Environmental Services for Oil & Gas Projects
Freese and Nichols’ Environmental Science and Remediation Group has more than 20 years of experience managing projects for major and independent oil and gas companies. We offer services in:

- Project Development
- Crude Oil and Natural Gas Facilities Engineering
- Program/Project Management
- Construction Phase Assistance
- Water Management Services
- General Engineering Support

Our firm’s diverse service offerings enable us to deliver unique solutions while still meeting the demands of a fast-paced project schedule. This means our staff can provide high quality results no matter the size, scale or scope of the project.

Growing In the Industry

As Freese and Nichols became more involved in this market sector over the past 10 years, our clients asked us to provide a wider range of services including petroleum pipeline design. As a result, we acquired the firm Nicol and Associates, Inc. in 2011 to enhance our petroleum pipeline and facility design capability. Since 2011, our Energy Division has grown to more than 50 engineers and support staff.

Environmental Services for Oil & Gas Projects

Because of our comprehensive approach, our environmental science team has developed extensive experience in oil and gas projects and frequently works alongside our engineering team, contributing its own specialized capabilities that extend outside the realm of standard oil and gas services. Joining oil and gas engineering with environmental science allows us to deliver a broader range of services with shorter project schedules and reduced costs to our clients. This approach means projects are completed on a quicker time frame, and the client can get the job done by working with just one firm – Freese and Nichols – from start to finish.

Integrating environmental services into oil and gas projects from the start gives us the opportunity to guide clients through permitting processes and environmental considerations, saving them time and money. This also allows us to work as a trusted advisor on multiple levels and build a relationship to enhance project collaboration.

Freese and Nichols customizes our approach to meet the unique needs of each client. Our team members regularly work together across disciplines, giving our clients the benefit of total service integration.

To view more information about our environmental projects and services, scan the code at right.

We provide assistance in environmental services and permitting, including:

- National Environmental Policy Act (NEPA) Documentation (Environmental Assessment, Environmental Impact Statement, Categorical Exclusion)
- U.S. Army Corps of Engineers (USACE) Section 404/10 and 208/408 Permits
- Endangered and Threatened Species
- Construction-Related Stormwater Plans
- Erosion Control Plans
- Spill Prevention, Control and Countermeasure (SPCC) Plans
- Tree Surveys and Urban Forestry Permits
- Geomorphology Assessments and Mitigation Design
- Program-Level Compliance, Avoidance and Minimization Strategies
- Contaminated Site Assessments and Remediation
- Air Permitting
In 2011, Freese and Nichols was selected by Pioneer Natural Resources USA, Inc. to provide engineering and environmental services for the Brushy Creek Gathering System project. The goal of this ambitious project was to develop an expansive natural gas-gathering system model to develop Pioneer’s assets in the Barnett Combo Play, which contains a mixture of oil, natural gas and natural gas liquids commodities.

To date, this ongoing project spans three counties – Montague, Wise and Clay – and includes 55 miles of gathering line, ranging from 6-inch poly pipeline to 16-inch steel pipeline. In addition to pipeline routing and design, Freese and Nichols has designed two central delivery point (CDP) stations and is actively managing construction activities for all pipelines and CDP stations. Total construction cost for the project is estimated at $180 million.

Through the use of permitting innovations and the conservation and reuse of water for hydrostatic pressure testing, Freese and Nichols was able to help Pioneer accelerate the project schedule and achieve an estimated $5 million-plus in cost savings. We accomplished these savings by acting as a trusted advisor to Pioneer, developing innovative processes to solve problems and by putting Pioneer’s interests first in the relationship.

Freese and Nichols provided Pioneer with a comprehensive “one-stop shop” for all environmental permitting required for the project. Our scientists provided regulatory compliance and permitting expertise in the following areas:

- Waters of the United States Determinations and Wetland Delineations
- Endangered Species Habitat Surveys
- Section 404 Permits, including Nationwide Permit 12 and Utility Line Activities
- Statewide Rule 8 Permits, including Hydrostatic Test Water Discharge Permitting
- 40 Code of Federal Regulations (CFR) Part 112 Compliance, including SPCC Plans
- Regulatory Agency Coordination with the USACE, Railroad Commission of Texas, Texas Historical Commission, and U.S. Fish and Wildlife Service
- Geographic Information System (GIS) Analysis for Pipeline Route Development and Mapping
Freese and Nichols began providing environmental permitting services related to natural gas pipelines being constructed to serve wells in the Barnett Combo Play in 2004. At this time, the Four Sevens Oil Company engaged us to obtain a Section 404 permit for a pipeline crossing on the West Fork of the Trinity River. The Four Sevens Oil Company was later acquired by Chesapeake Operating, Inc.

In 2006, we were selected by Chesapeake Operating, Inc. to provide design and environmental services for produced water in natural gas projects at Dallas-Fort Worth International Airport (DFW). Since then, Freese and Nichols has provided more than $18.5 million in engineering and environmental services to Chesapeake. Our efforts assisted with the development of more than $1 billion in gas-gathering infrastructure throughout the Barnett Combo Play in North Texas and the Eagle Ford Shale in South Texas. This program serves as a model for other Chesapeake divisions throughout the United States.

