EXHIBIT 1

FREESE AND NICHOLS

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September 15, 2016

Mr. Timothy Fisher
Assistant Director of Utilities
City of Denton
901-A Texas Street
Denton, Texas 76209

Statement of Qualifications: Water Master Update

Dear Mr. Fisher:

Freese and Nichols, Inc. (FNI) completed the City of Denton's current Water Master Plan and Capital Improvement Plan (CIP), and is pleased to submit this statement of qualifications (SOQ) for its update. Here is how FNI's involvement can benefit the City of Denton:

- **TRUSTED ADVISOR RELATIONSHIP –** FNI opened its Denton office in 2005 as a result of our working relationship with the City of Denton, and we have continued to work closely with your staff, assisting them in making fully informed decisions on a wide variety of projects, ranging from water, wastewater, stormwater and roadway infrastructure projects to planning for the water system, downtown traffic and the City's bicycle and pedestrian system.
- **KNOWLEDGE OF DENTON'S WATER SYSTEM –** FNI completed Denton's current Water Master Plan and has solid understanding of system operations, issues and opportunities with the system, population and demand projections, and the City's preferences for prioritization and reporting. Our background will allow us to update the plan with minimal start-up time and in a more cost-efficient manner.
- **WATER/WASTEWATER MASTER PLANNING EXPERIENCE –** FNI has completed more water and wastewater master plans and system studies for water service providers in the past 10 years than any other consultant in Texas. Our hands-on understanding and proven process based on best practices will provide the City with a prioritized master plan and CIP that is constructible and provides a sound business case for its implementation.

Thank you for this opportunity to submit our SOQ. We look forward to our continuing relationship with the City of Denton and ask that you feel free to contact us with any comments or questions.

Sincerely,

Scott Cole, P.E.
Project Manager | Vice President/Principal
817-735-7255
scott.cole@freese.com

Ron King, P.E.
Associate | Denton Office Manager
940-220-4350
ron.king@freese.com

PROJECT TEAM ORGANIZATION AND EXPERIENCE

CITY OF DENTON

PRINCIPAL-IN-CHARGE
Thomas Haster, P.E.

PROJECT MANAGER
Scott Cole, P.E.

QUALITY ASSURANCE/ QUALITY CONTROL
Jessica Brown, P.E.

ASSISTANT PROJECT MANAGER
Stephanie Neises, P.E.

PROJECT ENGINEERS
Melissa Brunger, P.E.
Andrew Franko, P.E.

COST ESTIMATING
Ron King, P.E.

GIS ANALYST
Sherrie Hubble, GISP

SCOTT COLE, P.E.

PROJECT MANAGER

Scott Cole is FNI's Water/Wastewater Master Planning Group Manager and a firm Vice President/Principal. Scott has led more than 60 water and wastewater infrastructure studies, master plans, capital improvement plans (CIPs) and impact fee studies. He specializes in hydraulic modeling, master planning and asset management of water and wastewater systems. Scott is a nationally recognized specialist in water system modeling and a member of the American Water Works Association's (AWWA) Engineering Modeling Applications Committee that established standards for hydraulic modeling and co-author of AWWA's *M32 Computer Modeling of Water Distribution Systems manual*. He also has conducted hydraulic model workshops for utilities across the United States.

EXPERIENCE

17 years

EDUCATION

M.S., Engineering Management, University of Kansas

B.S., Civil Engineering, University of Missouri-Rolla

REGISTRATION

Professional Engineer, Texas #98813

Scott was Project Manager for the City of Denton's most recent Water Master Plan. He has extensive experience with the City's modeling software, H2O MAP Water.

WATER MASTER PLANNING, MODELING AND SYSTEM STUDY EXPERIENCE

- Town of Addison*
- City of Aledo*
- City of Allen
- City of Alvin
- City of Arlington*
- City of Beeville*
- City of Cedar Hill*
- City of Cleburne
- City of Coppell*
- Dallas Water Utilities*
- City of Denton*
- City of Fredericksburg*
- City of Garland*
- City of Grand Prairie*
- City of Grapevine*
- City of Heath*
- City of Irving*
- City of Keller*
- City of Kerrville*
- City of Killeen*
- City of Lancaster
- City of Liberty
- Town of Little Elm*
- City of McKinney*
- City of Midlothian
- New Braunfels Utilities*
- City of Port Arthur
- City of Princeton*
- Town of Prosper*
- City of Richardson*
- City of Rowlett
- San Antonio Water System
- City of Seagoville
- City of Seguin*
- City of Southlake
- Town of Sunnyvale
- City of Terrell*
- City of The Colony
- City of Wichita Falls
- North Texas Municipal Water District*
- Somervell County Water District*
- Stephen F. Austin State University

**H2OMAP Water software*

STEPHANIE NEISES, P.E.

ASSISTANT PROJECT MANAGER

Stephanie Neises is experienced in evaluating water distribution systems as part of FNI's Water/Wastewater Master Planning team. She focuses on hydraulic modeling and GIS integration for master planning, CIP development and water quality studies. Stephanie has performed engineering and project management tasks for more than 25 water master plans, plus wastewater master plans and impact fee studies. She has a working knowledge and experience with several hydraulic modeling software packages, including ***H20MAP Water***, H20NET, InfoWater and WaterGEMS.

