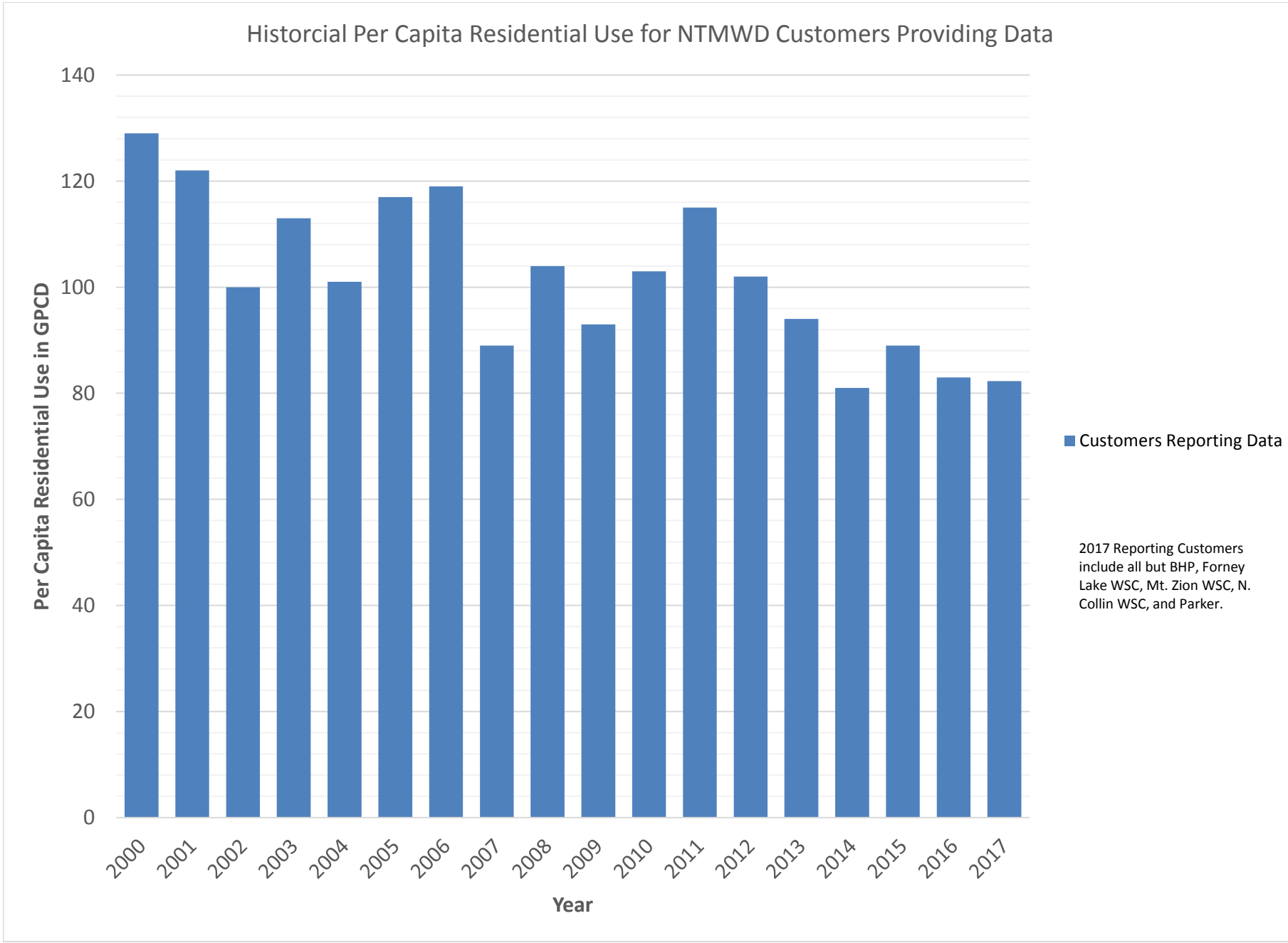
Note:
In-city municipal use = total water supplied less sales to industry, metered irrigation, wholesale sales and other sales.
After 2017 - Unaccounted Water has been removed and replaced with Water Losses (per TWDB definition). This category is inclusive of real and apparent losses. Categories for authorized consumption were also added; Unbilled metered replaced estimated fire use, unbilled unmetered replaced estimated line flushing, and a new category for billed unmetered sales was added.

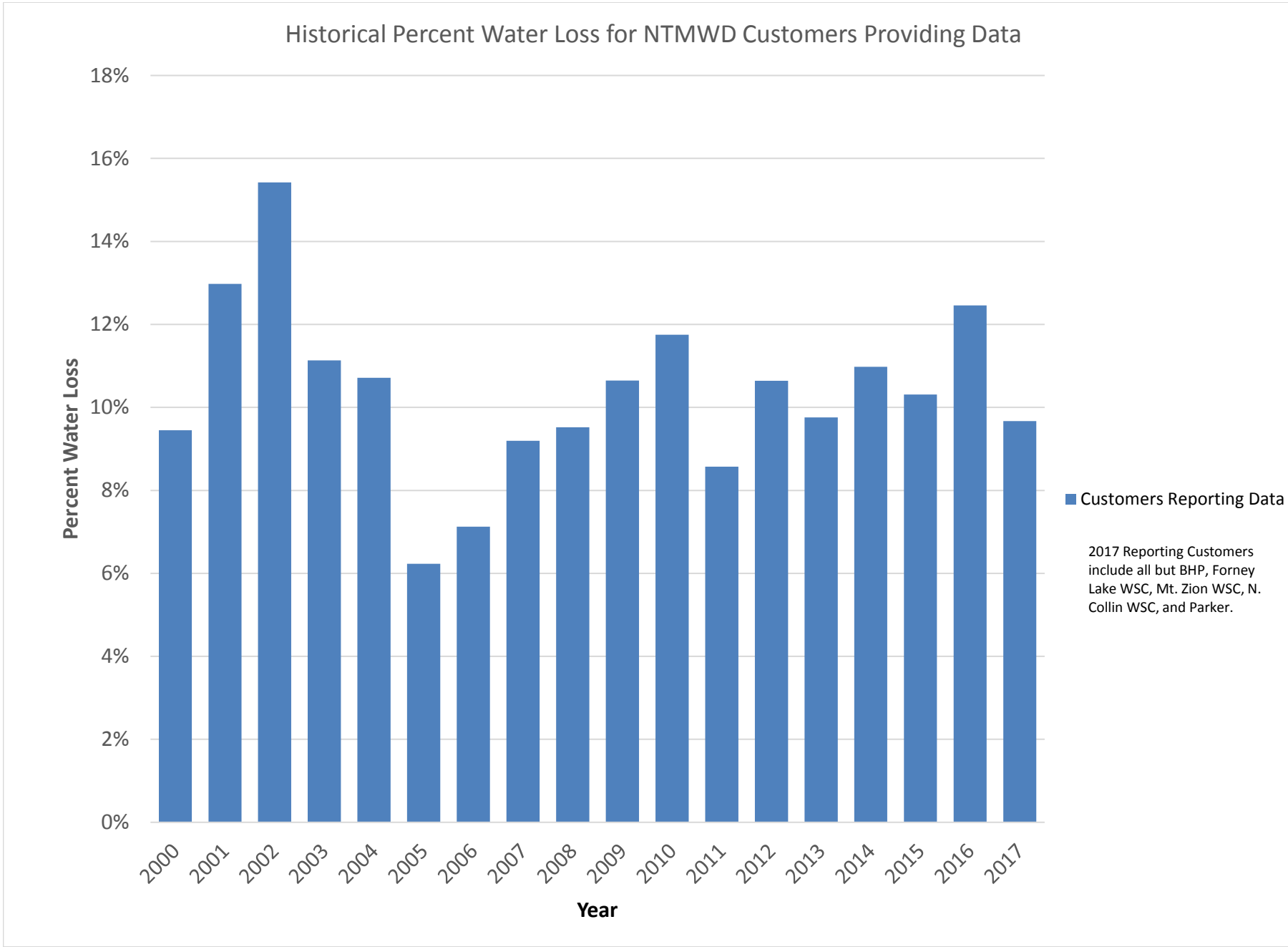

Estimated Historical Population for NTMWD Customers Providing Data for 2000-2017
1,800,000
1,600,000
1,400,000
1,200,000
1,000,000
800,000
600,000
400,000
200,000
0
Estimated Population
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
Year
Customers Reporting Data
All NTMWD Customers
2017 Reporting Customers include all but BHP, Forney Lake WSC, Mt. Zion WSC, N. Collin WSC, and Parker.


Historical Water Use for NTMWD Customers Providing Data
120,000
100,000
80,000
60,000
40,000
20,000
0
Historical Water Use in Million Gallons
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
Year
Other Supplies
NTMWD Supplies
2017 Reporting Customers include all but BHP, Forney Lake WSC, Mt. Zion WSC, N. Collin WSC, and Parker.


Historical Water Sales by Classification for NTMWD Customers Providing Data
Historical Water Sales in Million Gallons
100,000
90,000
80,000
70,000
60,000
50,000
40,000
30,000
20,000
10,000
0
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
Year
Other
Wholesale
Metered Irrigation
Industrial
Public/ Institutional
Commercial
Residential
2017 Reporting Customers include all but BHP, Forney Lake WSC, Mt. Zion WSC, N. Collin WSC, and Parker.


Historical Per Capita Municipal Use with Credit for Reuse for NTMWD Customers Providing Data
Per Capita for Municipal Use in GPCD
250
200
150
100
50
0
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
Year
Customers Reporting Data
Overall Customers
2017 Reporting Customers include all but BHP, Forney Lake WSC, Mt. Zion WSC, N. Collin WSC, and Parker.


Historcial Per Capita Residential Use for NTMWD Customers Providing Data
Per Capita Residential Use in GPCD
140
120
100
80
60
40
20
0
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
Year
Customers Reporting Data
2017 Reporting Customers include all but BHP, Forney Lake WSC, Mt. Zion WSC, N. Collin WSC, and Parker.


Historical Percent Water Loss for NTMWD Customers Providing Data
18%
16%
14%
12%
10%
8%
6%
4%
2%
0%
Percent Water Loss
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
Year
Customers Reporting Data
2017 Reporting Customers include all but BHP, Forney Lake WSC, Mt. Zion WSC, N. Collin WSC, and Parker.

APPENDIX E

NTMWD MEMBER CITY AND CUSTOMER ANNUAL WATER CONSERVATION REPORT

APPENDIX E
NTMWD MEMBER CITY AND CUSTOMER WATER CONSERVATION REPORT
Due: March 31 of every year

Water Utility Reporting: _____
Filled Out By: _____
Phone Number: _____
Email: _____
Date Completed: _____
Year Covered: _____
# of Connections _____
Estimated Population _____
Source: _____
# of Irrigation Systems _____

Recorded Deliveries and Sales by Month (in Million Gallons):

Month	Deliveries from NTMWD	Other Supplies	Sales by Category							
			Residential	Commercial	Public/ Institutional	Industrial	Metered Irrigation	Wholesale	Other	Total
January										
February										
March										
April										
May										
June										
July										
August										
September										
October										
November										
December										
TOTAL										

Peak Day Usage
Peak Day (MG)
Average Day (MG)
Peak/Average Day Ratio

Authorized Consumption and Water Loss
Total System Input Volume:
Billed Metered:
Billed Unmetered:
Unbilled Metered:
Unbilled Unmetered:
Total Authorized Consumption:
Water Losses:
Total Loss Percent:
Goal for Total Loss Percent:

Per Capita Use (Gallons per person per day)
Municipal Use (MG)
Residential Use (MG)
Total Per Capita Use (gpcd)
Municipal Per Capita Use (gpcd)
Residential Per Capita Use (gpcd)
5-year Per Capita Goal
10-year Per Capita Goal

Recorded Wholesale Sales by Month (in Million Gallons):

Month	Sales to…	Sales to…	Sales to…	Sales to…	Sales to…	Sales to…	Sales to…	Sales to…	Total Wholesale Sales
January									
February									
March									
April									
May									
June									
July									
August									
September									
October									
November									
December									
TOTAL									

Information on Wholesale Customers:

Customer	Estimated Total Population

Unusual Circumstances (use additional sheets if necessary):

Progress in Implementation of Conservation Plan (use additional sheets if necessary):

Conservation measures planned for next year (use additional sheets if necessary):

Assistance requested from North Texas Municipal Water District (use additional sheets if necessary):

Other (use additional sheets if necessary):

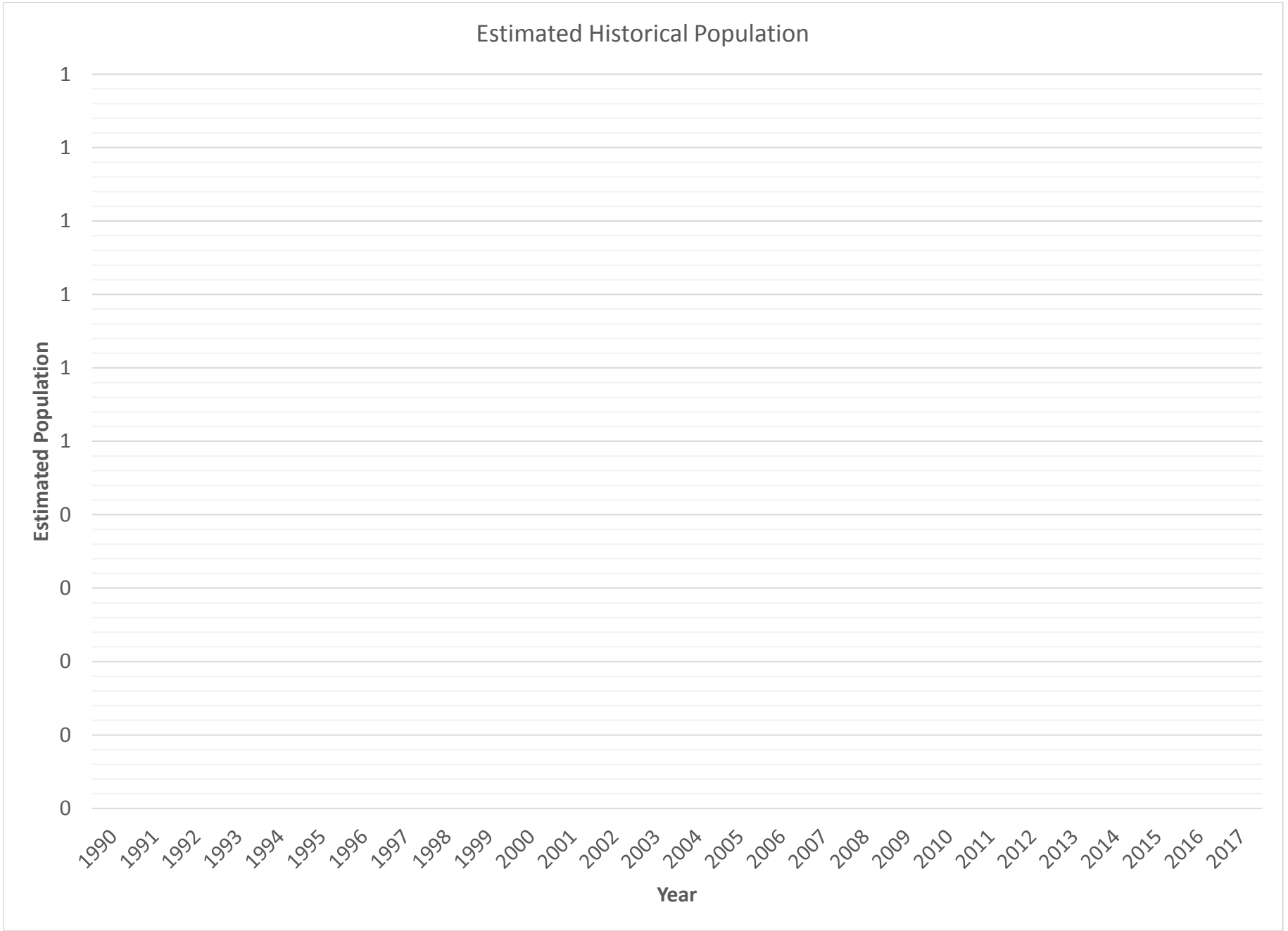
Historical Water Use Data for

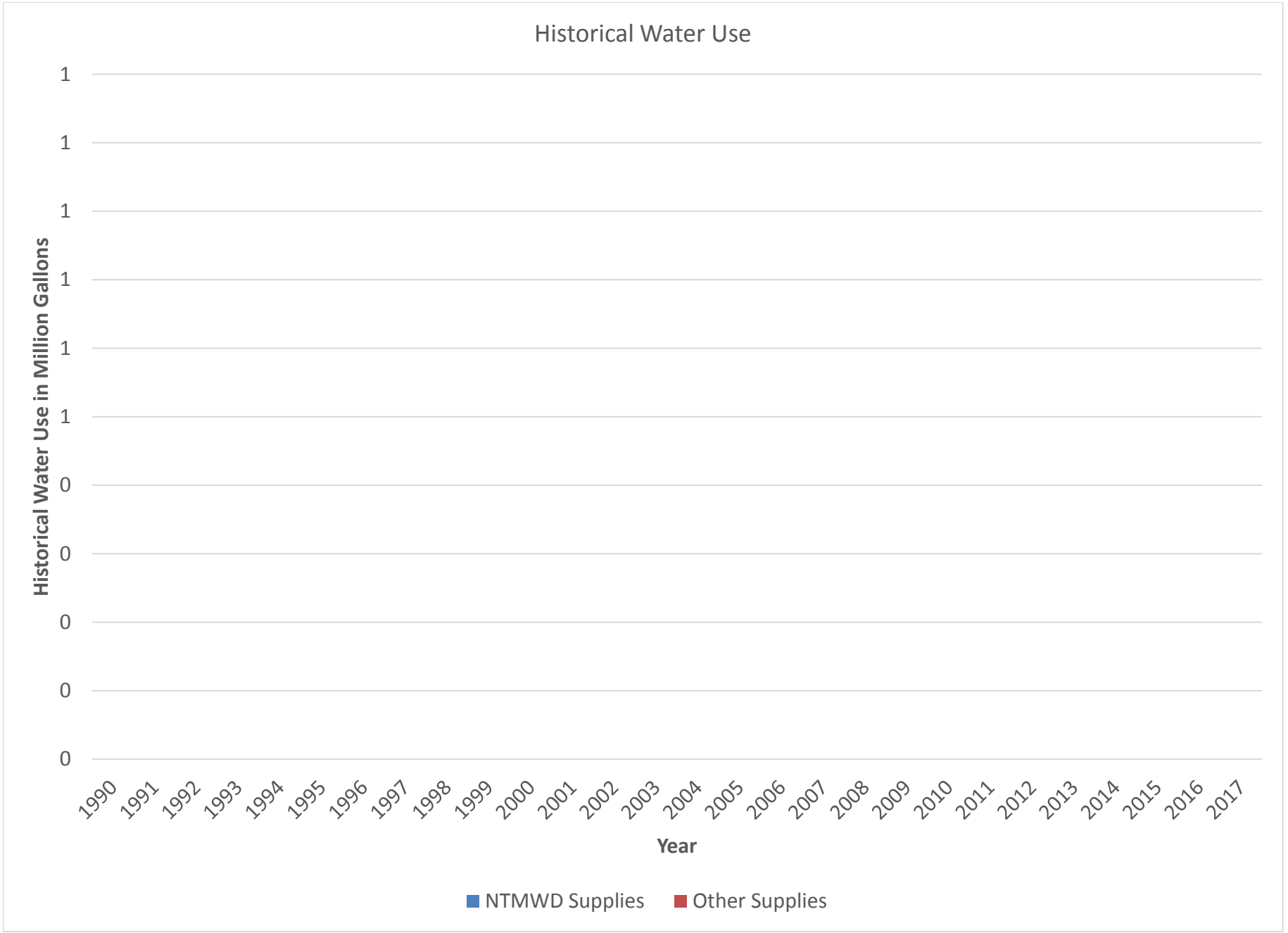
Year	Connections	Estimated Population	Deliveries from NTMWD (MG)	Other Supplies (MG)	Metered Sales by Category (Million Gallons)							
					Residential	Commercial	Public/ Institutional	Industrial	Metered Irrigation	Wholesale	Other	Total
1990	0	0	0	0	0	0	0	0	0	0	0	0
1991	0	0	0	0	0	0	0	0	0	0	0	0
1992	0	0	0	0	0	0	0	0	0	0	0	0
1993	0	0	0	0	0	0	0	0	0	0	0	0
1994	0	0	0	0	0	0	0	0	0	0	0	0
1995	0	0	0	0	0	0	0	0	0	0	0	0
1996	0	0	0	0	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0	0	0	0
2001	0	0	0	0	0	0	0	0	0	0	0	0
2002	0	0	0	0	0	0	0	0	0	0	0	0
2003	0	0	0	0	0	0	0	0	0	0	0	0
2004	0	0	0	0	0	0	0	0	0	0	0	0
2005	0	0	0	0	0	0	0	0	0	0	0	0
2006	0	0	0	0	0	0	0	0	0	0	0	0
2007	0	0	0	0	0	0	0	0	0	0	0	0
2008	0	0	0	0	0	0	0	0	0	0	0	0
2009	0	0	0	0	0	0	0	0	0	0	0	0
2010	0	0	0	0	0	0	0	0	0	0	0	0
2011	0	0	0	0	0	0	0	0	0	0	0	0
2012	0	0	0	0	0	0	0	0	0	0	0	0
2013	0	0	0	0	0	0	0	0	0	0	0	0
2014	0	0	0	0	0	0	0	0	0	0	0	0
2015	0	0	0	0	0	0	0	0	0	0	0	0
2016	0	0	0	0	0	0	0	0	0	0	0	0
2017	0	0	0	0	0	0	0	0	0	0	0	0

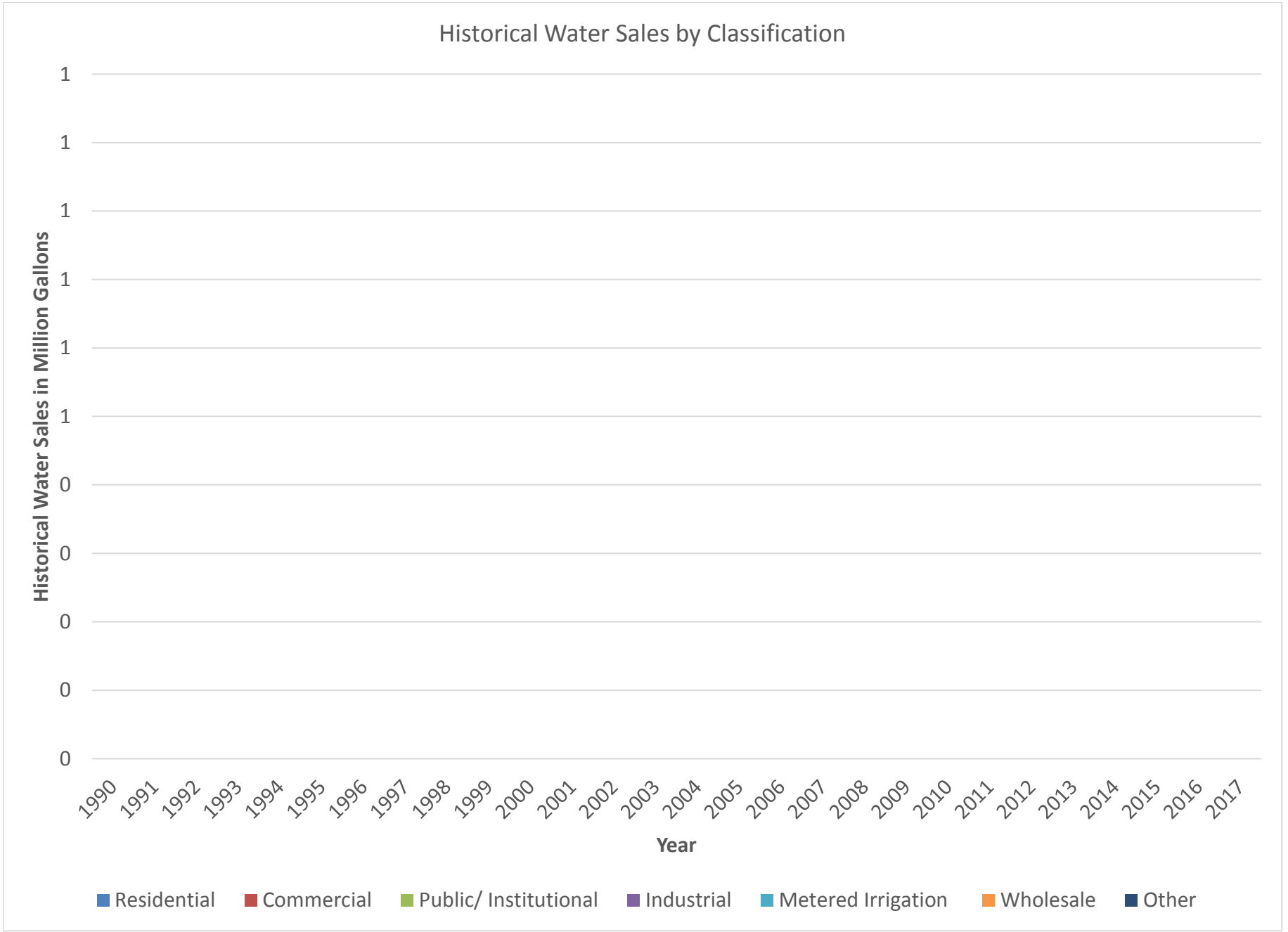
Historical Per Capita Use Data and Water Loss for

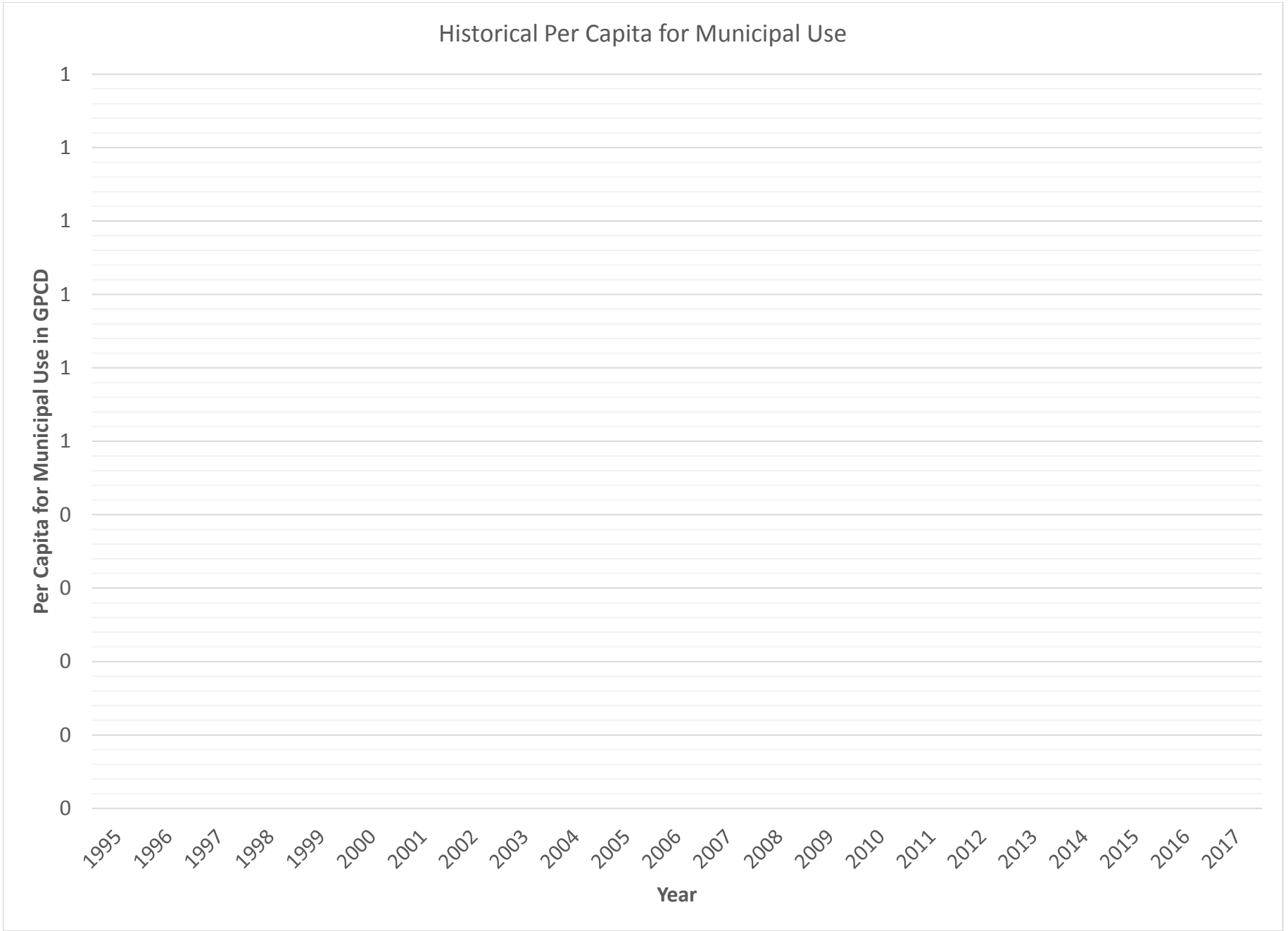
Year	Estimated Population	In-City Municipal Use (MG)	Per Capita Municipal Use (gpcd)	Per Capita Residential Use (gpcd)	Deliveries from NTMWD (MG)	Other Supplies (MG)	Wholesale Sales (MG)	Billed Metered (MG)	Billed Unmetered (MG)	Unbilled Metered (MG)	Unbilled Unmetered (MG)	Water Losses (MG)	% Water Loss
1995	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
1996	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
1997	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
1998	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
1999	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
2000	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
2001	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
2002	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
2003	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
2004	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
2005	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
2006	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
2007	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
2008	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
2009	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
2010	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
2011	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
2012	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
2013	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
2014	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
2015	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
2016	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
2017	0	0	0	0	0	0	0	0	0	0	0	0	0.00%

Note:
In-city municipal use = total water supplied less sales to industry, metered irrigation, wholesale sales and other sales.
After 2017 - Unaccounted Water has been removed and replaced with Water Losses (per TWDB definition). This category is inclusive of real and apparent losses. Categories for authorized consumption were also added; Unbilled metered replaced estimated fire use, unbilled unmetered replaced estimated line flushing, and a new category for billed unmetered sales was added.

