



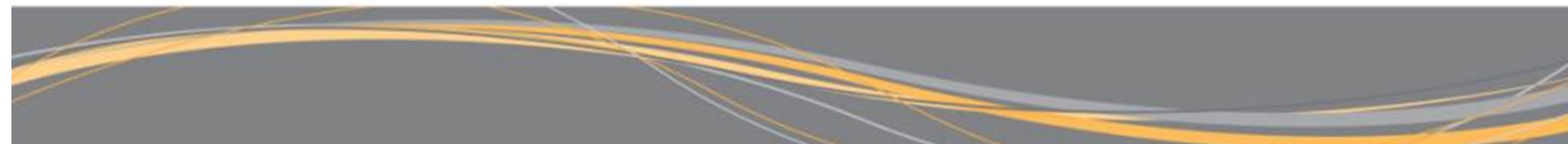
Cherokee Natural Gas Pipeline Project

Commerce City Council Hearing

Conditional Use Permit Application

Case Number: CU-97-12

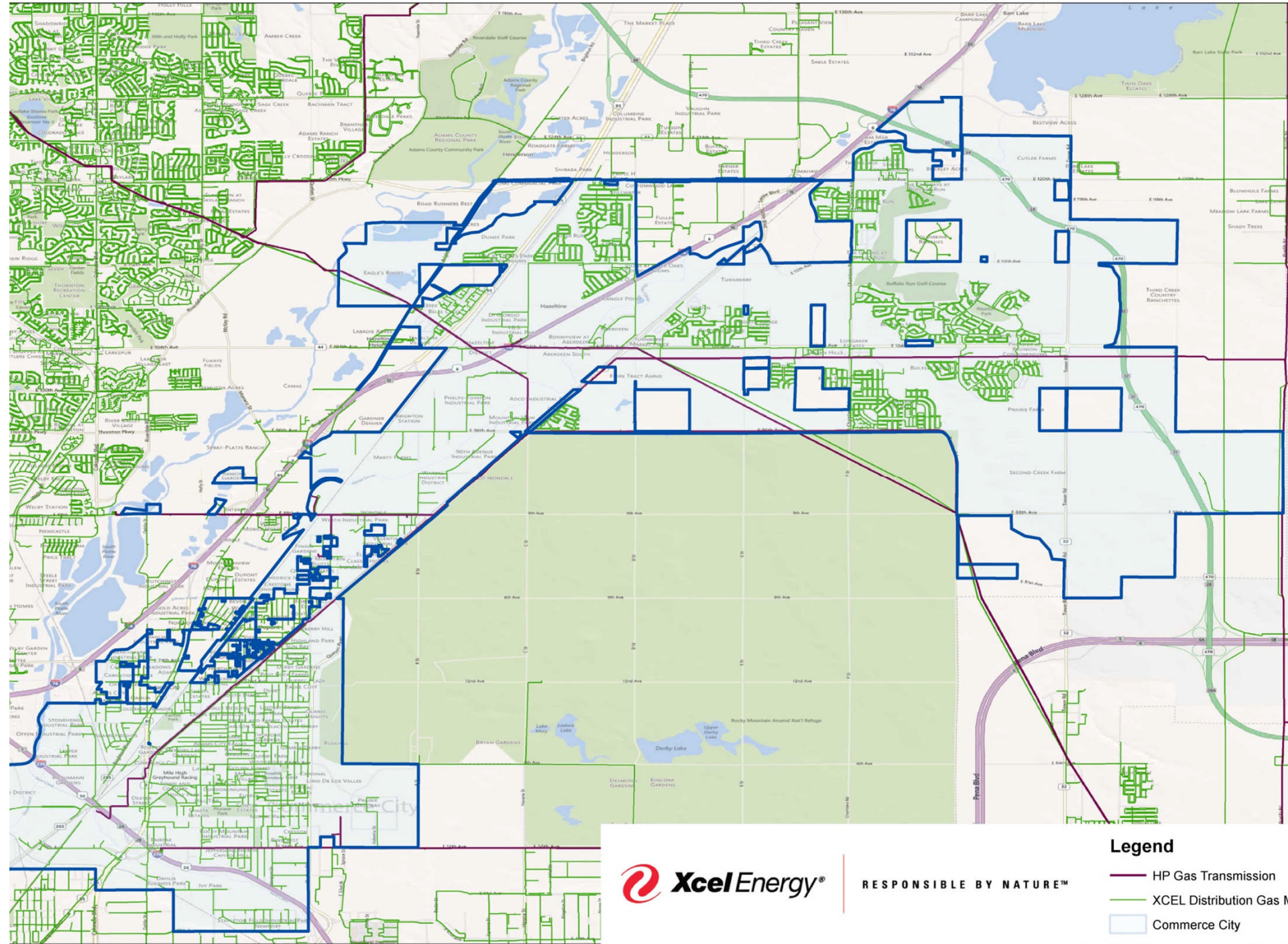
October 1, 2012



Natural Gas Pipeline Information

- **Nationally:**
 - 175 million residential, commercial and industrial users of gas
 - 2.4 million miles of gas pipelines
 - 300,000 miles transmission pipelines
- **In Colorado, PSCo operates approximately:**
 - 2,400 miles of transmission
 - 23,000 miles of distribution
- **Heavily regulated**
 - PHMSA/DOT
 - NTSB
 - DHS
 - State PUC





RESPONSIBLE BY NATURE™

Legend

- HP Gas Transmission
- XCEL Distribution Gas Mainlines
- Commerce City

Natural Gas Pipeline Benefits

- **CLEAN:** Cleanest fossil fuel. On an energy equivalent basis, emits 45 percent less CO₂ than other fossil fuels.