EXPERIENCE

11 years

EDUCATION

B.S., Civil Engineering, South Dakota State University

REGISTRATION

Professional Engineer, Texas #106195

Stephanie was the Lead Hydraulic Modeler for the City of Denton's most recent Water Master Plan.

WATER MASTER PLANNING, MODELING AND SYSTEM STUDY EXPERIENCE

- Town of Addison
- City of Aledo*
- City of Allen
- Aquilla Water Supply District
- City of Arlington*
- City of Beaumont
- Benbrook Water Authority*
- City of Cedar Hill*
- City of College Station
- City of Denton*
- City of Fair Oaks Ranch*
- City of Fredericksburg*
- City of Grand Prairie*
- City of Keller*
- City of Kerrville
- City of Killeen*
- City of Lancaster*
- Town of Little Elm*
- City of Midlothian*
- New Braunfels Water Utilities*
- City of North Richland Hills*
- City of Pearland*
- City of Pflugerville
- San Antonio Water System
- City of Seguin*
- Guadalupe-Blanco River Authority

**H2OMAP Water software*

JESSICA BROWN, P.E.

QUALITY ASSURANCE/QUALITY CONTROL

Jessica Brown is an FNI Vice President/Principal and a Water/Wastewater Master Planning Group Manager. She is one of FNI's most experienced planning and modeling professionals, working closely with municipalities on master planning, CIPs and impact fee studies. Her expertise includes the calibration and use of system models for master planning and CIP development, and the integration of GIS into water and wastewater models. Jessica's practical master planning and system study approach is strengthened by her hands-on design experience in both collection and distribution systems.

EXPERIENCE

19 years

EDUCATION

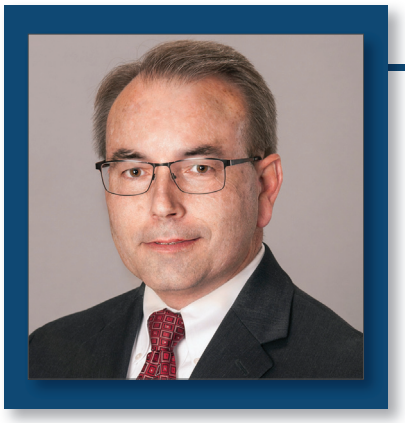
B.S., Civil Engineering, Texas A&M University

REGISTRATION

Professional Engineer, Texas #90098

WATER MASTER PLANNING, MODELING AND SYSTEM STUDY EXPERIENCE

- Town of Addison
- City of Arlington
- City of Burleson
- Benbrook Water Authority
- City of Cedar Hill
- City of College Station
- City of Coppell
- Colorado River Municipal Water District
- City of Fort Worth
- City of Frisco
- City of Grand Prairie
- City of Huntsville
- City of Keller
- City of Kennedale
- City of Kerrville
- City of Killeen
- City of Lubbock
- City of Lucas
- City of Mansfield
- City of McAllen
- City of Midlothian
- City of North Richland Hills
- North Texas Municipal Water District
- City of Palestine
- Town of Prosper
- City of Richland Hills
- City of Rowlett
- City of San Angelo
- City of Taylor
- Trinity River Authority
- City of Vernon
- City of Waco
- City of Weatherford
- City of Wichita Falls



THOMAS HASTER, P.E.

PRINCIPAL-IN-CHARGE

Thomas Haster is a firm Vice President/Principal who has led more than 60 water/wastewater master plans, condition assessment/asset management programs and impact fee studies. Thomas plays a pivotal role in assisting municipalities with addressing their water and wastewater planning needs and has led workshops for utilities throughout Texas on Impact Fee Program Development and Alternative Cost Recovery Planning for Water and Wastewater Systems. He serves on the AWWA National Water System Planning Committee.

EXPERIENCE

26 years

EDUCATION

M.S., Civil Engineering, Texas A&M University

B.S., Civil Engineering, Texas A&M University

REGISTRATION

Professional Engineer, Texas #79736

WATER MASTER PLANNING, MODELING AND SYSTEM STUDY EXPERIENCE

- City of Arlington
- City of Beaumont
- Benbrook Water Authority
- City of Burleson
- City of Cleburne
- City of College Station
- City of Denton
- City of Fort Worth
- City of Fredericksburg
- City of Frisco
- City of Garland
- City of Grand Prairie
- City of Greenville
- City of Hurst
- City of Irving
- City of Keller
- City of Killeen
- City of Mansfield
- McAllen Public Utility
- City of McKinney
- City of Midlothian
- City of North Richland Hills
- City of San Angelo
- City of Taylor
- City of Waco
- City of Weatherford
- City of Wichita Falls
- Dallas/Fort Worth International Airport
- North Texas Municipal Water District
- San Antonio Water System

MELISSA BRUNGER, P.E.

PROJECT ENGINEER

Melissa Brunger is a Project Manager/Engineer in FNI's Water/Wastewater Master Planning Group and specializes in hydraulic modeling and GIS integration for master planning, Aasset management, CIP development, water quality studies and impact fee analysis. Melissa has extensive experience with multiple hydraulic modeling software packages, including InfoWater, WaterGEMS, H2OMAP Sewer and ***H2OMAP Water***. Melissa has presented at state and national level conferences on hydraulic modeling, regional water planning, water quality analysis and integrated capital improvement planning.