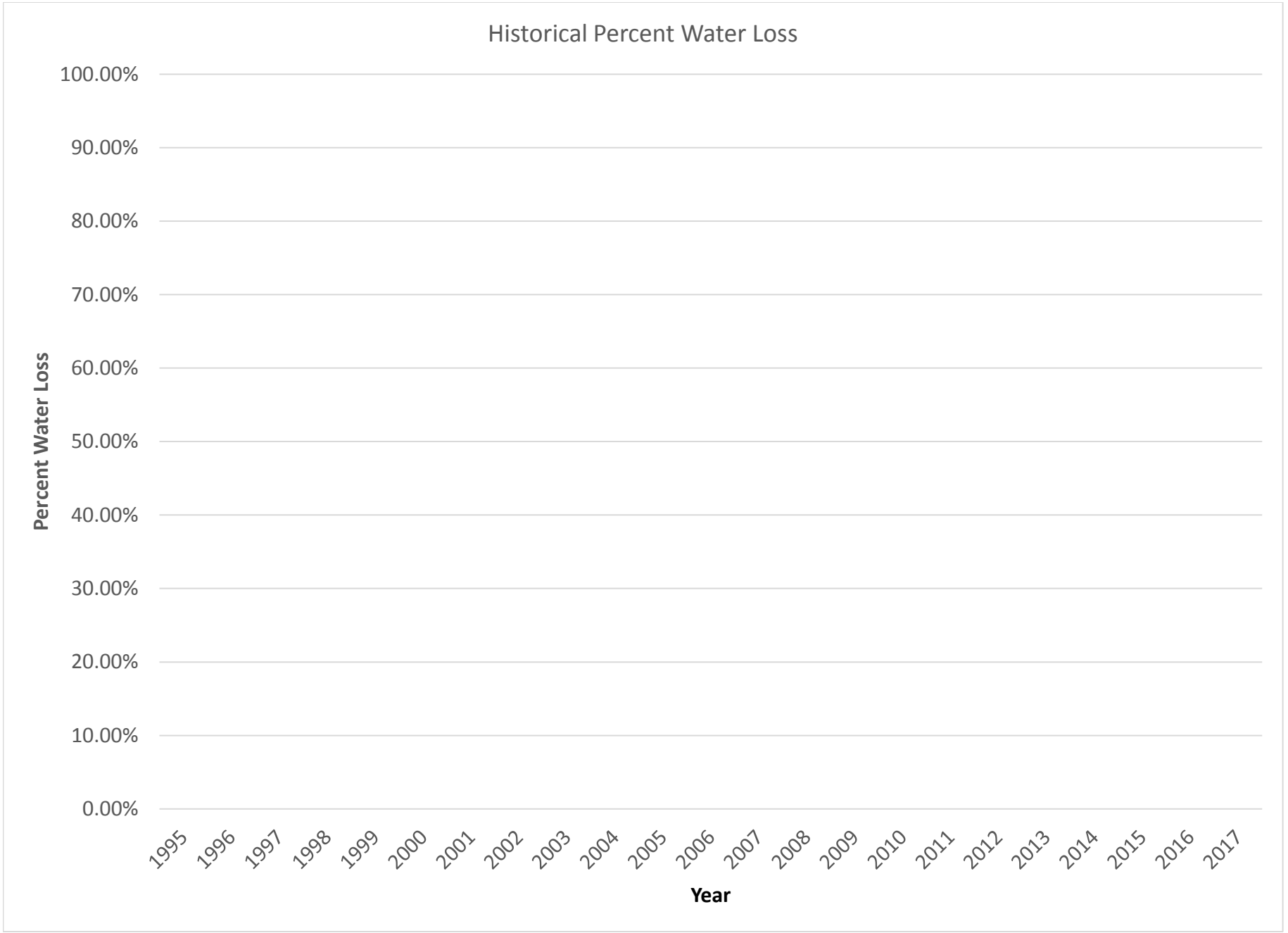

Estimated Historical Population
Estimated Population
1
1
1
1
1
1
0
0
0
0
0
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
Year


Historical Water Use
Historical Water Use in Million Gallons
1
1
1
1
1
1
0
0
0
0
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
Year
NTMWD Supplies
Other Supplies


Historical Water Sales by Classification
Historical Water Sales in Million Gallons
1
1
1
1
1
1
0
0
0
0
0
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
Year
Residential
Commercial
Public/ Institutional
Industrial
Metered Irrigation
Wholesale
Other


Historical Per Capita for Municipal Use
Per Capita for Municipal Use in GPCD
1
1
1
1
1
1
0
0
0
0
0
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
Year

Historcial Per Capita for Residential Use
Per Capita Residential Use in GPCD
1
1
1
1
1
1
0
0
0
0
0
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
Year


Historical Percent Water Loss
100.00%
90.00%
80.00%
70.00%
60.00%
50.00%
40.00%
30.00%
20.00%
10.00%
0.00%
Percent Water Loss
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
Year

APPENDIX F

TCEQ WATER CONSERVATION IMPLEMENTATION REPORT

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
Water Availability Division - MC-160, P.O. Box 13087 Austin, Texas 78711-3087
Telephone (512) 239-4691, FAX (512) 239-2214

WATER CONSERVATION IMPLEMENTATION REPORT FORM AND SUMMARY OF UPDATES/REVISIONS TO WATER CONSERVATION PLAN

(Texas Water Code §11.1271(b) and Title 30 Texas Administrative Code §288.30(1) to (4))

Please note, this form replaces the following forms: TCEQ-20645 (Non-Public Water Suppliers) and TCEQ-20646 (Public Water Suppliers)

This Form is applicable to the following entities:

1. **Water Right Holders of 1,000 acre-feet or more for municipal, industrial, and other non-irrigation uses.**
2. **Water Right Holders of 10,000 acre-feet or more for irrigation uses.**

The above noted entities are required by rule to submit updates to their water conservation plan(s) and water conservation implementation report(s) every five years. The most current five-year submittal deadline is **May 1st, 2019**. See 30 Texas Administrative Code (TAC) §288.30(1) to (4). Entities must also submit any revisions to their water conservation plan within 90 days of adoption when the plans are revised in between the five-year submittal deadlines. This form may be used for the five-year submittal or when revisions are made to the water conservation plans in the interim periods between five-year submittals. Please complete the form as directed below.

1. Water Right Holder Name:_____

2. Water Right Permit or Certificate Nos._____

   _____

3. Please Indicate by placing an 'X' next to all that Apply to your Entity:

Water Right Holder of 1,000 acre-feet or more for non-irrigation uses

_____Municipal Water Use by Public Water Supplier

_____Wholesale Public Water Supplier

_____Industrial Use

_____Mining Use

_____Agriculture Non-Irrigation

Water Right Holder of 10,000 acre-feet or more for irrigation uses

_____Individually-Operated Irrigation System

_____Agricultural Water Suppliers Providing Water to More Than One User

Water Conservation Implementation Reports/Annual Reports

4. Water Conservation Annual Reports for the previous five years were submitted to the Texas Water Development Board (TWDB) for each of the uses indicated above as required by 30 TAC §288.30(10)(C)? Yes____ No_____

TCEQ no longer requires submittal of the information contained in the detailed implementation report previously required in Forms TCEQ-20645 (Non-Public Water Suppliers) and TCEQ-20646 (Public Water Suppliers). However, the Entity must be up-to-date on its Annual Report Submittals to the TWDB.

Water Conservation Plans

5. For the five-year submittal (or for revisions between the five-year submittals), attach your updated or revised Water Conservation Plan for each of the uses indicated in Section 3, above. Every updated or revised water conservation plan submitted must contain each of the minimum requirements found in the TCEQ rules and must be duly adopted by the entity submitting the water conservation plan. Please include evidence that each water conservation plan submitted has been adopted.

   - Rules on minimum requirements for Water Conservation Plans can be found in 30 TAC 288. http://texreg.sos.state.tx.us/public/readtac%24ext.ViewTAC?tac_view=4&ti=30&pt=1&ch=288
   - Forms which include the minimum requirements and other useful information are also available to assist you. Visit the TCEQ webpage for Water Conservation Plans and Reports. https://www.tceq.texas.gov/permitting/water_rights/wr_technical-resources/conserve.html

   *Call **512-239-4691** or email to **wcp@tceq.texas.gov** for assistance with the requirements for your water conservation plan(s) and report(s).*

6. For each Water Conservation Plan submitted, state whether the five and ten-year targets for water savings and water loss were met in your *previous* water conservation plan.
   Yes_____ No_____
   If the targets were not met, please provide an explanation.

7. For each five-year submittal, does each water conservation plan submitted contain *updated* five and ten-year targets for water savings and water loss?
   Yes_____ No_____

   If yes, please identify where in the water conservation plan the updated targets are located (page, section).

8. In the box below (or in an attachment titled "Summary of Updates or Revisions to Water Conservation Plans), please identify any other revisions/updates made to each water conservation plan that is being updated or revised. Please specify the water conservation plan being updated and the location within the plan of the newly adopted updates or revisions.

9. Form Completed by (Point of Contact):_____
(If different than name listed above, owner and contact may be different individual(s)/entities)

Contact Person Title/Position: _____

Contact Address:_____

Contact Phone Number:_____Contact Email Address: _____

Signature: _____ Date: _____

APPENDIX G

LETTERS TO REGION C AND REGION D WATER PLANNING GROUPS

APPENDIX G

LETTERS TO REGION C AND REGION D WATER PLANNING GROUPS

Date

Region C Water Planning Group
c/o Trinity River Authority
P.O. Box 60
Arlington, TX 76004

Dear Sir:

Enclosed please find a copy of the following documents:

- Model Water Conservation Plan for the Member Cities and Customers of the North Texas Municipal Water District
- Water Conservation Plan for the North Texas Municipal Water District

We are submitting a copy of these plans to the Region C Water Planning Group in accordance with the Texas Water Development Board and Texas Commission on Environmental Quality rules. The Board of the North Texas Municipal Water District adopted the attached plans on January 24, 2019.

Sincerely,

Tom Kula
Executive Director
North Texas Municipal Water District

Date

Mr. Richard LeTourneau
Chair, Region D Water Planning Group
P.O. Box 12071
Longview, TX 75607

Dear Mr. LeTourneau:

Enclosed please find a copy of the following documents:

- Model Water Conservation Plan for the Member Cities and Customers of the North Texas Municipal Water District
- Water Conservation Plan for the North Texas Municipal Water District

We are submitting a copy of these plans to the Region D Water Planning Group in accordance with the Texas Water Development Board and Texas Commission on Environmental Quality rules. The Board of the North Texas Municipal Water District adopted the attached plans on January 24, 2019.

Sincerely,

Tom Kula
Executive Director
North Texas Municipal Water District

APPENDIX H

NORTH TEXAS MUNICIPAL WATER DISTRICT BOARD MINUTES SHOWING ADOPTION OF THE WATER CONSERVATION AND WATER RESOURCE AND EMERGENCY MANAGEMENT PLAN

APPENDIX H

NORTH TEXAS MUNICIPAL WATER DISTRICT BOARD MINUTES SHOWING ADOPTION OF THE WATER CONSERVATION AND WATER RESOURCE MANAGEMENT PLAN

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APPENDIX I

TEXAS WATER CODE SECTION 11.039

APPENDIX I

TEXAS WATER CODE SECTION 11.039

§ 11.039. DISTRIBUTION OF WATER DURING SHORTAGE.

(a) If a shortage of water in a water supply not covered by a water conservation plan prepared in compliance with Texas Natural Resource Conservation Commission or Texas Water Development Board rules results from drought, accident, or other cause, the water to be distributed shall be divided among all customers pro rata, according to the amount each may be entitled to, so that preference is given to no one and everyone suffers alike.

(b) If a shortage of water in a water supply covered by a water conservation plan prepared in compliance with Texas Natural Resource Conservation Commission or Texas Water Development Board rules results from drought, accident, or other cause, the person, association of persons, or corporation owning or controlling the water shall divide the water to be distributed among all customers pro rata, according to:

(1) the amount of water to which each customer may be entitled; or

(2) the amount of water to which each customer may be entitled, less the amount of water the customer would have saved if the customer had operated its water system in compliance with the water conservation plan.

(c) Nothing in Subsection (a) or (b) precludes the person, association of persons, or corporation owning or controlling the water from supplying water to a person who has a prior vested right to the water under the laws of this state.

Amended by Acts 1977, 65th Leg., p. 2207, ch. 870, § 1, eff. Sept. 1, 1977; Acts 2001, 77th Leg., ch. 1126, § 1, eff. June 15, 2001.

SUPPLEMENT TO NORTH TEXAS MUNICIPAL WATER DISTRICT WATER CONSERVATION PLAN - APPENDIX J

DATA REQUIREMENTS FOR WATER RIGHT APPLICATION FOR NEW OR ADDITIONAL STATE WATER – REUSE OF DISCHARGES FROM THE SISTER GROVE REGIONAL WATER RESOURCE RECOVERY FACILITY

Texas Administrative Code (TAC) Title 30, Part 1, Rule 288.7(a) addresses water conservation plans that accompany an application for a water right:

§288.7. Plans Submitted With a Water Right Application for New or Additional State Water.

(a) A water conservation plan submitted with an application for a new or additional appropriation of water must include data and information which:

(1) supports the applicant's proposed use of water with consideration of the water conservation goals of the water conservation plan;

(2) evaluates conservation as an alternative to the proposed appropriation; and

(3) evaluates any other feasible alternative to new water development including, but not limited to, waste prevention, recycling and reuse, water transfer and marketing, regionalization, and optimum water management practices and procedures.

The North Texas Municipal Water District (NTMWD) is currently preparing an application for the reuse of treated wastewater discharged to the Lavon Lake Watershed. The source of the discharges will be a new wastewater treatment plant that will discharge up to 64 MGD to Sister Grove Creek, the Sister Grove Regional Water Resource Recovery Facility (Sister Grove RWRRF). Since this facility is currently under construction and there are no historical discharges, all future discharges are requested under this new appropriation request.

This appendix to the NTMWD Water Conservation Plan addresses the requirements of TAC §288.7 (a) for reuse from the proposed Sister Grove RWRRF.

J.1 Consideration of Water Conservation Goals - 288.7(a)(1)

The NTMWD provides wholesale treated water to customers within a nine-county area in North-Central Texas. The area served by the NTMWD is one of the fastest growing regions in the country. Population served by NTMWD has increased from 32,000 when the District was formed in 1951 to about 2.0 million as of 2021, and this growth is expected to continue. To meet the anticipated growth and increased water demands, the NTMWD is actively promoting water conservation measures with its Member Cities and Customers, and the NTMWD is currently implementing the largest wastewater reuse program in the State, and potentially the largest in the U.S. This section describes the NTMWD's conservation activities and the resulting water savings.

The NTMWD Water Conservation Plan (the NTMWD Plan) includes a variety of conservation measures that are actively implemented and monitored by the NTMWD. This suite of water conservation measures goes above and beyond the minimum requirements for conservation plans for a wholesale

provider. In accordance with the Texas Administrative Code, Title 30, §288.5, the minimum requirements are:

- Description of the wholesaler's service area;
- Specification of quantifiable conservation goals;
- Description of the means to measure the amount of water from a source;
- Monitoring and record managing program;
- Metering, leak detection and repair program;
- Requirement that wholesale customers must develop and implement a water conservation plan that incorporates the measures in the wholesale water provider plan;
- Reservoir systems operation plan;
- Means for implementing and enforcing the plan; and
- Documentation of coordination with associated regional water planning groups.

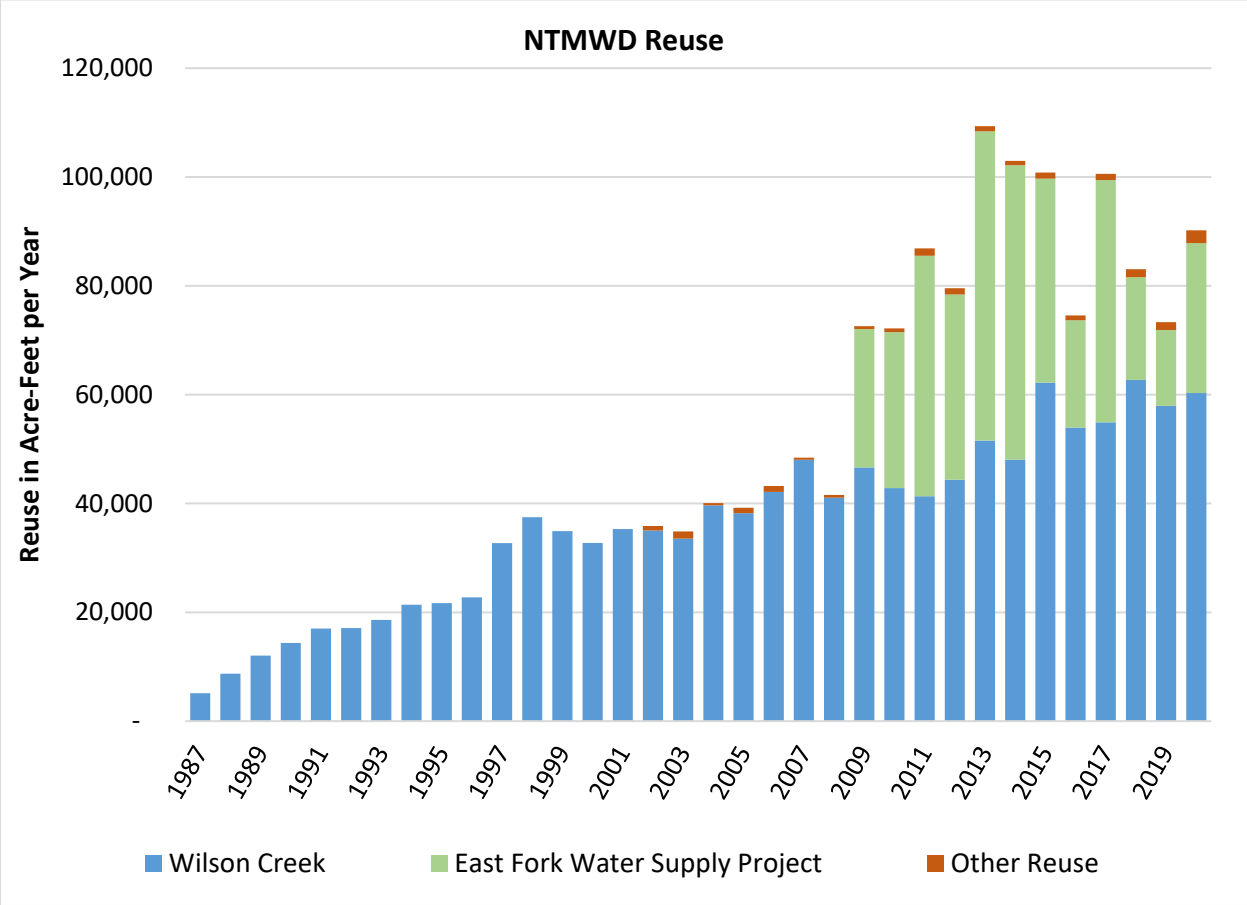
The NTMWD Plan meets these minimum requirements and specifies other conservation activities that the NTMWD and/or its Member Cities and Customers are undertaking to achieve water conservation and efficiency. These other measures include:

- Water conservation workshops for wholesale customers;
- Model Water Conservation and Drought Contingency / Water Emergency Response Plans for Member Cities and Customers, including compulsory landscape and water management measures to conserve water;
- Annual reports and tracking of customer water use;
- Reuse and recycling of wastewater;
- Public education and outreach programs;
- Technical assistance to customers;
- Zero discharge from water treatment plants;
- In-house conservation efforts; and
- Landscape water management measures, including developing the Water My Yard program and the installation of weather stations to assess outdoor irrigation needs.

Each of these measures is described elsewhere in this NTMWD Plan. As noted above, reuse and recycling of wastewater is a major part of the NTMWD Plan. NTMWD has the largest reuse program in the State of Texas, with plans for further development. This intent is captured in the goals of the 2019 NTMWD Conservation Plan: "Continue to utilize wastewater reuse as a major source of water supply, as discussed in Section 7.1. Seek TCEQ authorization for additional reuse to increase the efficiency of the NTMWD water supply system."[1] The reuse of discharges from the Sister Grove RWRRF is part of the District's long-term reuse plan to increase available wastewater return flows for reuse, and the project is consistent with NTMWD's Water Conservation Plan goals. Figure J-1 shows NTMWD's historical water supplies from reuse.

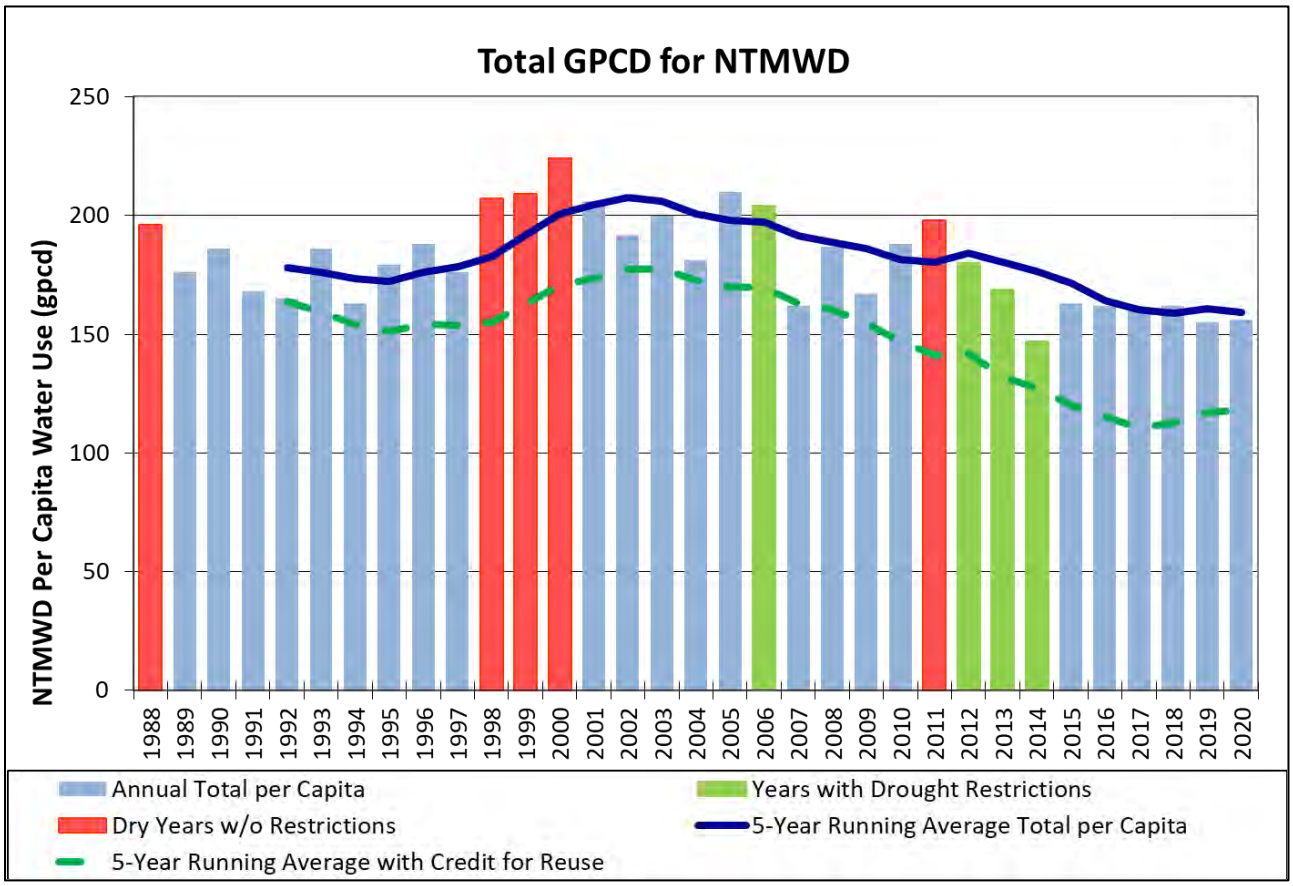
[1] NTMWD Water Conservation Plan, January 2019.

Figure J-1



Conservation Water Savings Realized by NTMWD

NTMWD collects water use data annually from its Member Cities and Customers and uses this information to track per capita water use. Figure J-2 shows the annual and five-year running average total per capita use for NTMWD Member Cities and Customers from 1992 to 2020. Consistent with NTMWD's Plan, total per capita use is defined as the amount of water used divided by the population served. As shown in this figure, the average per capita water use peaked during the early 2000s and has continued to decline over time. NTMWD's total per capita use in 2000 (the year of highest historical per capita use) was 224 gallons per person per day. The 2020 dry year use for NTMWD in the *2021 Region C Water Plan* is 185.7 gallons per person per day, a reduction of 15% from the year 2000 level. This shows the success of the conservation efforts of NTMWD, its Member Cities, and its Customers. When considering credit for indirect reuse, there is an even greater decline in per capita water use since the early 2000s. This reflects the District's robust reuse program.



J.2 Conservation as an Alternative to the Proposed Appropriation – 288.7 (a)(2)

NTMWD water use in 2020 totaled 342,135 acre-feet. 2020 was not a dry year, and demands would be higher in a dry year. The projected dry year demands for NTMWD in 2020 in the *2021 Region C Water Plan* are 408,700 acre-feet per year. The *2021 Region C Water Plan* and *2022 State Water Plan* project that these demands will nearly double by the year 2070. Based on current water supplies, the District will need to develop an additional 369,000 acre-feet of supply to meet the 2070 demands projected in the *2021 Region C Water Plan*. NTMWD expects to meet a portion of this demand via conservation. The *2022 State Water Plan* indicates that additional water conservation efforts (beyond what NTMWD has already accomplished) will provide 26,000 acre-feet of NTMWD's total water supplies by 2030 and approximately 44,400 acre-feet by 2070.

NTMWD plans to meet a significant part of it projected demands by reuse. Reuse comprises 37 percent of NTMWD's existing 2020 water supply in the *2021 Region C Water Plan*. Increases in available reuse due to population growth and the development of specific reuse projects are expected to provide up to 106,400 acre-feet of additional reuse supplies by 2070. Combined, conservation and reuse are estimated to provide 255,000 acre-feet of water supplies by 2070, which represents approximately 33%

of NTMWD's projected total water demand in 2070.

Both conservation and reuse are integral strategies in NTMWD's plans to meet projected water demands. The reuse of discharges from the Sister Grove RWRRF is one of several identified reuse strategies for NTMWD, which are needed to provide supplies for both existing and future reuse development. However, in light of NTMWD's projected total demand for nearly 770,000 acre-feet of water by 2070, intensified conservation and reuse alone cannot provide enough water to address all demands. Thus, conservation and reuse strategies are part of the portfolio of strategies that will be pursued by NTMWD to meet the rapidly rising demand for municipal water supplies in the NTMWD service area.

J.3 Feasible Alternatives to New Water Development – 288.7(a)(3)

As part of the 2022 state water planning process, many potential water management strategies were identified and evaluated. The *2022 State Water Plan* considered 16 different water management strategies to meet the projected water supply shortages for NTMWD through 2070. Of these considered strategies, nine strategies were recommended for implementation by the NTMWD.

Some of these strategies are currently being implemented by NTMWD and include:

- Water Conservation (implemented)
- Bois d'Arc Lake (currently being constructed and expected to be in operation in 2022)

The other strategies recommended in the *2022 Texas State Water Plan* for implementation include:

- Additional Lake Texoma Blend Phase I (water will be blended with new supplies from Bois d'Arc Lake at the new Leonard water treatment plant currently under construction)
- Additional measures to access full Lavon Lake yield
- Additional reuse supplies
    - Expanded wetland reuse
    - Additional Lavon Lake watershed reuse
- Additional Lake Texoma water with blending with new fresh water supply Phase II
- Marvin Nichols Reservoir
- Wright Patman Reallocation
- Oklahoma water supply

Each of these strategies is scheduled for implementation based on the projected water needs and the time to implement the strategy, including considerations for planning and permitting.

Potential alternatives considered for NTMWD but not recommended for implementation in the *2021 Region C Water Plan* include developing other new reservoirs (George Parkhouse North and George Parkhouse South), transporting water from existing reservoirs (Toledo Bend and Lake O' the Pines), development of new groundwater supplies, aquifer storage and recovery, and desalination of Lake Texoma water. Most of these alternative strategies will require water rights for new appropriations and/or interbasin transfers, and they all will require the construction of infrastructure to store and transport water supplies to the NTMWD service area.

To continue its water supply development, NTMWD is applying for a water right from the TCEQ for reuse

and bed and banks authorization for wastewater discharges from the Sister Grove Regional Water Resources Recovery Facility. This application is a part of the continuing use and additional development of Lavon Lake watershed reuse recommended in the *2021 Region C Water Plan* and the *2022 State Water Plan*. Reuse from the Sister Grove RWRRF is expected to supply up to 64 MGD of new supplies when the plant is fully developed. As with all reuse supplies, the actual amount of reuse available for use is limited to the amount of treated wastewater discharged.

This discussion focuses on alternatives to the reuse from the Sister Grove RWRRF. Only alternative projects that have not been implemented and are not currently under construction are discussed here. Descriptions of potential project alternatives are presented below. Table J-2 presents a synopsis of the applicability of these potential strategies as feasible alternatives to reuse from the Sister Grove RWRRF.

Each potential project alternative was vetted through the State water planning process and the discussions herein are consistent with the *2021 Region C Water Plan* and the *2022 State Water Plan*. Strategies that are recommended for implementation by NTMWD are part of suite of strategies to meet NTMWD's water needs. As such, these strategies are not alternatives to reuse from the Sister Grove RWRRF but rather complement this project. For completeness, all potential alternatives are discussed in this Appendix, including strategies that are recommended for implementation after reuse from the Sister Grove RWRRF.

NTMWD's evaluation of the potential alternatives considered many factors, including cost of the water, quantity, reliability, the potential impacts of developing the project on the environment, natural resources and other water users, timing to develop the strategy, and potential implementation issues. Table J-3 and Figure J-3 show a comparison of the unit costs for the alternative strategies.

The *2021 Region C Water Plan* and the *2022 State Water Plan* project that NTMWD will have water shortages of approximately 82,300 acre-feet per year by 2030, increasing to nearly 369,000 acre-feet per year by 2070. The near-term shortage is expected to be met through conservation and Bois d'Arc Lake. Expanded reuse through the District's existing reuse projects and new reuse projects could provide up to nearly 25,000 acre-feet per year in 2030 and 106,400 acre-feet per year by 2070. However, to provide this level of reuse, authorizations for reuse from new or expanded wastewater treatment facilities are needed. As shown, additional reuse is a critical component of the District's water supply portfolio and conservation program.

Table J-2: List of Potential Water Supply Alternatives for NTMWD

Strategy[1]	Feasible alternative (Yes/No)	Comment
Additional Lavon Lake	No	This strategy is considered an emergency response during times of drought and not a source of long-term supply.
Expanded Wetland Reuse	No	The source of water for this strategy is not available until population grows and generates more return flows.
New Lake Texoma Blend (Phase I – Bois d'Arc Lake)	No	Cannot be implemented until after 2030 and more costly than Sister Grove RWRRF Reuse Project.
New Lake Texoma Blend (Phase II)	No	Requires additional new source of fresh water to blend to meet drinking water quality standards.
Marvin Nichols Reservoir	No	Has greater environmental impacts than reuse of discharges from Sister Grove RWRRF. Requires other participants to make project cost effective. Could take between 30 and 40 years to implement.
Wright Patman Reallocation	No	Has greater environmental impacts than reuse of discharges from Sister Grove RWRRF. Could take between 30 and 40 years to implement.
Oklahoma Water	No	Current political and legal impediments.
Toledo Bend Reservoir	No	High costs and energy use. Requires agreements with other providers.
New Lake Texoma (Desalinate)	No	High costs and energy use.
Lake O' the Pines	No	Water rights are held by other entities. Competing local interests. High costs and energy use to transport.
Carrizo-Wilcox Groundwater	No	Supply uncertainty and competing local interests for water.
Aquifer Storage and Recovery	No	Suitable geologic formation to store water has not been identified. Quantity is small.
George Parkhouse North	No	Has greater environmental impacts than reuse of discharges from Sister Grove RWRRF. Yield is impacted by potential upstream reservoirs. Will take longer to implement.
George Parkhouse South	No	Has greater environmental impacts than reuse of discharges from Sister Grove RWRRF. Yield is impacted by upstream reservoir. Will take longer to implement.

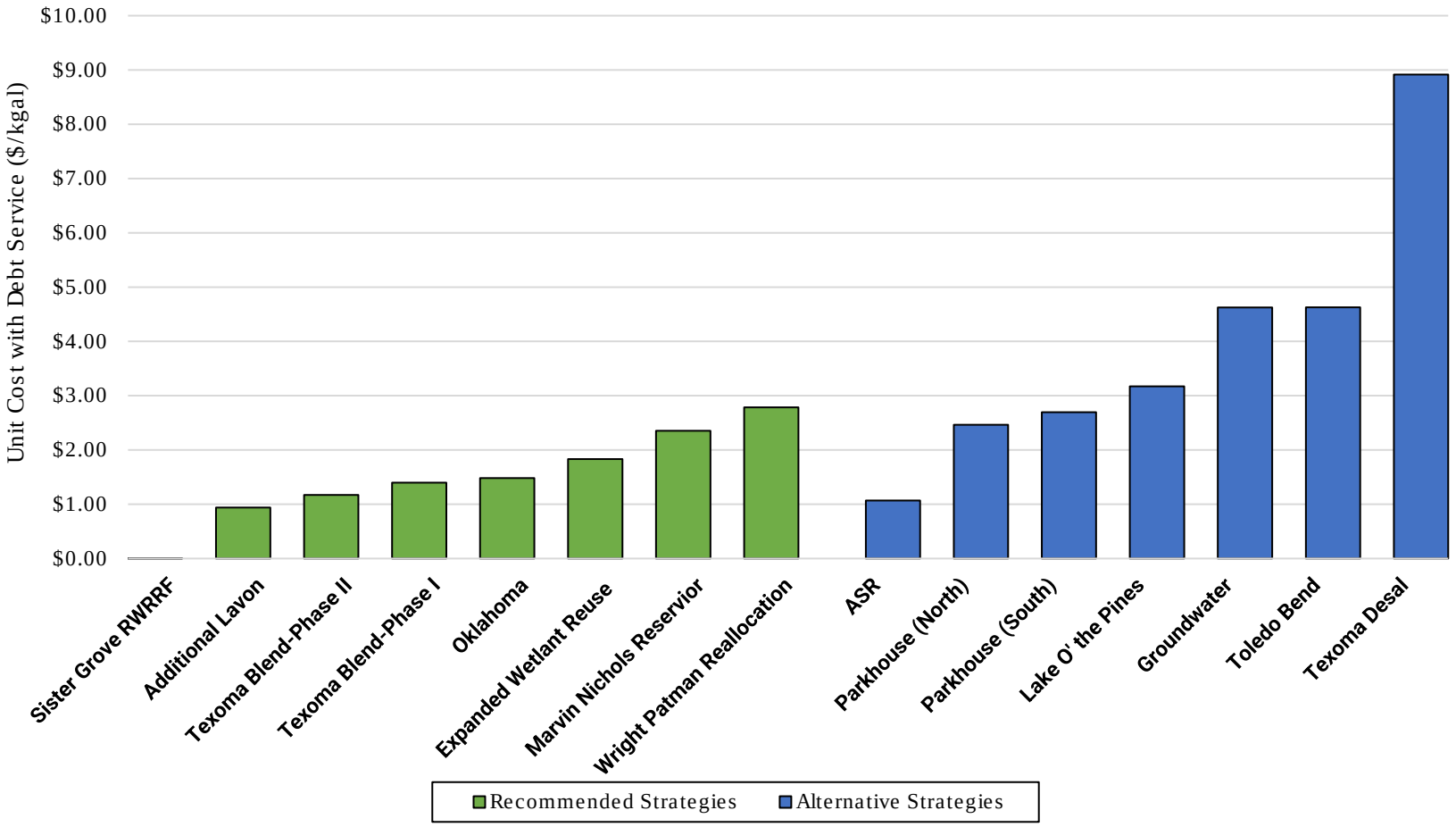
1. Each of these strategies was vetted through the State water planning process. Strategies that are recommended for implementation by NTMWD are part of suite of strategies to meet NTMWD's water needs. Some strategies that are identified as not practicable at this time may be a viable water supply project in the future.

