



Spire STL Pipeline Project

Resource Report 1
General Project Description

FERC Docket No. CP17-___-___

FERC Application
January 2017

Public



RESOURCE REPORT 1 - GENERAL PROJECT DESCRIPTION	
SUMMARY OF FILING INFORMATION	
Information	Found in
1. Provide a detailed description and location map of the Project facilities. (§380.12(c)(1))	Section 1.1, Figure 1.1-1, and Construction Alignment Sheets (Appendix 1-B)
2. Describe non-jurisdictional facilities that would be built in association with the Project. (§380.12(c)(2))	Section 1.8.
3. Provide current original U.S. Geological Survey (USGS) 7.5-minute series topographic maps with mileposts showing the Project facilities. (§380.12(c)(3))	Appendix 1-A.
4. Provide aerial images or photographs or alignment sheets based on these sources with mileposts showing the Project facilities. (§380.12(c)(3))	Construction Alignment Sheets (Appendix 1-B)
5. Provide plot/site plans of compressor stations showing the location of the nearest noise-sensitive areas (NSA) within 1 mile. (§§380.12(c)(3) and (4))	Not applicable.
6. Describe construction and restoration methods. (§380.12(c)(6))	Section 1.3.
7. Identify the permits required for construction across surface waters. (§380.12(c)(9))	Table 1.6-1.
8. Provide the names and addresses of affected landowners and certify that affected landowners would be notified as required in §157.6(d). (§§380.12(a)(4) and (c)(10))	Section 1.7 and Appendix 1-G.
INFORMATION RECOMMENDED OR OFTEN MISSING	
1. Describe all authorizations required to complete the proposed action and the status of applications for such authorizations, including actual or anticipated submittal and receipt dates.	Section 1.6 and Table 1.6-1.
2. Provide plot/site plans of all aboveground facilities that are not completely within the right-of-way.	Appendix 1-F



RESOURCE REPORT 1 - GENERAL PROJECT DESCRIPTION	
INFORMATION RECOMMENDED OR OFTEN MISSING	
Information	Found in
3. Provide detailed typical construction right-of-way cross-section diagrams for each proposed right-of-way configuration showing information such as widths and relative locations of existing rights-of-way, new permanent rights-of-way, and temporary construction rights-of-way. Clearly identify any overlap of existing rights-of-way for projects involving collocation. Identify by pipeline facility and milepost where each right-of-way configuration would apply.	Resource Report 8, Appendix 8-A.
4. Summarize the total acreage of land affected by construction and operation of the project.	Section 1.2 and Tables 1.2-1 and 1.2-2.
5. Describe cathodic protection system; include associated land requirements as appropriate.	Section 1.1.2 and Section 1.2.1.
6. Describe construction and restoration methods for offshore facilities as well as onshore facilities.	Section 1.3.
7. For proposed abandonments, describe how the right-of-way would be restored, who would own the site or right-of-way after abandonment, who would be responsible for facilities that would be abandoned in place, and whether landowners were given the opportunity to request removal.	Section 1.1.2.1.
8. If Resource Report 5, Socioeconomics is not provided, provide the start and end dates of construction, the number of pipeline spreads that would be used, and the workforce per spread.	Section 1.3
9. If project includes construction in the federal offshore area, include in the discussion of required authorizations and clearances the status of consultations with the Bureau of Ocean Energy Management, Regulation and Enforcement. File with the Bureau of Ocean Energy Management, Regulation and Enforcement for right-of-way grants at the same time or before filing the Federal Energy Regulatory Commission (FERC) application.	Not applicable.