EXPERIENCE

10 years

EDUCATION

B.S., Civil Engineering, Texas A&M University

REGISTRATION

Professional Engineer, Texas #106372

WATER MASTER PLANNING, MODELING AND SYSTEM STUDY EXPERIENCE

- City of Abilene*
- Town of Addison*
- City of Arlington*
- Benbrook Water Authority*
- City of Center
- Dallas Water Utilities
- City of Fort Worth*
- City of Frisco*
- City of Garland*
- City of Grand Prairie*
- City of Grapevine*
- City of Heath*
- City of Irving*
- City of Keller*
- City of Killeen
- City of Lancaster*
- City of Mansfield*
- McAllen Public Utility
- City of McKInney
- City of Midlothian*
- City of North Richland Hills*
- City of Princeton
- Town of Prosper*
- City of Richardson
- City of Rowlett
- City of Sunnyvale*
- North Texas Municipal Water District*
- Stephen F. Austin State University

**H2OMAP Water software*

ANDREW FRANKO, P.E.

PROJECT ENGINEER

Andrew Franko is a Project Manager/Engineer in FNI's Water/Wastewater Master Planning Group. He has served as Project Engineer and Assistant Project Manager for water and wastewater master plans, water and wastewater CIPs, water and wastewater impact fees, wastewater infiltration and inflow (I/I) studies, Sanitary Sewer Evaluation Study (SSES) and water quality studies, operational modification studies and multiple water and wastewater development reviews. In addition, Andrew has experience working with WaterGEMS, ***H2OMAP Water*** and InfoWorks CS software modeling packages. Andrew is also an active member of AWWA and has been a regular presenter at its Texas Water Conference.

EXPERIENCE

7 years

EDUCATION

B.S., Civil Engineering, Texas Tech University

REGISTRATION

Professional Engineer, Texas #115651

WATER MASTER PLANNING, MODELING AND SYSTEM STUDY EXPERIENCE

- City of Arlington*
- Benbrook Water Authority*
- City of Burleson*
- City of Fort Worth*
- City of Frisco*
- City of Granbury
- City of Grand Prairie*
- City of Heath*
- City of Lubbock
- City of Mansfield*
- City of North Richland Hills
- City of Port Arthur
- City of Richardson*
- City of Richland Hills
- City of Weatherford
- North Texas Municipal Water District*
- Trinity River Authority*

**H2OMAP Water software*

RON KING, P.E.

COST ESTIMATING

Ron King is an FNI Associate, Denton Office Manager, Senior Water/Wastewater Utilities Project Manager and the firm's most experienced elevated storage tank engineer. Ron is noted for his outstanding client service and has provided leadership to water system projects throughout Texas. His background includes larger elevated storage tanks, including related water quality issues; water and sanitary sewer improvements and design; water line and storm drain design; pump station and storage facility design; and fulfilling general services contracts with local cities.

EXPERIENCE

25 years

EDUCATION

M.Eng., Water Resources, University of Texas at Arlington

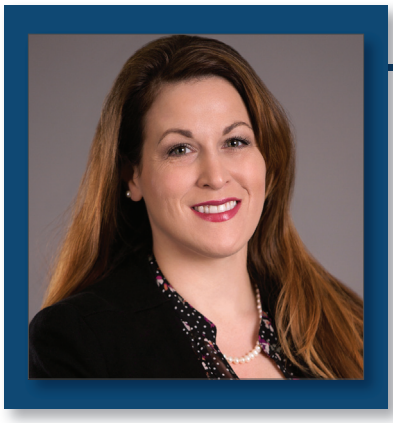
B.S., Civil Engineering, University of Texas at Arlington

REGISTRATION

Professional Engineer, Texas #81073

RELATED PROJECT EXPERIENCE

- **Water Distribution System Master Plan** | City of Denton | Quality Control | Water Distribution System Master Plan for community of 107,386 residents. Developed a CIP to serve 253,000 in 2032. Used information from Traffic Survey Zones. Resident demand calculated on per-capita basis; non-residential on per-acre demand. Addressed wholesale customers and unaccounted-for water.
- **Development Plan Reviews** | City of Denton | Project Manager | Provide compliance review of submittals made to the City Planning Department that include preliminary plats, final plats, variance requests, comprehensive plan amendments, master planned communities, Conditional and Letter of Map Revision, traffic impact analyses, and alternative development plans and coordinate development projects with the City CIP and future utility expansions.
- **Growth Management Plan** | City of Denton | Quality Control | Growth management plan covering identification of populous areas that may be placed in a three-year annexation plan; identification of sparsely settled areas that may be annexed outside of a three-year plan; and the order in which such areas should be annexed.
- **Water/Wastewater Utilities Experience** | City of Denton
  - North/South Water Transmission
  - Mayhill Road Water/Wastewater Pipeline Relocations
  - FM 2181 Utility Relocations
  - Hickory Creek Interceptor
- **Water Master Planning, Modeling and System Study Experience**
  - City of Arlington
  - City of Burleson
  - City of Cleburne
  - City of Denton
  - City of Garland
  - City of Grand Prairie
  - City of Henrietta
  - City of Lucas
  - City of North Richland Hills
  - Benbrook Water Authority