Table J-3: Costs for Potential Supply Alternatives

Strategy	Costs Reported in State Water Plan[1]		
	Capital Cost for NTMWD	Unit Cost for NTMWD ($/kGal.)	
		Pre-Amortization	Post-Amortization
Proposed Project			
Sister Grove RWRRF Reuse Project	$600,000	$0[2]	$0
Potential Alternatives			
Additional Lavon Lake	$36,546,000	$0.94	$0.35
Expanded Wetland Reuse	$313,864,000	$1.83	$0.48
Lake Texoma Blend – Phase I	$263,135,000	$1.40	$0.30
Lake Texoma Blend - Phase II	$398,694,000	$1.17	$0.34
Marvin Nichols Reservoir	$1,888,324,000	$2.35	$0.45
Toledo Bend Reservoir	$1,856,658,000	$4.63	$1.41
Oklahoma Water	$308,163,000	$1.48	$0.45
Lake O' the Pines	$654,391,000	$3.17	$0.99
Wright Patman Reallocation	$774,769,000	$2.78	$0.67
George Parkhouse North	$1,051,889,000	$2.46	$0.54
George Parkhouse South	$1,329,355,000	$2.70	$0.50
Lake Texoma Desalinate	$989,141,000	$8.92	$4.01
Carrizo-Wilcox - Brazos Co.	$818,677,000	$4.62	$1.37
Aquifer Storage and Recovery	$6,747,000	$1.07	$0.49

1. Only projects considered in the *2022 State Water Plan* are included in Table J-3 and Figure J-3. Costs in Table J-3 are reported in 2021 dollars.
2. Costs for Sister Grove RWRRF Reuse Project are $0.84 per acre-foot, which is less than $0.01 per 1000 gallons.

Figure J-3 Cost Comparison of Potential Alternatives to Sister Grove RWRRF Reuse Project



Supply from Other Reuse Projects

Expanded Wetland Reuse

NTMWD currently diverts return flows from the East Fork and Main Stem of the Trinity River to a constructed wetland facility in Kaufman and Ellis counties (East Fork Wetlands). The return flows are treated through the constructed wetlands facility before being blended in Lavon Lake. With the projected population growth and an agreement with Dallas Water Utilities for access to these return flows, it is expected that the quantity of return flows available from these sources will exceed the treatment capacity of the existing East Fork Wetlands by the year 2030. This project proposes to expand the diversion and treatment capacity of the return flows through the development of new constructedwetlands followed by membrane treatment to remove nutrients. The level of treatment proposed would allow NTMWD to transport the treated return flows either to Lavon Lake or directly to a water treatment plant.

This project is part of the District's long-term reuse program and is considered a complement to the reuse of discharges from Sister Grove RWRRF but is not a feasible alternative to the project. Due to the required infrastructure for this project, the costs are higher and the time to implement is longer than the reuse of discharges from Sister Grove RWRRF. This project also requires an agreement with Dallas Water Utilities, which has not yet been developed.

Supply from New (Undeveloped) Reservoirs

Marvin Nichols Reservoir Alternative

Marvin Nichols Reservoir is a proposed reservoir in the Sulphur River Basin in Titus and Red River Counties, about 45 miles west of Texarkana. It is a recommended strategy in the *2022 Texas State Water Plan* for NTMWD, the Tarrant Regional Water District (TRWD), and the Upper Trinity Regional Water District (UTRWD). The total available supply from the Marvin Nichols Reservoir to Region C providers is 361,200 acre-feet per year.

The proposed reservoir, if constructed, would be the largest lake contained completely within the State of Texas. At the recommended conservation pool elevation of 328 feet msl, the reservoir would inundate approximately 66,100 acres. Approximately 31,600 acres are classified as bottomland hardwoods or forested wetlands. The U.S. Fish and Wildlife Service has classified some of this acreage as Priority 1 bottomland hardwoods, which is the highest quality classified by USFWS (USFWS, 1984). Additional studies are needed to confirm the quality and extent of these resources.

The Marvin Nichols Reservoir would provide considerable amounts of new water supply to the North Texas area at a relatively low cost. However, the development of this strategy would have greater environmental impacts than the proposed reuse of discharges from Sister Grove RWRRF. Environmental impacts of the reuse of discharges from Sister Grove RWRRF are negligible, as NTMWD already has a TPDES to discharge from the Sister Grove RWRRF. The reuse of this treated wastewater after it is discharged will have negligible impacts on the environment.

The development of the Marvin Nichols Reservoir also requires multiple participants to effectively achieve the cost benefits and full utilization of the available supply. As a result, the timing for this

strategy is dependent upon the needs of other participants. In addition, development of this project could take between 30 and 40 years due to the permitting requirements and current opposition.

The Marvin Nichols Reservoir is not a feasible alternative to the reuse of discharges from Sister Grove RWRRF because it has greater environmental impacts and cannot be implemented within the time frame required to satisfy the purpose and need of this project.

George Parkhouse South Lake Alternative.

George Parkhouse Lake (South) is a potential reservoir located on the South Sulphur River in Hopkins and Delta Counties. It is located immediately downstream from Jim Chapman Lake and would yield 116,000 acre-feet per year. At conservation elevation 401 feet msl, George Parkhouse Lake (South) would inundate approximately 29,000 acres and store 652,000 acre-feet. The yield of George Parkhouse Lake (South) would be reduced substantially by the development of Marvin Nichols Reservoir. The yield studies conducted as part of the Reservoir Site Protection Studies indicate the yield of this lake would be reduced by up to 60 percent (46,400 acre-feet per year) if constructed after Marvin Nichols (HDR *et al*, 2007).

The lake, as currently configured, would abut the dam for Jim Chapman Lake, and over fifty percent of the land impacted would be bottomland hardwood forest or marsh (HDR *et al*, 2007).

The proposed George Parkhouse Lake (South) is not a feasible alternative due to the uncertainty of the reliable supply with the development of other reservoirs in the river basin and the environmental impacts. Also, the project probably could not be implemented within the time frame needed for additional water for NTMWD. Since the Marvin Nichols Reservoir is part of long-range water supply plan for NTMWD and other North Texas water suppliers, it is highly unlikely that George Parkhouse (South) Lake or George Parkhouse (North) Lake will also be developed.

George Parkhouse North Lake Alternative

George Parkhouse Lake (North) is a potential reservoir located on the North Sulphur River in Lamar and Delta Counties, about 15 miles east of the City of Paris. At a proposed conservation elevation of 410.0 feet msl, the reservoir would store 331,000 acre-feet of water and inundate 14,400 acres. The firm yield would be 106,500 acre-feet per year, but its yield would be reduced substantially by the development of the Marvin Nichols Reservoir (HDR *et al*., 2007).

The reservoir site is located upstream of a designated Priority 1 bottomland hardwood preservation site known as Sulphur River Bottoms West. Most of the land impacted by this alternative is grassland or agricultural lands. Only about 1,200 acres are classified as wetlands. However, the acreage of affected wetlands would require field surveys and verification.

Similar to the George Parkhouse South Lake alternative, the economic viability of the project is dependent upon the ultimate yield of the project. The proposed reservoir is not a feasible alternative to the reuse of discharges from Sister Grove RWRRF due to the uncertainty of the reliable supply with the development of other reservoirs in the river basin. Also, the project probably could not be implemented within the time frame needed for additional water for NTMWD.

Transporting Water From Existing Reservoirs

Transporting water from existing reservoirs to NTMWD's service area requires agreements with the owner of the existing water supplies and often long transmission pipelines. Existing reservoirs that may have uncommitted supplies are commonly located in the eastern part of the State where there is more available surface water. However, most of these sources would require transporting the water over long distances with substantial vertical lift. NTMWD considered the following alternatives:

Additional Measures to Access Full Lavon Lake Yield

Currently, NTMWD does not have access to the full storage volume in Lavon Lake due to limitations of its diversion facilities. During most times these facilities provide the full authorized diversion from the lake. This strategy would provide for emergency measures to be taken during drought conditions when access to the full storage volume is limited. These measures may include, not are not limited to, development of raw water pump station #4 with a deep water intake, extension and/or dredging intake channels to the pumping facilities, and floating barges equipped with pumps.

This strategy would provide additional supplies only during periods of drought and does not provide supply to help meet growing demands associated with population growth. This strategy is considered an emergency response rather than an alternative to the Sister Grove RWRRF Reuse Project.

Lake Texoma Alternatives

Lake Texoma is an existing USACE reservoir on the Red River on the border between Texas and Oklahoma. NTMWD has water rights to divert up to 197,000 acre-feet per year of water from Lake Texoma. Water from Lake Texoma is relatively high in dissolved salts and does not meet secondary drinking water standards. Until 2009, NTMWD diverted up to 84,000 acre-feet of Texoma water and blended the water in Lake Lavon for subsequent use. With the detection of zebra mussels in Lake Texoma, this practice has ceased. NTMWD now transports water from Lake Texoma directly to the Wylie Treatment Plant and blends the water with supplies from Lavon Lake, but the amount of water that can be blended and still provide drinking water of acceptable quality is limited. Once the Bois d'Arc Lake and Leonard Treatment Plant are completed, NTMWD intends to blend Texoma water with water from Bois d'Arc Lake. NTMWD also plans to make additional supplies available from Lake Texoma either through blending with new fresh water sources or desalination.

Blending and desalination are very different and are considered two different alternatives to Sister Grove Creek Reuse Project. Each alternative is discussed below.

Transport and Blend Lake Texoma Water with New Fresh Water Supplies

Due to environmental concerns and additional costs associated with large desalination projects, the NTMWD's preferred use of this water source is to blend the Texoma water with new fresh water supplies. It is anticipated that Texoma water would be blended in a constructed balancing reservoir near a treatment facility and not in an existing lake or stream. This would reduce potential impacts of added dissolved solids to local lakes or streams.

Texoma Blending Phase I

Phase I of the Texoma Blending strategy would transport up to 40,000 acre-feet per year of Texoma water through a new pipeline to the Howe Balancing Reservoir. From there, the water would be transported through an existing pipeline and a new connector pipeline to the Leonard Treatment Plant terminal storage facility. Construction of Bois d'Arc Lake is expected to be completed in 2022, with filling during the next couple of years, depending on inflows. The Texoma Blending Phase I strategy is expected to be implemented between 2030 and 2040 to allow for filling of Bois d'Arc Lake and construction of the expanded infrastructure. This project is recommended for NTMWD and is part of its long-range water supplies. Due to the timing and higher cost to develop the Texoma Blending Phase I project, it is not considered an alternative to the Sister Grove RWRRF reuse project.

Texoma Blending Phase II

Texoma Blending Phase II would increase the use of water from Lake Texoma by blending with new fresh water supplies. Aside from Bois d'Arc Lake (Texoma Blending Phase I), there are no other readily available fresh water supplies in the amount needed to blend with the new water supply from Lake Texoma and existing supplies are not sufficient to provide a blended water of acceptable quality for municipal use. Therefore, the blended alternative cannot be implemented without also implementing another water supply alternative to provide fresh water to NTMWD for blending. NTMWD does plan to make use of water supplies from this source, but only after development of other significant fresh water sources (such as Marvin Nichols Reservoir). Blending cannot be considered an alternative to reuse of discharges from Sister Grove RWRRF without implementation of another water supply source; thus blending of Lake Texoma water with existing fresh water supplies is not a feasible alternative.

Transport and Desalinate Lake Texoma Water

One option to use Lake Texoma water for municipal purposes is to desalinate the water using reverse osmosis water treatment or another similar treatment method. Desalination can result in the loss of up to one fourth of the raw supply to the treatment process. For this strategy, it was assumed that 20 percent of the source water would be discharged as waste. Therefore for 40,000 acre-feet per year of source water, the amount of treated water for use is approximately 33,600 acre-feet per year. This strategy assumes a new 60 million gallons per day (mgd) desalination facility would be constructed at the Leonard Treatment Plant. Texoma water would be transported directly to the Leonard Treatment Plant through a new pipeline and the desalination waste would be discharged to the Red River.

Desalination is a much more expensive strategy than blending, and there are considerable uncertainties in the operation and long-term costs of a large-scale desalination facility. The estimated costs for desalination of water from Lake Texoma are based on current cost information for large desalination facilities. However, they are more uncertain than other cost estimates developed for the potential alternatives because few large inland desalination facilities have been built to date. The Fort Bliss/ El Paso Water Utilities desalination facility, which is the largest inland desalination plant in the United States, produces 27.5 mgd. The technology for desalination is improving but it is still costly.

Desalination is also an energy intensive process, and as energy costs continue to increase, these costs are expected to increase. Large scale desalination of Lake Texoma water (>50 mgd) is not a feasible alternative to the proposed project due to the cost uncertainty and the greater energy usage associated with large-scale brine operations.

Toledo Bend Reservoir Alternative

Toledo Bend Reservoir is a 181,600-acre lake located in East Texas on the Texas-Louisiana state line. The total permitted supply from this source for Texas is 970,067 acre-feet per year (an additional authorization of 220,067 acre-feet per year was granted in August 2019). The Sabine River Authority of Texas operates the Texas portion of this lake. In the *2022 Texas State Water Plan* the transport of water from Toledo Bend Reservoir to the North Texas area is an alternate joint strategy for the NTMWD, TRWD, DWU, and UTRWD. This project, as presented in the *2021 Region C Water Plan*, could deliver a total of 650,000 acre-feet per year, with 200,000 acre-feet per year for NTMWD, in two phases.

This alternative will require multiple transmission pipelines to transport the water approximately 200 miles to North Texas. The current concept for this project includes the use and storage of existing reservoirs as part of the transmission system. This transfer of water is anticipated to have a low to medium low impact on the receiving reservoirs.

This strategy requires cooperation with other water providers and an agreement with the Sabine River Authority to purchase the water. The high capital costs for Phase 1 and energy usage associated with the long transmission pipelines result in a unit cost of over $4 per 1000 gallons for raw water delivered to NTMWD. Costs for the other partners are higher. This project requires multiple agreements, which have not been reached, and an interbasin transfer to use the water in the North Texas area. Considering the costs, time to implement, and uncertainty of agreements, this strategy is not a feasible alternative to the Sister Grove RWRRF Reuse Project.

Water from Oklahoma Alternative

Another potential alternative is the use of water from Oklahoma. At the present time, the Oklahoma Legislature has established a moratorium on the export of water from the state. Assuming the moratorium may be lifted in the future, the *2022 Texas State Water Plan* recommends that the NTMWD develop a project to use water from Oklahoma. It is an alternate strategy for the City of Irving and UTRWD. The recommended project is for 50,000 acre-feet per year and is planned for 2070.

The NTMWD has applied for Oklahoma water rights to use water from the Kiamichi River, Muddy Boggy Creek, and stored water in Lake Hugo. At this time, the state cannot act upon these permits without further direction from the Oklahoma Legislature.

The challenges with this strategy are the development issues, including the political moratorium on out-of-state water sales and the Lacey Act. Under the Lacey Act, it is unlawful to transport invasive species across state lines. Since there is considerable uncertainty as to when these obstacles could be overcome, this strategy cannot be counted on for near-term water supplies. Thus, it is not a feasible alternative to the Sister Grove Creek RWRRF Project.

Lake O' the Pines Alternative

Lake O' the Pines is an existing USACE reservoir in the Cypress River Basin with Texas water rights held by the Northeast Texas Municipal Water District (NETMWD). The NTMWD has explored the possibility of purchasing supplies in excess of local needs from the Cypress Basin. According to the *2021 Region D Water Plan*, there is no water available for export from the basin. However, there may be excess supplies from existing contracts.

Lake O' the Pines is about 120 miles from the Metroplex, and the distance and limited supply make this a relatively expensive water management strategy. Development of this source would require contracts with the NETMWD and other Cypress River Basin suppliers with excess supplies. At this time, agreements have not been reached to purchase this water. Due to this uncertainty, Lake O' the Pines is not a feasible alternative to the Sister Grove RWRRF Reuse Project.

Lake Wright Patman Alternatives

The Wright Patman Reallocation strategy involves development of new surface water supplies from the Sulphur River Basin through a reallocation of storage at Wright Patman Lake from its current purpose, flood control, to water conservation storage. The supply quantity and cost identified above are for a specific reallocation of Wright Patman at elevation 235 ft MSL. At that conservation pool elevation, the pool raise at Wright Patman Lake would inundate an additional 14,372 acres above the permitted conservation pool elevation (ultimate rule curve). Infrastructure would be developed to transport the water to the Region C water providers.

The Wright Patman Reallocation strategy is considered for NTMWD, UTRWD, TRWD, Dallas and the City of Irving, and recommended for NTMWD, TRWD and UTRWD.

The firm yield with reallocation of Wright Patman to elevation 235 ft MSL, above the 180,000 acre-feet per year permitted to Texarkana, would be 122,200 acre-feet per year. It is assumed that all the reallocation supplies would be available to Region C providers. These quantities assume that Marvin Nichols is senior to the Lake Wright Patman reallocation.

Reallocation to elevation 235 ft MSL was selected to minimize impacts to the White Oak Creek Wildlife Management Area (WOCWMA). This site is located upstream of Lake Wright Patman and is designated as mitigation for the construction of Jim Chapman Reservoir. At elevation 235 ft MSL, the increase in the conservation pool at Lake Wright Patman would increase water levels on approximately 450 acres of the WOCWMA and affect some riparian bottomland hardwoods. However, reallocation at this elevation would not affect the functioning of constructed wetland structures and would still allow the wetland structures to function as designed. Also, the USACE owns property up to the 235 ft MSL elevation, which simplifies additional land acquisition.

Reallocation of Lake Wright Patman would be sponsored by the USACE and would require additional environmental studies. Currently, the USACE is reluctant to approve reallocations of flood storage to water conservation storage. Further study would be needed to ensure that there is no increase in flooding risks after reallocation.

Due to the uncertainty of authorizing reallocation of flood storage, reaching agreements with strategy partners, and higher costs, this strategy is not a feasible alternative to the Sister Grove RWRRF Reuse Project.

New Groundwater Supplies

There are limited new groundwater sources that could supply the quantity of water needed by NTMWD. The Ogallala Aquifer in the Texas Panhandle has large quantities of water, but much of this supply is committed to users in the area, including agricultural users and local municipalities. Another potential source is the Carrizo-Wilcox Aquifer. This aquifer is also heavily used by local entities.

Carrizo-Wilcox Aquifer Groundwater Alternative.

The Carrizo-Wilcox aquifer covers a large area of east, central, and south Texas. Organizations and individuals have been studying the development of water supplies in Anderson County and surrounding counties for export. Anderson County is about 100 miles from the NTMWD service area. There are some uncertainties about developing such a large quantity of groundwater and exporting this water to North Texas. The Modeled Available Groundwater (MAG) values adopted through the Groundwater Joint Planning Process for the Carrizo-Wilcox in Anderson County are less than 25,000 acre-feet per year. Some of this groundwater is currently used by local producers. Due to the uncertainty of available supply and competition for this water source, the Carrizo-Wilcox groundwater alternative is not a feasible alternative to the proposed action.

Aquifer Storage and Recovery

Aquifer Storage and Recovery (ASR) is a water management approach that stores surplus water in local aquifers during periods of excess water availability and withdraws the stored water later during periods of drought or peak demands. This strategy can provide additional supply during drought. It requires a suitable aquifer formation and excess supplies that have been treated to a level that will not degrade existing water quality in the aquifer. The small-scale ASR strategy considered for NTMWD assumes a suitable formation can be identified near an existing water treatment facility, and the operations could provide up to 2,500 acre-feet per year during drought.

This quantity of water could help with peak demands but would not provide a significant source of new water. Further study is needed to determine if there are suitable geologic formations that are economically feasible for ASR, and the operation of the system may pose challenges for infrastructure that may not be used regularly. ASR is a not a feasible alternative to the reuse of discharges from Sister Grove RWRRF due to the small quantity of supply and technical uncertainties with implementation.

Conclusion

Based upon the aforementioned information and analysis, there are no feasible alternatives to the reuse of discharges from Sister Grove RWRRF at this time. Furthermore, this project is consistent with NTMWD's conservation goals to fully develop its available reuse to meet its future water needs.

NORTH TEXAS MUNICIPAL WATER DISTRICT

JANUARY 2022 CONSENT AGENDA ITEM NO. 22-01-06

REGIONAL WATER SYSTEM
EAST SYSTEM CONTROL VALVE VAULT
PROJECT NO. 101-0604-22

ENGINEERING SERVICES AGREEMENT

ACTION *(What)*

Authorize an engineering services agreement for the final design of the East System Control Valve Vault.

PURPOSE *(Why)*

The objective of the project is to provide adequate supply to meet projected water demands in the East System. This project allows NTMWD to utilize the existing pumping capacity at High Service Pump Station (HSPS) 3-1 with minimal additional infrastructure. A parallel control valve vault for higher flows working in concert with the existing control valve vault will allow NTMWD redundancy to control flow at appropriate head under low flow conditions. The improvements are consistent with Goal 1: Service; Objective 1.4: Reliable and Resilient System Capacity of the 2019-2024 NTMWD Strategic Plan.

RECOMMENDATION

The Executive Director and NTMWD staff recommend the Board of Directors authorize the Executive Director to execute an engineering services agreement (ESA) as follows:

Consultant:	Pape-Dawson Engineers, Inc.
Scope:	Final Engineering Design
Project:	No. 101-0604-22, East System Control Valve
Amount:	$390,607

DRIVER(S) FOR THIS PROJECT

☐ Regulatory Compliance	☐ Asset Condition
☒ Capacity	☐ Redundancy/Resiliency
☐ Relocation or External Requests	☐ Operational Efficiency
☐ Safety	☐ Administrative
☐ Policy	☐ Other _____

BACKGROUND

- A fixed energy dissipater (FED) and a ball valve at the existing East System Control Valve Vault at Wylie Water Treatment Plant III is used to reduce system pressure from HSPS 3-1 to match the operating pressure in the East System
- Two control valves are recommended for this location, one for average flows with pressure reduction (the existing valve and a FED) and a second for high flows with minimal pressure reduction (the new control valve).
- The high-flow bypass is recommended for construction to meet higher demand conditions and will be designed for a maximum flow rate of 65 million gallons per day (MGD).
- The existing FED is designed for a maximum flow rate of 50 MGD.

PROJECT PURPOSE

- The primary goal of this project is to provide adequate supply to meet the projected water demands in the East System.
- The proposed 48-inch bypass and valve will allow NTMWD to utilize existing pumping capacity at HSPS 3-1 to accommodate increased demands with minimal additional infrastructure. In addition, leaving the existing FED in place allows NTMWD to continue controlling flow at appropriate head under lower flow conditions.

PROJECT COMPONENTS

This project will include the design of a new 48-inch bypass valve and valve vault to accommodate a maximum flow of 65 MGD. The Engineer will also be responsible for providing limited redundancy by utilizing the existing vault in addition to the proposed vault. Elements include:

- Connect to the existing 90-inch HSPS 3-1 East Discharge Pipeline
- Connect to the existing 48-inch East System Pipeline
- Proposed 48-inch bypass pipeline
- 48-inch isolation valve
- Motor operated control valve
- Valve vault
- Supervisory Control and Data Acquisition (SCADA) programming
- The planning level construction cost estimate is $3,165,000.

BASIC SERVICES

- Preliminary engineering report
- 60%, 90% design drawings
- 100% Design/Bid Documents
- Bid phase services
- Construction phase services

SPECIAL SERVICES

- Topographic survey
- Geotechnical engineering

CONSULTANT SELECTION PROCESS

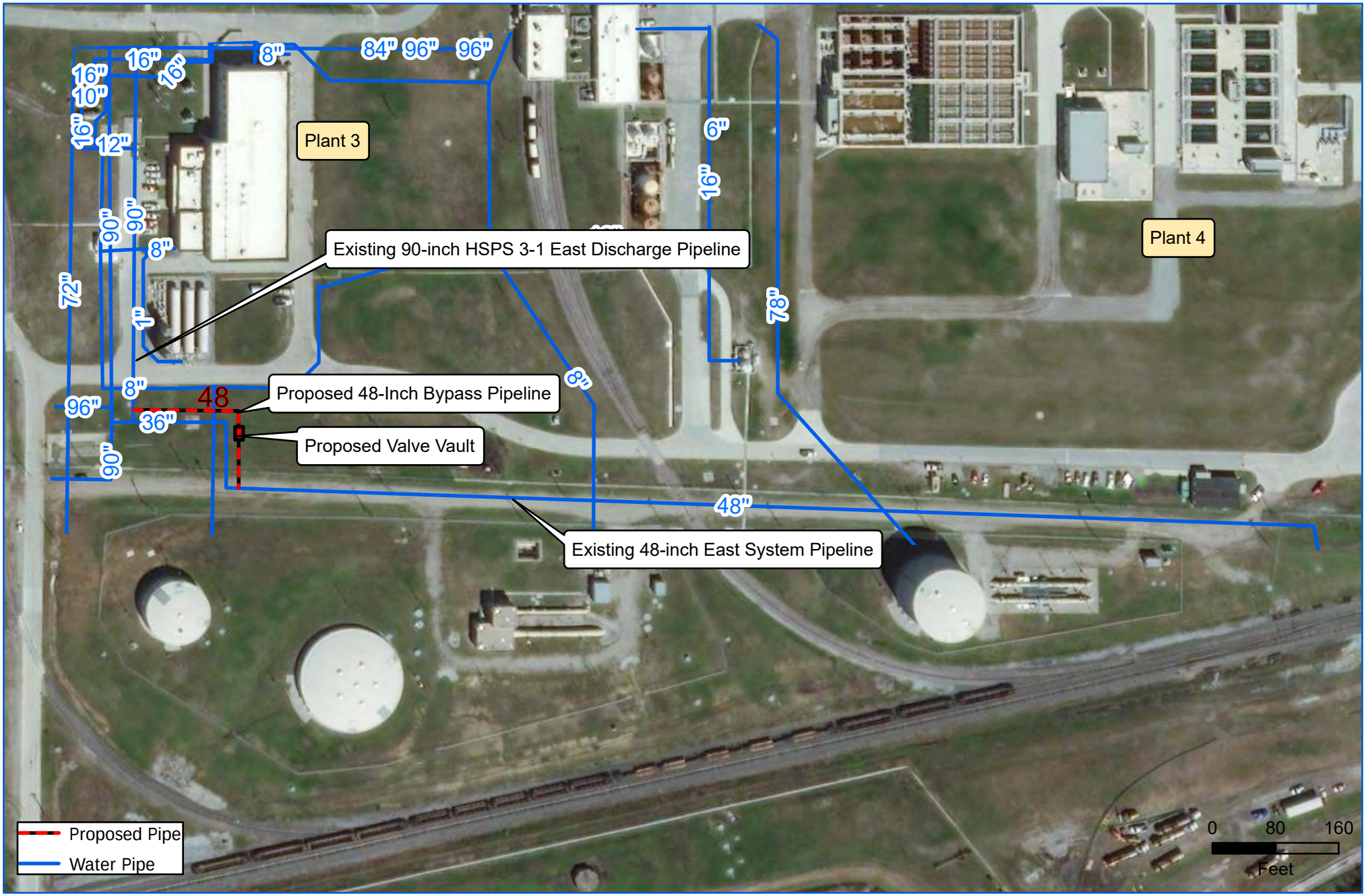
A total of four engineering consulting firms, Pape-Dawson Engineers, Inc., Lockwood, Andrews and Newnam, Inc., AECOM Technical Services, Inc., and Hazen and Sawyer DPC were interviewed. Pape-Dawson Engineers was deemed the most highly qualified firm for this project.

ENGINEERING SERVICES FEE

DESCRIPTION	AMOUNT
Basic Services	$ 376,741
Special Services	$ 13,866
Requested Amount	**$390,607**

FUNDING

FUND(S): Funding in the amount of $390,607 to Pape-Dawson Engineers Inc. is to be made available in the Regional Water System 2021 Construction Fund.



East System Control Valve
Project No. 101-0604-22
Consent Agenda Item No. 22-01-06

NORTH TEXAS MUNICIPAL WATER DISTRICT

JANUARY 2022 ADMINISTRATIVE MEMORANDUM NO. 5794

ANNUAL COMPREHENSIVE FINANCIAL REPORT

ACTION (*What*)

Accept submission of the Annual Audit Report for fiscal year (FY) 2021.

PURPOSE (*Why*)

The District annually submits the Annual Comprehensive Financial Report (ACFR) to the governing body, as part of their fiscal responsibility and transparency with the use of public funds.

RECOMMENDATION

Recommend acceptance of the Annual Audit Report, which is included in the Annual Comprehensive Financial Report.

The Finance Committee reviewed this item on January 12, 2022, and the external auditors, Crowe LLP, reviewed the findings of the FY 2021 annual audit. The Committee voted unanimously to recommend that the Board accept the Annual Comprehensive Financial Report.

DRIVER(S) FOR THIS PROJECT

☐ Regulatory Compliance	☐ Asset Condition
☐ Capacity	☐ Redundancy/Resiliency
☐ Relocation or External Requests	☐ Operational Efficiency
☐ Safety	☒ Administrative
☐ Policy	☐ Other

BACKGROUND

- A copy of the 2020-2021 ACFR will be provided once it becomes available prior to the Board meeting.
- The ACFR will be submitted to the Government Finance Officers Association for review and consideration for a Certificate of Achievement for Excellence in Financial Reporting.
- The District has received this certificate each year since 1990.

NORTH TEXAS MUNICIPAL WATER DISTRICT

JANUARY 2022 ADMINISTRATIVE MEMORANDUM NO. 5795

REGIONAL WATER SYSTEM
LAKE TEXOMA PUMP STATION
2019 ELECTRICAL IMPROVEMENTS, PHASE I
PROJECT NO. 101-0530-19

RESOLUTION NO. 22-03

COST SHARE AGREEMENT

ACTION *(What)*

Authorize the Executive Director's execution of a Cost Share Agreement with the Greater Texoma Utility Authority (GTUA).

PURPOSE *(Why)*

A Cost Share Agreement (copy attached) with GTUA is required to document the distribution of proportionate costs of the Lake Texoma Water 2019 Electrical Improvements, Phase I Project between the parties. This project is the first of two phases needed to secure anticipated Lake Texoma raw water demands for the next 20 years. The improvements are consistent with Goal 1: Service; Objective 1.4: Reliable and Resilient System Capacity of the 2019-2024 NTMWD Strategic Plan.

RECOMMENDATION

The Executive Director and NTMWD staff recommend that the Board of Directors adopt Resolution No. 22-03, "A Resolution Authorizing Execution of a Cost Share Agreement GTUA and the North Texas Municipal Water District," which authorizes the Executive Director's execution of a cost share agreement with GTUA as follows:

Contracting Party:	Greater Texoma Utility Authority
Purpose:	Execution of Cost Share Agreement
Project:	No. 101-0530-19, Lake Texoma Pump Station 2019 Electrical Improvements, Phase I
Amount:	See table below for breakdown of total project cost.

This will be an item on the January 26, 2022, Water Committee agenda.

DRIVER(S) FOR THIS PROJECT

☐ Regulatory Compliance	☒ Asset Condition
☒ Capacity	☐ Redundancy/Resiliency
☐ Relocation or External Requests	☐ Operational Efficiency
☐ Safety	☐ Administrative
☐ Policy	☐ Other _____

BACKGROUND

OPERATION AND MAINTENANCE AGREEMENT

- In October 1985, NTMWD and GTUA executed an agreement styled, "Contractual Agreement – Texoma Water Diversion Greater Texoma Utility Authority, (GTUA), North Texas Municipal Water District (NTMWD)" for the purpose of securing needed water supply from Lake Texoma.
- In August 1993, an Operation and Maintenance (O&M) Agreement was executed related to the joint use of the Texoma facilities.
- In December 2003, a new O&M Agreement was executed, which has remained in effect, automatically renewing at ten-year intervals unless one party provides written notice to the other party of its intent not to renew, to present.
- Section 5 in the O&M Agreement states, "The cost sharing for major repair, replacement and maintenance of the 450 hp motors, associated valves, pumps and electrical devices and the 4,000 hp motors, associated valves, pumps and electrical devices shall be based on the total amount of water pumped for GTUA and NTMWD." The agreement further states, "It is further agreed that the annual maintenance budget shall be prepared to provide for the cost of routine maintenance of the station facilities not described in the previous paragraph, which shall be shared on a basis of 20% jointly by GTUA and 80% by NTMWD."
- GTUA and NTMWD staffs recommend that the costs for major repairs and improvements should be apportioned in the ratio established for the other routine maintenance and operation expenses; i.e., 20% by GTUA and 80% by NTMWD. The latest five-year average ratio of water pumped is 17% jointly by GTUA and 83% by NTMWD.