- **DOMESTIC:** In 2010, 98% of the natural gas consumed in the United States was produced in North America.
- **ABUNDANT:** At current production rates, U.S. resources are estimated to be more than 2,000 trillion cubic feet (Tcf) – enough to last 100 years.
- **EFFICIENT:** 92% of the natural gas produced is delivered to customers as usable energy.
- **CREATES JOBS:** Comprises almost 1/4 of all energy used in the U.S. and is directly linked to 3 million jobs.

Cherokee Natural Gas Pipeline Project Background

- **Required through Clean Air-Clean Jobs Act (CACJA)**
 - **Legislature passed April 2010**
 - Cherokee conversion part of our Emissions Reduction Plan
 - Addresses Federal, State air quality mandates
- **Dec. 15, 2010 -- PUC approves plan**
- **Sept. 11, 2012 – EPA approves State Implementation Plan (SIP)**
- **Jan. 1, 2018 – Implementation complete**

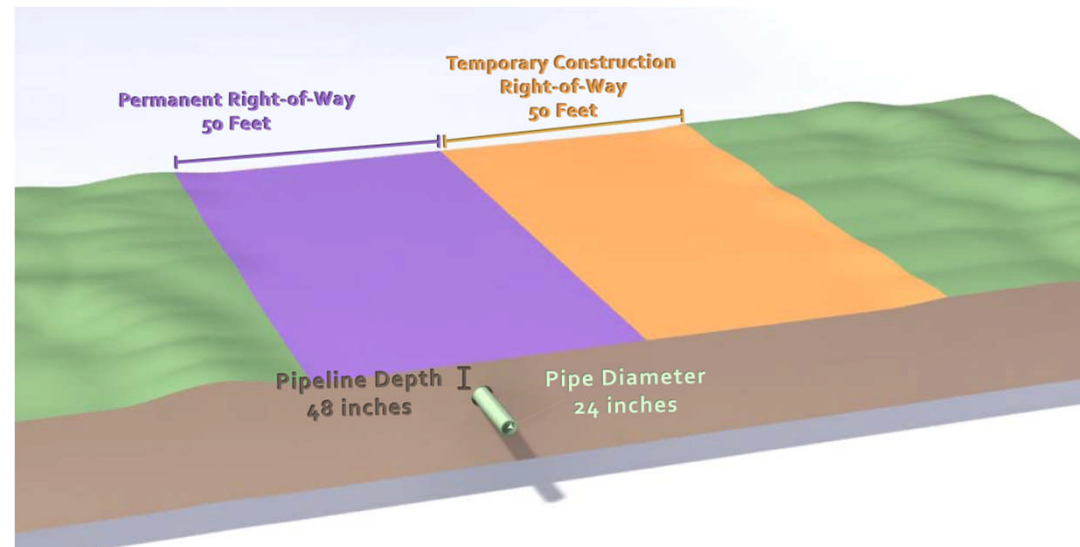
Cherokee Generating Station Project Overview