RESOURCE REPORT 1 - GENERAL PROJECT DESCRIPTION	
INFORMATION RECOMMENDED OR OFTEN MISSING	
Information	Found in
10. For project involving the import or export of natural gas/ liquefied natural gas and construction of liquefied natural gas facilities, include in the discussion of required authorizations and clearances the status of consultations and authorizations required from the U.S. Department of Energy, U.S. Coast Guard, and the Federal Aviation Administration, as applicable.	Not applicable.
11. Send two (2) additional copies of topographic maps and aerial images/photographs directly to the environmental staff of the Office of Energy Projects.	Hardcopies submitted to FERC based on PM request.
12. Provide an electronic copy of the landowner list directly to the FERC environmental staff (check with FERC staff for required format).	Appendix 1-G.



Table of Contents

- General Project Description 1-1
 - 1.1 Proposed Facilities..... 1-1
 - 1.1.1 Purpose and Need..... 1-1
 - 1.1.2 Location and Description of Facilities 1-5
 - 1.1.3 Location Maps, Detailed Route Maps, and Plot/Site Plans..... 1-13
 - 1.2 Land Requirements 1-15
 - 1.2.1 Pipeline Facilities..... 1-15
 - 1.2.2 ATWS..... 1-17
 - 1.2.3 Aboveground Facilities..... 1-18
 - 1.2.4 Mainline Valves 1-19
 - 1.2.5 Access Roads 1-19
 - 1.2.6 Contractor Yards/Staging Areas..... 1-19
 - 1.2.7 Areas of No Access 1-20
 - 1.3 Construction Procedures..... 1-20
 - 1.3.1 Pipeline..... 1-22
 - 1.3.2 Aboveground Facilities..... 1-42
 - 1.4 Operation and Maintenance 1-42
 - 1.4.1 Pipelines 1-43
 - 1.4.2 Aboveground Facilities..... 1-45
 - 1.5 Future Plans and Abandonment..... 1-45
 - 1.6 Permits and Approvals 1-45
 - 1.7 Affected Landowners/Stakeholders..... 1-50
 - 1.7.1 Public Participation 1-50
 - 1.7.2 Landowner Notification 1-52
 - 1.7.3 Agency Outreach..... 1-53
 - 1.8 Nonjurisdictional Facilities 1-55
 - 1.9 Cumulative Impacts..... 1-55
 - 1.9.1 Scoping..... 1-57
 - 1.9.2 Potential Cumulative Impacts of the Proposed Action..... 1-58
 - 1.9.3 Conclusions 1-65
 - 1.10 References..... 1-73



Tables

1.1-1 Pipeline Facilities Associated with the Project 1-5

1.1-2 Line 880 Modifications and Required Workspaces1 1-7

1.1-3 Cathodic Protection Areas along the Project..... 1-9

1.1-4 Aboveground Facilities Associated with the Project 1-12

1.2-1 Land Requirements for Pipeline Facilities 1-16

1.2-2 Land Requirements for Aboveground Facilities..... 1-18

1.3-1 Anticipated Construction Dates and Workforce..... 1-21

1.3-2 Minimum Specifications for Depth of Cover 1-24

1.3-3 Roads and Railroads Crossed by the Pipelines 1-28

1.3-4 Existing Utility Lines Crossed by the Pipelines..... 1-32

1.3-5 Summary of Planned HDDs..... 1-39

1.6-1 Environmental Permits, Approvals, and Consultations 1-46

1.7-1 Agency Meetings Conducted to Date 1-54

1.9-1 Geographic Scope for Cumulative Impact Analysis 1-56

1.9-2 Past, Present, and Reasonably Foreseeable Actions within the Geographic Scope..... 1-66