SHERRIE HUBBLE, GISP

GIS ANALYST

Sherrie Hubble is a GIS Analyst in FNI's Water/Wastewater Master Planning Group who has significant experience performing mapping and spatial analysis for water and wastewater modeling, as well as water transmission and resources planning. She specializes in producing hydraulic analysis, and immediate and long-term capital improvements mapping. Her skillset includes creating, editing and managing spatial data, population projection, geocoding, 3D surface rasterization and georeferencing. Sherrie is proficient in ESRI ArcGIS Desktop. She is an active member of Geospatial Information and Technology Association, South Central Arc User Group, and North American Cartographic Information Society.

EXPERIENCE

6 years

EDUCATION

Master of City and Regional Planning, Physical Land Use Planning, University of Texas at Arlington

B.S., Geography, University of North Texas

REGISTRATION

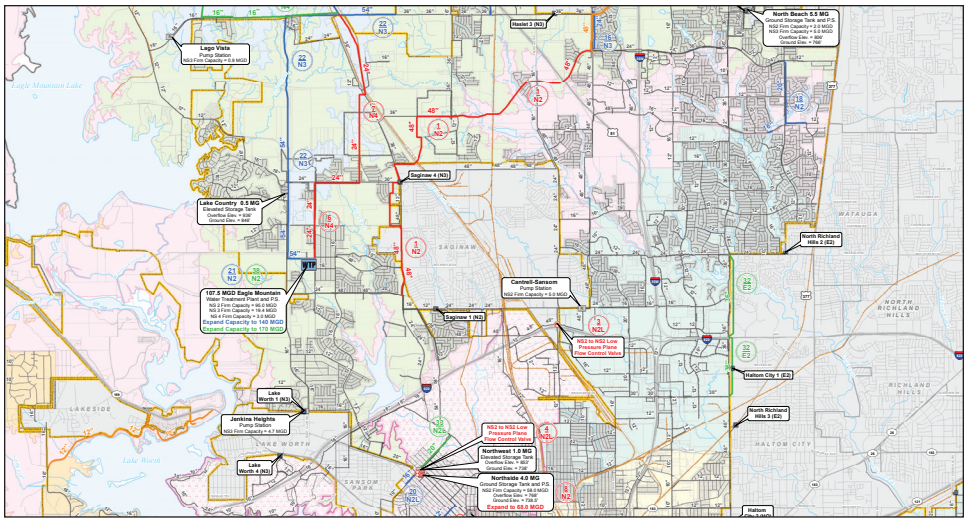
Geographic Information Systems Professional #82950

WATER MASTER PLANNING, MODELING AND SYSTEM STUDY EXPERIENCE

- City of Alvin
- City of Arlington
- City of Beeville
- Benbrook Water Authority
- City of Burleson
- City of Cleburne
- City of College Station
- City of Cedar Hill
- City of Fort Worth
- City of Fredericksburg
- City of Frisco
- City of Grand Prairie
- City of Grapevine
- City of Huntsville
- City of Kennedale
- City of Kerrville
- City of Kilgore
- City of Lancaster
- City of Lubbock
- New Braunfels Utilities
- North Texas Municipal Water District
- City of Port Arthur
- Town of Prosper
- San Antonio Water System
- City of Sunnyvale
- City of Weatherford

FNI'S WATER MASTER PLANNING EXPERIENCE

Client	Population Served	Water Demand Projections	Hydraulic Modeling	Innovyze Software	Wholesale Water Planning	Water Supply Plan	CIP Development	Year Completed
Dallas Water Utilities	2,400,000	●	●	●			●	2015
North Texas Municipal Water District	1,850,000	●	●	●	●	●	●	Ongoing
San Antonio Water System	1,720,000	●	●	●	●	●	●	Ongoing
City of Fort Worth	1,218,130	●	●	●	●	●	●	2016
Colorado River Municipal Water District	475,000	●	●		●	●	●	2012
City of Arlington	380,000	●	●	●	●	●	●	2014
City of Lubbock	250,000	●	●	●	●		●	2016
Trinity River Authority	244,000	●	●	●	●	●	●	2016
City of Garland	237,000	●	●	●	●		●	2011
City of Irving	231,000	●	●	●		●	●	2015
City of Grand Prairie	184,000	●	●	●	●	●	●	Ongoing
City of Frisco	154,000	●	●	●	●		●	2016
City of Killeen	137,000	●	●	●			●	2013
City of Waco	130,000	●	●	●	●	●	●	2015
City of Denton	126,000	●	●	●	●		●	2010
City of Abilene	120,000	●	●	●	●	●	●	2010
City of Wichita Falls	105,000	●	●		●	●	●	2008
City of College Station	100,000	●	●	●		●	●	2016
City of North Richland Hills	66,400	●	●	●			●	2016
New Braunfels Utilities	92,000	●	●	●		●	●	2015
City of Mansfield	61,000	●	●	●	●		●	Ongoing
City of Grapevine	49,000	●	●	●		●	●	Ongoing
City of Cedar Hill	46,300	●	●	●			●	2013
City of Keller	44,000	●	●	●			●	Ongoing
City of Burleson	43,000	●	●	●			●	2016
City of Huntsville	40,000	●	●			●	●	2016
City of Lancaster	36,600	●	●	●	●		●	2012
Town of Little Elm	34,400	●	●	●	●		●	Ongoing
City of Cleburne	29,300	●	●		●	●	●	2012
City of Weatherford	26,400	●	●		●	●	●	2013
City of Seguin	26,000	●	●	●			●	2015
Benbrook Water Authority	24,000	●	●	●			●	2016
City of Kerrville	22,500	●	●	●	●	●	●	2012
City of Midlothian	16,000	●	●	●	●		●	2011
City of Terrell	15,000	●	●	●	●		●	2014
Town of Prosper	17,800	●	●	●			●	2012
City of Fredericksburg	11,000	●	●	●		●	●	Ongoing
City of Princeton	8,500	●	●	●	●		●	2015
City of Kennedale	6,900	●	●	●			●	2014
City of Fair Oaks Ranch	6,500	●	●	●		●	●	2015
City of Aledo	2,500	●	●	●			●	2011