Timeline	Project Activity	Coal-fired Generation Retired	Natural Gas-fired Generation
Phase I			
October 2011	Retire Unit 2	106 MW	
May 2012	Retire Unit 1	107 MW	
2015	Retire Unit 3	152 MW	
Total MW of coal-fired generation retired		(365 MW)	
2015	Natural gas, combined cycle plant comes online		569 MW
Phase II			
2017	Fuel switching Unit 4 to burn natural gas		352 MW
		Total Capacity	921 MW

Cherokee Natural Gas Pipeline Project Benefits

- **Cleaner air – full CACJA implementation results in more than 80% reduction in mercury, NO_x, SO₂**
- **At Cherokee alone:**
 - **NO_x is expected to be reduced by 96%**
 - **SO₂ is expected to be reduced by 99.8%**
 - **Mercury will be reduced 100% after Unit 4 is fuel switched to natural gas in 2017**
- **Less coal truck and rail traffic**
- **Pipeline construction generates \$1.3 million in economic benefits to Commerce City**

Cherokee Natural Gas Pipeline Project

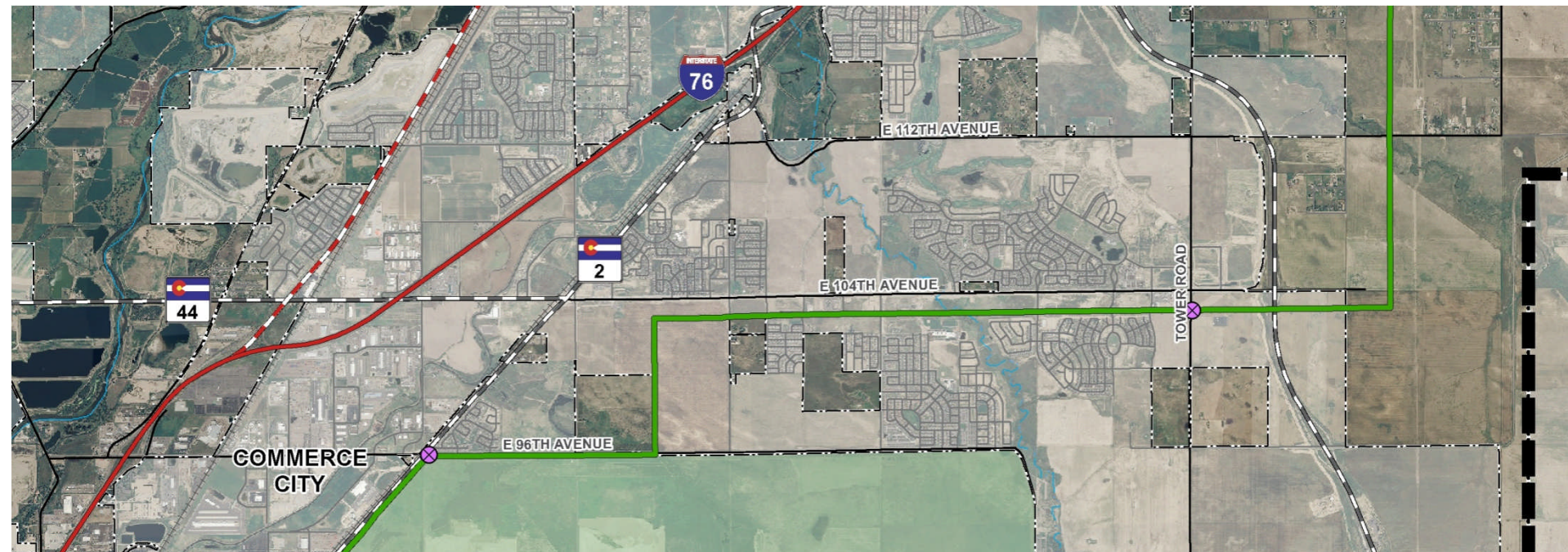


Characteristic	Requirement
Length	Maximum 34 miles
Diameter	24-inch
Fabrication	Steel
Maximum Allowable Operating Pressure (MAOP)	1,020 pounds per square inch gauge (psig)
Initial upstream pressure	750 psig
Delivery pressure from pipeline to Cherokee Station	550 psig
Row Width	50 foot permanent 50 foot temporary for construction
Buried depth	Minimum of 48 inches
Above ground structures	7 Mainline Valves