2019 ELECTRICAL IMPROVEMENTS PROJECT

- The Lake Texoma Pump Station (LTPS) houses two 4,000 horsepower (hp) pump motors, two 6,100 hp pump motors, and three 450 hp pump motors, all the pumps currently operate at 4,160 Volts (V), that transfer raw water through a 72-inch pipeline to the balancing reservoir in Howe, Texas, and on to the Wylie Water Treatment Plant..
- GTUA utilizes the three 450 hp pump motors to divert water to their water treatment plant in Sherman.
- The current electrical service to the LTPS does not have sufficient capacity to operate more than one 4,000 hp and one 6,100 hp pump motor simultaneously.
- In February 2019, with GTUA's consent, NTMWD executed a preliminary engineering services agreement for the Lake Texoma Pump Station 2019 Electrical Improvements, Project No. 101-0530-19 to evaluate the current hydraulic and electrical systems at the pump station site, identify system constraints and provide recommendations to improve pumping capacity and reliability of the electrical system.
- Recommendations from the preliminary engineering report indicate the existing Oncor electrical substation and NTMWD electrical gear serving the LTPS need improvements in order to increase pumping capacity to meet future raw water demands.

- In December 2020, NTMWD staff met with Oncor to discuss options for their substation. Following the meeting, Oncor proposed a renovation project for their substation to increase the secondary voltage (voltage NTMWD receives) from 4,160 V to 12.5 kV, increase the capacity of the substation from 10.5 mega-Volt Ampere (MVA) to 28 MVA and add a redundant transformer for emergency backup (collectively the "Oncor Substation Improvements"). These improvements will supply enough power for NTMWD to operate all of the existing pumps and planned future pumps to meet anticipated raw water demands.
- In conjunction with the Oncor substation improvements, NTMWD must complete electrical improvements at the LTPS in order to receive power at the higher Oncor voltage and expand capacity of NTMWD's electrical gear to supply enough power to operate the increase pump capacity (collectively, the "Pump Station Electrical Improvements").

TERMS OF AGREEMENT

- **Oncor Substation Improvements.** NTMWD shall have sole discretion in and responsibility for the planning, construction, and installation of the *"Oncor Substation Improvements"*.
- **Pump Station Electrical Improvements.** The *"Pump Station Improvements"* shall be constructed by the NTMWD as designed by an engineer selected by NTMWD. All engineering contracts and construction contracts shall be awarded, supervised, and controlled by the NTMWD. An advisory Texoma Task Force, composed of three members, one appointed by the GTUA General Manager and two appointed by the NTMWD, shall oversee the project.
- **Costs of Construction.** A summary of the estimated engineering, construction, and miscellaneous costs associated with the construction of the Oncor Substation Improvements and Pump Station Improvements is included below. GTUA hereby agrees to pay 20% of the Total Project Costs in the amount of $3,466,325 (the *"GTUA Share")* and NTMWD agrees to pay 80% of the Total Project Costs in the amount of $13,865,302 (the *"NTMWD Share").* The Total Project Costs are estimates only and each party agrees to pay their respective percentage share of the final total costs related to the Oncor Substation Improvements and the Pump Station Improvements.
- **Payment of GTUA Share for the *"Oncor Substation Improvements".*** GTUA shall pay 50% of the estimated GTUA Share for the Oncor Substation Improvements project to NTMWD at the NTMWD address listed below under Section 8 Addresses for Notice not later than 30 days after the Effective Date of this Agreement. The remainder of costs associated with the GTUA Share shall be paid within thirty (30) days of completion of construction and installation of the *"Oncor Substation Improvements"* upon written notice from the District. The Texoma Task Force shall receive monthly updates on this project.
- **Payment of GTUA Share for the *"Pump Station Improvements" Design Fees.*** GTUA shall pay 100% of the estimated GTUA Share for design fees for the Pump Station Improvements Project to NTMWD at the NTMWD address listed below under Section 8 Addresses for Notice not later than thirty (30) days after NTMWD award of the engineering services agreement upon written notice from the District. The Texoma Task Force shall have the opportunity to review the Engineering Services agreement prior to execution.
- **Payment of GTUA Share for the *"Pump Station Improvements" Construction Cost.*** GTUA shall pay 100% of the GTUA Share to NTMWD at the NTMWD address listed below under Section 8 Addresses for Notice within thirty (30) days of completion of construction and installation of the *"Pump Station Improvements"* upon written notice from the District.

- **Operation and Maintenance.** Operation and maintenance of the Pump Station Improvements shall continue to be performed in accordance with that certain *Operation and Maintenance Agreement* between the Parties, dated July 19, 1993, including any amendments thereto.
- The improvements included in this cost share agreement along with the estimated apportioned costs for the projects are described in the table below:

Project No.	Project Name	Estimated Cost Share		Estimated Project Total Cost
		GTUA @ 20%	NTMWD @ 80%	
101-0530-19	Oncor Substation Improvements	$710,492.00	$2,841,968.00	$3,552,460.00
101-0530-19	Lake Texoma PS 2019 Electrical Improvements, Phase I Design	$337,373.00	$1,349,494.00	$1,686,867.00
101-0530-19	Lake Texoma PS 2019 Electrical Improvements, Phase I Construction	$2,418,460.00	$9,673,840.00	$12,092,300.00
		$3,466,325.00	$13,865,302.00	$17,331,627.00

GTUA BOARD ACTION

- The GTUA Board of Directors approved this Cost Share Agreement on December 20, 2021.
- Included is a copy of the signed agreement.

FUNDING

FUND(S): None required. Appropriation of Funds for this project will occur in separate actions.

NORTH TEXAS MUNICIPAL WATER DISTRICT

RESOLUTION NO. 22-03

A RESOLUTION AUTHORIZING THE EXECUTIVE DIRECTOR TO EXECUTE A COST SHARE AGREEMENT BETWEEN THE GREATER TEXOMA UTILITY AUTHORITY (GTUA) AND THE NORTH TEXAS MUNICIPAL WATER DISTRICT (NTMWD)

PROJECT NO. 101-0530-19

WHEREAS, NTMWD and GTUA entered into that certain Contractual Agreement - Texoma Water Diversion dated October 31, 1985 (the "Water Diversion Contract") which, among other things, contemplated the construction of certain intake pump facilities for raw water intake and distribution from Lake Texoma ("Joint Facilities"); and

WHEREAS, the Water Diversion Contract contemplated that the Parties would enter into separate agreements to share the costs of future improvements related to the Texoma Water Intake Facilities; and

WHEREAS, in February 2019, with GTUA's consent, NTMWD executed an engineering services agreement for the Lake Texoma Pump Station 2019 Electrical Improvements, Project No. 101-0530-19 to evaluate the current hydraulic and electrical systems at the pump station site, identify system constraints and provide recommendations to improve pumping capacity and reliability of the electrical system; and

WHEREAS, in association with the Lake Texoma Pump Station 2019 Electrical Improvements, Project No. 101-0530-19, the Parties have agreed to expand the electrical capacity of the Oncor substation facility adjacent to the pump station from 10.5 mega-Volt Ampere (MVA) to 28 MVA ("Oncor Substation Improvements"), install all necessary outdoor gear to reduce planned 12,500 Volt (V) substation voltage down to 4,160 V pump station voltage, and replace the original switchgear and motor control center with new gear (collectively, the "Pump Station Improvements"); and

WHEREAS, GTUA hereby agrees to pay 20% of the Total Project Costs *and* NTMWD agrees to pay 80% of the Total Project Costs; and

WHEREAS, the Parties desire to memorialize their agreement as to the sharing of the costs of construction of the "Oncor Substation Improvements" and "Pump Station Improvements".

NOW, THEREFORE, THE BOARD OF DIRECTORS IN A REGULAR MEETING RESOLVES THAT:

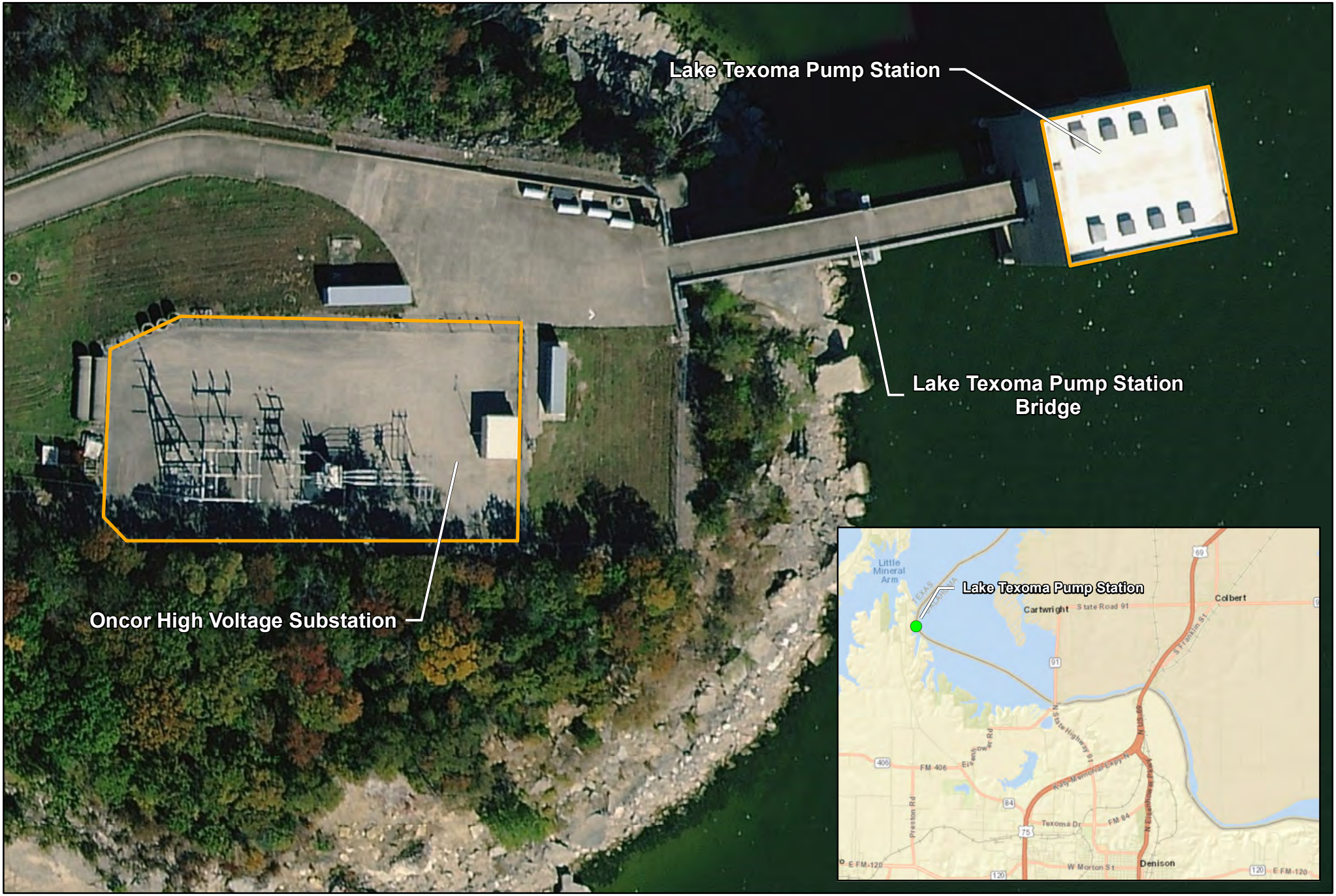
1. There is a public need for, and the public welfare and convenience are to be served by, the Project to facilitate development of upgrading of Lake Texoma Pumping Station.

2. The Executive Director is authorized to execute a Cost share Agreement with the Greater Texoma Utility Authority to further proceed with the necessary improvements at the Lake Texoma Pump Station.

THIS RESOLUTION ADOPTED BY THE NTMWD BOARD OF DIRECTORS IN A REGULAR MEETING ON JANUARY 27, 2022, IN THE ADMINISTRATIVE OFFICES OF THE NTMWD, WYLIE, TEXAS.

RICHARD PEASLEY, Secretary **PHIL DYER, President**

(SEAL)



Lake Texoma Pump Station
2019 Electrical Improvements, Phase I
Project No. 101-0530-19
Administrative Memorandum No. 5795

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COST SHARE AGREEMENT
FOR LAKE TEXOMA PUMP STATION
2019 ELECTRICAL IMPROVEMENTS
PROJECT NO. 101-0530-19

This Cost Share Agreement for the Lake Texoma Pump Station 2019 Electrical Improvements (the *"Agreement")* is made this 16th day of December, 2021, (the *"Effective Date")* by and between North Texas Municipal Water District, a conservation and reclamation district created pursuant to Article XVI, Section 59, of the Texas Constitution *("NTMWD")* and Greater Texoma Utility Authority, a conservation and reclamation district created pursuant to Article XVI, Section 59, of the Texas Constitution *("GTUA")*. NTMWD and GTUA may be collectively referred to herein as the *"Parties"*.

RECITALS

WHEREAS, NTMWD and GTUA entered into that certain *Contractual Agreement - Texoma Water Diversion* dated October 31, 1985 (the *"Water Diversion Contract")* which, among other things, contemplated the construction of certain intake pump facilities for raw waterintake and distribution from Lake Texoma *("Joint Facilities")*; and

WHEREAS, the Water Diversion Contract contemplated that the Parties would enter into separate agreements to share the costs of future improvements related to the Texoma Water Intake Facilities; and

WHEREAS, in February 2019, with GTUA's consent, NTMWD executed an engineering services agreement for the Lake Texoma Pump Station 2019 Electrical Improvements, Project No. 101-0530-19 to evaluate the current hydraulic and electrical systems at the pump station site, identify system constraints and provide recommendations to improve pumping capacity and reliability of the electrical system; and

WHEREAS, in association with the Lake Texoma Pump Station 2019 Electrical Improvements, Project No. 101-0530-19, the Parties have agreed to expand the electrical capacity of the Oncor substation facility adjacent to the pump station from 7.5 mVA to 28 mVA (*"Oncor Substation Improvements"*), install all necessary outdoor gear to reduce planned 12.5 kV substation voltage down to 5 kV pump station voltage, and replace the original switchgear and motor control center with new gear (collectively, the *"Pump Station Improvements")*; and

WHEREAS, the Parties desire to memorialize their agreement as to the sharing of the costs of construction of the *"Oncor Substation Improvements"* and *"Pump Station Improvements"*.

AGREEMENT

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties agree as follows:

1. **Oncor Substation Improvements.** NTMWD shall have sole discretion in and responsibility for the planning, construction, and installation of the *"Oncor Substation Improvements"*.

2. **Pump Station Electrical Improvements.** The *"Pump Station Improvements"* shall be constructed by the NTMWD as designed by an engineer selected by NTMWD. All engineering contracts and construction contracts shall be awarded, supervised, and controlled by the NTMWD. An advisory Texoma Task Force, composed of three members, one appointed by the GTUA General Manager and two appointed by the NTMWD, shall oversee the project.

3. **Costs of Construction.** Attached hereto as Exhibit A is a summary of the estimated engineering, construction, and miscellaneous costs associated with the construction of the Oncor Substation Improvements and Pump Station Improvements. GTUA hereby agrees to pay 20% of the Total Project Costs in the amount of $3,466,325 (the *"GTUA Share")* and NTMWD agrees to pay 80% of the Total Project Costs in the amount of $13,865,302 (the *"NTMWD Share")*. The Total Project Costs are estimates only and each party agrees to pay their respective percentage share of the final total costs related to the Oncor Substation Improvements and the Pump Station Improvements.

4. **Payment of GTUA Share for the *"Oncor Substation Improvements"*.** GTUA shall pay 50% of the estimated GTUA Share for the Oncor Substation Improvements project to NTMWD at the NTMWD address listed below under Section 8 Addresses for Notice not later than 30 days after the Effective Date of this Agreement. The remainder of costs associated with the GTUA Share shall be paid within thirty (30) days of completion of construction and installation of the *"Oncor Substation Improvements"* upon written notice from the District. The Texoma Task Force shall receive monthly updates on this project.

5. **Payment of GTUA Share for the *"Pump Station Improvements" Design Fees.*** GTUA shall pay 100% of the estimated GTUA Share for design fees for the Pump Station Improvements Project to NTMWD at the NTMWD address listed below under Section 8 Addresses for Notice not later than thirty (30) days after NTMWD award of the engineering services agreement upon written notice from the District. The Texoma Task Force shall have the opportunity to review the Engineering Services agreement prior to execution.

6. **Payment of GTUA Share for the *"Pump Station Improvements" Construction Cost.*** GTUA shall pay 100% of the GTUA Share to NTMWD at the NTMWD address listed below under Section 8 Addresses for Notice within thirty (30) days of completion of construction and installation of the *"Pump Station Improvements"* upon written notice from the District.

7. **Operation and Maintenance.** Operation and maintenance of the Pump Station Improvements shall continue to be performed in accordance with that certain *Operation*

and Maintenance Agreement between the Patties, dated July 19, 1993, including any amendments thereto.

8 **Addresses for Notice:**

NTMWD:
Attn: Executive Director
North Texas Municipal Water District
P.O. Box 2408
Wylie, Texas 75098
Phone: (972) 442-5405

GTUA:
Attn: General Manager
Greater Texoma Utility Authority
5100 Airport Road
Denison, TX 75020
Phone: (903) 786-4433

9. **No Third-Party Beneficiaries.** NTMWD and GTUA are entering into this Agreement solely for the benefit of themselves and agree that nothing in this Agreement shall be construed to confer any right, privilege or benefit on any person or entity other than the Parties.

10. **No Partnership.** None of the terms or provisions of this Agreement shall be deemed to create a partnership between or among the Parties in their respective businesses or otherwise, nor shall it cause them to be considered joint venturers or members of any joint enterprise. Each Party shall be considered a separate owner, and no Party shall have the right to act as an agent for another Party, unless expressly authorized to do so herein or by separate written instrument signed by the Party to be charged.

11. **Entire Agreement; Amendments; Captions.** This Agreement, along with the Water Diversion Contract, contains the entire agreement between the parties respecting the matters herein set forth and supersedes all prior or contemporaneous agreements or understandings, verbal or written, between the parties hereto respecting such matters. This Agreement may be amended by written agreement of amendment executed by both parties thereto, but not otherwise. Section headings shall not be used in construing this Agreement.

12. **Attorneys' Fees.** In the event any legal action or proceeding is commenced to interpret or enforce the terms of, or obligations arising out of, this Agreement, or to recover damages for the breach thereof, the party prevailing in any such action or proceedings shall be entitled to recover from the non prevailing party all reasonable attorneys' fees and reasonable costs and expenses incurred by the prevailing party, including such fees and costs incurred with respect to appeals, arbitrations and bankruptcy proceedings.

13. **Cumulative Remedies.** No remedy conferred upon a party in this Agreement is intended to be exclusive of any other remedy herein or by law provided or permitted, but each shall be cumulative and shall be in addition to every other remedy given hereunder or now or hereafter existing at law, in equity or by statute (except as otherwise expressly herein

provided).

14. **Binding Effect; Governing Law.** Except as expressly provided otherwise in this Agreement, all of the provisions hereof shall be binding upon and inure to the benefit of the parties hereto and their respective heirs, legal representatives, successors and assigns. This Agreement shall be construed and enforced in accordance with the laws of the State of Texas, without regard to the rules governing choice of law.

15. **Successors and Assigns.** Neither Party may assign or transfer its rights or obligations under this Agreement without the prior written consent of the other party, which consent shall be at the sole discretion of such party.

16. **Counterparts.** This Agreement may be executed in several counterparts, each of which shall be deemed an original, but all of which shall constitute one and the same document.

17. **Severability.** If any provision of this Agreement shall, to any extent, be determined by a court of competent jurisdiction to be invalid or unenforceable, the remainder of this Agreement shall not be affected thereby, and every other term and provision of this Agreement shall be valid and enforceable to the fullest extent permitted by law.

NTMWD:

NORTH TEXAS MUNICIPAL WATER DISTRICT, a conservation and reclamation district created pursuant to Article XVI, Section 59, of the Texas Constitution

By:_____

Name: Jennafer P. Covington

Title: Executive Director

GTUA:

GREATER TEXOMA UTILITY AUTHORITY, a conservation and reclamation district created pursuant to Article XVI, Section 59, of the Texas Constitution

By:_____

Name: Drew Satterwhite, P.E.

Title: General Manager

EXHIBIT A

(Estimated Total Project Costs)

Project Number	Project Name	Estimated Cost Share		Estimated Project Total Cost
		GTUA @ 20%	NTMWD @ 80%	
101-0530-19	Lake Texoma Pump Station 2019 Electrical Improvements "Oncor Substation Improvements"	$710,492	$2,841,968	$3,552,460
101-0530-19	Lake Texoma Pump Station 2019 Electrical Improvements "Pump Station Improvements" Design Fees	$337,373	$1,349,494	$1,686,867
101-0530-19	Lake Texoma Pump Station 2019 Electrical Improvements "Pump Station Improvements" Construction Cost	$2,418,460	$9,673,840	$12,092,300
	Total Project Costs:	$3,466,325	$13,865,302	$17,331,627

NORTH TEXAS MUNICIPAL WATER DISTRICT

JANUARY 2022 ADMINISTRATIVE MEMORANDUM NO. 5796

REGIONAL WATER SYSTEM
LAKE TEXOMA PUMP STATION
2019 ELECTRICAL IMPROVEMENTS, PHASE I
PROJECT NO. 101-0530-19

ENGINEERING SERVICES AGREEMENT
FINAL ENGINEERING

ACTION *(What)*

Authorize the execution of an Engineering Services Agreement with CDM Smith, Inc. for final design and construction phase services for the Lake Texoma Pump Station 2019 Electrical Improvements, Phase I.

PURPOSE *(Why)*

This project is the first of two phases needed to improve pumping capacity and reliability of the electrical system to secure anticipated Lake Texoma raw water demands for the next 20 years. Phase I will replace the existing electrical system serving the pump station with a more robust system designed to serve larger pumping units installed during Phase II. The improvements are consistent with Goal 1: Service; Objective 1.4: Reliable and Resilient System Capacity of the 2019-2024 NTMWD Strategic Plan.

RECOMMENDATION

The Executive Director and NTMWD staff recommend the Board of Directors authorize the Executive Director to execute an engineering services agreement (ESA) as follows:

Consultant:	CDM Smith, Inc.
Scope:	Final engineering design
Project:	No. 101-0530-19, Lake Texoma Pump Station 2019 Electrical Improvements, Phase I
Amount:	$1,686,867

This will be an item on the January 26, 2022, Water Committee agenda.

DRIVER(S) FOR THIS PROJECT

☐ Regulatory Compliance	☒ Asset Condition
☒ Capacity	☒ Redundancy/Resiliency
☐ Relocation or External Requests	☐ Operational Efficiency
☐ Safety	☐ Administrative
☐ Policy	☐ Other _____

BACKGROUND

- The Lake Texoma Pump Station (LTPS) houses two 4,000 horsepower (hp) pump motors, two 6,100 hp pump motors, and three 450 hp pump motors, all the pumps are currently working at 4,160 Volts (V), transferring raw water through a 72-inch pipeline to the balancing reservoir in Howe, Texas. The water flows by gravity from Howe to the Wylie Water Treatment Plant.
- Greater Texoma Utility Authority (GTUA) utilizes the three 450 hp pump motors to divert water to their water treatment plant in Sherman, Texas during periods when the large pumps are not in service.
- Recommendations from the preliminary engineering report for this project indicate the two 4,000 hp, 4,160 V, pump motors will need to be replaced with 6,100 hp, 4160 V pump motors in the near future to meet projected raw water demands. The raw water projections include the future needs of the Wylie WTP, the Leonard WTP, and GTUA including the City of Sherman, Texas and the Panda Electric facility.
- The pump station receives power from an adjacent Oncor substation. Oncor provides primary electrical service to the substation at 138 kilo-Volts (kV) which is transformed down to a non-standard 4,160 V (secondary voltage) power that feeds the pump station, without any redundancy.
- During startup of the large 6,100 hp pump motors, the relatively low secondary voltage requires the substation to operate at higher current loads than Oncor's existing substation equipment can support.
- In November 2015, the Board, by Administrative Memorandum No. 4542, authorized the installation of a Static VAR Compensator (SVC) to provide a short-term solution by assisting the substation with additional power when starting the large pump motors. The installation has improved the starting capabilities of the pump station; however, the substation/SVC arrangement remains unable to support neither the two large 6,100 hp pump motors together nor any future pump expansion projects.
- To resolve the current and projected future demand loads Oncor has proposed a renovation project for their substation to install higher capacity equipment and raise their secondary voltage to a standard 12.5 kV. The combined effort will allow NTMWD to operate all existing and planned expansion projects for the LTPS without electrical restriction.
- NTMWD staff anticipate presenting an Oncor agreement for the Board's consideration at the February 24, 2022, Board of Directors meeting.
- This project will coordinate with the Oncor renovation project to replace NTMWD's electrical equipment with higher capacity gear capable of receiving power from Oncor at the higher 12.5 kV voltage and operate all existing and future pump motors to pump NTMWD's total water rights from Lake Texoma and meet anticipated raw water demands.

PROJECT PURPOSE

- Provide final design and construction phase services to replace the current outdated electrical gear serving the LTPS and coordinate design and construction activities with Oncor's substation improvements project.
- The new electrical gear will receive power from Oncor's modified substation at the higher

12.5 kV voltage.
- The new electrical gear will have the capacity to operate all pumps within the LTPS including future pump capacity expansions to meet anticipated raw water demands.
- Expand NTMWD's current United States Army Corps of Engineers (USACE) 8.71 acre easement at the LTPS by 2.5 acres to provide additional space for NTMWD's future electrical building, to be completed under Phase II of this project, and GTUA's future generator project to provide emergency power for its three 450 hp pump motors.

PROJECT COMPONENTS
- Redundant pair of 28 mega-Volt Ampere (MVA) 12.5 kV to 4,160V main transformers;
- 4,160V switchgear and motor control center inside prefabricated electrical building;
- Structural analysis of pump station bridge to confirm bridge can support additional power conduits;
- Evaluation of existing 84-inch pump discharge header to confirm pipe class sufficient to support anticipated pumping loads;
- USACE easement application including survey, metes and bounds description, site exhibit, environmental study and cultural resources study; and
- Site work including grading, paving, lighting and fencing.

BASIC SERVICES
- Project management and administration
- 30%, 60% and 90% design review meetings and workshops
- Bid phase services
- Construction administration services

SPECIAL SERVICES
- Survey and USACE easement preparation
- Environmental site assessment
- Cultural resources study
- Geotechnical investigation
- Power systems study
- Permitting

CONSULTANT SELECTION PROCESS

CDM Smith, Inc. has been the engineering consultant for the preliminary design phase of this project, and is recommended to continue for development of the final design phase.

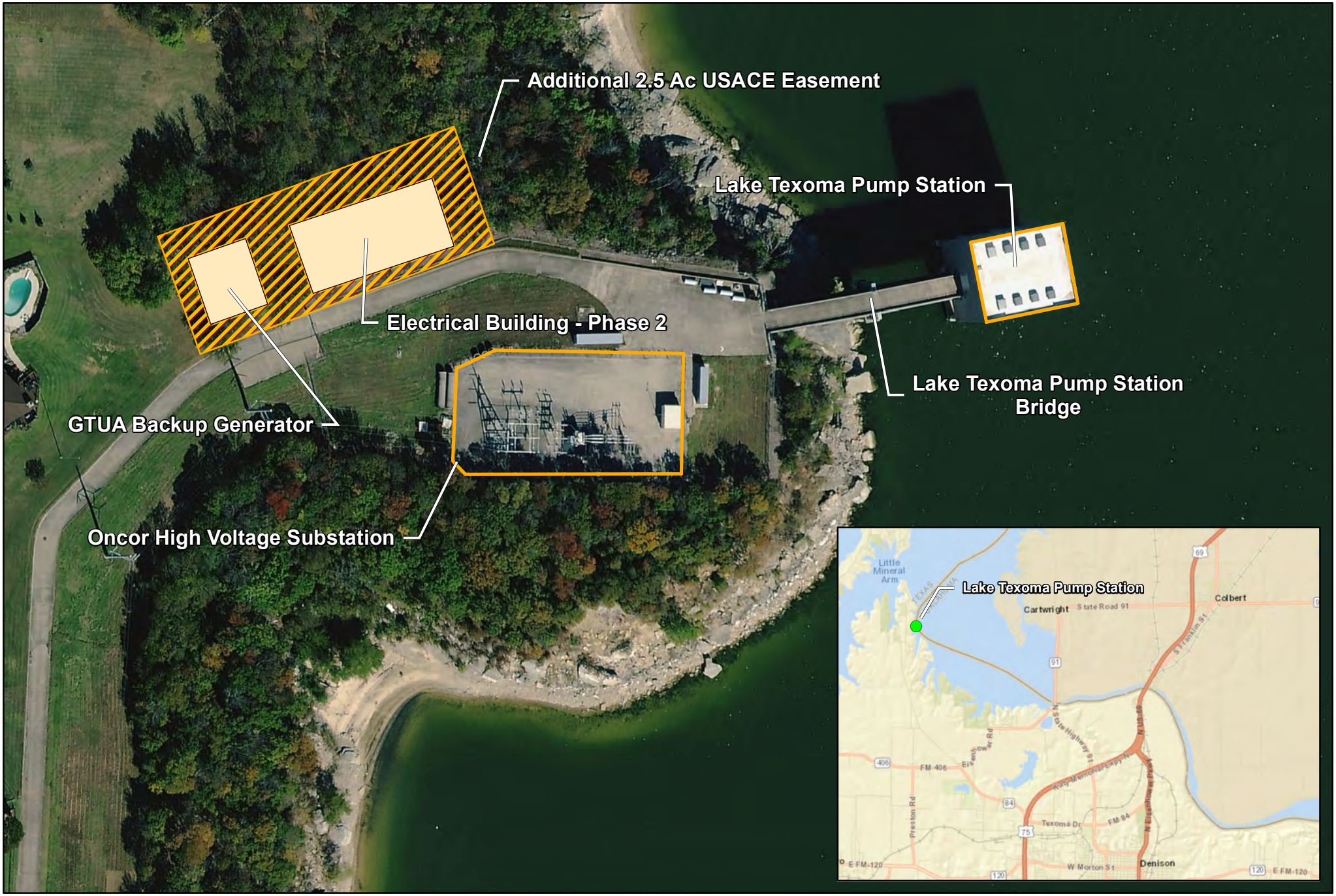
ENGINEERING SERVICES FEE

DESCRIPTION	AMOUNT
Basic Services	$ 1,480,078
Special Services	$ 206,789
Requested Amount	**$ 1,686,867**

FUNDING

FUND(S): The requested amount of $1,686,867 will be funded 80% by NTMWD and 20% by the Greater Texoma Utility Authority (GTUA).

NTMWD's share of the funding in the amount of $1,349,494 for this project is available in the Regional Water System 2021 Construction Fund. The Executive Director and NTMWD staff recommend the Board award the project; however, the contract documents will not be executed and notice to proceed with the work will not be issued until funding is received from GTUA in the amount of $337,373.



Lake Texoma Pump Station
2019 Electrical Improvements, Phase I - Engineering Services Agreement
Project No. 101-0530-19
Administrative Memorandum No. 5796

N

NORTH TEXAS MUNICIPAL WATER DISTRICT

JANUARY 2022 ADMINISTRATIVE MEMORANDUM NO. 5797

REGIONAL WATER SYSTEM
LEONARD WATER TREATMENT PLANT HIGH SERVICE PUMP STATION - SOUTH
PROJECT NO. 101-0603-22

ENGINEERING SERVICES AGREEMENT

ACTION *(What)*

Authorize an engineering service agreement with Carollo Engineers, Inc. to design a new High Service Pump Station (South) at the Leonard Water Treatment Plant (WTP) site and the required components to add capacity to the existing Leonard WTP High Service Pump Station (North).

PURPOSE *(Why)*

This project will provide full redundancy to the treated water pumping system using Bois d'Arc Lake (BDL) water by adding a separate High Service Pump Station (HSPS-S) to the South side of the Leonard WTP site. This Leonard WTP HSPS-S will have the initial firm capacity to pump 90 million gallons per day (MGD) with the ability to be expanded to 175 MGD. Additional pumping capacity will be added to the existing Leonard WTP High Service Pump Station North (HSPS-N), which was previously constructed under Project No. 101-0428-16. HSPS-N will also be increased to 175 MGD by the addition of two 45-MGD high-flow/high-head pumps. These improvements will allow the Regional Water System to use more of the BDL water right and increase the treated water supply to the NTMWD's service area. Leonard WTP HSPS-S is included with Phase II of the BDL system expansion program, which will increase the raw water pumping capacity to 142 MGD, storage capacity to 420 million gallons (MG), and treatment capacity to 140 MGD. The improvements under this project are consistent with Goal 1: Service; Objective 1.2: High Quality Services; Initiatives 1.1.2 Enhance system reliability and efficiency; and, 1.2.3 Meet or surpass regulatory requirements of the 2019-2024 NTMWD Strategic Plan.