WATER MASTER PLAN | CITY OF FORT WORTH

In 2005, FNI prepared a Regional Comprehensive Water Distribution Master Plan for the City of Fort Worth that will take the City from a population of 775,000 to its projected 2025 population of 1.5 million. The comprehensive, 20-year CIP, which calls for about $1.2 billion in improvements, will allow the City of Fort Worth to extend water service to surrounding Tarrant, Parker, Johnson, Denton and Wise Counties.

FNI has updated the master plan in phases from 2013 to 2016, based on changing demand conditions when the Walsh Ranch development was postponed and growth exploded in the northern part of the City. FNI continues to provide modeling support and services for evaluating CIP projects for the City of Fort Worth under an On-Call Modeling Agreement.

In addition to the Water System Master Plan, FNI developed a long-term Strategic Water Plan, involving an Advisory Committee that included major customer groups: retail and wholesale users, developers, larger users and existing interior neighborhoods. A Strategic Planning Document that outlined a road map for the following five areas: 1) future water system service areas, 2) raw water system supply, 3) water extension policy, 4) wholesale customer policy, and 5) water system vulnerability.

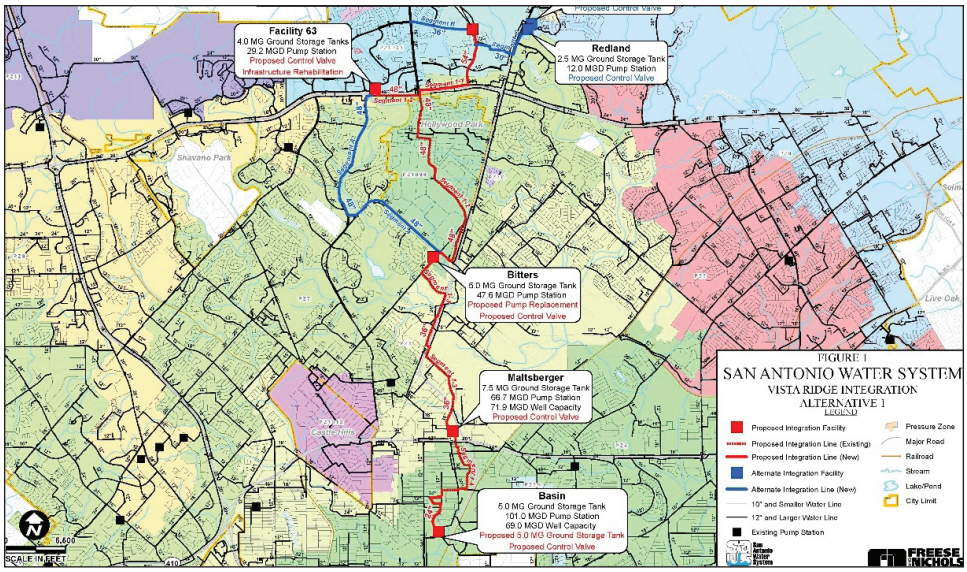
FNI developed mini-master plans for 24 identified redevelopment areas. FNI calculated 2010, 2030 and 2060 demands for each redevelopment area and distributed the water demands in the water model. Each proposed land use was assigned a water usage factor.

The water model was expanded in each of the 24 areas to include all pipes, and the analyses were conducted under maximum day, peak hour and fire flow demand conditions to determine capacity improvements needed to supply future demands.

CLIENT CONTACT

Nowzar Dinyarian, P.E.
Senior Professional Engineer
817-392-8256
Nowzar.Dinyarian@FortWorthTexas.gov

Uses H2OMAP software



WATER INFRASTRUCTURE PLAN |

SAN ANTONIO WATER SYSTEM

FNI is conducting a Water Infrastructure Plan Update to evaluate existing and future needs within San Antonio Water System's (SAWS') service area. A phased CIP will be developed to accommodate projected growth, as well as to ensure compliance with system regulations. FNI worked closely with SAWS staff to evaluate various system alternatives to provide cost-effective improvements while still providing high-quality service to the customers.