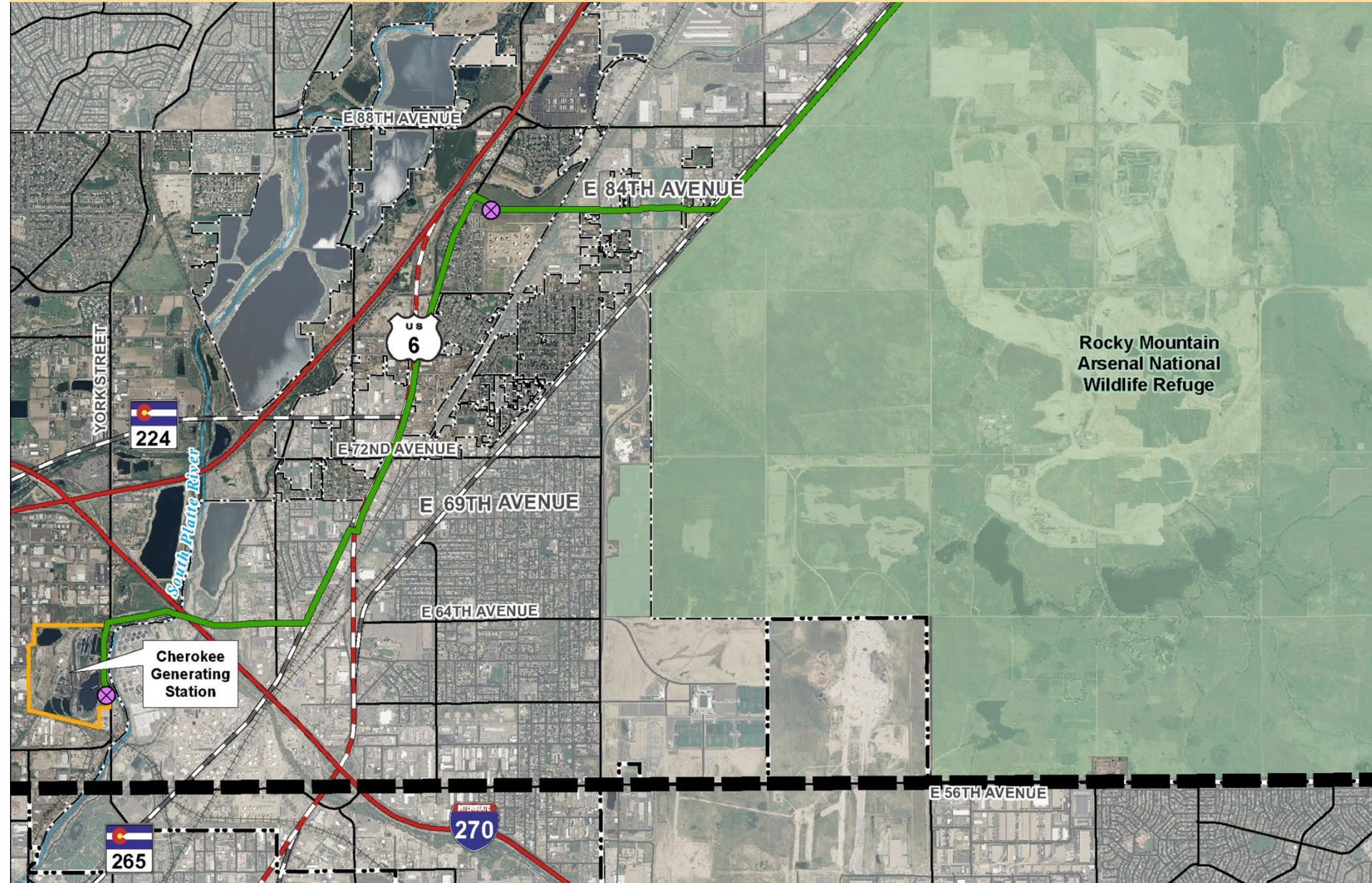
Cherokee Natural Gas Pipeline Project

- **Within Commerce City**
 - **Approximately 12 miles of natural gas pipeline**
 - **50-foot permanent ROW required for proposed pipeline**
 - **Additional 50-foot temporary ROW required for pipeline construction**
 - **Two valve sets:**
 - **Intersection of East 96th Avenue, Colorado Highway 2**
 - **South of the intersection of East 104th Avenue & Tower Road**
 - **Temporary staging locations being considered**