RECOMMENDATION

The Executive Director and NTMWD staff recommend the Board of Directors authorize the Executive Director to execute an engineering services agreement (ESA) as follows:

Consultant:	Carollo Engineers, Inc. (Carollo)
Scope:	Preliminary engineering design, Final engineering design, Operations and Maintenance Manuals update, and Startup and Commissioning support
Project:	No. 101-0603-22, Leonard Water Treatment Plant High Service Pump Station - South

Amount: $8,480,000

This will be an item on the January 26, 2022, Water Committee agenda.

DRIVER(S) FOR THIS PROJECT

☐ Regulatory Compliance	☐ Asset Condition
☒ Capacity	☒ Redundancy/Resiliency
☐ Relocation or External Requests	☒ Operational Efficiency
☐ Safety	☐ Administrative
☐ Policy	☐ Other _____

BACKGROUND

PROJECT PURPOSE

- Design all disciplines as required for a new High Service Pump Station (HSPS-S) on the South side of the Leonard Water Treatment (WTP) site; with initial capacity of 90 MGD and expansion capabilities for future capacity of 175 MGD.
- Add pumping capacity to the existing High Service Pump Station - North (HSPS-N) to 175 MGD for an additional pumping range adding high-flow/high-head pumps
- The planning level estimated construction cost is $81,836,000

PROJECT COMPONENTS

- Installation of two high-flow/high-head horizontal split-case pumps (45 MGD each), two 4,500 horsepower (hp) motors, two air-cooled variable frequency drives (VFDs), and associated mechanical, electrical, and instrumentation and controls (I&C) design in the existing HSPS-N.
- A new HSPS-S with installation of three high-flow/high-head horizontal split-case pumps (45 MGD each) downstream of the existing and future (under Project No. 101-0600-21) Leonard WTP chlorine contact basins and clearwells. The pump station is to have an initial firm capacity of 90 MGD with space for the addition of pumps as the Leonard WTP is expanded.
- Structural, architectural, mechanical, plumbing and site civil design required to construct the HSPS-S, including a buried pump room, and an above-grade building with electrical rooms.
- Electrical design to support the HSPS-S including transformers at the pump station, switchgear, VFDs, motors, and other systems. The design will include up to two future emergency backup power generators and paralleling switchgear for miscellaneous emergency loads such as the sump pumps, elevator, lights, security, supervisory control and data acquisition (SCADA), etc., as well as back-up power to operate one 4,500 hp motor.
- Controls, instrumentation, communications and security designed to support the HSPS-S. The HSPS-S project will include fiber optic cable to connect SCADA, business, and security system networks to the Leonard WTP systems.
- Yard piping and related appurtenances hydraulically connecting the HSPS-N and HSPS-S.
- A flow metering facility (vault) constructed with the HSPS-S that includes structural, architectural, mechanical, plumbing, site civil, process, instrumentation and electrical design to meet current NTMWD flow meter vault standards.

BASIC SERVICES

- Preliminary and intermediate design for equipment procurement
- Final design for all disciplines
- Construction Manager At-Risk (CMAR) support for Procurement and Pre-Construction Services
- CMAR coordination
- Texas Water Development Board (TWDB) Coordination – as required if funding for project is obtained from the TWDB.
- Services during construction
- Start-up and Commissioning Services
- Quality management

SPECIAL SERVICES

- Geotechnical Investigation
- Site survey
- Electrical system studies
- Hydraulic model study for the High Service pump station
- Texas Department of Licensing and Regulation (TDLR) submission and Texas Commission on Environmental Quality (TCEQ) Coordination
- Major equipment factory witness testing
- Update Operations and Maintenance Manuals
- Support services - Project management assistance
  - Project management assistance – Provide a single-point of contact and support services to NTMWD's project manager from project start during design.

ENGINEERING SERVICES FEE

DESCRIPTION	AMOUNT
Basic Services – Raw Water Pump Station	$7,409,000
Special Services	$1,071,000
Requested Amount	**$8,480,000**

FUNDING

FUND(S): Funding in the amount of $8,480,000 to Carollo Engineers, Inc is to be made available utilizing the Regional Water System Extendable Commercial Paper (ECP) Program as the appropriation source; actual issuance of ECP will occur as cash needs arise.

NORTH TEXAS MUNICIPAL WATER DISTRICT

JANUARY 2022 ADMINISTRATIVE MEMORANDUM NO. 5798

REGIONAL WATER SYSTEM
NORTH WATER TRANSMISSION SYSTEM SCADA NETWORK SPLIT
PROJECT NO. 101-0556-20

TABULATION OF BIDS AND AWARD OF CONTRACT
AND
INSPECTION SERVICES AGREEMENT

ACTION *(What)*

Award a construction contract and authorize an inspection services agreement for the North Water Transmission System Supervisory Control and Data Acquisition (SCADA) Network Split Project.

PURPOSE *(Why)*

The Water Transmission System includes all remote pump stations and remote water billing/metering delivery point sites for the Wylie Water Treatment Plant (WTP) facility. This project will improve the monitoring, control, and reliability of the system by incorporating the new Wylie WTP Plant IV Communication Tower into the radio communication network. The improvements are consistent with Goal No. 1: Service; Objective 1:4: Reliable and Resilient System Capacity of the 2019-2024 NTMWD Strategic Plan.

RECOMMENDATION

The Executive Director, NTMWD staff and Gupta & Associates, Inc. recommend the Board of Directors authorize the award of a construction contract and authorize an inspection services agreement as follows:

Contract:	Construction Contract:	Prime Controls, L.P.
	Inspection Services Agreement:	Mbroh Engineering, Inc.
Scope:	Construction	
Project:	No. 101-0556-20, North Transmission System SCADA Network Split	
Amount:	Construction Contract:	$4,172,601
	Internal Inspection Services:	$ 115,800
	Inspection Services Agreement:	$ 508,530

This will be an item on the January 26, 2022, Water Committee meeting agenda.

DRIVER(S) FOR THIS PROJECT

☐ Regulatory Compliance	☐ Asset Condition
☒ Capacity	☒ Redundancy/Resiliency
☐ Relocation or External Requests	☒ Operational Efficiency
☐ Safety	☐ Administrative
☐ Policy	☐ Other _____

BACKGROUND

PROJECT PURPOSE

- Currently, all operational data is transmitted to and from remote sites in the water system to a single receiver at the main radio tower located at Wylie Water Treatment Plant (WTP) I. This receiver has reached its operating capacity.
- This project will create a second receiver at the maintenance radio tower located at WTP IV and divide the communication into two networks, north and south, to reduce demand on the existing receiver.
- The main towers will continue to back each other up by utilizing the existing cellular network. In the event one main tower fails, communication from the effected sites will automatically re-route to the in-service tower.

PROJECT COMPONENTS

- Radio communication building and receiver at WTP IV radio tower;
- New 200 kilowatt (kW) generator to support the new building in the event of a power outage;
- Programmable logic controllers (PLCs) for the SCADA polling system; and
- Operator control screens for workstations in the Wylie WTP main control room.

TABULATION OF BIDS

Sealed bids for construction were received at 2:00 p.m. on Friday, November 12th, 2021, as tabulated below:

Bidder	Total Bid	Recommendation
Prime Controls, L.P.	$4,172,601.00	Lowest responsible bid Recommended for Award
RLC Controls, Inc.	$4,492,944.46	
ENGINEER'S OPINION OF PROBABLE COST	$3,678,000.00	

Due to the technical nature and security sensitivity of facilities that are directly integrated with the NTMWD Global SCADA System, a specific knowledge of the system is required in order to develop a competitive bid for this type of work. Apart from Prime Controls, L.P. and RLC Controls,

Inc., most prospective bidders have opted not to pursue these projects for NTMWD. For this reason it is not unusual to see only two bidders for this type of work.

LOWEST RESPONSIBLE BIDDER HISTORY

Prime Controls, L.P. has successfully completed or is currently in construction as the general contractor for the following similar projects for the NTMWD:

- Project No. 101-0329-13, Water Transmission System SCADA Upgrade, completed October 2019
- Project No. 101-0534-19, Wylie Water Treatment Plants (WTP's) III and IV Filter Performance Improvements, completed February 2021
- Project No. 101-0515-18, Wylie WTP's Human Machine Interface and Data Server Upgrades, currently under construction

Prime Controls, L.P. has successfully completed several similar projects for the NTMWD as a subcontractor:

- Project No. 101-0354-14, Wylie WTP's I-IV Chemical Systems Improvements
- Project No. 101-0387-15, Wylie WTP IV 70 MGD Expansion to 210 MGD
- Project No. 101-0409-15, North System Frisco-McKinney Ground Storage Tanks
- Project No. 101-0419-16, Casa View Pump Station Electrical and Site Improvements
- Project No. 101-0434-16, Wylie WTP II Filter Underdrain Improvements and Conversion to Biologically Active Filters
- Project No. 101-0485-17, Wylie WTP's Chlorine System Improvements

Based on their standing as lowest responsible bidder, the information provided, reports by the supplied references, and history of successful project completion, the NTMWD staff and Gupta & Associates, Inc. recommend award of the contract to Prime Controls, L.P.

INTERNAL INSPECTION SERVICES

NTMWD will utilize its own inspection staff to cover all civil and electrical inspection. The cost to NTMWD related to this internal inspection is approximately $115,800.00.

INSPECTION SERVICES AGREEMENT

- The engineering department normally provides inspection services for NTMWD projects. Due to current project workload and sudden recent personnel losses, however, the NTMWD staff recommends that Mbroh Engineering, Inc. (MEI), be retained to provide full-service inspection services for SCADA elements of this project throughout the 28-month construction period. These out-sourced activities will be overseen by NTMWD Senior Inspections staff.
- MEI is currently providing inspection services for NTMWD on several construction projects.
- MEI has proposed a fee of $508,530, which relates to a total of 5,085.3 hours of coverage at a rate of $100 per hour. The hour total is based on assumed maximum needs of SCADA-related inspection. The proposed hourly rate aligns with current levels for similar contracted services.
- NTMWD staff will oversee the activities and utilization of the contracted personnel.

- NTMWD staff recommends this as the current anticipated maximum effort required to complete the project.

FUNDING

FUND(S): Funding in the amount of $4,172,601 to Prime Controls L.P., $508,530 to Mbroh Engineering Inc. and $115,800 for internal inspection is to be made available in the Regional Water System 2019A Construction Fund.

North Water Transmission System SCADA Network Split
Project No. 101-0556-20
Administrative Memorandum No. 5798

N

NORTH TEXAS MUNICIPAL WATER DISTRICT

JANUARY 2022 ADMINISTRATIVE MEMORANDUM NO. 5799

REGIONAL WATER SYSTEM
FM 2514 PIPELINE RELOCATIONS
PROJECT NO. 101-0585-21

TABULATION OF BIDS AND AWARD OF CONTRACT
AND
AUTHORIZE INSPECTION SERVICES

ACTION *(What)*

Award a construction contract and authorize internal inspection services for the Farm-to-Market Road (FM) 2514 and Interstate Highway (IH) 30 Pipeline Relocations project.

PURPOSE *(Why)*

The purpose of this project is to relocate existing NTMWD pipelines and appurtenances that conflict with Texas Department of Transportation (TxDOT) widening of FM 2514. This includes extending protective pipe casings to the expanded Right-of-Way (ROW) limits of FM 2514 and IH 30 for certain impacted pipelines. The proposed interconnection in this project is consistent with Goal 1: Service; Objective 1.1 High quality services; Initiative 1.1.3 meet or surpass regulatory requirements and Goal 3: Partnership; Objective 3.3 Durable Strategic Partnerships; 3.3.2 Collaborate with peer utilities.

RECOMMENDATION

The Executive Director, NTMWD staff, and Criado Associates recommend the Board of Directors authorize the award the award of a construction contract as follows:

Contract:	Canary Construction, Inc.		
Scope:	Construction		
Project:	No. 101-0585-21, FM 2514 Pipeline Relocations		
Amount:	Construction Contract:	$	1,610,321
	Internal Inspection Services:	$	214,500

This will be an item on the January 26, 2022, Water Committee agenda.

DRIVER(S) FOR THIS PROJECT

☐ Regulatory Compliance	☐ Asset Condition
☐ Capacity	☐ Redundancy/Resiliency
☒ Relocation or External Requests	☐ Operational Efficiency
☐ Safety	☐ Administrative
☐ Policy	☐ Other _____

BACKGROUND

PROJECT PURPOSE

- TxDOT announced plans to widen FM 2514 in the City of Wylie and IH 30 in the city of Rockwall.
- Portions of the Wylie to Plano 14-inch and Wylie to McKinney 20-inch waterlines will conflict with the new FM 2514 Right-of-Way (ROW) and need to be relocated and interconnected within new easements.
- The existing 60-inch and 72-inch North Garland pipelines and the 60-inch McKinney Parallel Phase I pipeline currently cross the ROW of FM 2514 within protective casing pipes that will need to be extended beyond the new expanded ROW.
- At a later date, TxDOT informed the NTMWD that they plan to bid their IH-30 construction project in the summer of 2022. In order to meet their IH-30 project timeline, relocation of the 15- and 21-inch Parker Creek gravity sewers and the 36-inch Royse City Pipeline No. 2 were added to the FM 2514 project scope.
- The existing 15-inch and 21-inch Parker Creek Gravity Interceptors and the existing 36-inch Royse City Water Pipeline No. 2 currently cross the ROW of IH 30 within protective casing pipes that will also need to be extended beyond the new expanded ROW limits.
- Affected facilities outside of the existing ROW are anticipated to qualify for partial reimbursement of project costs by TxDOT.

PROJECT COMPONENTS

- Interconnect the 20-inch pipeline and 14-inch pipeline adjacent to the railroad track west of FM 2514
- Abandon the 20-inch and 14-inch pipelines east of the railroad track
- Extend casing of 60-inch and 72-inch North Garland pipelines where they cross FM 2514
- Extend casing of 60-inch McKinney Parallel Phase I pipeline where it crosses FM 2514
- Extend casing of 15-inch and 21-inch Parker Creek Gravity Interceptors where they cross IH 30
- Extend casing of 36-inch Royse City Water Pipeline No. 2 where it crosses IH 30

TABULATION OF BIDS

Bidder	Total Bid	Recommendation
Canary Construction, Inc.	$1,610,321	Lowest Responsible Bid Recommended for Award
Engineers Opinion Of Probable Cost	**$1,017,460**	

There was only one bid submitted for this project. The bid was accepted and opened due to the District's familiarity with the bidder, and to attempt to accommodate the aggressive scheduling deadlines established by TxDOT for clearing of the conflicts.

LOWEST RESPONSIBLE BIDDER HISTORY

Canary Construction, Inc. has successfully completed or is currently in construction on several projects of similar size and complexity for other entities:

- Lewisville Executive Boat & RV Storage. Install over 10,000 linear feet of six-inch and eight-inch water and sewer pipelines and appurtenances. Status: Complete. Cost: $1,285,000
- Frisco Bible Church. Replacement of 252 linear feet of 24-inch pipe with 30-inch pipe. Status: Complete. Cost: $73,609
- State Highway 114 Water and Sewer Relocation. Install over 1,000 linear feet of 12-inch and 18-inch water and sewer pipelines. Status: Complete. Cost: $784,223

Canary Construction, Inc. has successfully completed or is currently in construction on these three projects for NTMWD:

- Project No. 101-0442-16, North System Air Valve Improvements, Phase I (currently in construction)
- Project No. 101-0467-17, South System Air Valve Improvements, Phase II (currently in construction)
- Project No. 101-0413-16, System Wide Air Valve Improvements on East System (completed April 2018)

Based on their standing as lowest responsible bidder, information provided on similar work experience, and feedback from supplied references, The NTMWD staff and Criado Associates recommend award of the contract to Canary Construction, Inc.

INTERNAL INSPECTION SERVICES

NTMWD will utilize internal inspection staff to cover all inspection tasks. The cost to NTMWD related to this internal inspection coverage is estimated at $214,500.

FUNDING

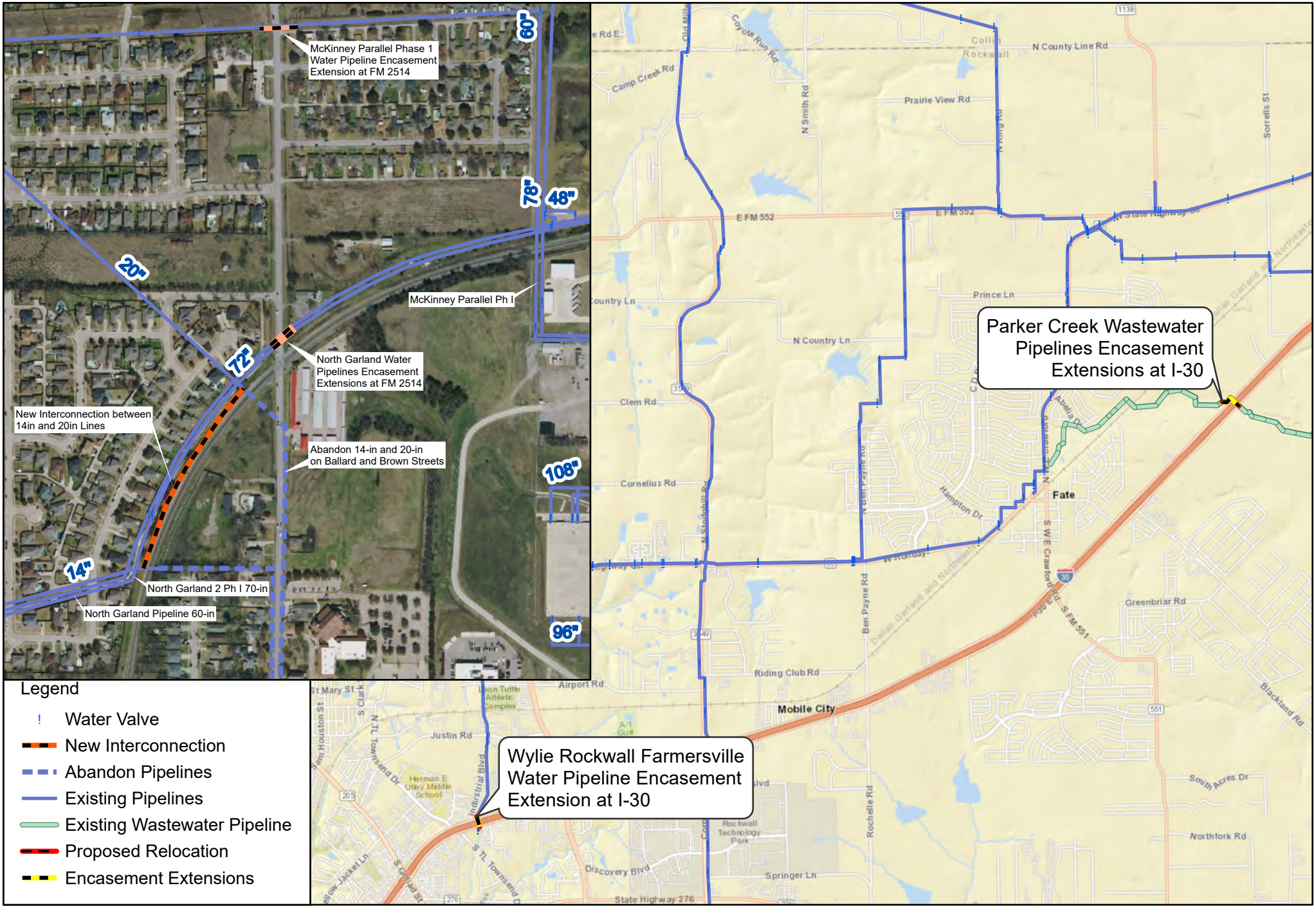
FUND(S): Initial funding of $1,610,321 to Canary Construction Inc. is to be funded by the Regional Water System in the amount of $1,519,321, the Parker Creek Wastewater Interceptor System in the amount of $55,000, and the Parker Creek Parallel Wastewater Interceptor System in the amount of $36,000. Internal Inspection of $214,500 is to be funded by the Regional Water System in the amount of $202,380, the Parker Creek Wastewater Interceptor System in the amount of $7,325, and the Parker Creek Parallel Wastewater Interceptor System in the amount of $4,795.The District anticipates partial reimbursement by TxDOT for this Project.

Regional Water System funding in the amount of $1,519,321 for construction and $202,380 for internal inspection is to be made available in the Regional Water System Capital Improvement

Fund. The Regional Water System's allocation of the TxDot reimbursement will be credited back to the Regional Water System's Capital Improvement Fund.

Parker Creek Wastewater Interceptor System funding in the amount of $55,000 for construction and $7,325 for internal inspection is to be made available in the Parker Creek Wastewater Interceptor System Capital Improvement Fund contingent upon a transfer of available funds from the Parker Creek Wastewater Interceptor System Preventative Maintenance Escrow Fund. The Parker Creek Wastewater Interceptor System's allocation of the TxDot reimbursement will be credited back to the Parker Creek Wastewater Interceptor System's Preventative Maintenance Escrow Fund.

Parker Creek Parallel Wastewater Interceptor System funding in the amount of $36,000 for construction is to be made available in the Parker Creek Parallel Wastewater Interceptor System Capital Improvement Fund contingent upon a transfer of available funds from the Parker Creek Parallel Wastewater Interceptor System Preventative Maintenance Escrow Fund. $4,795 for internal inspection is to be made available in the Parker Creek Parallel Wastewater Interceptor System 2016 Construction Fund. The Parker Creek Parallel Wastewater Interceptor System's allocation of the TxDot reimbursement will be credited back to the Parker Creek Parallel Wastewater Interceptor System's Preventative Maintenance Escrow Fund.



F.M. 2514 Pipeline Relocations
Project No. 101-0585-21
Administrative Memorandum No. 5799

N

NORTH TEXAS MUNICIPAL WATER DISTRICT

JANUARY 2022 ADMINISTRATIVE MEMORANDUM NO. 5800

REGIONAL WATER SYSTEM
FORNEY DELIVERY POINT NO. 1 SITE IMPROVEMENTS
PROJECT NO. 101-0543-19

TABULATION OF BIDS AND AWARD OF CONTRACT
AND AUTHORIZE INSPECTION SERVICES

ACTION *(What)*

Award a construction contract and authorize inspection services for the Forney Delivery Point No. 1 Site Improvements project.

PURPOSE *(Why)*

This project will address miscellaneous condition and efficiency concerns, evolving compliance standards and basic site security for the ground storage tanks, yard piping and valves, and pump station. These improvements are consistent with Goal 1: Service; Objective 1.1 High quality services: Initiative 1.1.2 Enhance system reliability and efficiency.

RECOMMENDATION

The Executive Director, NTMWD staff, and KSA Engineers, Inc. recommend the Board of Directors authorize the award of a construction contract as follows:

Contract:	Schofield Civil Construction LLC	
Scope:	Construction	
Project:	No. 101-0543-19, Forney Delivery Point No. 1 Site Improvements	
Amount:	Construction Contract:	$1,957,500
	Internal Inspection Services:	$ 176,900

This will be an item on the January 26, 2022, Water Committee agenda.

DRIVER(S) FOR THIS PROJECT

☐ Regulatory Compliance	☒ Asset Condition
☐ Capacity	☐ Redundancy/Resiliency
☐ Relocation or External Requests	☒ Operational Efficiency
☐ Safety	☐ Administrative
☐ Policy	☐ Other _____

BACKGROUND

PROJECT PURPOSE

- The Forney Delivery Point No.1 site on Aimee Street in Forney was originally constructed circa 1957 with a 0.2 Million Gallon (MG) Ground Storage Tank (GST) and pump station. An additional 1.0 MG GST and pumps were added in the late 1970's.
- The purpose of this project is to provide improvements to various elements of the site, including GST's, yard piping, electrical and instrumentation systems.

PROJECT COMPONENTS

- 1.0 MG Ground Storage Tank
  - o Modify roof
  - o Reconstruct 42-inch diameter fill pipe so that the tank will be top fill
  - o Replace transmitters, miscellaneous metals, hatches, stairways, etc.
- Demolish and remove the existing 0.2 MG GST
- Replace isolation valve ISO-055 (36-inch BFV)
- Remove isolation valve ISO-056 (36-inch BFV)
- Remove existing 36-inch butterfly valve (BFV)
- Modify Meter Vault 1A
- Remove Meter 1B and demolish Meter Vault 1B
- Various electrical and instrumentation improvements

TABULATION OF BIDS

Bidder	Total Bid	Recommendation
Schofield Civil Construction, LLC	$1,957,500	Lowest Responsible Bid Recommended for Award
Felix Construction Company	$2,020,600	
Engineers Opinion Of Probable Cost	**$2,831,300**	

While there were only two bids submitted for this project, the bids were accepted and opened in recognition of the District's familiarity with both bidders and with the prevailing market conditions that have tended to make projects in this estimated cost range less attractive to a wide range of bidders. The NTMWD staff and KSA Engineers, Inc. recommend the bidding results based upon these factors and the relative competitiveness of the two bids.

LOWEST RESPONSIBLE BIDDER HISTORY

Schofield Civil Construction, LLC has successfully completed or is currently in construction on several projects of similar size and complexity:

- General Land Office Wastewater Treatment Plant Improvement Plan. Installation of retaining walls at a lift station, installation of aerobic digester, oxidation ditch sealing, access road improvements, replacing existing manholes, site clean-up and restoration. This project took place in the City of Jewett, Texas. Status: Complete. Cost: $469,596.50.
- Mart Intake and Water Treatment Plant. This project for the City of Mart, Texas included new raw water intake, pump station, clarification and filtration equipment, sludge thickening, decant and dewatering equipment, new high service pump station and clearwell. Status: Substantially Complete. Cost: $6,970,955.
- City of Surprise, Arizona Disinfection Improvements. Installation of a concrete division structure, two 60-inch slide gates, flow meter installation, meter vault, electrical equipment upgrades and testing equipment. Status: Completed. Cost: $841,264.

Schofield Civil Construction, LLC currently has two projects in construction with NTMWD as a prime Contractor, and another construction project as a Subcontractor. These projects are:

- Project No. 101-0422-16, Wylie Water Treatment Plant IV Filter Repair. Schofield is a Subcontractor to the Construction Manager At-Risk for the Early Work Package No. 1.
- Project No. 101-0511-18, Wylie WTP I Washwater Supply System Improvements
- Project No. 101-0568-20, Wylie WTP II Sedimentation Basin Troughs Improvements

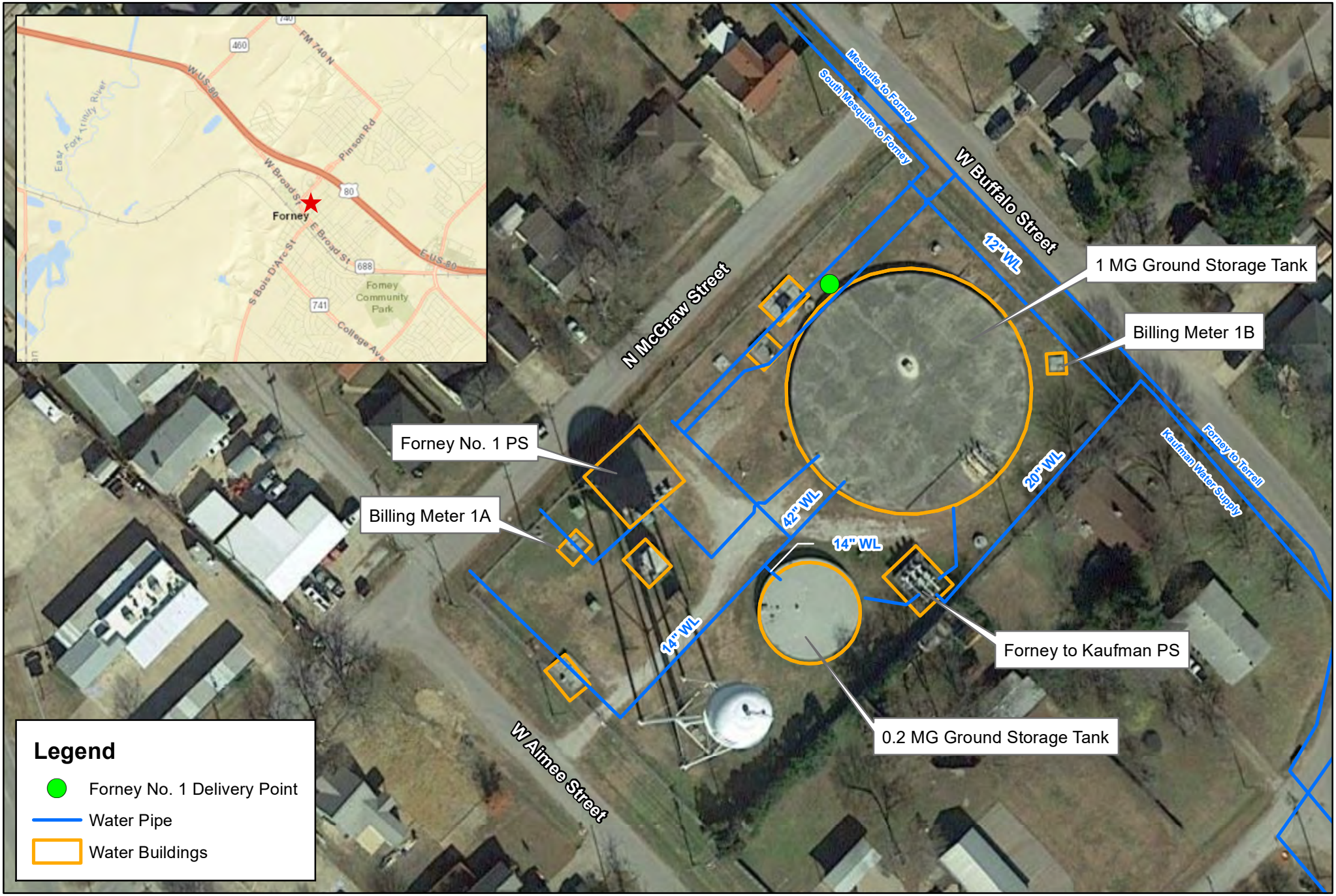
Based on their standing as lowest responsible bidder, the information provided on similar work experience, and feedback from supplied references, The NTMWD staff and KSA Engineers, Inc. recommend award of the contract to Schofield Civil Construction, LLC.

INTERNAL INSPECTION SERVICES

NTMWD will utilize internal inspection staff to cover all inspection tasks. The costs to NTMWD related to this internal inspection coverage is approximately $176,900.

FUNDING

FUND(S): Funding in the amount of $1,957,500 to Schofield Civil Construction LLC and $176,900 for internal inspection is to be made available in the Regional Water System 2019A Construction Fund.



Forney Delivery Point No. 1 Site Improvements
Tabulation of Bids and Award of Contract
Project No. 101-0543-19
Administrative Memorandum No. 5800

N

NORTH TEXAS MUNICIPAL WATER DISTRICT

JANUARY 2022 ADMINISTRATIVE MEMORANDUM NO. 5801

UPPER EAST FORK INTERCEPTOR SYSTEM
RELOCATION OF 60-INCH WASTEWATER PIPELINE
PROJECT NO. 101-0544-19

TABULATION OF BIDS AND AWARD OF CONTRACT
AND INSPECTION SERVICES

ACTION *(What)*

Authorize the award of construction contract and inspection services for the Upper East Fork Interceptor System Relocation of 60-inch Wastewater Pipeline project.

PURPOSE *(Why)*

This contract will relocate two existing parallel NTMWD wastewater pipelines (60-inch Rowlett Cottonwood Transfer Sewer Parallel and Rowlett Cottonwood Transfer Sewer) to accommodate Texas Department of Transportation's (TxDOT) widening of Farm-to-Market Road (F.M.) 2551, between F.M. 2514 and F.M. 2170 in Parker and Allen. The improvements are consistent with Goal 3: Partnership; Objective 3.2: Engaged members, customers, and stakeholders; Initiative 3.21: Continue to collaborate with member and customer cities through increased dialogue and partnering efforts of the 2019-2024 NTMWD Strategic Plan.

RECOMMENDATION

The Executive Director, NTMWD staff and BGE, Inc., recommend the Board of Directors authorize the award of a contract as follows:

Contractor: McKee Utility Contractors, Inc.

Scope: Construction

Project: No. 101-0544-19, Upper East Fork Interceptor System Relocation of 60-inch Wastewater Pipeline

Amount: Construction Contract: $10,695,000
Internal Inspection Services: $ 248,400

This item will be briefed to the full Board during the January 27, 2022, Board Meeting

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DRIVER(S) FOR THIS PROJECT

☐ Regulatory Compliance	☐ Asset Condition
☐ Capacity	☐ Redundancy/Resiliency
☒ Relocation or External Requests	☐ Operational Efficiency
☐ Safety	☐ Administrative
☐ Policy	☐ Other _____

BACKGROUND

- TxDOT is widening F.M. 2551, between F.M. 2514 and F.M. 2170 in Parker and Allen.
- NTMWD maintains two existing 60-inch wastewater pipelines within an existing 50-foot easement that will be partially impacted by TxDOT's planned highway and right-of-way widening. Relocation of the wastewater pipelines are necessary to clear the utilities from TxDOT's highway widening project.
- TxDOT widening also impacted two existing NTMWD water transmission pipelines (84-inch Plano-McKinney Water Transmission Pipeline Phase I and 42-inch North Plano Pipeline) on the east side of the road in the same area. Relocation efforts for these water transmission pipelines were awarded as a separate construction contract by Administrative Memorandum No. 5790 at the December 2021 NTMWD Board of Directors meeting.
- Both the water transmission pipelines and the wastewater pipeline relocations are subject to reimbursement by TxDOT.