Over the course of the past nine years, Freese and Nichols has completed a wide range of environmental services for Chesapeake, including:

- Section 404/Section 10 permitting and coordination for nine natural gas pipeline crossings of the West Fork Trinity River, listed as a Section 10 Water Body
- Tree surveys on more than 50 acres of land; tagging and identifying more than 1,700 trees
- Full-time, on-site GIS analysis for a wide range of needs, including preliminary infrastructure planning, route development and route updates
- Municipal permitting services for all natural gas development activities in the Barnett Combo Play, including permitting and tracking of more than 1,100 permits for natural gas pipeline routes in urban and rural areas from 2007 to 2008
- Program-level management to aid in the organization of several hundred Chesapeake staff members to execute more than 300 separate pipeline and compression facility projects
- Project management to lead multiple project teams in planning and executing pipeline projects covering more than 30 Texas counties in both the Barnett Combo and Eagle Ford Shale plays
- Design services to complete a fast-track design of more than 80 miles of gas-gathering and freshwater pipelines across the 18,000-acre DFW Airport property
Freese and Nichols has performed various services for Anadarko Petroleum Corporation over the past three years to help them maximize scarce water resources available for their drilling operations across the country. Our primary effort has been to assist Anadarko with water system planning for three of their drilling operations – the Eagle Ford play in South Texas, the Haynesville play in East Texas and Louisiana, and the Wattenberg play in Colorado.

The **Eagle Ford Water System** required the development of a water distribution system to utilize water produced from multiple groundwater wells. The produced water was to be conveyed to temporary storage and then delivered to various drill pad locations as needed for well completions. Freese and Nichols advised Anadarko on acquiring water rights from the Rio Grande River and also assisted with the design of an intake pump station to move water from the river to the proposed drill sites. The water system consisted of more than 100 miles of water lines and 25 pump stations. We also performed a feasibility study for constructing a produced water collection system, a produced water treatment system and a recycled water transmission system. This study was completed to determine whether the money saved on reduced trucking and disposal costs would payback development costs within a three-year period and be protective of the environment by conserving water used in project operations.

The **Haynesville Water System** utilized surface water from the Sabine River. Freese and Nichols assisted Anadarko with a preliminary design for a river intake pump station and water transmission system to supply their drilling operations in their Southeast Carthage play. We also initiated a preliminary water system analysis on Anadarko’s Alta play in Louisiana.

The **Wattenberg Water System** was similar to the Eagle Ford project in that Anadarko had groundwater well sites and retained Freese and Nichols to plan and model a water transmission system to supply their drilling operations. The water system consisted of 25 miles of water lines and five pump stations.

**Environmental services Freese and Nichols provided to Anadarko included:**
- Water Rights Advising
- Water System Modeling and Design
- Water System Analysis
- Planning and Modeling of Water Transmission Systems to Supply Drilling Operations
- Preliminary Design of River Intake Pump Station
- Feasibility Studies
In 1894, Major John B. Hawley became one of the first independent consulting engineers in Texas. He soon invited Simon Freese and Marvin Nichols to join his firm. From those beginnings, Freese and Nichols has grown to multiple offices throughout Texas and North Carolina. Our staff of talented and accomplished employees is dedicated to one vision: Be the firm of choice for clients and employees.

Freese and Nichols is a full service professional consulting firm and the first engineering/architecture firm to receive the Malcolm Baldrige National Quality Award. Our services include:

- Comprehensive Environmental Services
- Oil and Gas Facilities Engineering
- Water Resources Planning and Facility Design
- Water and Wastewater Treatment
- Water and Wastewater Master Planning
- Stormwater Management and Master Planning
- Mechanical, Electrical and Plumbing Engineering
- Construction Services/Program Management
- Architecture
- Structural Engineering
- Transportation/Infrastructure Planning and Design
- Urban Planning and Design
- Municipal and Facility Planning
- Funding/Grant Applications

Headquartered in Fort Worth, Texas, Freese and Nichols serves clients from offices in Texas and North Carolina.

Mission
Innovative approaches
Practical results
Outstanding service

Vision
Be the firm of choice for clients and employees

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 employees and clients
We give back to our communities
In the mid-1980s, U.S. leaders realized that American companies needed to focus on quality in order to compete in an ever-expanding, demanding global market. Then-Secretary of Commerce Malcolm Baldrige was an advocate of quality management as a key to U.S. prosperity and sustainability. After he died in July 1987, Congress named the Award in recognition of his contributions. The goal of the Malcolm Baldrige National Quality Improvement Act of 1987 was to enhance the competitiveness of U.S. businesses. Its scope has since been expanded to healthcare and education organizations (in 1999) and to nonprofit/government organizations (in 2005).

Congress created the program to:

- Identify and recognize role-model businesses
- Establish criteria for evaluating improvement efforts
- Disseminate and share best practices

Baldrige History

In November 2010, FNI was named a recipient of the Malcolm Baldrige National Quality Award. The award provides affirmation of our ongoing quality journey. The Baldrige award is the highest presidential honor given to U.S. organizations for performance excellence, and FNI is the first engineering/architecture firm to receive this honor.

Pictured above: FNI CEO Bob Pence, FNI Chairman Emeritus Jim Nichols, FNI CFO Cindy Milrany, U.S. Congresswoman Kay Granger, Fort Worth Mayor Betsy Price, and FNI Vice President Lee Freese.

Baldrige by the Numbers

1,579 applicants
93 recipients
7 categories in Baldrige criteria
1 engineering/architecture firm received this honor: Freese and Nichols
For more information, please contact:

Kendall King, P.E.
Division Manager
P: 817-735-7289
F: 817-735-7491
kendall.king@freese.com

Robert Chambers, P.G.
Environmental Services
P: 817-735-7462
F: 817-735-7491
robert.chambers@freese.com