Figures

1.1-1 Project Overview Map..... 1-14

1.3-1 Typical HDD Workspace 1-40

Appendices

1-A Topographic Map

1-B Construction Alignment Sheets

1-C Agency Correspondence

United States Army Corps of Engineers

United States Fish and Wildlife Service

National Oceanic and Atmospheric Administration

United States Environmental Protection Agency

United States Department of Agriculture



	Illinois Department of Natural Resources
	Illinois Department of Agriculture
	Illinois Historic Preservation Agency
	Illinois Environmental Protection Agency
	Missouri Department of Natural Resources
	Missouri State Historic Preservation Office
	Missouri Department of Conservation
	Missouri Department of Agriculture
	Local Agencies and Governments - Scott County, Illinois
	Local Agencies and Governments - Greene County, Illinois
	Local Agencies and Governments - Jersey County, Illinois
	Local Agencies and Governments - St. Charles County, Missouri
	Local Agencies and Governments - St. Louis County, Missouri
	Native American Tribes
	Non-Governmental Organizations/Environmental Non-Governmental Organizations
1-D	Exceptions to the FERC Plan and Procedures
1-E	Winter Construction Plan
1-F	Typical Facility Plot Plans
1-G	Landowner Line List
1-H	Public Participation Plan
1-I	Stakeholder Lists
1-J	Landowner Complaint Resolution Process
1-K	Response to Scoping Comments



Acronyms and Abbreviations

AIMA	Agricultural Impact Mitigation Agreement
ATWS	additional temporary workspace
CFR	Code of Federal Regulations
Dth/d	dekatherms per day
E&SCs	erosion and sediment controls
EI	Environmental Inspector
EIA	Energy Information Administration
Enable MRT	Enable Mississippi River Transmission, LLC
ENGO	environmental non-governmental organization
ER	Environmental Report
ERW	electric resistance weld
ESA	Endangered Species Act
FERC	Federal Energy Regulatory Commission
HDD	horizontal directional drill
HUC	Hydrologic Unit Code
IDOA	Illinois Department of Agriculture
IDOT	Illinois Department of Transportation
IDNR	Illinois Department of Natural Resources
IHPA	Illinois Historic Preservation Agency
ILCS	Illinois Compiled Statutes
ILI	in-line inspection
LDC	Local Gas Distribution Company
LGC	Laclede Gas Company
M&R	metering and regulating
MAOP	maximum allowable operating pressure
MDNR	Missouri Department of Natural Resources
MDOC	Missouri Department of Conservation
MLV	mainline valve
MoDOT	Missouri Department of Transportation



MO SHPO	Missouri State Historic Preservation Office
MP	Milepost
MPSC	Missouri Public Service Commission
NAAQS	National Ambient Air Quality Standard
NGO	non-governmental organization
NHPA	National Historic Preservation Act
NMSZ	New Madrid Seismic Zone
NPDES	National Pollutant Discharge Elimination System
NWP	Nationwide Permit
O&M	Operation & Maintenance
OPP	over pressure protection
OSHA	Occupational Safety and Health Administration
PHMSA	Pipeline and Hazardous Materials Safety Administration
Plan	FERC's Upland Erosion Control, Revegetation, and Maintenance Plan
Procedures	FERC's Wetland and Waterbody Construction and Mitigation Procedures
Project	Spire STL Pipeline Project
psig	pounds per square inch gauge
REX	Rockies Express Pipeline LLC
RTU	remote telemetry unit
SHPO	State Historic Preservation Office
Spire	Spire STL Pipeline LLC
TWS	temporary workspace
USACE	United States Army Corps of Engineers
USDOT	United States Department of Transportation
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey



General Project Description

1.1 Proposed Facilities

Spire STL Pipeline LLC (“Spire”), a wholly owned subsidiary of Spire Inc.,¹ is seeking authorization from the Federal Energy Regulatory Commission (“FERC”) pursuant to Section 7(c) of the Natural Gas Act to construct and operate the proposed Spire STL Pipeline Project (“Project”) located in Scott, Greene, and Jersey Counties, Illinois, and St. Charles and St. Louis Counties, Missouri. The Project as proposed will consist of approximately 59 miles of new, greenfield, 24-inch diameter steel pipeline (referred to as the “24-inch pipeline” portion of the Project) originating at an interconnection with the Rockies Express Pipeline LLC (“REX”) pipeline in Scott County, Illinois; extending down through Greene and Jersey Counties in Illinois before crossing the Mississippi River and extending east in St. Charles County, Missouri. The 24-inch pipeline then crosses the Missouri River and ties into an existing pipeline in St. Louis County, Missouri that is currently owned and operated by Laclede Gas Company (“LGC”) (referred to as “Line 880”). As part of the proposed Project and subject to LGC’s receipt of approval from the Missouri Public Service Commission (“MPSC”), Spire is proposing to purchase Line 880 from LGC and modify the pipeline before placing it into interstate service. Line 880 consists of approximately seven miles of existing 20-inch diameter steel natural gas pipeline located in St. Louis County, Missouri that will connect the 24-inch pipeline part of the Project to the Enable Mississippi River Transmission, LLC (“Enable MRT”) pipeline along the western bank of the Mississippi River in St. Louis County, Missouri at the terminus of the Project. The total length of the Project pipelines will be approximately 66 miles. The overall design capacity of the Project pipeline is expected to be 400,000 dekatherms per day (“Dth/d”). No compression will be required. The Project will also include the construction of three new metering and regulating (“M&R”) station interconnects with REX in Illinois and LGC and Enable MRT in Missouri and the construction of a new facility at an existing LGC site along Line 880.

1.1.1 Purpose and Need

The Project is designed to provide approximately 400,000 Dth/d of year-round transportation service from an interconnect with REX in Scott County, Illinois to markets in the St. Louis metropolitan area, eastern Missouri and southwestern Illinois. Its purpose is to provide additional firm interstate pipeline capacity and access to additional supply basins to serve homes and businesses in the St. Louis metropolitan area and surrounding counties. The Project will enhance reliability and supply security, and will reduce reliance upon older and less favorable natural gas pipelines and propane peak-shaving infrastructure.

The Project was initially developed in response to strategic supply planning and reliability enhancement objectives of the Foundation Shipper, LGC. Spire has executed a precedent agreement with LGC as the Foundation Shipper for 350,000 Dth/d – representing a substantial amount of the Project’s total capacity. Accordingly, at present,

¹ Spire Inc. is the new name of The Laclede Group, a natural gas company with over 150 years of experience providing natural gas service in the St. Louis, Missouri area, with current natural gas distribution operations serving 1.7 million customers in Missouri, Alabama, and Mississippi.



87.5 percent of the anticipated firm capacity from the Project is committed to the Foundation Shipper and the remaining 12.5 percent is unsubscribed.

Spire held an Open Season for the Project from August 1, 2016 through August 19, 2016. Spire is negotiating with other prospective shippers that expressed interest in the Project during or after the Open Season and it is hopeful that additional precedent agreements will be executed as the Project progresses throughout the regulatory process.²

1.1.1.1 Purpose and Needs Relating to the Greater St. Louis Area and Eastern Missouri

The Project will meet the needs of the Foundation Shipper, LGC, and other shippers in the greater St. Louis area and eastern Missouri that may have a desire to convert to natural gas or diversify their pipeline capacity entitlements and associated natural gas supply by providing access to REX and the supply basins attached thereto. As the local gas distribution company (“LDC”) with responsibility to provide natural gas service to residential, commercial, and industrial customers, LGC currently serves approximately 650,000 customers in the St. Louis metropolitan area and surrounding counties in eastern Missouri.

The St. Louis market is constrained in terms of interstate natural gas pipeline capacity to LGC’s city gate and access to diverse natural gas supplies. Currently, LGC holds firm transportation service entitlements (i.e., transportation capacity) on three interstate pipelines that directly connect to its LDC system, with over 87 percent of its total firm city-gate transportation capacity under contract with Enable MRT. To supplement its flowing supply during the winter season and on peak days, LGC also holds on and off-system storage assets. In addition, LGC relies on a liquid propane facility behind its city gate that is used to enrich the British thermal unit content of natural gas received in order to meet critical peak system requirements during limited periods of highest demand when demand exceeds LGC’s flowing supply and storage withdrawal capabilities.