PROJECT PURPOSE

- Relocate a segment of two existing parallel 60-inch wastewater pipelines (60-inch Rowlett Cottonwood Transfer Sewer Parallel and Rowlett Cottonwood Transfer Sewer) by combining flows into a single 84-inch wastewater pipeline to accommodate TxDOT improvements in FM 2551.

PROJECT COMPONENTS

- Approximately 4,664 linear feet of 84-inch Fiberglass Reinforced Plastic (FRP) pipe.
- Approximately 102 linear feet of 60-inch FRP pipe
- Associated manholes

TABULATION OF BIDS

Sealed bids for construction of Upper East Fork Interceptor System Relocation of 60-inch Wastewater Pipeline were received at 11:00 a.m. on Tuesday, December 14, 2021, as tabulated below:

Bidder	Total Bid	Recommendation
McKee Utility Contractors, Inc.	$10,695,000	Lowest Responsible Bid Recommended for Award
Belt Construction of Texas, LLC	$11,520,908	
Flow-Line Construction, Inc.	$12,579,578	
BRH-Garver Construction, L.P	$15,206,695	
Mountain Cascade of Texas, LLC	$15,250,829	
Western Municipal Construction, Inc.	$18,348,068	
ENGINEER'S OPINION OF PROBABLE COST	$12,837,319	

LOWEST RESPONSIBLE BIDDER HISTORY

McKee Utility Contractors, Inc. (McKee) has successfully completed or is constructing several similar projects for NTMWD:

- Project No. 101-0462-17, Renner Road to Plano Delivery Point No. 2 Pipeline (NTMWD project awarded in 2019, currently under construction; construction approximately 98% complete)
- Project No. 501-0466-17, Rowlett Creek Trunk Sewer Extension (NTMWD project completed in January 2020)
- Project No. 101-0490-18 Wylie Rockwall Farmersville 48-Inch Pipeline (NTMWD project awarded in 2020, currently under construction; construction approximately 95% complete)
- Project No. 101-0526-19 Wylie to Rockwall Pipeline Relocation, Phase I (NTMWD project awarded in 2020, currently under construction)
- Project No. 501-0513-18 and 501-0514-18 North McKinney Transfer Lift Station and North McKinney Transfer Force Main (NTMWD project awarded in 2021 as a Joint Venture between Crescent Constructors, Inc. and McKee Utility Contractors, Inc., currently under construction)

McKee indicated and confirmed they have the available capacity and resources, project manager, and superintendent assigned to this project to successfully complete this project on-schedule.

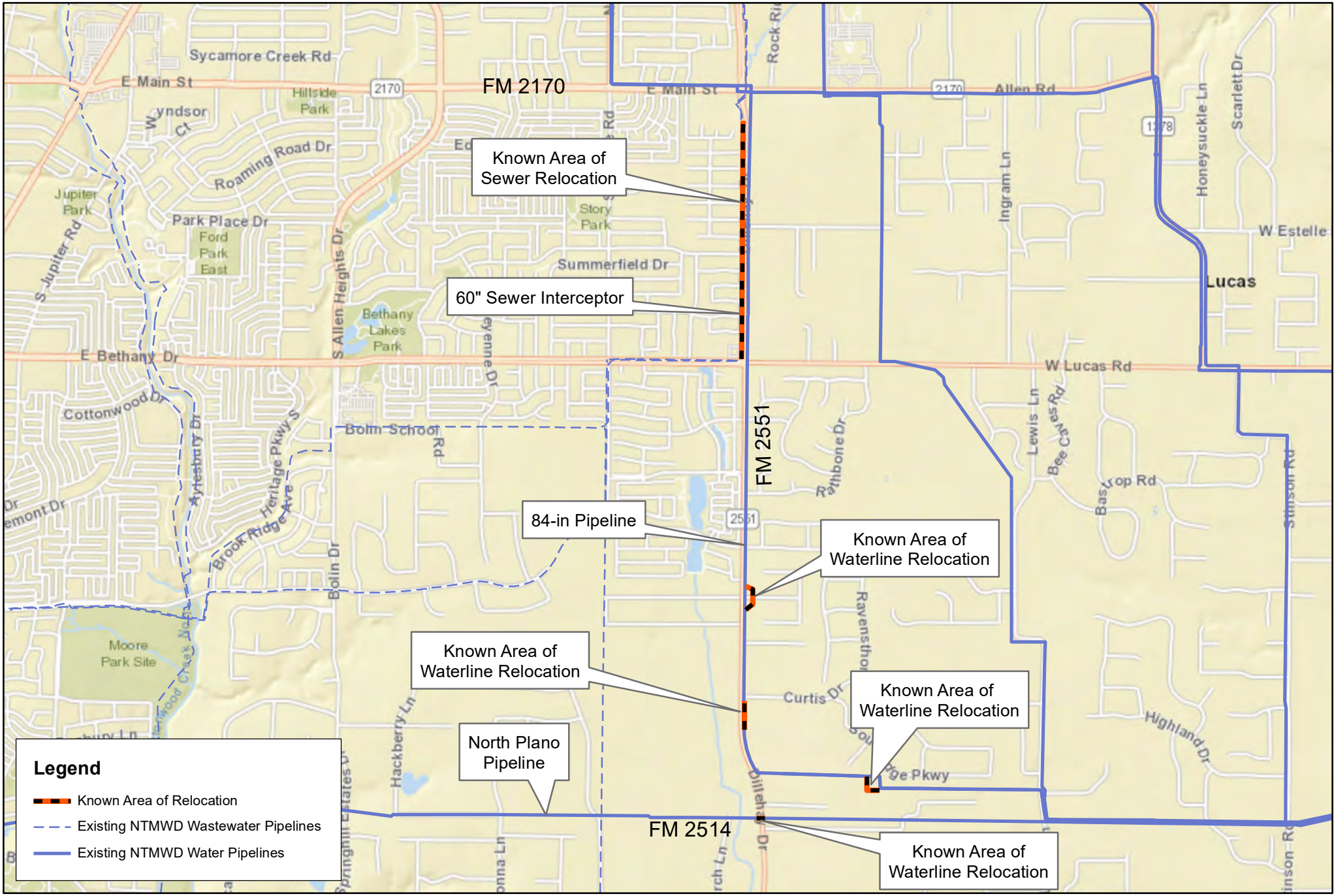
Based on their standing as lowest responsible bidder, the information provided, reports by the supplied references, and history of successful completion of projects, the NTMWD staff and BGE, Inc., recommend award of the contract to McKee Utility Contractors, Inc.

INTERNAL INSPECTION SERVICES

NTMWD will utilize its own inspection staff to cover all inspection tasks. The costs to the NTMWD related to this internal inspection coverage is approximately $248,400.

FUNDING

FUND(S): Funding in the amount of $10,695,000 to McKee Utility Contractors, Inc. and $248,400 for NTMWD internal inspection services is to be made available utilizing the Upper East Fork Interceptor System Extendable Commercial Paper (ECP) Program as the appropriation source; actual issuance of ECP will occur as cash needs arise.



Upper East Fork Interceptor System
Relocation of 60-inch Wastewater Pipeline
Project No. 101-0544-19
Administrative Memorandum No. 5801

N

NORTH TEXAS MUNICIPAL WATER DISTRICT

JANUARY 2022 ADMINISTRATIVE MEMORANDUM NO. 5802

UPPER EAST FORK INTERCEPTOR SYSTEM
SLOAN CREEK LIFT STATION
PROJECT NO. 501-0521-18

AWARD OF INSPECTION SERVICES AGREEMENT

ACTION *(What)*

Award an Inspection Services Agreement for the Sloan Creek Lift Station project.

PURPOSE *(Why)*

Provide inspection services during construction of a new 10 million gallons per day (MGD) Sloan Creek Lift Station to serve the projected growth within the City of Allen and Town of Fairview.

RECOMMENDATION

The Executive Director and NTMWD staff recommend the Board of Directors authorize the award of Inspection Services Agreement as follows:

Inspector: TEC Consulting, LLC

Scope: Inspection Services

Project: No. 501-0521-18, Sloan Creek Lift Station

Amount: $977,560

This was a discussion item on the October 27, 2021, Wastewater Committee meeting agenda.

DRIVER(S) FOR THIS PROJECT

☐ Regulatory Compliance	☐ Asset Condition
☒ Capacity	☐ Redundancy/Resiliency
☒ Relocation or External Requests	☐ Operational Efficiency
☐ Safety	☐ Administrative
☐ Policy	☐ Other _____

BACKGROUND

- An interlocal agreement (ILA) between NTMWD, City of Allen and Town of Fairview was approved by the Board in December 2018 under Administrative Memorandum No. 5316. Per the interlocal agreement,
  - The Town of Fairview and the City of Allen will jointly fund the cost associated with the design and construction of the proposed lift station.
  - NTMWD will solicit separate bids for the lift station project. NTMWD will oversee the design and construction of the proposed lift station and force main.
  - NTMWD will own and operate the lift station and force main.
- The force main portion of the project will be bid separately and is anticipated to be presented to the Board with the associated inspection services for consideration in March 2022.
- The Board awarded construction of the lift station project to Archer Western Construction, LLC, in December 2021 under Administrative Memorandum No. 5792.

PROJECT PURPOSE

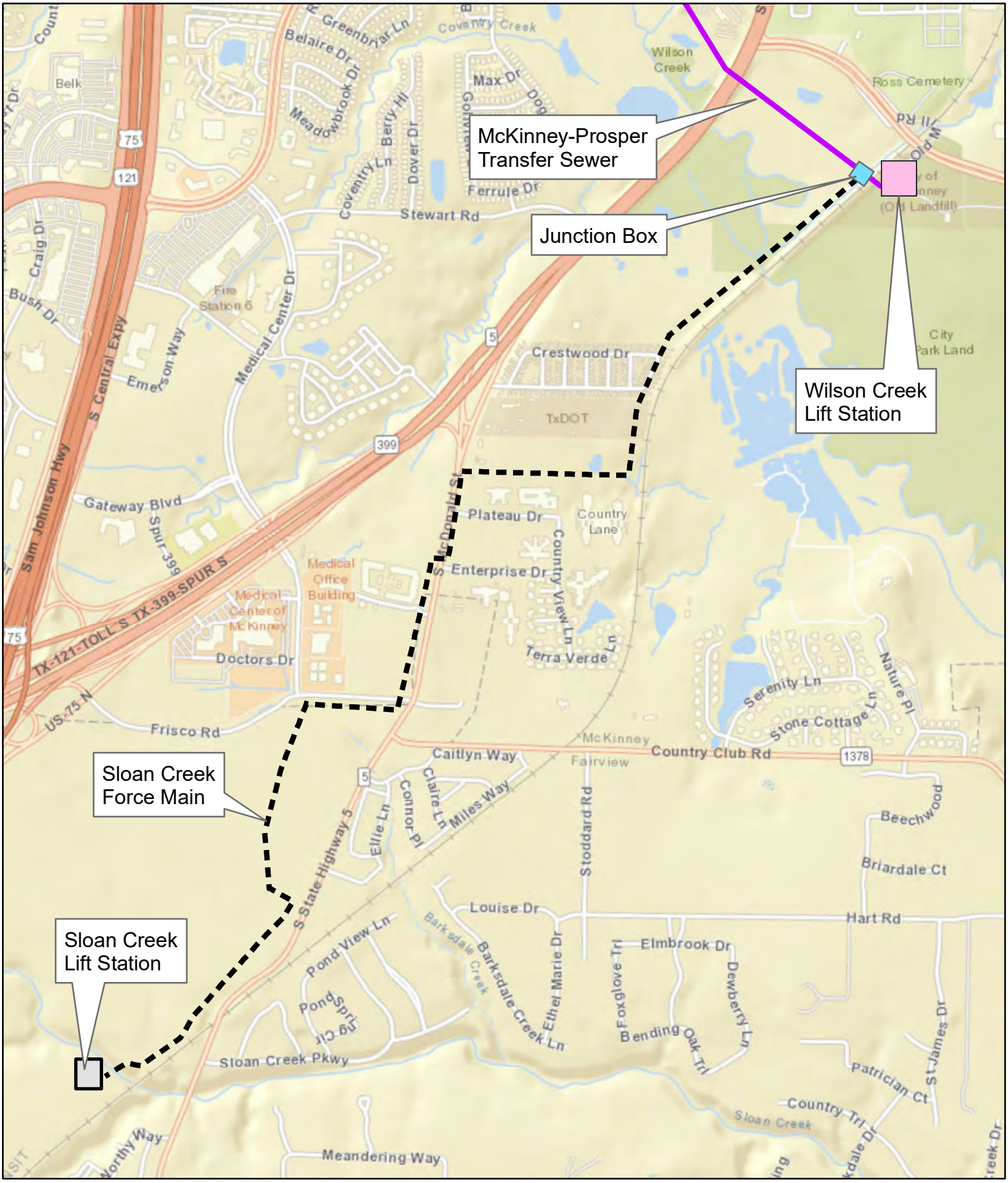
- Provide wastewater service to the growing areas of the City of Allen and the Town of Fairview with a 10 million gallon per day lift station to meet flow projections.
- The Sloan Creek Lift Station is located east of U.S. 75 along Sloan Creek near the existing railroad corridor.
- Due to current project workload the NTMWD staff recommends that TEC Consulting be retained to provide full-service inspection services for civil, electrical, and SCADA elements of this project throughout the 18-month construction period.
- TEC Consulting has proposed a fee of $977,560, which estimates three inspectors for a total of 7,288 hours. The hour total estimate and fee is based on:
  - Civil and Mechanical Inspection – 3,440 hours at $125/hour
  - Electrical Inspection – 2,288 hours at $120/hour
  - SCADA / Instrumentation & Controls Inspection – 1,560 hours at $175/hour
- NTMWD staff will oversee the activities and utilization of contracted personnel.

INSPECTION COMPONENTS

- Civil and Mechanical Inspection
- Electrical Inspection
- SCADA / Instrumentation & Controls Inspection

FUNDING

FUND(S): Funding in the amount of $977,560 to TEC Consulting, LLC is to be made available in the Upper East Fork Interceptor System 2020 Construction Fund.



Sloan Creek Lift Station
Project No. 501-0521-18
Administrative Memorandum No. 5802

N

NORTH TEXAS MUNICIPAL WATER DISTRICT

JANUARY 2022 ADMINISTRATIVE MEMORANDUM NO. 5803

INTERLOCAL AGREEMENT
BETWEEN NORTH TEXAS MUNICIPAL WATER DISTRICT
AND CITY OF WYLIE FOR THE CONVEYANCE OF REAL PROPERTY

ACTION (*What)*

Authorize the Executive Director to execute an Interlocal Agreement (ILA) with the City of Wylie to enter into property transactions for mutual benefit.

PURPOSE (*Why*)

North Texas Municipal Water District (NTMWD) shall convey parcels of land to allow City of Wylie to expand Eubanks Lane; City of Wylie shall grant the NTMWD an easement to allow for a pipeline relocation due to the expansion of Farm-to-Market (F.M.) 2514 (Ballard Avenue).

RECOMMENDATION

The Executive Director and NTMWD staff recommend the Board of Directors:

1) Authorize the Executive Director to execute an "Interlocal Agreement between North Texas Municipal Water District and City of Wylie for the Conveyance of Real Property;" contingent upon approval and execution of the ILA by the City of Wylie; and,
2) Adopt Resolution No. 21-04, *"A Resolution Authorizing Execution of an Interlocal Agreement Between North Texas Municipal Water District and City of Wylie for the Conveyance of Property;" and,*

Contracting Party: City of Wylie, Texas (Wylie)

Purpose: Execution of Interlocal Agreement

Project: Regional Water System

Amount: N/A

This was an item on the November 17, 2021, Real Estate Committee agenda.

DRIVER(S) FOR THIS PROJECT

☐ Regulatory Compliance	☐ Asset Condition
☒ Capacity	☐ Redundancy/Resiliency
☒ Relocation or External Requests	☐ Operational Efficiency
☐ Safety	☐ Administrative
☐ Policy	☐ Other _____

BACKGROUND

- In 2016 City of Wylie (Wylie) and NTMWD entered into an Interlocal Cooperation Agreement regarding the design, repair, reconstruction, improvement, and maintenance of Eubanks Lane from State Highway (SH) 78 to the entrance of the NTMWD site on Eubanks Lane.
- The ILA calls for Wylie to acquire tracts of land from NTMWD for this work.
- Wylie is now prepared to commence work on Eubanks Lane and needs approximately 0.288 acres of land from NTMWD.
- NTMWD requires a water line easement within City of Wylie property to accommodate TxDOT's proposed widening F.M. 2514, Ballard Avenue in Wylie, between Lavon Parkway and Brown Street.
- NTMWD Board of Directors previously approved the acquisition of this water line easement via Resolution 21-50.

INTERLOCAL AGREEMENT MAJOR COMPONENTS

- City of Wylie agrees to convey approximately 1.16 acres of permanent easement to NTMWD.
- NTMWD agrees to convey approximately 0.288 acres of land to City of Wylie.
- The conveyance of land to City of Wylie shall by closed through a title company, with City of Wylie paying all associated expenses.
- Both parties agree to convey the property at no cost.
- The City of Wylie plans to consider this ILA for approval at the January 25, 2022, city council meeting.
- A copy of the ILA is attached.

FUNDING

FUND(S): N/A

NORTH TEXAS MUNICIPAL WATER DISTRICT

RESOLUTION NO. 22-04

A RESOLUTION AUTHORIZING EXECUTION OF AN INTERLOCAL AGREEMENT BETWEEN NORTH TEXAS MUNICIPAL WATER DISTRICT AND CITY OF WYLIE FOR THE CONVEYANCE OF PROPERTY

WHEREAS, in 2016 City of Wylie (Wylie) and NTMWD entered into an exclusive Interlocal Cooperation Agreement (ILA) regarding the design, repair, reconstruction, improvement, and maintenance of Eubanks Lane from State Highway (SH) 78 to the entrance of the NTMWD site on Eubanks Lane; and,

WHEREAS, NTMWD agreed in the ILA to convey property along Eubanks Lane to City of Wylie; and,

WHEREAS, NTMWD shall convey approximately 0.288 acres of land to Wylie for the improvements to Eubanks Lane; and,

WHEREAS, Wylie agrees to incur all costs associated with closing the approximate 0.288 acres of land through a title company; and,

WHEREAS, NTMWD Board of Directors approved Resolution 21-50, which authorized the acquisition of a 0.486-acre permanent easement and a 1.007-acre temporary easement within City of Wylie property for the relocation of a pipeline to accommodate Texas Department of Transportation's (TxDOT) widening of F.M. 2514 within the city limits of Wylie as part of the F.M. 2514 Pipeline Relocations Project No. 101-0585-21 (Project); and,

WHEREAS, the Project now only requires approximately 1.16 acres for a permanent water pipeline easement; and,

WHEREAS, Wylie agrees to convey an approximate 1.16-acre permanent water pipeline easement to NTMWD; and,

WHEREAS, both parties agree to convey the properties at no cost.

NOW, THEREFORE, THE BOARD OF DIRECTORS IN A REGULAR MEETING DETERMINES AND RESOLVES THAT:

1. The approximate 0.288 acres owned by NTMWD is surplus to the needs of the District and shall be conveyed to Wylie at no cost in exchange for needed property.

2. There is a public need and necessity to acquire a 1.16-acre permanent easement from City of Wylie, which is hereby authorized.

3. The Executive Director is authorized to execute the Interlocal Agreement attached hereto as Exhibit "A" to accomplish the above purposes.

THIS RESOLUTION ADOPTED BY THE NTMWD BOARD OF DIRECTORS IN A REGULAR MEETING ON JANUARY 27, 2022, IN THE ADMINISTRATIVE OFFICES OF THE NTMWD, WYLIE, TEXAS.

Richard Peasley, Secretary	**Phil Dyer, President**

(SEAL)

Interlocal Agreement between NTMWD and City of Wylie
Administrative Memorandum No. 5803
Exhibit A

N

Interlocal Agreement between NTMWD and City of Wylie
Administrative Memorandum No. 5803
Exhibit B

N

STATE OF TEXAS §
§
COUNTY OF COLLIN §

INTERLOCAL COOPERATION AGREEMENT
BETWEEN THE CITY OF WYLIE, TEXAS
AND NORTH TEXAS MUNICIPAL WATER DISTRICT

The Interlocal Cooperation Agreement (the "Agreement") is made by and between the **City of Wylie, Texas**, a home rule municipality ("City"), and **North Texas Municipal Water District**, a political subdivision of the State of Texas ("NTMWD"), acting by and through their duly authorized representatives. City and NTMWD at times are referred to herein as a "party" or collectively as the "parties."

WHEREAS, the lnterlocal Corporation Act, Chapter 791 of the Texas Government Code (the "Act") provides the authority for political subdivisions to contract with each other to purchase goods and services and facilitate governmental functions of said political subdivisions under the terms of the Act; and

WHEREAS, on or about February 29, 2016, City and NTMWD entered into an Interlocal Cooperation Agreement between the City of Wylie, Texas and the North Texas Municipal Water District regarding the design, repair, reconstruction, improvement, and maintenance of Eubanks Lane from SH 78 to the entrance of the NTMWD site on Eubanks Lane (the "Project"); and

WHEREAS, in furtherance of the Project and in order to expand Eubanks Lane, City has requested that NTMWD dedicate certain right of way property to City at no cost; and

WHEREAS, NTMWD has agreed to the right of way dedication requested by City in exchange for City granting NTMWD a pipeline easement NTMWD needs as a result of the Texas Department of Transportation ("TxDOT") widening F.M. 2514 in the City of Wylie from east of Lavon Parkway to Brown Street which puts NTMWD's existing pipelines in conflict with the new roadway; and

WHEREAS, under the Act the Property may be sold, assigned, and transferred at market value, or for no consideration.

NOW THEREFORE, for and in consideration of the above premises and the mutual covenants contained herein, City and NTMWD agree as follows:

ARTICLE ONE
Real Property Exchange

1.01 **Conveyance of the Right of Way to City**. In exchange for the conveyance in Section 1.02, NTMWD hereby agrees to sell, assign, and transfer all of its right, title, and interest in and to four right of way parcels to City (the "ROW Parcels") by executing and delivering to the Title Company a Special Warranty Deed in the form attached hereto as **Exhibit C** (the "Deed"). The ROW Parcels are depicted in **Exhibit A**, which is attached hereto and incorporated herein by reference. The conveyance in this Section 1.01 shall be closed through Reunion Title, 1700 Redbud Blvd, Suite 300 in McKinney, Texas (the "Title Company"). The costs associated with closing and obtaining a title policy covering the ROW Parcels shall be paid solely by City.

1.02 **Conveyance of Easements to NTMWD**. In exchange for the conveyance in Section 1.01, City hereby agrees to convey to NTMWD an easement (the "Easement") covering the area depicted in **Exhibit B** (the "Easement Area"), which is attached hereto and incorporated herein by reference. The form of the Easement is attached hereto as **Exhibit D**. The City will execute and deliver an Easement to the Title Company. Upon receipt of the Deed and the Easement, the Title Company will cause the Deed and the Easement to be recorded in the Official Public Records of Collin County, Texas.

ARTICLE TWO
Term

2.01 This Agreement shall commence on the Effective Date and remain in full force and effect until the conveyances referenced in Article One are effectuated.

ARTICLE THREE
Effective Date

3.01 This Agreement shall be effective upon approval by the Wylie City Council and the NTMWD Board of Directors and subsequent execution by the Parties respective duly authorized representatives. The effective date will be the latter of the dates this Agreement is executed by the Parties authorized representatives (the "Effective Date").

ARTICLE FOUR
Responsibility

4.01 In the event of joint or concurrent negligence of the Parties, responsibility, if any, shall be apportioned comparatively in accordance with the laws of the State of Texas without, however, waiving any governmental immunity or defense available to any party individually under Texas law. City shall be responsible for its sole negligence. NTMWD shall be responsible for its sole negligence. The provisions of this paragraph are solely for the benefit of the Parties and are not intended to create or grant any rights, contractual or otherwise, to any other person or entity.

ARTICLE FIVE
Immunity

5.01 It is expressly understood and agreed that, in the execution of this agreement, neither Party waives, nor shall be deemed hereby to have waived any immunity or defense that would otherwise be available to it against claims arising in the exercise of governmental powers and functions. By entering into this Agreement, the Parties do not create any obligations, expressed or implied, other than those set forth herein, and this Agreement shall not create any rights in parties not signatories hereto.

ARTICLE SIX
Notices

6.01 All notices required under the provisions of this Agreement must be in writing, hand-delivered or sent by registered or certified mail, with a copy sent via email, to the addresses below:

City: City of Wylie
Attn: Brent Parker
300 County Club Road
Wylie, Texas 75098
brent.parker@wylietexas.org

with a copy to:
Abernathy, Roeder, Boyd & Hullett, P.C.
Attn: Richard Abernathy
1700 Redbud Blvd., Suite 300
McKinney, Texas 75069
rabernathy@abernathy-law.com

NTMWD: Jennafer P. Covington
Executive Director and General Manager
P.O. Box 2408
Wylie, TX 75098
jcovington@ntmwd.com

with a copy to:
Saunders, Walsh & Beard
Attention: Lewis Isaacks
6850 TPC Drive, Suite 210
McKinney, Texas 75070
Telephone: (214) 919-3555
Email: lewis@saunderswalsh.com

The name, address, and email address for notification may be changed by notice to the other parties.

ARTICLE SEVEN
Severability

7.01 The provisions of this Agreement are severable. If any paragraph, section, subdivision, sentence, clause or phrase of this Agreement is for any reason held by a court of competent jurisdiction to be contrary to law or contrary to any rule or regulation having the force and effect of the law, the remaining portions of the Agreement shall be enforced as if the invalid provision had never been included.

ARTICLE EIGHT
Successors and Assigns

8.01 This Agreement shall be binding upon the Parties hereto, their successors and assigns. Neither Party will assign or transfer an interest in this Agreement without the written consent of the other Party.

ARTICLE NINE
Venue

9.01 The laws of the State of Texas shall govern the interpretation, validity, performance and enforcement of this Agreement. The Parties agree that this Agreement is performable in Collin County, Texas, and that exclusive venue shall lie in a state court in Collin County, Texas.

ARTICLE TEN
Interpretation

10.01 This Agreement has been negotiated by and between the Parties, and any presumption that an ambiguity contained in this Agreement shall be construed against the party that caused this Agreement to be drafted shall not apply to the interpretation of this Agreement.

ARTICLE ELEVEN
Remedies, Non-Waiver

11.01 No right or remedy granted herein or reserved to the Parties is exclusive of any right or remedy granted by law or equity, but each shall be cumulative of every right or remedy given hereunder. No covenant or condition of this Agreement may be waived without the express written consent of the Parties. It is further agreed that one or more

instances of forbearance by either Party in the exercise of its respective rights under this Agreement shall in no way constitute a waiver thereof.

ARTICLE TWELVE
Authority to Execute

12.01 The individuals executing this Agreement on behalf of the respective parties below represent to each and to others that all appropriate and necessary action has been taken to authorize the individual who is executive this Agreement to do so for an d on behalf of the part for which his or her signature appears, that there are no other parties or entities required to execute this Agreement in order for the same to be an authorized and binding agreement on the party for whom the individual is signing this Agreement and that each individual affixing his or her signature hereto is authorized to do so, and such authorization is valid and effective on the date hereof.

ARTICLE THIRTEEN
Entire Agreement

13.01 This Agreement embodies the entire agreement between the Parties and may only be modified in writing executed by both Parties.

CITY OF WYLIE, TEXAS,
a home-rule municipality

By: _____
Name: Brent Parker
Title: Interim City Manager
Date: _____

NORTH TEXAS MUNICIPAL WATER DISTRICT,
a political subdivision of the State of Texas

By: _____
Name: Jennafer P. Covington
Title: Executive Director and General Manager
Date: _____

ACKNOWLEDGMENTS

STATE OF TEXAS §
§
COUNTY OF COLLIN §

This instrument was acknowledged before me on the _____ day of _____, 2021, by **BRENT PARKER**, Interim City Manager of the **CITY OF WYLIE, TEXAS**.

_____
Notary Public, State of Texas

STATE OF TEXAS §
§
COUNTY OF COLLIN §

This instrument was acknowledged before me on the _____ day of _____, 2021, by **JENNAFER P. COVINGTON**, Executive Director and General Manager of **NORTH TEXAS MUNICIPAL WATER DISTRICT.**

_____
Notary Public, State of Texas

Exhibit "A" to the ILA
The ROW Parcels

Exhibit "A.1"
The ROW Parcel – 0.1634

EXHIBIT A
PARCEL NO. 8
RIGHT OF WAY DEDICATION
7,118 SQ. FT. (0.1634 ACRES)

BEING a 7,118 square foot (0.1634 acre) tract of land situated in the Francisco De La Pina Survey, Abstract No. 688, City of Wylie, Collin County, Texas, and being part of that 142.262 acre tract of land described in Warranty Deed to North Texas Municipal Water District, as recorded in Volume 3713, Page 417 of the Official Public Records of Collin County, Texas (O.P.R.C.C.T.), and being more particularly described as follows:

BEGINNING at a set magnail with a washer stamped "HALFF" for the southeast corner of said 142.262 acre tract, being at the intersection of the west line of Eubanks Lane (County Road 389, a variable width right-of-way) with the called centerline of Country Road 383 (variable width right-of-way);

THENCE North 88 degrees 07 minutes 30 seconds West, departing said west line of Eubanks Lane and along the common south line of said 142.262 acre tract and said center of County Road 383, a distance of 14.80 feet to a set 1/2-inch iron rod with a yellow plastic cap stamped "HALFF" (hereinafter referred to as with "HALFF" cap) for corner;

THENCE North 00 degrees 30 minutes 31 seconds East, departing said common line and over and across said 142.262 acre tract, a distance of 184.13 feet to a set 1/2-inch iron rod with "HALFF" cap for corner;

THENCE North 01 degree 00 minutes 31 seconds East, continuing across said 142.262 acre tract, a distance of 221.37 feet to a set 1/2-inch iron rod with "HALFF" cap for corner, said point being the beginning of a non-tangent circular curve to the right having a radius of 1,082.50 feet and whose chord bears North 01 degree 00 minutes 04 seconds East, a distance of 14.01 feet;

THENCE Northerly, continuing across said 142.262 acre tract and along said curve, through a central angle of 00 degrees 44 minutes 30 seconds, for an arc distance of 14.01 feet to a set 1/2-inch iron rod with "HALFF" cap for corner, said point being on the westerly extension of the south line of a 0.1164 acre right-of-way dedication described in right-of-way deed to County of Collin, as recorded in Volume 3227, Page 437, O.P.R.C.C.T.;

THENCE South 88 degrees 39 minutes 23 seconds East, passing at a calculated distance of 2.50 feet the southwest corner of said 0.1164 acre tract, and continuing along the south line of said 0.1164 acre tract, in all a total distance of 18.23 feet to a set 1/2-inch iron rod with "HALFF" cap for corner on the east line of said 142.262 acre tract;

EXHIBIT A
PARCEL NO. 8
RIGHT OF WAY DEDICATION
7,118 SQ. FT. (0.1634 ACRES)

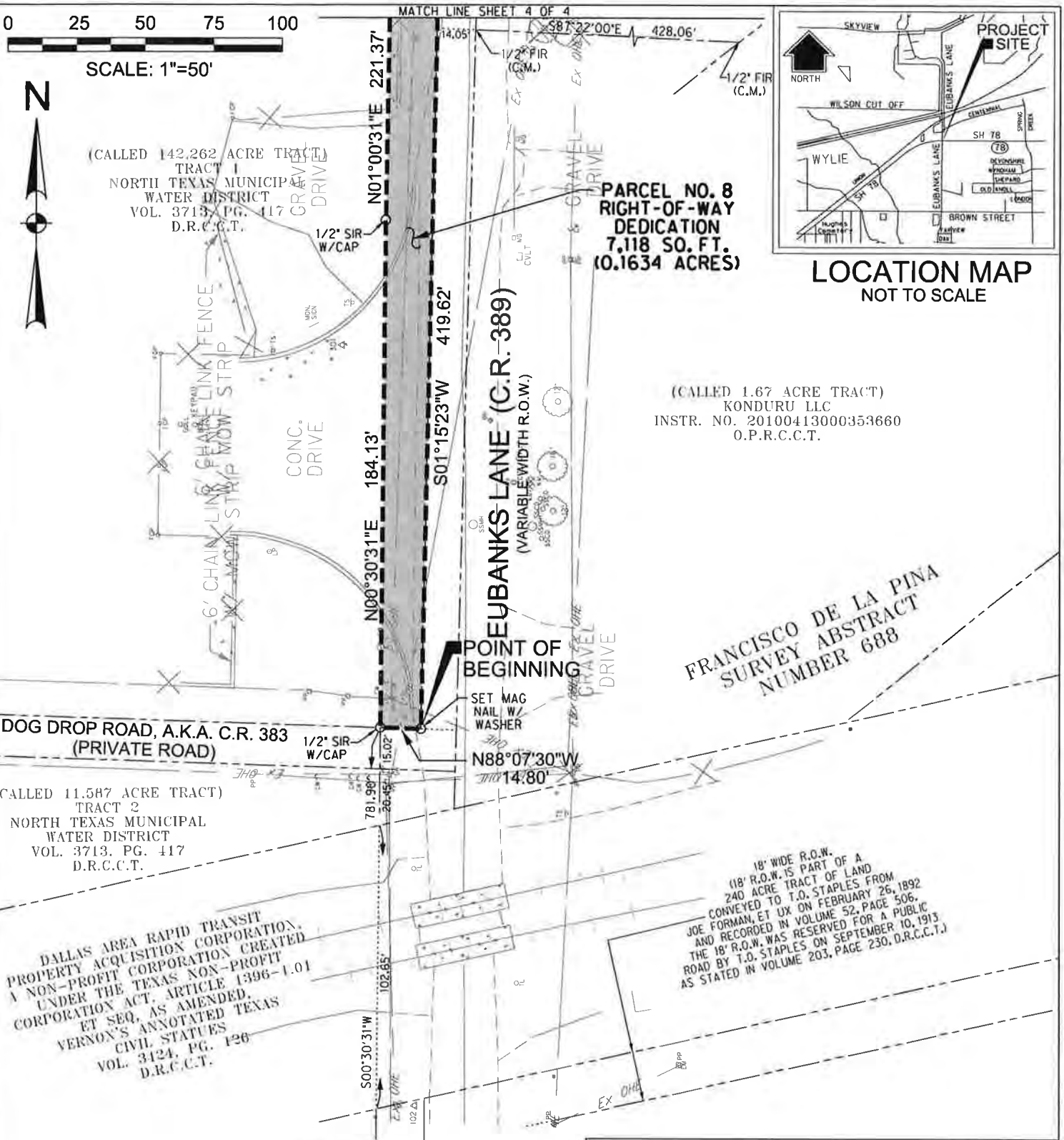
THENCE South 01 degree 15 minutes 23 seconds West, departing said south line and with the east line of said 142.262 acre tract and said called west line of Eubanks Lane, a distance of 419.62 feet to the POINT OF BEGINNING AND CONTAINING 7,118 square feet or 0.1634 acres of land, more or less.