Proposed Pipeline Route and Valve Sets



Proposed Pipeline Route and Valve Sets

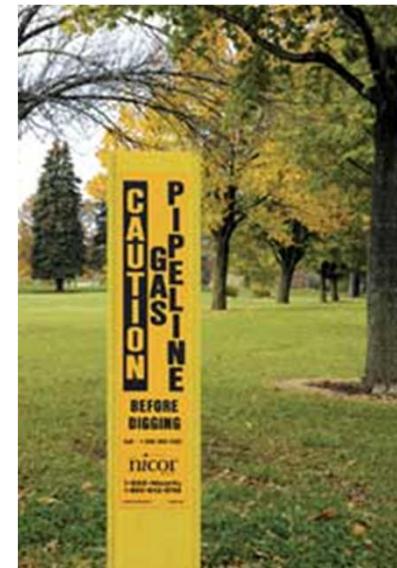


Natural Gas Pipeline Safety

- Pipelines are safest way to transport energy
- National pipeline safety continues to improve
- Public plays a role – excavation damage #1 threat



Know what's below.
Call before you dig.



Natural Gas Pipeline Safety – Design

- Meet federal, state standards and safety requirements
- Mainline valves that are remotely operated



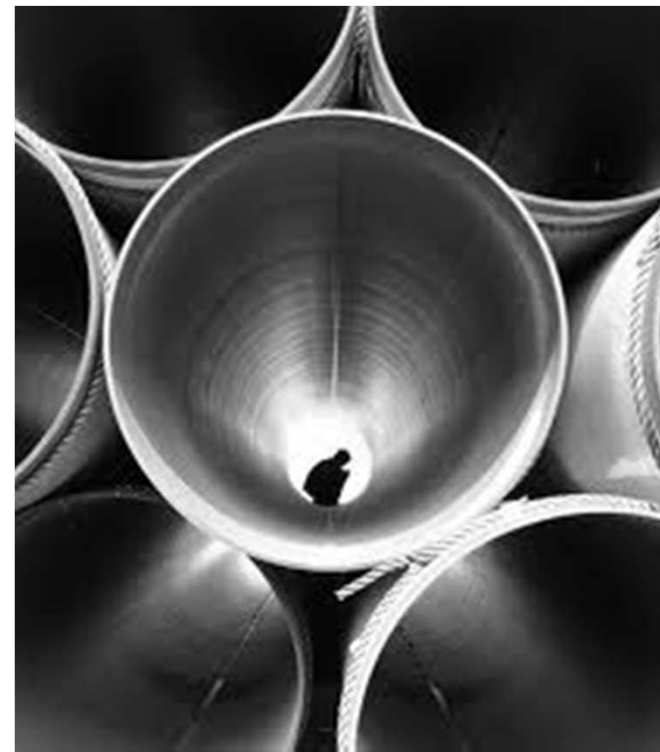
In-line inspection tool

Natural Gas Pipeline Safety – Construction Integrity Management

- **Third party inspects all welds with x-rays before pipe is lowered into trench**
- **Corrosion prevention system installed to eliminate metal loss during life of pipeline**
- **Undergoes hydrostatic pressure test**
- **Inspected internally with state-of-the-art inspection equipment**

Natural Gas Pipeline Safety – Long-Term Integrity Management

- Continuous remote monitoring by Gas Control Center
- Pipeline patrolled on annual, semi-annual and quarterly intervals
- Pipeline inspected at least every 7 years with In-line inspection tools