In addition to physical gas transportation capacity constraints, the St. Louis market currently lacks competitively-priced firm access to the supply basins that are attached to the REX pipeline system in the Rocky Mountains and Appalachian region. The prolific nature of the production connected to REX has been well documented, and the United States Department of Energy, Energy Information Administration (“EIA”) has projected substantial growth in these basins compared to other sources of domestic gas production over the next several decades.³

The older pipelines serving the St. Louis market primarily provide access to gas supply basins in Kansas, Oklahoma, Texas, and the Gulf Coast area. On the whole, those traditional supply basins have been largely static or declining in recent years. Furthermore, as a result of the geographic proximity of those supply basins to developing new markets for natural gas such as liquefied natural gas and Mexican exports, increased competition for supply out of those regions is likely to further increase gas supply price risk to the St. Louis market absent alternative sources. In addition, current transportation paths to the St. Louis area generally involve multiple pipelines and, consequently, “rate stacking” in order to access those traditional supply sources. As those basins decline over

² Because Spire is a proposed new pipeline, without existing customers, Spire was not required, nor able, to conduct a reverse open season to solicit capacity turnback.

³ United States EIA, *Annual Energy Outlook 2016*.



time, markets such as St. Louis need access to newer and growing supply basins located in other regions of the country to ensure affordable and reliable supply.

Meanwhile, the REX pipeline - one of the newest and largest pipeline systems in the United States, with substantial capacity spanning supply basins in the Rocky Mountains all the way to the Appalachian region - has initiated a series of construction projects to enable its interstate pipeline system to source and deliver gas bi-directionally in order to provide firm deliveries from prolific supply basins in the eastern United States to markets as far west as central Illinois.⁴ In addition, REX will perform yard and station piping modifications at its existing Blue Mound Compressor Station in Christian County, Illinois pursuant to 18 Code of Federal Regulations (“CFR”) § 2.55(a). The project will occur entirely within the station fence line on previously approved and disturbed areas. The modifications will enable REX to provide east-to-west transportation in REX Zone 3, on a firm primary basis, to delivery locations as far west as Scott County, Illinois. The Blue Mound Compressor Station piping modifications are independent of the Rockies Express Zone 3 Capacity Enhancement Project. These modifications will enable REX to make deliveries from the east at the new Spire interconnect on a primary firm basis.

The Project’s presence as a new transportation path for gas to the greater St. Louis area will not only provide direct benefits in linking that region to prolific new supply, but will also provide critical infrastructure reliability and diversity benefits that enhance overall natural gas supply security in the region. As noted above, over 87 percent of the firm pipeline transportation capacity into the St. Louis market area is currently provided by a single pipeline. The Project will significantly enhance the overall supply security of natural gas in the St. Louis area and surrounding counties by providing an additional physical source of flowing supply to the region. In the event of a planned or unplanned service outage on the current pipelines delivering into the region, LGC will be in a substantially better position to protect its system operations. Moreover, direct access to supplies from the REX pipeline system will include supply from both the Eastern United States and Rocky Mountain production areas, thus providing LGC and other Project shippers with multiple gas sourcing options and consequently enhanced supply reliability as well as economic benefits.

Moreover, a significant portion of St. Louis’ current supply source crosses an area of seismic activity referred to as the New Madrid Seismic Zone (“NMSZ”). According to the United States Geological Survey (“USGS”),⁵ the NMSZ is the most active seismic area in the United States east of the Rocky Mountains. Due to the geologic conditions in the NMSZ, earthquakes in that region have the potential to damage an area approximately 20 times larger than earthquakes in California and most other active seismic areas.⁶

Given concerns about the potential for extended service interruptions, and the potentially devastating impacts of such service interruptions and loss of access to critical gas supplies to its service area in the event of such an

⁴ See, e.g., *Rockies Express Pipeline LLC*, 154 FERC ¶ 61,139 (2016) (authorization of Zone 3 Capacity Enhancement Project); *Rockies Express Pipeline LLC*, 150 FERC ¶ 61,161 (2015), *reh’g denied*, 155 FERC ¶ 61,018 (2016) (authorization of Zone 3 East-to-West Project).