FNI expanded the water model from a steady-state model to an extended period simulation model so that system operations could be evaluated in greater detail. This allowed for a thorough analysis of water supply integration, water age analysis, source trace modeling and operational optimization. We also included milestone workshops at key intervals during the project to present progress and results to a SAWS staff and board members to facilitate buy-in throughout the process. At the completion of the Water Infrastructure Plan, SAWS will have a comprehensive water system planning tool to aid in the improvement and development of water infrastructure.

SUMMARY OF THE FINAL REPORT

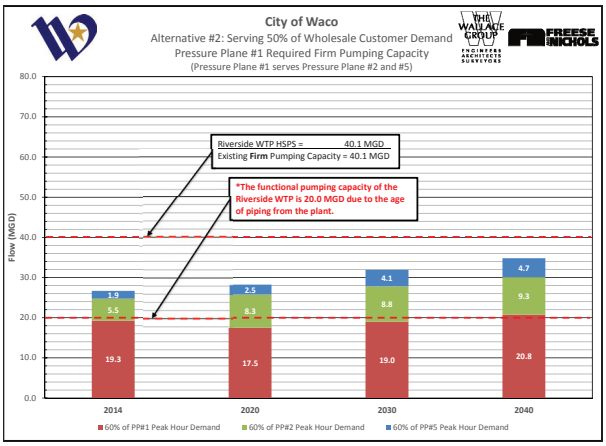
The Final Report and Technical Memoranda will include a summary of the assumptions, methodology, findings and recommendations of the study, including population and water demand projections, hydraulic model calibration, existing and future system model analyses, asset management pilot area, and prioritized CIP development.

CLIENT CONTACT

Quintin Pollok, P.E.
Water Master Planning
210-233-3677
quintin.pollok@saws.org

Kathleen Price, P.E.
Director of Engineering
210-233-3446
Kathleen.Price@saws.org

WATER MASTER PLAN | CITY OF WACO



Analysis of alternatives for meeting wholesale customer demands and pumping capacity

FNI prepared a distribution system master plan to address the unique needs and growth patterns for the City of Waco. FNI was tasked with developing a plan to serve a population that is initially expanding into undeveloped areas, but that is planned to ultimately redevelop in the City center. The City is also currently a wholesale water provider to six existing- and 10 potential-customer Cities that are also growing in size. The master plan utilizes the City's latest GIS and as-built drawings for facilities to build the City's hydraulic all-pipes water model. FNI spent time with City staff to download institutional knowledge from across the water operations staff.

FNI also conducted a 24-hour EPS model calibration and utilized the EPS model to investigate potential operational modifications to reduce water age and to provide water to all customers in the event that one treatment plant was offline. FNI determined sizing of water system transmission lines, elevated and ground storage, and pumping facilities needed to serve 2040 demands using the EPS model analyses under average day and maximum day demand conditions. FNI utilized the interim 5- and 10-year average-day and maximum-day EPS model scenarios to determine phasing of water system improvements.

RENEWAL-BASED CIP

In addition to the growth and operations related CIP, FNI developed a renewal-based CIP incorporating the water system model and GIS to evaluate the condition of existing infrastructure in older parts of the City. The full pumping capacity at the Riverside Treatment Plant could not be attained due to the age and condition of the infrastructure in the older downtown area of the City. The renewal-based CIP projects allows the City to utilize the design pumping capacity of the treatment plant.

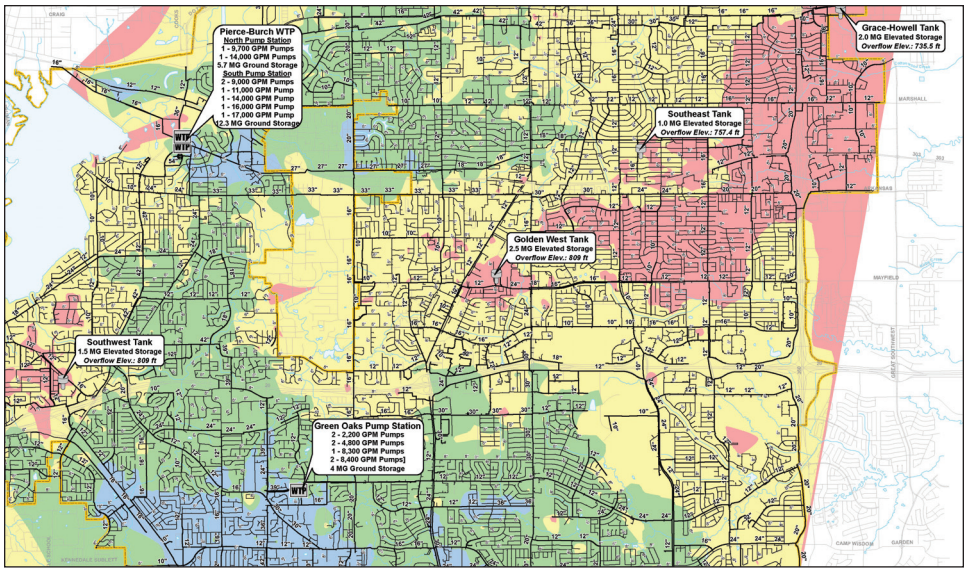
WATER SUPPLY PLANNING

FNI also evaluated the reliability of Waco's current water supplies. As part of the long-term water supply study, FNI developed cost estimates, potential yield and rate impacts of each water supply strategy as well as pros and cons and implementation path forward plans.