Route Selection

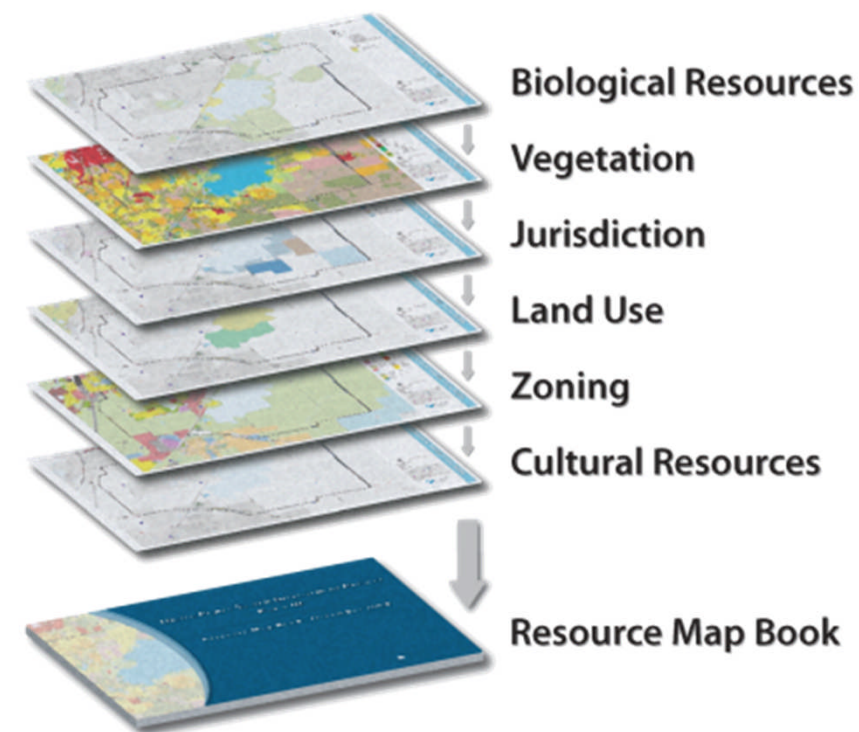
- Multi-step process that balances environment, public input, economics, land use, and engineering needs
- Examined many different route alternatives and facility alternatives
- Analysis documented in Route Selection Report submitted with CUP application



Data Collection and Mapping

Data collected and analyzed includes:

- Existing transportation and utility corridors
- Land cover/land use
- Vegetation cover
- Cultural and historic resources
- Zoning
- Recreation and land management areas
- Oil and Gas wells
- Schools
- Soils
- Surface water and wetlands
- Biological resources
- Jurisdiction
- Floodplains
- Irrigated agriculture