⁵ Earthquake Hazard in the New Madrid Seismic Zone Remains a Concern. <http://pubs.usgs.gov/fs/2009/3071/pdf/FS09-3071.pdf>. That publication reported that, based on its review of earthquake data in the region, the USGS estimated that the chance of having an earthquake as powerful as the historic 1811-12 earthquakes (measured at magnitude 7-8) was “about 7 to 10 percent, and the chance of having a magnitude 6 or larger earthquake in 50 years is 25 to 40 percent.”

⁶ Missouri Department of Natural Resources, *Facts About the New Madrid Seismic Zone*, <http://dnr.mo.gov/geology/geosrv/geores/techbulletin1.htm> (last visited Jan. 16, 2017).



incident, LGC has sought to diversify its pipeline transportation service paths and contract with an additional pipeline transporter whose geographic path to LGC's system avoids the NMSZ. The Project fulfills this need.

An additional purpose of the Project for the Foundation Shipper is its ability, through the introduction of a new firm source of flowing gas supply to the St. Louis area, to eliminate LGC's current dependence on propane for peak shaving. Approximately 0.9 billion cubic feet of natural gas equivalent of liquid propane is currently stored in LGC's propane underground storage facility for potential vaporization in winter months. As noted above, LGC currently relies on propane injection to meet its system needs on the coldest days of the year. LGC's propane facilities are aged, and the use of propane is increasingly difficult from an operational standpoint given that the propane-enriched gas is not compatible with certain uses of gas, such as compressed natural gas for vehicular and other end use applications. In addition, firm transportation of propane to the St. Louis market is limited; only a single pipeline delivers propane to St. Louis and the firm capacity on that pipeline is fully committed to shippers other than LGC, making it increasingly difficult to acquire large quantities of propane on a timely basis (e.g., during an emergency like severe sustained cold weather). Thus, the Project will fulfill LGC's need to reduce reliance on, and ultimately replace, this propane peak shaving operation with greater access to firm supplies of natural gas that are available even on the coldest days of the year.

1.1.1.2 Other Purposes and Needs to be Served by the Project

Another purpose of the Project is to provide natural gas transportation infrastructure to support potential growth in demand for natural gas in the industrial and power generation sectors. As projected by EIA, the demand for natural gas is expected to rise steadily over the next several decades, and particularly so in the electric power sector. As EIA recently reported, these increases are spurred by environmental benefits of natural gas versus coal in electric generation. After experiencing significant increases in demand in recent years, EIA predicts a temporary leveling off of demand as both the price of natural gas and use of renewable energy sources increase. This trend, however, is expected to reverse:

Throughout the 2020s and 2030s, electricity generation using natural gas increases again. Because natural gas-fired electricity generation produces fewer carbon dioxide emissions than coal-fired generation, natural gas is expected to play a large role in compliance with the Clean Power Plan for existing generation from fossil fuels, which takes effect in 2022. The electric power sector's total consumption of natural gas from 2020 through 2030 is 6 Tcf greater in the AEO2016 [Annual Energy Outlook 2016] Reference case than in a case where the Clean Power Plan is not implemented (No CPP).⁷

Although the Clean Power Plan is an anticipated driver of the growth in demand for natural gas for electric generation, EIA still predicts steady growth for that sector's natural gas demand even without the Clean Power

⁷ United States EIA, "Industrial and electric power sectors drive projected growth in natural gas use" (May 26, 2016).