The water supply study evaluated potential partnerships with other Cities in the McLennan County area, as well as evaluating the potential for regional reuse and other strategies for long-term water supply. Based on these regional water needs, FNI evaluated how the water distribution system can be leveraged with each water supply source to develop an overall water supply/distribution system strategy to meet the long-term water needs of the community

CLIENT CONTACT

Dale Fisseler, P.E.
City Manager
254-750-5640
dalef@wacotx.gov



WATER MASTER PLAN | CITY OF ARLINGTON

FNI completed an update to the Water Distribution System Master Plan for the City of Arlington, which serves about 375,000 people. FNI conducted water model training for City staff.

FNI used the H2OMAP Water modeling software to fully integrate the City's GIS system and developed an all-pipes model for the City.

FNI conducted field pressure testing in the water distribution system under summer demand conditions at 24 locations throughout the City in four pressure planes for two weeks. The calibration was completed using operational controls over a 24-hour period.

Future residential, commercial and industrial projections were developed using the City's Future Land Use Plan and densities by Census Block from the 2010 Census.

All of the future system modeling was performed with Extended Period Simulation (EPS) modeling under winter, average day and maximum day demand conditions for the 5-year, 10-year and buildout planning periods.

Other major issues addressed during the CIP development and future system analysis included:

- Pressure plane boundary modifications to eliminate low pressure problem areas
- Elevated tank improvements to increase the effective elevated storage and improve balancing between the elevated tanks
- Evaluation of improvements to serve potential wholesale customers
- Evaluation of options to improve redundancy for raw water lines/facilities, treatment plants and major transmission lines

CLIENT CONTACT

Robert Stanley, P.E.
Senior Engineer – Planning
817-459-6824
Robert.Stanley@arlingtontx.gov

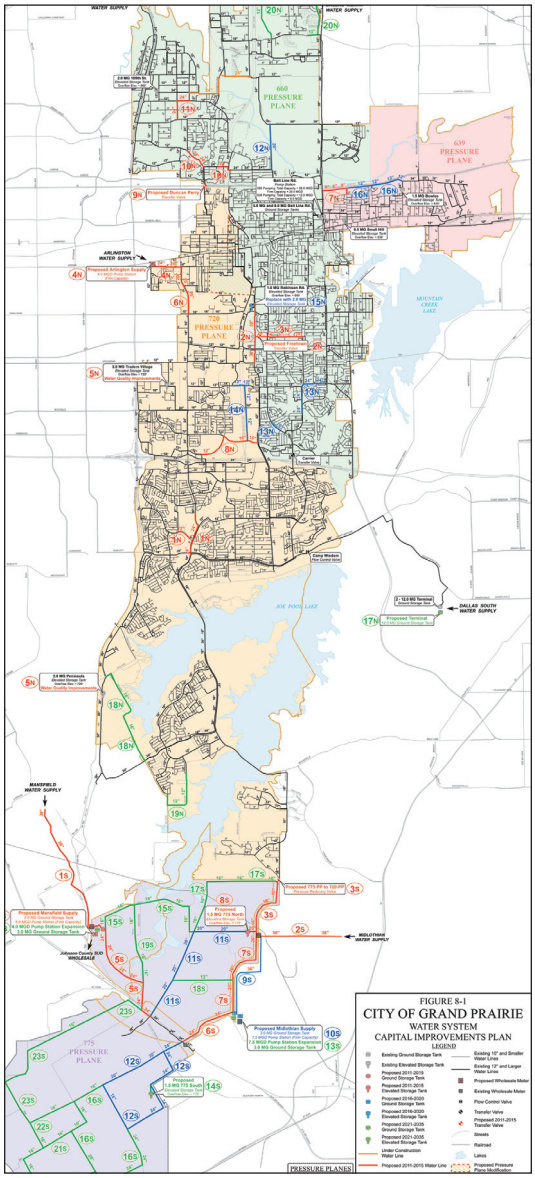
Uses H2OMAP software

WATER MASTER PLAN | CITY OF GRAND PRAIRIE

FNI developed and updated the City of Grand Prairie's Water System Master Plan. This project includes the development of a comprehensive water distribution system study, which involved using a hydraulic model to develop a CIP based on land use assumptions (LUAs) developed for 5-, 10- and 20-year conditions.

The City's water service area includes approximately 80 square miles, and the population within the area is projected to grow to over 250,000 people in the next 25 years. Accommodating this growth in an efficient and cost-effective manner by using water supply from Dallas Water Utilities and the City's groundwater wells, while maintaining a safe and reliable water supply, is a focus of the Master Plan.

Hydraulic analyses will be conducted to identify deficiencies in the existing water system and to establish a CIP to reinforce the existing system. Various combinations of improvements and modifications will be investigated to determine the most appropriate approach for meeting projected demands.