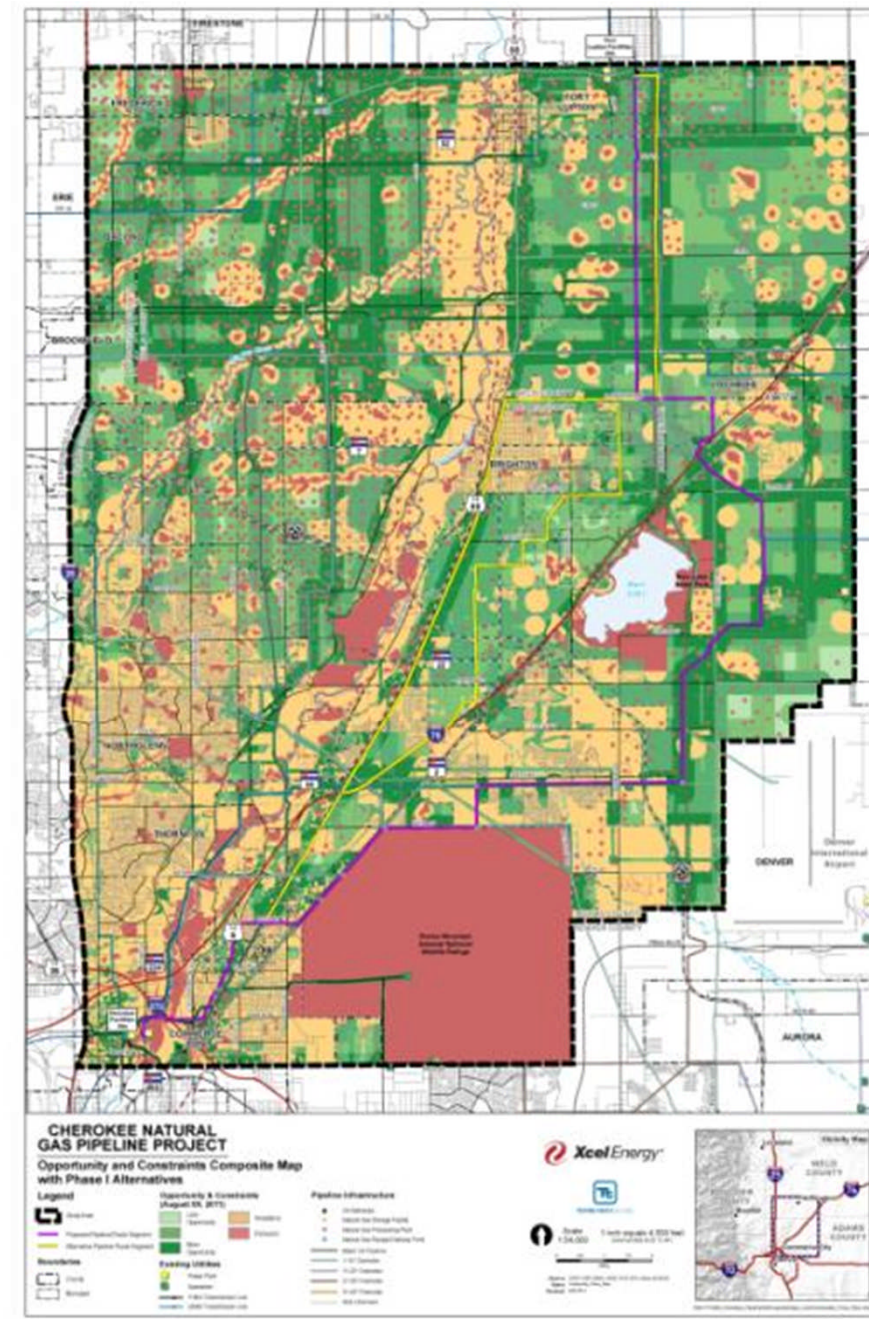


Opportunities and Constraints Analysis

- Opportunities (goal is to maximize use of these areas)
 - Examples include paralleling existing transmission and gas pipeline corridors, roads, industrial and commercial land use
- Avoidances (goal is to minimize use of these areas)
 - Examples include center pivot irrigation, residential areas, wetlands, conservation areas
- Exclusions (goal is to exclude where possible)
 - Within city and county parks, national wildlife refuges, state parks, state wildlife areas