Plan. Missouri remains heavily dependent upon coal-fired power generation.⁸ Based on the above discussion, it can be expected that gas-fired generation will increasingly replace coal-fired generation in Missouri.

The environmental advantages of natural gas compared to other fossil fuels offer other important benefits for the region to be served by the Project. In July 2016, the U.S. Environmental Protection Agency (“USEPA”) finalized its 2010 primary National Ambient Air Quality Standard (“NAAQS”) designations for sulfur dioxide, which identified Alton Township, Illinois – a town near the Project’s proposed route – as one of several nonattainment areas for sulfur dioxide in the nation.⁹The Project will offer the opportunity for energy conversion from more environmentally impactful fuel sources to cleaner-burning natural gas, potentially resulting in significant environmental benefits to the region.

1.1.2 Location and Description of Facilities

Construction of the Project is proposed in Scott, Greene, and Jersey Counties, Illinois, and St. Charles and St. Louis Counties, Missouri, and includes approximately 66 miles of pipeline and associated ancillary facilities.

1.1.2.1 Pipeline Facilities

A summary of the proposed pipeline facilities is presented in Table 1.1-1.

Table 1.1-1. Pipeline Facilities Associated with the Project

\	Pipeline Diameter (inch) and Type	Mileposts (“MPs”) ¹	County, State	Approximate Length (miles)
24-Inch Pipeline	24, New	0.0 - 3.5	Scott, Illinois	3.5
		3.5 - 29.4	Greene, Illinois	25.9
		29.4 – 45.4	Jersey, Illinois	15.9
		45.4 - 58.1	St. Charles, Missouri	12.7
		58.1 - 58.8	St. Louis, Missouri	0.7
Subtotal²				58.8
Line 880 ³	20, Existing	0.0 - 7.0	St. Louis, Missouri	7.0
Total²				65.8

Notes:

¹ MP designations begin at 0.0 for each pipeline facility and are described geographically from north to south for the 24-inch pipeline and west to east for Line 880.

⁸ See United States EIA, Missouri State Energy Profile (noting that “[c]oal fueled 83 percent of Missouri’s net electricity generation in 2014 and 78 percent in 2015”).

⁹ Air Quality Designations for the 2010 Sulfur Dioxide (SO₂) Primary National Ambient Air Quality Standard—Round 2, 81 Fed. Reg. 45,039, 45,047 (July 12, 2016). An area is designated as a “nonattainment area” if it fails to meet the NAAQS or contributes to a nearby area that does not meet the NAAQS. *Id.* at 45,039.



² May not equal the sum of the column due to rounding.

³ Only portions of the existing 7.0-mile pipeline will be modified or relocated.

24-Inch Pipeline

The proposed 24-inch pipeline includes approximately 58.8 miles of 24-inch diameter steel pipeline and will deliver gas from the REX pipeline in Scott County, Illinois, to the existing Line 880 pipeline in St. Louis County, Missouri. The proposed 24-inch pipeline will be designed for a maximum allowable operating pressure (“MAOP”) of 1,480 pounds per square inch gauge (“psig”). The pipeline generally runs from north to south with approximately 3.5 miles in Scott County, Illinois, 25.9 miles in Greene County, Illinois, 15.9 miles in Jersey County, Illinois, 12.7 miles in St. Charles County, Missouri, and 0.7-mile in St. Louis County, Missouri. Spire proposes that the 24-inch pipeline will cross the Mississippi River and Missouri River via two horizontal directional drills (“HDDs”).

Line 880 Modifications

Line 880 is currently an existing 9-mile natural gas transmission pipeline owned by LGC which operates it as part of their distribution system. Spire intends to purchase the eastern 7.0 miles of this pipeline and modify it for interstate service as part of the Project. The remaining 2.0 miles will remain within LGC’s distribution service. The existing pipeline is primarily located within road and railroad rights-of-way. The limited remaining areas have a permanent easement a minimum of 10 feet wide.