FNI is also using this project opportunity to employ Cityworks, a GIS-centric asset management solution. Integration of the Cityworks Online system allows for cost-effective and intelligent inspection, monitoring and conditions assessment. FNI is a Cityworks bronze partner.

FNI developed a $127-million CIP as part of the original Master Plan and Impact Fee Study. Recommendations included new water supply options, constructing improvements to enhance system operations, water system renewal and improving overall distribution water quality.

Other challenges that were addressed included addressing fire flow capacity needs, meeting elevated storage requirements and providing service to areas of rapid growth in the Grand Prairie's South Sector, where little or no infrastructure currently exists.

CLIENT CONTACT

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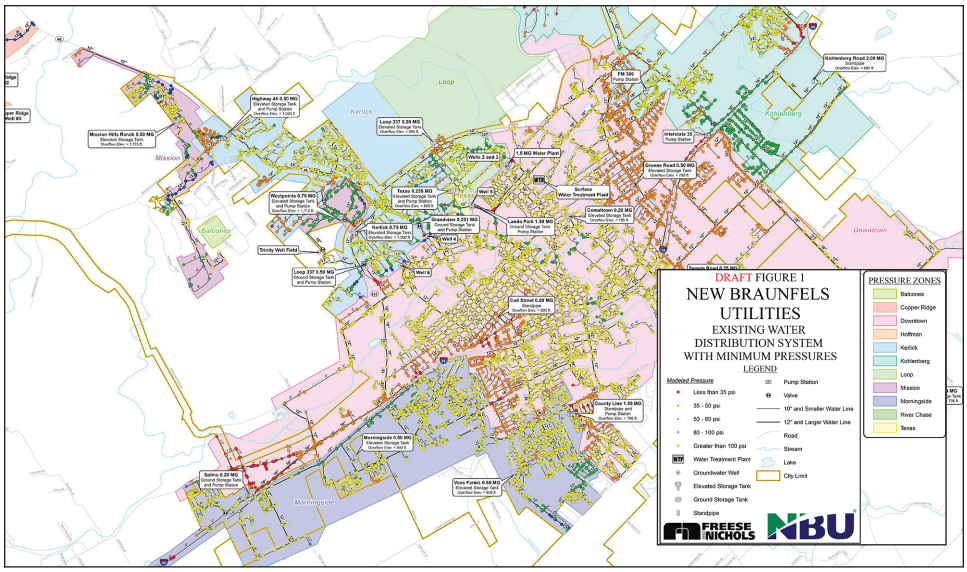
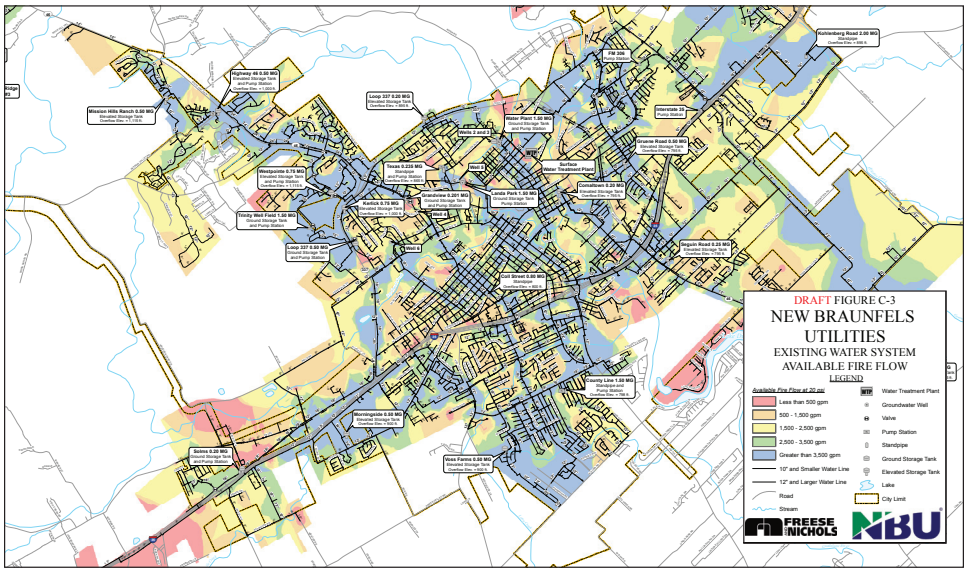
Uses H2OMAP software



WATER MASTER PLAN | NEW BRAUNFELS UTILITIES

FNI performed a Water Master Plan for New Braunfels Utilities (NBU). This project consisted of developing water demand projections for 5-, 10- and 25-year conditions and using those projections to determine the needed system improvements to serve the projected growth within the water service area. A hydraulic model was utilized to evaluate existing capacity, as well as future infrastructure requirements. The model was provided to NBU staff for use in development reviews and operational modifications. A comprehensive water system CIP was developed that identifies project costs and phasing, and supported the development of impact fees.



CLIENT CONTACT

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Uses H2OMAP software

EXHIBIT 1

OUR GUIDING PRINCIPLES

We are ethical
We deliver quality
We are responsive
We add value
We improve continuously
We are innovative
We develop professionally
We respect others
We appreciate our clients and fellow employees
We give back to our communities

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