The Basis of Bearing is the Texas Coordinate System of 1983, North Central Zone (4202), based on ties to City of Wylie Monuments CM 1, CM 2, CM 3, CM 4 and CM 5.

I, Andrew J. Shafer, a Registered Professional Land Surveyor, hereby certify that the legal description hereon and the accompanying plat of even date represent an actual survey made on the ground under my supervision.

Andrew J. Shafer Feb. 16, 2021

Andrew J. Shafer
Registered Professional Land Surveyor
Texas No. 5017
TBPELS Firm No. 10029600



LOCATION MAP
NOT TO SCALE

NOTE:
The Basis of Bearing is the Texas Coordinate System of 1983, North Central Zone (4202), based on ties to City of Wylie Monuments CM 1, CM 2, CM 3, CM 4 and CM 5.

LEGEND

1/2"SIR W/CAP	1/2-INCH SET IRON ROD WITH YELLOW PLASTIC CAP STAMPED "HALFF"
FIR	FOUND IRON ROD
U.T.S.	UNABLE TO SET
C.M.	CONTROL MONUMENT
R.O.W.	RIGHT-OF-WAY
DOC. NO.	DOCUMENT NUMBER
INSTR. NO.	INSTRUMENT NUMBER
O.P.R.C.C.T.	OFFICIAL PUBLIC RECORDS OF COLLIN COUNTY, TEXAS
P.R.C.C.T.	PLAT RECORDS OF COLLIN COUNTY, TEXAS

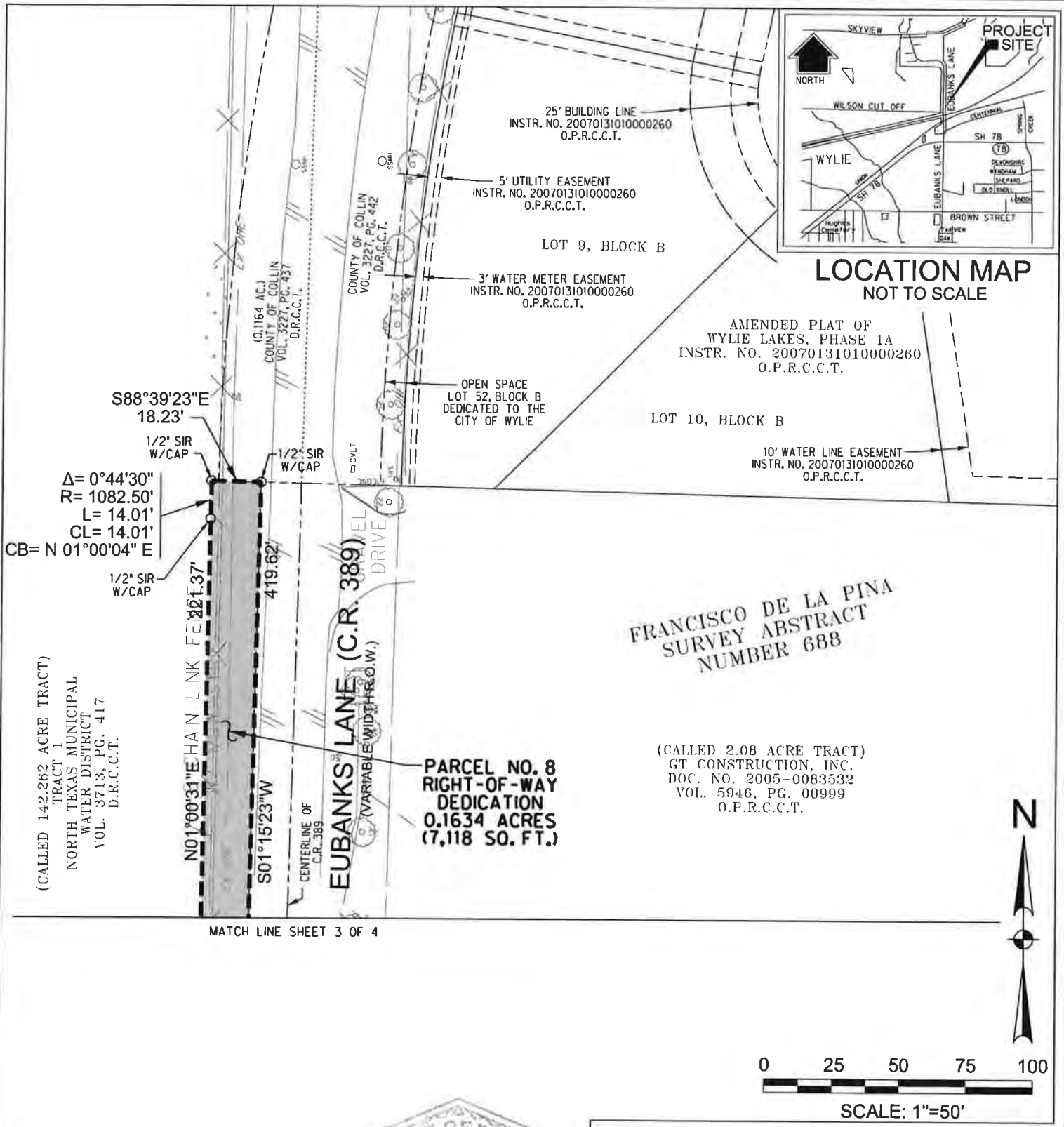
EXHIBIT A
PARCEL NO. 8 RIGHT-OF-WAY DEDICATION
7,118 SQ. FT. OR (0.1634 ACRES)

SITUATED IN THE
FRANCISCO DE LA PENA SURVEY, ABSTRACT NO. 688
CITY OF WYLIE, COLLIN COUNTY, TEXAS
FOR

CITY OF WYLIE

PREPARED BY

HALFF
HALFF ASSOCIATES, INC. ENGINEERS ~ SURVEYORS
1201 NORTH BOWSER ROAD ~ RICHARDSON, TEXAS ~ 75081-2275
TBPELS FIRM NO. 10029600 (214)346-6200 AVO. 34066 FEBRUARY, 2021



LOCATION MAP
NOT TO SCALE

NOTE:
The Basis of Bearing is the Texas Coordinate System of 1983, North Central Zone (4202), based on ties to City of Wylie Monuments CM 1, CM 2, CM 3, CM 4 and CM 5.

LEGEND

1/2"SIR W/CAP	1/2-INCH SET IRON ROD WITH YELLOW PLASTIC CAP STAMPED "HALFF"
FIR	FOUND IRON ROD
U.T.S.	UNABLE TO SET
C.M.	CONTROL MONUMENT
R.O.W.	RIGHT-OF-WAY
DOC. NO.	DOCUMENT NUMBER
INSTR. NO.	INSTRUMENT NUMBER
O.P.R.C.C.T.	OFFICIAL PUBLIC RECORDS OF COLLIN COUNTY, TEXAS
P.R.C.C.T.	PLAT RECORDS OF COLLIN COUNTY, TEXAS

STATE OF TEXAS
REGISTERED
ANDREW J. SHAFER
5017
PROFESSIONAL
LAND SURVEYOR

Andrew J. Shafer
Feb. 16, 2021

EXHIBIT A
PARCEL NO. 8 RIGHT-OF-WAY DEDICATION
7,118 SQ. FT. OR (0.1634 ACRES)

SITUATED IN THE
FRANCISCO DE LA PENA SURVEY, ABSTRACT NO. 688
CITY OF WYLIE, COLLIN COUNTY, TEXAS
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1201 NORTH BOWSER ROAD ~ RICHARDSON, TEXAS ~ 75081-2275
TBPELS FIRM NO. 10029600 (214)346-6200 AVO. 34066 FEBRUARY, 2021

Exhibit "A.2"
The ROW Parcel – 0.0106

EXHIBIT A
PARCEL NO. 7
RIGHT OF WAY DEDICATION
463 SQ. FT. (0.0106 ACRES)

BEING a 463 square foot (0.0106 acre) tract of land situated in the Francisco De La Pina Survey, Abstract No. 688, City of Wylie, Collin County, Texas, and being part of that 11.587 acre tract of land described in Warranty Deed to North Texas Municipal Water District, as recorded in Volume 3713, Page 417 of the Official Public Records of Collin County, Texas (O.P.R.C.C.T.), and being more particularly described as follows:

BEGINNING at a point (unable to set) for the northeast corner of said 11.587 acre tract, said point being in the center of Eubanks Lane (County Road 389, a variable width right-of-way) and on the south line of County Road 383;

THENCE South 01 degree 31 minutes 13 seconds West, with the east line of said 11.587 acre tract and the center of Eubanks Lane, a distance of 13.50 feet to a point (unable to set) for the southeast corner of said 11.587 acre tract, said point being on the north line of a tract of land described in deed to Dallas Area Rapid Transit Property Acquisition Corporation (DART), as recorded in Volume 3424, Page 126, O.P.R.C.C.T.;

THENCE South 77 degrees 27 minutes 21 seconds West, departing said center of Eubanks Lane and along the common south line of said 11.587 acre tract and north line of said DART tract, a distance of 27.90 feet to a set 1/2-inch iron rod with a yellow plastic cap stamped "HALFF" for corner;

THENCE North 00 degrees 30 minutes 31 seconds East, departing said common line and over and across said 11.587 acre tract, a distance of 20.45 feet to a set 1/2-inch iron rod with a yellow plastic cap stamped "HALFF" on the common north line of said 11.587 acre tract and south line of said County Road 383;

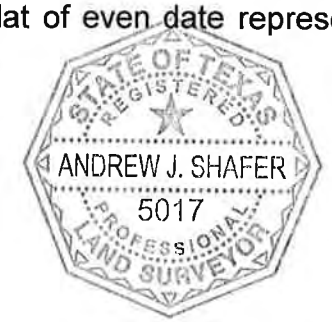
THENCE South 88 degrees 07 minutes 27 seconds East, along said common line, a distance of 27.42 feet to the POINT OF BEGINNING AND CONTAINING 463 square feet or 0.0106 acres of land, more or less.

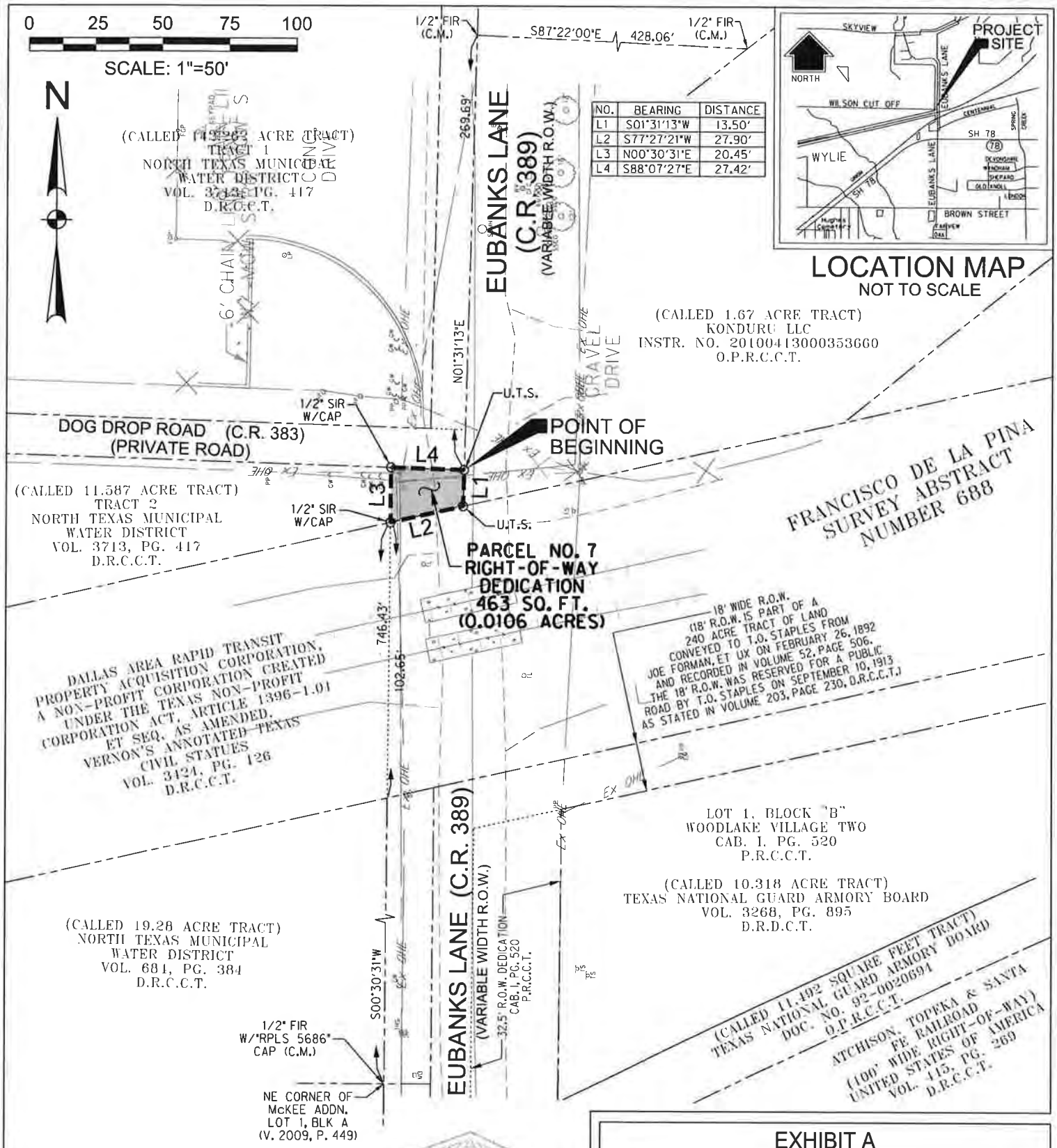
The Basis of Bearing is the Texas Coordinate System of 1983, North Central Zone (4202), based on ties to City of Wylie Monuments CM 1, CM 2, CM 3, CM 4 and CM 5.

I, Andrew J. Shafer, a Registered Professional Land Surveyor, hereby certify that the legal description hereon and the accompanying plat of even date represent an actual survey made on the ground under my supervision.

Andrew J. Shafer Feb. 16, 2021

Andrew J. Shafer
Registered Professional Land Surveyor
Texas No. 5017
TBPELS Firm No. 10029600





NO.	BEARING	DISTANCE
L1	S01°31'13"W	13.50'
L2	S77°27'21"W	27.90'
L3	N00°30'31"E	20.45'
L4	S88°07'27"E	27.42'

LOCATION MAP
NOT TO SCALE

NOTE:
The Basis of Bearing is the Texas Coordinate System of 1983, North Central Zone (4202), based on ties to City of Wylie Monuments CM 1, CM 2, CM 3, CM 4 and CM 5.

LEGEND

1/2"SIR W/CAP	1/2-INCH SET IRON ROD WITH YELLOW PLASTIC CAP STAMPED "HALFF"
FIR	FOUND IRON ROD
U.T.S.	UNABLE TO SET
C.M.	CONTROL MONUMENT
R.O.W.	RIGHT-OF-WAY
DOC. NO.	DOCUMENT NUMBER
INSTR. NO.	INSTRUMENT NUMBER
O.P.R.C.C.T.	OFFICIAL PUBLIC RECORDS OF COLLIN COUNTY, TEXAS
P.R.C.C.T.	PLAT RECORDS OF COLLIN COUNTY, TEXAS

STATE OF TEXAS
REGISTERED
ANDREW J. SHAFER
5017
PROFESSIONAL
LAND SURVEYOR

Feb. 16, 2021

EXHIBIT A
PARCEL NO. 7 RIGHT-OF-WAY DEDICATION
463 SQ. FT. OR (0.0106 ACRES)

SITUATED IN THE
FRANCISCO DE LA PENA SURVEY, ABSTRACT NO. 688
CITY OF WYLIE, COLLIN COUNTY, TEXAS
FOR
CITY OF WYLIE

PREPARED BY
HALFF

HALFF ASSOCIATES, INC. ENGINEERS ~ SURVEYORS
1201 NORTH BOWSER ROAD ~ RICHARDSON, TEXAS ~ 75081-2275
TBPELS FIRM NO. 10029600 (214)346-6200 AVO. 34066 FEBRUARY, 2021

Exhibit "A.3"
The ROW Parcel - 0.0574

EXHIBIT A
PARCEL NO. 6
RIGHT OF WAY DEDICATION
2,501 SQ. FT. (0.0574 ACRES)

BEING a 2,501 square foot (0.0574 acre) tract of land situated in the Francisco De La Pina Survey, Abstract No. 688, City of Wylie, Collin County, Texas, and being part of that 19.28 acre tract of land described in Warranty Deed to North Texas Municipal Water District, as recorded in Volume 684, Page 384 of the Official Public Records of Collin County, Texas (O.P.R.C.C.T.), and being more particularly described as follows:

BEGINNING at a set 1/2-inch iron rod with a yellow plastic cap stamped "HALFF" (hereinafter referred to as with "HALFF" cap) for the northeast corner of said 19.28 acre tract, on the west line of Eubanks Lane (County Road 389, a variable width right-of-way), and being on the south line of a tract of land described in deed to Dallas Area Rapid Transit Property Acquisition Corporation (DART), as recorded in Volume 3424, Page 126, O.P.R.C.C.T.;

THENCE South 00 degrees 30 minutes 31 seconds West, departing said south line and with the east line of said 19.28 acre tract and said west line of Eubanks Lane, a distance of 140.43 feet to a set 1/2-inch iron rod with "HALFF" cap at the southeast corner of said 19.28 acre tract, said point being on the northeast line of a 100-foot wide Kansas City Southern Railroad Company (KCS Railroad Company) right-of-way, described in Deed without Warranty, as recorded in Instrument Number 94-0096329, O.P.R.C.C.T., and being on a non-tangent circular curve to the left having a radius of 5,779.58 feet and whose chord bears South 63 degrees 14 minutes 07 seconds West, a distance of 19.69 feet;

THENCE Southwesterly, departing said Eubanks Lane, and along the common south line of said 19.28 acre tract and north line of said KCS Railroad Company tract, and along said curve, through a central angle of 00 degrees 11 minutes 43 seconds, for an arc distance of 19.69 feet to a set 1/2-inch iron rod with "HALFF" cap for corner;

THENCE North 00 degrees 30 minutes 31 seconds East, departing said common line and over and across said 19.28 acre tract, a distance of 145.39 feet to a set 1/2-inch iron rod with "HALFF" cap on the common north line of said 19.28 acre tract and south line of said DART tract;

THENCE North 77 degrees 27 minutes 21 seconds East, along said common line, a distance of 17.97 feet to the POINT OF BEGINNING AND CONTAINING 2,501 square feet or 0.0574 acres of land, more or less.

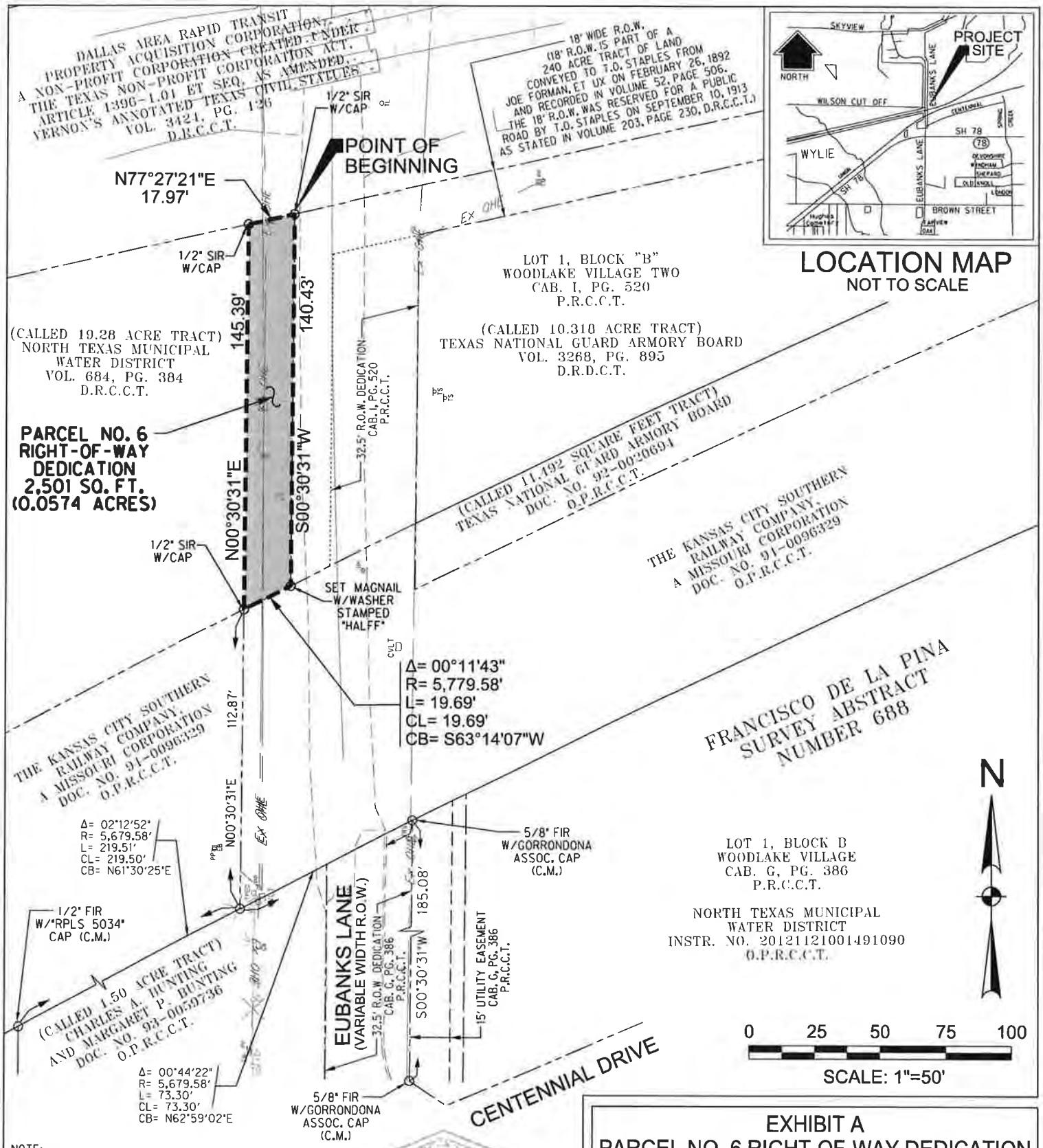
EXHIBIT A
PARCEL NO. 6
RIGHT OF WAY DEDICATION
2,501 SQ. FT. (0.0574 ACRES)

The Basis of Bearing is the Texas Coordinate System of 1983, North Central Zone (4202), based on ties to City of Wylie Monuments CM 1, CM 2, CM 3, CM 4 and CM 5.

I, Andrew J. Shafer, a Registered Professional Land Surveyor, hereby certify that the legal description hereon and the accompanying plat of even date represent an actual survey made on the ground under my supervision.

Andrew J. Shafer Feb. 16, 2021

Andrew J. Shafer
Registered Professional Land Surveyor
Texas No. 5017
TBPELS Firm No. 10029600



LOCATION MAP
NOT TO SCALE

NOTE:
The Basis of Bearing is the Texas Coordinate System of 1983, North Central Zone (4202), based on ties to City of Wylie Monuments CM 1, CM 2, CM 3, CM 4 and CM 5.

LEGEND

1/2"SIR W/CAP	1/2-INCH SET IRON ROD WITH YELLOW PLASTIC CAP STAMPED "HALFF"
FIR	FOUND IRON ROD
U.T.S.	UNABLE TO SET
C.M.	CONTROL MONUMENT
R.O.W.	RIGHT-OF-WAY
DOC. NO.	DOCUMENT NUMBER
INSTR. NO.	INSTRUMENT NUMBER
O.P.R.C.C.T.	OFFICIAL PUBLIC RECORDS OF COLLIN COUNTY, TEXAS
P.R.C.C.T.	PLAT RECORDS OF COLLIN COUNTY, TEXAS

STATE OF TEXAS
REGISTERED
ANDREW J. SHAFER
5017
PROFESSIONAL
LAND SURVEYOR

Feb. 16, 2021

EXHIBIT A
PARCEL NO. 6 RIGHT-OF-WAY DEDICATION
2,501 SQ. FT. OR (0.0574 ACRES)

SITUATED IN THE
FRANCISCO DE LA PENA SURVEY, ABSTRACT NO. 688
CITY OF WYLIE, COLLIN COUNTY, TEXAS
FOR

CITY OF WYLIE

PREPARED BY

HALFF
HALFF ASSOCIATES, INC. ENGINEERS ~ SURVEYORS
1201 NORTH BOWSER ROAD ~ RICHARDSON, TEXAS ~ 75081-2275
TBPELS FIRM NO. 10029600 (214)346-6200 AVO. 34066 FEBRUARY, 2021

Exhibit "A.4"
The ROW Parcel – 0.0563

EXHIBIT A
PARCEL NO. 4
RIGHT OF WAY DEDICATION
2,454 SQ. FT. (0.0563 ACRES)

BEING a 2,454 square foot (0.0563 acre) tract of land situated in the Francisco De La Pina Survey, Abstract No. 688, City of Wylie, Collin County, Texas, and being part of that tract of land described in Special Warranty Deed to North Texas Municipal Water District, as recorded in Instrument Number 20121121001491090 of the Official Public Records of Collin County, Texas (O.P.R.C.C.T.), and being a part of Lot 1, Block B of Woodlake Village, an Addition to the City of Wylie, Texas, as recorded in Cabinet G, Page 386, Map Records of Collin County, Texas, and being more particularly described as follows:

BEGINNING at a found 5/8-inch iron rod with a plastic cap stamped "Gorrondona Assoc." for the northwest end of a corner clip located at the intersection of the north line of Centennial Drive (60-foot wide right-of-way) with the east line of Eubanks Lane (County Road 389, a 32.5 foot wide right-of-way dedicated by said Woodlake Village addition);

THENCE North 00 degrees 30 minutes 31 seconds East, with said east line of Eubanks Lane, a distance of 41.16 feet to a set 1/2-inch iron rod with a yellow plastic cap stamped HALFF (hereinafter referred to as "with HALFF cap") for corner;

THENCE South 44 degrees 32 minutes 20 seconds East, departing said east line and over and across said Lot 1, a distance of 21.20 feet to a set 1/2-inch iron rod with HALFF cap at the beginning of a non-tangent circular curve to the left having a radius of 410.00 feet and whose chord bears North 78 degrees 30 minutes 35 seconds East, a distance of 161.64 feet;

THENCE Easterly, continuing across said Lot 1, through a central angle of 22 degrees 44 minutes 13 seconds, for an arc distance of 162.70 feet to a set 1/2-inch iron rod with HALFF cap on said north line of Centennial Drive;

THENCE South 67 degrees 08 minutes 29 seconds West, along said north line, a distance of 173.58 feet to a found 5/8-inch iron rod with "Gorrondona" cap at the southeast end of the aforementioned corner clip;

THENCE North 56 degrees 09 minutes 25 seconds West, along said corner clip, a distance of 16.48 feet to the POINT OF BEGINNING AND CONTAINING 2,454 square feet or 0.0563 acres of land, more or less.

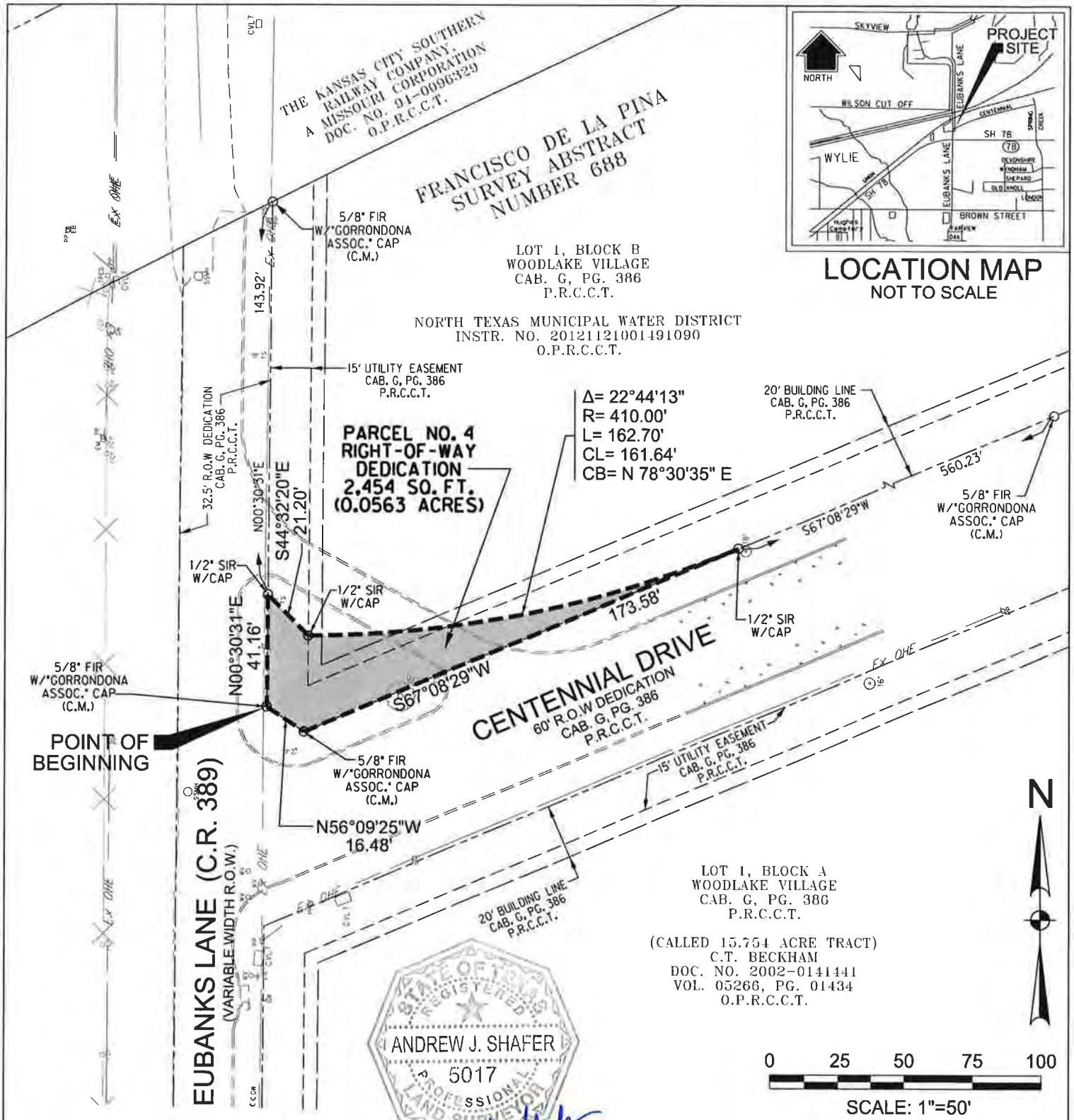
EXHIBIT A
PARCEL NO. 4
RIGHT OF WAY DEDICATION
2,454 SQ. FT. (0.0563 ACRES)

The Basis of Bearing is the Texas Coordinate System of 1983, North Central Zone (4202), based on ties to City of Wylie Monuments CM 1, CM 2, CM 3, CM 4 and CM 5.