Opportunities and Constraints Analysis

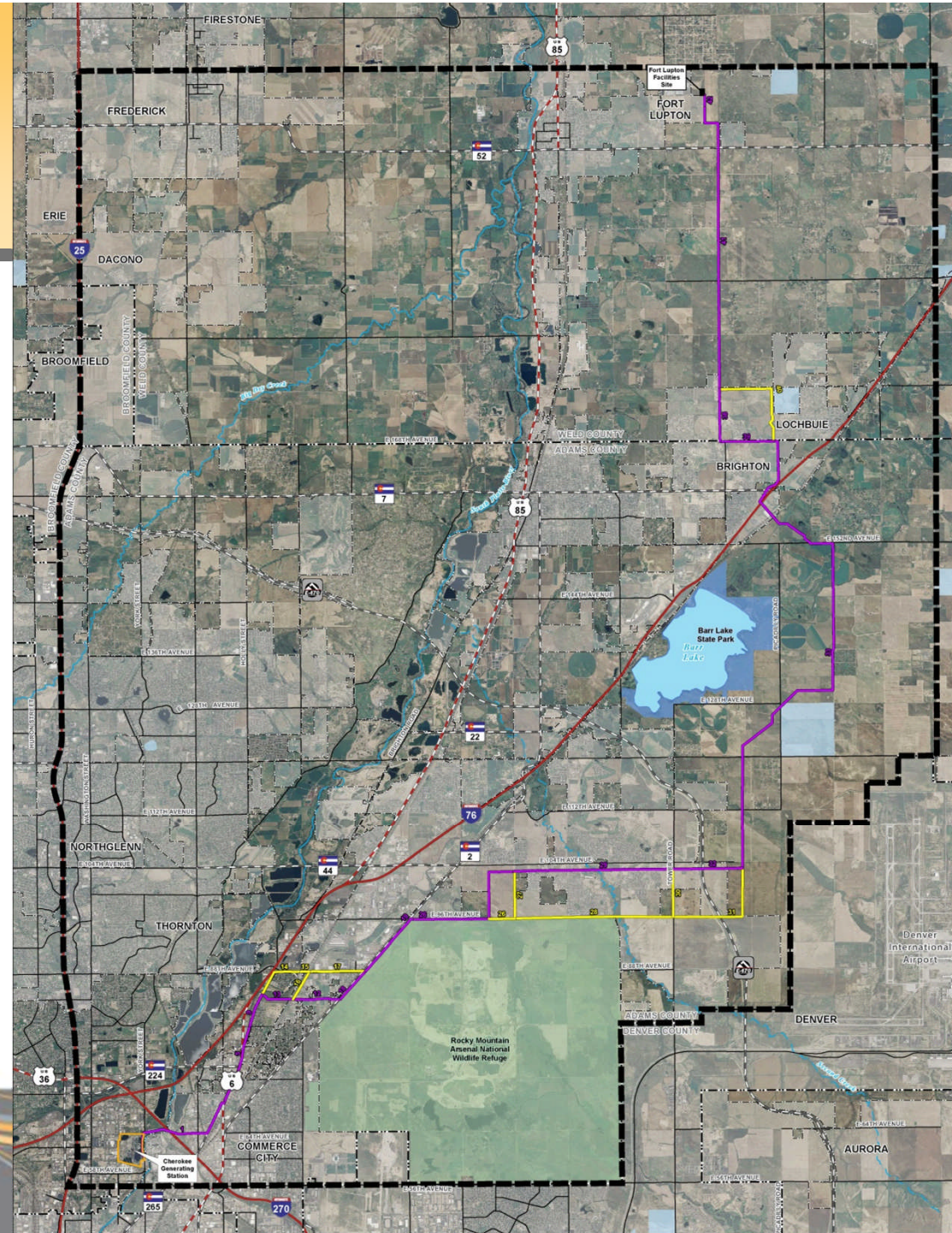


Route Refinement and Selection of the Preferred Route

- Further field reconnaissance of routes
- Identified additional route connector segments
- Defined comparative analysis criteria
- Select preferred and alternative routes based on quantified impacts (over 70 routes with different connector segments analyzed)
- The matrix consists of resources in the following areas of consideration:
 - Engineering
 - Land Cover/Land Use (vegetation, residential density, schools, oil and gas wells, etc.)
 - Biological Resources
 - Cultural Resources

Proposed and Alternate Routes

- Minimized amount of route on new property
- Approx. 83% of proposed route is within existing PSCo easements or fee owned property or adjacent to or within existing roadways in Commerce City



Public Outreach

■ Open Houses:

■ Commerce City

- June 7, 2011
- June 29, 2011
- December 7, 2011
- December 12, 2011

■ Notifications:

- Mailed notices, emails, notices in local papers, advertising and social media

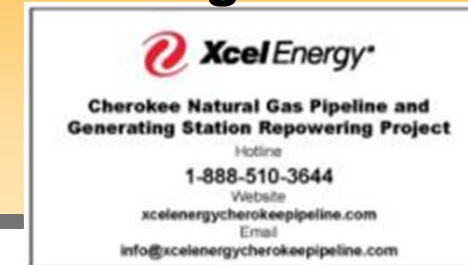


Project Construction Schedule

Pipeline Construction Milestones
Fall 2012
Boring of Canals and Roadways Begins
Winter/Spring 2014
Begin Trenching for Pipeline
Summer/Fall 2014
Pipeline Construction and Restoration
Fall 2014
Pipeline Testing
October 2014
New Pipeline In-Service

Project Information

Magnets:



- Website: xcelenergycherokeepipeline.com



- Email:

info@xcelenergycherokeepipeline.com

- Project Hotline: 1-855-510-3644

Contact Information

- **Preston Gibson, Area Manager (Adams County)**
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