I, Andrew J. Shafer, a Registered Professional Land Surveyor, hereby certify that the legal description hereon and the accompanying plat of even date represent an actual survey made on the ground under my supervision.

Andrew J. Shafer Feb. 16, 2021

Andrew J. Shafer
Registered Professional Land Surveyor
Texas No. 5017 TBPELS Firm No. 10029600



LOCATION MAP
NOT TO SCALE

STATE OF TEXAS REGISTERED ANDREW J. SHAFER 5017 PROFESSIONAL LAND SURVEYOR

Andrew J. Shafer
Feb. 16, 2021

NOTE:
The Basis of Bearing is the Texas Coordinate System of 1983, North Central Zone (4202), based on ties to City of Wylie Monuments CM 1, CM 2, CM 3, CM 4 and CM 5.

LEGEND

1/2"SIR W/CAP	1/2-INCH SET IRON ROD WITH YELLOW PLASTIC CAP STAMPED "HALFF"
FIR	FOUND IRON ROD
U.T.S.	UNABLE TO SET
C.M.	CONTROL MONUMENT
R.O.W.	RIGHT-OF-WAY
DOC. NO.	DOCUMENT NUMBER
INSTR. NO.	INSTRUMENT NUMBER
O.P.R.C.C.T.	OFFICIAL PUBLIC RECORDS OF COLLIN COUNTY, TEXAS
P.R.C.C.T.	PLAT RECORDS OF COLLIN COUNTY, TEXAS

EXHIBIT A
PARCEL NO. 4 RIGHT-OF-WAY DEDICATION
2,454 SQ. FT. OR (0.0563 ACRES)

SITUATED IN THE
FRANCISCO DE LA PENA SURVEY, ABSTRACT NO. 688
CITY OF WYLIE, COLLIN COUNTY, TEXAS
FOR
CITY OF WYLIE

PREPARED BY
HALFF

HALFF ASSOCIATES, INC. ENGINEERS ~ SURVEYORS
1201 NORTH BOWSER ROAD ~ RICHARDSON, TEXAS ~ 75081-2275
TBPELS FIRM NO. 10029600 (214)346-6200 AVO. 34066 FEBRUARY, 2021

Exhibit "B" to the ILA
The Easement Area

EXHIBIT "A"
NORTH TEXAS MUNICIPAL WATER DISTRICT
FM 2514 PIPELINE RELOCATIONS
PROJECT NO. 101-0585-21

OWNER: WYLIE, CITY OF
VARIABLE-WIDTH PERMANENT UTILITY EASEMENT
S.B. SHELBY SURVEY, ABSTRACT NO. 820
CITY OF WYLIE, COLLIN COUNTY, TEXAS

BEING a 1.1600 acre, variable-width permanent utility easement situated in the S.B. Shelby Survey, Abstract Number 820, City of Wylie, Collin County, Texas, and being a portion of the 1.3176 Acre, Lot 22, Block 4, of Meadowview Estates, an addition to the City of Wylie, Collin County, Texas recorded in Instrument Number 2004-0093969 of the Official Public Records of Collin County, Texas, and also being dedicated to the City of Wylie by said Meadowview Estates Plat, said variable-width permanent utility easement being more particularly described by metes and bounds as follows:

COMMENCING at a 1/2 inch iron rod (controlling monument) found capped "RPLS 4653", at the intersection of the Northeast corner of the Keefer Street Right-of-Way (a Variable Width unimproved Public Right-of-Way) and the Southwesterly line of the Union Pacific Railroad Company Right-of-Way (A Variable Width Railroad Right-of-Way recorded in volume 5028, page 4107, of the Official Public Records of Collin County for the Southeast corner of Lot 26 of said Block 4, from which a found iron rod (controlling monument) capped "RPLS 4653" in the East line of Lot 7, Blk K, Pointe North Addition, an addition to the City of Wylie according to the Plat Recorded in Cabinet F, Slide 221, Plat Records, Collin County, Texas for the Southwest corner of Lot 32, of said Block 4, bears North 88 degrees 55 minutes 50 seconds West, a distance of 604.95 feet;

THENCE North 08 degrees 36 minutes 51 seconds East, along the East line of said Block 4, and with the West line of said Union Pacific Railroad Right-of-Way, a distance of 196.47 feet to a set 5/8-inch iron rod with red plastic cap stamped "CRIADO", at the beginning of a non-tangential curve to the right, having a radius of 1960.09 feet, a central angle of 05 degrees 12 minutes 29 seconds, and a chord bearing and distance of North 11 degrees 13 minutes 06 seconds East, 178.11 feet;

THENCE with said curve and with the common line of said Block 4 and said Union Pacific Railroad Right-of-Way, passing a 1/2 inch iron rod found for the Southeast corner of Lot 24, Block 4, same being the Northeast corner of Lot 25, Block 4, at an arc distance of 32.83 feet, continuing for a total arc distance of 178.17 feet to a found 1/2-inch iron rod with cap stamped "JPH SURVEYING", for the Southeast corner of Lot 22, Block 4, same being the Northeast corner of Lot 23, Block 4 for the **POINT OF BEGINNING** of the herein described 1.1600 acre variable-width permanent utility easement, said point also having a grid coordinate of N=7,060,332.41, E= 2,569,356.13 based on Texas State Plane Coordinate System, North American Datum of 1983, (NAD '83) (Epoch 2011), North Central Zone (4202);

THENCE North 88 degrees 54 minutes 20 seconds West, with the common line of said Lot 22 and Lot 23, a distance of 139.08 feet to a 1/2 inch iron rod found, for the Southwest corner of said Lot 22 and the Northwest corner of said Lot 23, in the East right-of-way line of Carver Drive, having a 50 foot public right-of-way width;

THENCE North 01 degree 05 minutes 40 seconds East, with the West line of said Lot 22 and said East right-of-way line, a distance of 51.57 feet to a set 5/8-inch iron rod with red plastic cap stamped "CRIADO", for the Northwest corner of said Lot 22, Block 4 and the Southwest corner of Lot 21 of said Block 4;

THENCE North 74 degrees 37 minutes 04 seconds East, departing said East right-of-way line, and with the common line of said Lot 21, and said Lot 22, a distance of 126.53 feet for the Southeast corner of said Lot 21, and an angle point of said Lot 22, from which a found 1/2-inch iron rod bears South 10 degrees 49 minutes 20 seconds East, a distance of 0.35 feet, said angle point being the beginning of a non-tangential curve to the right, having a radius of 1998.59 feet, a central angle of 26 degrees 24 minutes 12 seconds, and a chord bearing and distance of North 29 degrees 21 minutes 40 seconds East, 912.87 feet;

THENCE with said curve, an arc length of 921.00 feet to a point for an interior ell corner of said Lot 22 and the Northeast corner of Lot 9, said Block 4, from which a found 1/2-inch iron rod bears North 25 degrees 19 minutes 40 seconds West, a distance of 0.51 feet;

THENCE North 47 degrees 32 minutes 32 seconds West, with the common line of said Lot 22 and Lot 9, a distance of 121.50 feet to a set 5/8-inch iron rod with red plastic cap stamped "CRIADO", for the Northeast corner of said Lot 9, in the said East right-of-way line of Carver Drive, being in a non-tangential curve to the right, having a radius of 2260.68 feet, a central angle of 00 degrees 39 minutes 03 seconds, and a chord bearing and distance of North 42 degrees 53 minutes 34 seconds East, 25.68 feet;

THENCE with said curve, the Northwesterly line of said Lot 22 and said East right-of-way line, an arc length of 25.68 feet to a set 5/8-inch iron rod with red plastic cap stamped "CRIADO", for the Northmost Northeasterly corner of said Lot 22 and the West corner of Lot 8, said Block 4;

THENCE South 48 degrees 00 minutes 28 seconds East, a distance of 121.53 feet to a found 1/2-inch iron rod for the Southeast corner of Lot 8, and an interior ell corner of said Lot 22, being in a non-tangential curve to the right, having a radius of 1998.59 feet, a central angle of 00 degrees 34 minutes 24 seconds, and a chord bearing and distance of North 43 degrees 36 minutes 49 seconds East, 20.00 feet,

THENCE with said curve, and the common line of said Lot 8, and said Lot 22, an arc length of 20.00 feet, from which a set 5/8-inch iron rod with red plastic cap stamped "CRIADO" bears South 88 degrees 55 minutes 17 seconds East, a distance of 1.51 feet;

THENCE South 46 degrees 05 minutes 54 seconds East, departing the Southeasterly line of said Lot 8, over and across said Lot 22 a distance of 38.23 feet to a set 5/8-inch iron rod with red plastic cap stamped "CRIADO" on the Northwesterly line of said Union Pacific Railroad Company Right-of-Way, and being in a non-tangential curve to the left, having a radius of 1960.09 feet, a central angle 30 degrees 04 minutes 46 seconds, and a chord bearing and distance of South 28 degrees 51 minutes 43 seconds West, 1017.24 feet;

THENCE with said curve, with the Southeasterly line of said Lot 22, and the Northwesterly line of said Union Pacific Railroad Company Right-of-Way, an arc length of 1,029.02 feet to the **POINT OF BEGINNING** and containing 50,530 square feet or 1.1600 acres of land.

NOTE: Bearings are based on Global Positioning Satellite (GPS) System observations utilizing a local virtual reference system. Horizontal data is on the North American Datum of 1983 (NAD '83) (2011 Adjustment), with all distances adjusted to surface using a project combined scale factor of 1.00015271.

Note: Map of Survey of even date attached herewith.

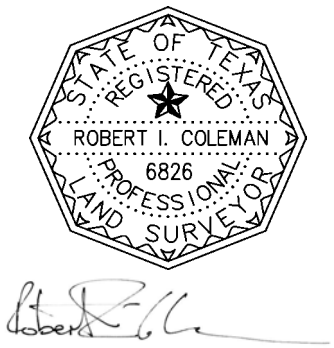
Note: Surveyed on the ground August, 2021.

Note: Unless otherwise noted, all corners of the easement are monumented with a 5/8-inch iron rod with a red cap stamped 'Criado'.

Note: This survey was performed without the benefit of a title report. There may be easements and/or covenants affecting this property not shown hereon.

*** SURVEYOR'S CERTIFICATE***

TO ALL PARTIES INTERESTED IN TITLE TO THE PREMISES SURVEYED, I DO HEREBY CERTIFY THAT THE ABOVE LEGAL DESCRIPTION WAS PREPARED FROM PUBLIC RECORDS AND FORM AN ACTUAL AND ACCURATE SURVEY UPON THE GROUND AND THAT SAME IS TRUE AND CORRECT.



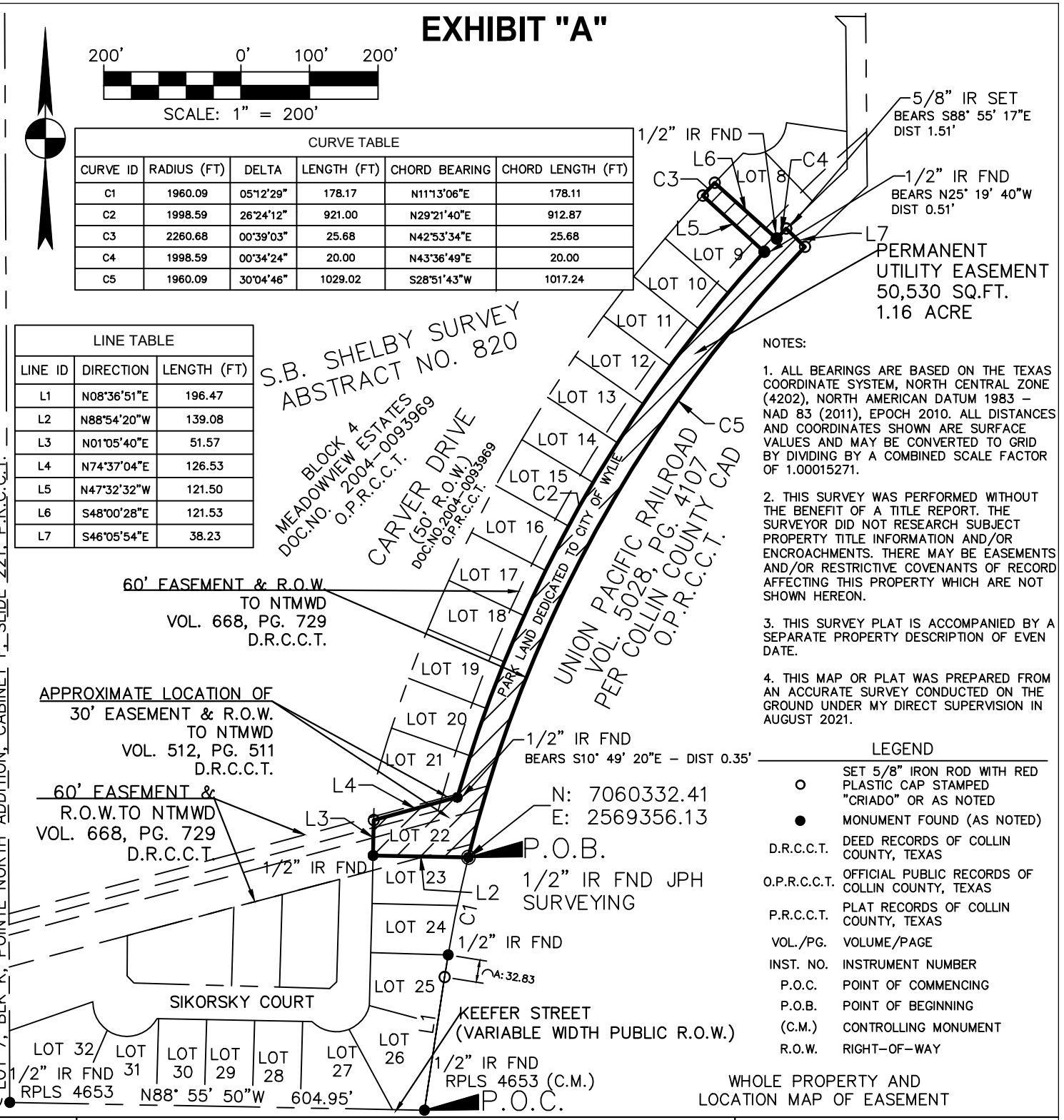
Robert I Coleman, RPLS #6826 December 08th, 2021
Registered Professional Land Surveyor Date
Texas Registration No. 6826

Criado and Associates, Inc
TBPLS Firm Registration No. 10163300
4100 Spring Valley Road, Suite 1001
Dallas, Texas 75244
(972) 392-9092
rcoleman@criadoassociates.com

EXHIBIT "A"

CURVE TABLE					
CURVE ID	RADIUS (FT)	DELTA	LENGTH (FT)	CHORD BEARING	CHORD LENGTH (FT)
C1	1960.09	05°12'29"	178.17	N11°13'06"E	178.11
C2	1998.59	26°24'12"	921.00	N29°21'40"E	912.87
C3	2260.68	00°39'03"	25.68	N42°53'34"E	25.68
C4	1998.59	00°34'24"	20.00	N43°36'49"E	20.00
C5	1960.09	30°04'46"	1029.02	S28°51'43"W	1017.24

LINE TABLE		
LINE ID	DIRECTION	LENGTH (FT)
L1	N08°36'51"E	196.47
L2	N88°54'20"W	139.08
L3	N01°05'40"E	51.57
L4	N74°37'04"E	126.53
L5	N47°32'32"W	121.50
L6	S48°00'28"E	121.53
L7	S46°05'54"E	38.23



NOTES:

1. ALL BEARINGS ARE BASED ON THE TEXAS COORDINATE SYSTEM, NORTH CENTRAL ZONE (4202), NORTH AMERICAN DATUM 1983 – NAD 83 (2011), EPOCH 2010. ALL DISTANCES AND COORDINATES SHOWN ARE SURFACE VALUES AND MAY BE CONVERTED TO GRID BY DIVIDING BY A COMBINED SCALE FACTOR OF 1.00015271.

2. THIS SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF A TITLE REPORT. THE SURVEYOR DID NOT RESEARCH SUBJECT PROPERTY TITLE INFORMATION AND/OR ENCROACHMENTS. THERE MAY BE EASEMENTS AND/OR RESTRICTIVE COVENANTS OF RECORD AFFECTING THIS PROPERTY WHICH ARE NOT SHOWN HEREON.

3. THIS SURVEY PLAT IS ACCOMPANIED BY A SEPARATE PROPERTY DESCRIPTION OF EVEN DATE.

4. THIS MAP OR PLAT WAS PREPARED FROM AN ACCURATE SURVEY CONDUCTED ON THE GROUND UNDER MY DIRECT SUPERVISION IN AUGUST 2021.

LEGEND

○	SET 5/8" IRON ROD WITH RED PLASTIC CAP STAMPED "CRIADO" OR AS NOTED
●	MONUMENT FOUND (AS NOTED)
D.R.C.C.T.	DEED RECORDS OF COLLIN COUNTY, TEXAS
O.P.R.C.C.T.	OFFICIAL PUBLIC RECORDS OF COLLIN COUNTY, TEXAS
P.R.C.C.T.	PLAT RECORDS OF COLLIN COUNTY, TEXAS
VOL./PG.	VOLUME/PAGE
INST. NO.	INSTRUMENT NUMBER
P.O.C.	POINT OF COMMENCING
P.O.B.	POINT OF BEGINNING
(C.M.)	CONTROLLING MONUMENT
R.O.W.	RIGHT-OF-WAY

WHOLE PROPERTY AND
LOCATION MAP OF EASEMENT

NORTH TEXAS MUNICIPAL WATER DISTRICT

501 EAST BROWN ST • P.O. BOX 2408 • WYLIE, TEXAS 75098

NORTH TEXAS MUNICIPAL WATER DISTRICT
FM 2514 PIPELINE RELOCATIONS

PARCEL NAME: LOT 22, BLOCK 4, MEADOWVIEW ESTATES

OWNER: CITY OF WYLIE

SURVEY: S.B. SHELBY SURVEY, ABSTRACT NO. 820

LOCATION: CITY OF WYLIE, COLLIN COUNTY, TEXAS

EASEMENT ACQUISITION AREA: 50,530 SQ. FT. OR 1.1600 ACRES

WHOLE PROPERTY ACREAGE: 1.3176 ACRES

JOB NO. R14465.03	DRAWN BY: MF	CAD FILE: R14465.03
DATE: DECEMBER 8, 2021	PAGE 4 OF 4	SCALE: 1" = 200'

STATE OF TEXAS
REGISTERED
ROBERT I. COLEMAN
6826
PROFESSIONAL
LAND SURVEYOR

ROBERT I. COLEMAN
REGISTERED PROFESSIONAL LAND SURVEYOR
TEXAS NO. 6826

CRIADO & ASSOCIATES, INC. • 4100 SPRING VALLEY ROAD, SUITE 1001, DALLAS, TX 75244 • PH. 972-392-9092 • FAX 972-392-9192

Exhibit "C" to the ILA
Form of the Deed

NOTICE OF CONFIDENTIALITY RIGHTS: IF YOU ARE A NATURAL PERSON, YOU MAY REMOVE OR STRIKE ANY OR ALL OF THE FOLLOWING INFORMATION FROM ANY INSTRUMENT THAT TRANSFERS AN INTEREST IN REAL PROPERTY BEFORE IT IS FILED FOR RECORD IN THE PUBLIC RECORDS: YOUR SOCIAL SECURITY NUMBER OR YOUR DRIVER'S LICENSE NUMBER.

SPECIAL WARRANTY DEED

STATE OF TEXAS §
§ KNOW ALL MEN BY THESE PRESENTS:
COUNTY OF COLLIN §

THAT THE UNDERSIGNED **NORTH TEXAS MUNICIPAL WATER DISTRICT**, a conservation and reclamation district created pursuant to Section 59, Article XVI of the Texas Constitution, acting by and through its duly authorized representative, having its principal offices at 505 E. Brown Street, Wylie, Texas 75098, hereinafter referred to as "Grantor," for and in consideration of the sum of TEN DOLLARS ($10.00) cash, the obligations and duties contained in that certain Interlocal Agreement with Grantee, and other good and valuable consideration in hand paid by the Grantee, herein named, the receipt and sufficiency of which is hereby fully acknowledged, has GRANTED, SOLD and CONVEYED, and by these presents does hereby GRANT, SELL and CONVEY unto **CITY OF WYLIE**, a home-rule municipality located in Collin County, Texas, herein referred to as "Grantee," those certain 0.1634, 0.0106, 0.0574, and 0.0563 acre tracts of land situated in the Francisco De La Pina Survey, Abstract 688, Collin County, Texas, and being more fully described by metes and bounds and depicted in the attached **EXHIBIT A, Exhbit A.1 – Exhbit A.4** (the "Property").

This conveyance, however, is made and accepted subject to the matters described in the attached **EXHIBIT B**, to the extent the same are validly existing and applicable to the Property (collectively, the "Permitted Exceptions").

TO HAVE AND TO HOLD the above described Property, together with all the rights and appurtenances lawfully accompanying it, by the Grantee, Grantee's successors and/or assigns forever; and Grantor does hereby bind Grantor, Grantor's successors and/or assigns to WARRANT AND FOREVER DEFEND all the said Property unto the said Grantee, Grantee's successors and/or assigns, against every person whomsoever claiming or to claim the same or any part thereof by, through, or under Grantor, but not otherwise, subject, however, to the Permitted Exceptions.

[SIGNATURE PAGE FOLLOWS]

EXECUTED this date: _____, 2022.

NORTH TEXAS MUNICIPAL WATER DISTRICT,
a political subdivision of the State of Texas

By: _____
Jennafer P. Covington, Executive Director and General Manager

ACKNOWLEDGMENT

STATE OF TEXAS §
§
COUNTY OF COLLIN §

This instrument was acknowledged before me on _____, 2022, by JENNAFER P. COVINGTON, Executive Director and General Manager of the NORTH TEXAS MUNICIPAL WATER DISTRICT, a political subdivision of the State of Texas, on behalf of said NORTH TEXAS MUNICIPAL WATER DISTRICT.

_____
Notary Public in and for the State of Texas

After recording please return to:

_____
_____
_____

EXHIBIT A to the Special Warranty Deed

Legal Description and Depiction of the Property

See EXHIBIT A.1 – EXHIBIT A.4

EXHIBIT B to the Special Warranty Deed

The Permitted Exceptions

EXHIBIT B

The Permitted Exceptions

Parcel No. 4:

1. The following easements and/or building lines, as shown on plat recorded in Volume G, Page 385, Real Property Records, Collin County, Texas:

   20' building line;

   15' utility easement

2. Easement granted by C.R. Hillis and wife, Lula B. Hillis to Texas Power & Light Company, filed 10/20/1954, recorded in Volume 491, Page 153, Real Property Records, Collin County, Texas.
3. Easement granted by Centennial Arapaho Development Venture to the City of Wylie, filed 05/13/1987, recorded in Volume 2626, Page 879, Real Property Records, Collin County, Texas.

Parcel No. 6:

4. Undivided royalty interest in coal, lignite, oil, gas and other minerals, and all rights incident thereto, described in instrument filed 01/03/1938, recorded in Volume 316, Page 516, Real Property Records, Collin County, Texas.
5. Easement granted by G. P. Maynard and Cora M. Maynard to Texas Power & Light Company, filed 10/20/1954, recorded in Volume 491, Page 151, Real Property Records, Collin County, Texas.
6. Easement granted by G. P. Maynard and Cora M. Maynard to North Texas Municipal Water District, filed 12/31/1954, recorded in Volume 493, Page 448, Real Property Records, Collin County, Texas.

Parcel No. 7:

7. Mineral estate and interest in coal, lignite oil, gas and other minerals together with all rights, privileges and immunities thereto described in instrument filed 02/11/1966, recorded in Volume 668, Page 528, Real Property Records, Collin County, Texas.
8. Mineral estate and interest in coal, lignite oil, gas and other minerals together with all rights, privileges and immunities thereto described in instrument filed 05/16/1966, recorded in Volume 684, Page 266, Real Property Records, Collin County, Texas.

Parcel No. 8:

9. Easement granted by Mary Margaret Pendery and Clinton C. Pendery to Wyle Northeast Water Supply Corporation, filed 08/10/1965, recorded in Volume 658, Page 542, Real Property Records, Collin County, Texas.
10. Easement granted by Mary Margaret O'Reilly Pendery and Clinton C. Pendery to North Texas Municipal Water District, filed 01/23/1967, recorded in Volume 684, Page 554, Real Property Records, Collin County, Texas.
11. Easement granted by John F. Pendery, et al to County of Collin, filed 02/28/1990, recorded in Volume 3227, Page 437, Real Property Records, Collin County, Texas.
12. Easement granted by E. M. Barnes and wife, Mamie Barnes to the public, filed 01/17/1928, recorded in Volume 270, Page 397, Real Property Records, Collin County, Texas.
13. Easement granted by North Texas Municipal Water District to the City of Wylie, filed 02/08/2006, recorded in cc# 20060208000167470, Real Property Records, Collin County, Texas.

Exhibit "D" to the ILA
Form of the Easement

OWNER: CITY OF WYLIE
PARCEL NO.: 1

EASEMENT FOR RIGHT-OF-WAY
WATER TRANSMISSION PIPELINE
F.M. 2514 PIPELINE RELOCATIONS
PROJECT NO. 101-0585-21

STATE OF TEXAS §
§ KNOWN ALL MEN BY THESE PRESENTS:
COUNTY OF COLLIN §

THAT the undersigned, **CITY OF WYLIE,** (hereinafter called "Grantor") for and in consideration of the sum of TEN AND NO/100 DOLLARS ($10.00) cash in hand paid by the **NORTH TEXAS MUNICIPAL WATER DISTRICT** (hereinafter called "Grantee") the receipt of which is hereby acknowledged and confessed, has granted, sold and conveyed, and by these presents, does grant, sell and convey unto the Grantee a Permanent Easement and right-of-way, in, over, across and through those certain premises owned by Grantor to construct, operate, reconstruct, replace, perpetually maintain and remove a pipeline, for the transportation of water, with all incidental equipment including communications equipment, cathodic protection devices, valves and associated appurtenances under, over or through the following described lands situated in Collin County, Texas:

SEE ATTACHED EXHIBIT "A" FOR DESCRIPTION

The Grantee shall utilize the easement for an underground pipeline and appurtenances, including communication facilities, and above grade appurtenances consisting of air valves, blow off valves, pipeline markers and cathodic protection equipment (referred to herein collectively as "Grantees Pipeline" or the pipeline) as may be required for its operation of the pipeline. The blow off valves shall be located so as to discharge any water from the pipeline into natural drainage areas currently existing on the Property.

Grantee, and Grantee's successors and assigns, shall have the continued and unobstructed right of ingress and egress over the permanent easement granted for the installation, operation, repair, inspection, maintenance and replacement of Grantee's facilities.

Grantee, and Grantee's successors and assigns, agrees to bury said pipeline to a depth of at least 48" from the top of the pipeline to existing ground surface. Grantee will, insofar as practicable, restore the ground disturbed by the laying, constructing, repairing, maintaining, replacing or removing of said pipeline, and will take such steps as may be reasonably required to prevent damage to the property of Grantor from soil erosion resulting from operations of Grantee hereunder. Grantee will separate the topsoil during construction by double-ditching and will restore said topsoil within the easement. Grantee shall leave the surface as nearly as reasonably possible as it was prior to the construction of the pipeline and will restore all improvements, including fences, driveways, sidewalks, bridges, drainage channels, and other improvements damaged through the use of said easement to substantially the same condition as they were prior to the construction of the pipeline. Grantee agrees to re-seed the grass areas of the easement after construction of said pipeline.

Grantee has the right to trim or cut down or eliminate trees or shrubbery to the extent, in the reasonable judgment of Grantee, its successors and assigns, as may be necessary to prevent possible interference with the installation and operation of said pipelines and to remove possible hazards thereto, and the right to remove or prevent the construction of any and all improvements, buildings, reservoirs or other obstructions on said permanent easement, except as are specifically allowed under the terms hereof. Grantor shall not construct or permit to be constructed, any house, building, reservoir, or other prohibited improvement on or within the permanent easement or remove soil which would impair the lateral support for Grantee's pipeline or leave it with insufficient cover for the safe operation of said pipeline. However, Grantor retains the right, to cross the permanent easement area with fences, streets, roads, and utilities ("facilities") as set forth below provided that said facilities do not endanger or interfere with Grantee's pipeline and provided that Grantee is provided with a copy of the construction plans and drawings not less than 30 days before the beginning of construction of said facilities. Grantor shall not grant any other easements within the permanent easement which would (1) endanger or interfere with the safe and efficient operation of Grantee's pipeline, or (2) cross Grantee's easement at less than a 45 degree angle. Grantee may not fence or enclose the easement but may install gates in any fence along or crossing the easement for access.

Notwithstanding the foregoing, in addition to Grantor's current use of the easement area, the following uses by Grantor in the easement shall be allowed after the pipeline(s) are installed so long as the uses do not endanger or interfere with Grantee's pipelines: (1) paving including sidewalks, hike & bike trails, streets, alleys, parking areas, sport courts, and other uses that require paving shall be allowed with no limits on the amount of paving, the number of crossing, or the angle that the paving crosses the easement save and except streets and alleys which shall cross at not less than 45 degrees; (2) landscaping limited to bushes, shrubs, trees, grass/sod, ground cover and other landscape materials shall be allowed; (3) sprinkler systems shall be allowed to maintain the landscaping and prevent erosion; (4) playgrounds including playground equipment, picnic tables, exercise stations, park benches, picnic covers, small shade structures shall be allowed; signage including street signs, traffic signs, park signs, exercise station signage, directional signs, and other signs typical to park and recreation areas shall be allowed; (5) fencing, including iron, wrought iron, chain link, and other metal type fencing, shall be allowed to fence an area in and such fencing shall be allowed to cross the easement area; (6) crossing the easement at any angle that will not interfere with Grantee's repair, maintenance or replacement with utilities as often as necessary, including water, sanitary sewer, storm sewer, gas, electric, data, cable telephone, and other utility lines typical to a residential subdivision. Any large trees and all lighting for the aforementioned uses must be located within 10 feet of the outside boundaries of the easement area. Any and all signs, poles, or other similar structures shall not have footings that would endanger the pipelines.

If Grantee should abandon the rights granted herein for said pipeline and appurtenances constructed upon said land and, if such abandonment should continue for a continuous period of as long as thirty-six (36) months, all rights of Grantee herein shall terminate and revert to Grantor, their heirs, legal representatives, successors and assigns. Grantee shall have the right for one year following any termination of this easement to remove its pipe, valves and all other property. Following the expiration of such period, any such property remaining on said land shall be and become the property of Grantor.

The above described easements and rights shall inure unto the said Grantee, and Grantee's successors and assigns, and the covenants and agreements contained herein shall constitute covenants running with the land, binding upon Grantor, its legal representatives, successors and assigns, for the benefit of Grantee, and Grantee's successors and assigns. Grantee shall have the right to assign the easement in whole or in part to one or more assignees.

This Agreement is intended to encompass the complete and entire Agreement of the parties. Neither party has made or relied on any representations, stipulations, or agreements other than those expressly contained in this Agreement. No agent, officer, employee, or other representative of either party has the right or the authority to alter any of the terms of this Agreement.

By executing this Easement, the undersigned represents that they are duly authorized to execute this document; that Grantor is the owner of fee simple title to the property across which the easement is being granted; that the property is held by Grantor free and clear of any liens or encumbrances and that Grantor is the sole party entitled to receive the consideration being paid for the easement.

TO HAVE AND TO HOLD unto the said **NORTH TEXAS MUNICIPAL WATER DISTRICT**, its successors and assigns, the above described easement and right-of-way, and I do hereby bind myself, any heirs, executors, and administrators to warrant and forever defend all and

singular the said premises to the **NORTH TEXAS MUNICIPAL WATER DISTRICT**, its successors and assigns, against every person whomsoever lawfully claiming or to claim the same or any part thereof herein.

WITNESS OUR HANDS this _____ day of _____, 20__.

GRANTOR:

CITY OF WYLIE

_____
Signature

_____
Printed Name

_____
Title

ACKNOWLEDGMENT

OWNER: CITY OF WYLIE
PARCEL NO.: 1

THE STATE OF TEXAS §
§
COUNTY OF _____ §

Before me, the undersigned authority, on this day personally appeared _____, in his/her capacity as _____ for **CITY OF WYLIE,** known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he/she executed the same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE this ____ day of _____, 20__.

_____
Notary Public in and for The State of Texas

My Commission Expires: _____