The existing Line 880 was installed in 1961 and it is considered to be in good operating condition with no known safety issues. Portions of the pipeline (approximately 3.22 miles) consist of electric resistance weld (“ERW”) seam pipe, which were manufactured at the beginning of the transition period when pipe manufacturers were changing from low frequency to high frequency ERW welding techniques. For this section of pipe, the manufacturing process used can only be determined by removing a sample of the pipe. In general, the condition of low frequency ERW pipe is evaluated under normal integrity management activities and remediation is sometimes necessary. Prior integrity management work conducted by LGC has not revealed issues with this ERW pipe.

The proposed modifications to the existing 20-inch diameter steel pipeline, Line 880, include upgrades in certain locations along the approximately 7.0 mile length of pipeline to be acquired by Spire. The pipeline generally runs from west to east, and connects the proposed 24-inch pipeline to Enable MRT along the western bank of the Mississippi River in St. Louis County, Missouri. The modifications are anticipated at 34 locations this existing pipeline and will include (a) the removal of syphon drips and mainline valves (“MLVs”) and replacement with line pipe, and (b) the removal/relocation of a portion of the existing pipeline at Coldwater Creek. These modifications are being completed so that Line 880 will be able to be inspected via an in-line inspection (“ILI”) smart tool. Once the modifications have been completed, the existing line will be evaluated utilizing an ILI smart tool and hydrostatically tested. Line 880 will also be pre-washed prior to placing the line in service. No change in MAOP of Line 880 is presently anticipated. The MAOP of Line 880 is currently 880 psig. A list of the proposed modification sites and associated workspaces is included as Table 1.1-2. Other temporary workspace (“TWS”) will be required in certain locations in order to access each modification site.



Table 1.1-2. Line 880 Modifications and Required Workspaces

Approximate MP	Size of TWS for Construction (acres)	Description of Proposed Modification
0.1	0.10	Removal of syphons and replace with line pipe
0.2	0.08	Removal of syphons and replace with line pipe
0.3	0.07	Removal of syphons and replace with line pipe
0.3	0.07	Removal of syphons and replace with line pipe
0.4	0.13	Remove 16-inch valve and associated appurtenances; replace with line pipe
0.5	0.09	Disconnect and cap service tap before hydrotest of Line 880; reconnect prior to putting Line 880 back in service
0.6	0.08	Removal of syphons and replace with line pipe
0.7	0.08	Removal of syphons and replace with line pipe
0.8	0.06	Disconnect and cap service tap before hydrotest of Line 880; reconnect prior to putting Line 880 back in service
0.9	0.07	Removal of syphons and replace with line pipe
0.9	0.08	Disconnect and cap service tap before hydrotest of Line 880; reconnect prior to putting Line 880 back in service
1.1	0.08	Removal of syphons and replace with line pipe
1.2	0.07	Disconnect and cap service tap before hydrotest of Line 880; reconnect prior to putting Line 880 back in service
1.2	0.08	Removal of syphons and replace with line pipe
1.3	0.11	Remove 16-inch valve and associated appurtenances; replace with line pipe
1.3	0.04	Disconnect and cap service tap before hydrotest of Line 880; reconnect prior to putting Line 880 back in service
1.3	0.05	Disconnect and cap service tap before hydrotest of Line 880; reconnect prior to putting Line 880 back in service
1.4	0.05	Disconnect and cap service tap before hydrotest of Line 880; reconnect prior to putting Line 880 back in service
1.6	0.07	Removal of syphons and replace with line pipe
1.6	0.07	Disconnect and cap service tap before hydrotest of Line 880; reconnect prior to putting Line 880 back in service



Table 1.1-2. Line 880 Modifications and Required Workspaces (Continued)

Approximate MP	Size of TWS for Construction (acres)	Description of Proposed Modification
1.7	0.07	Removal of syphons and replace with line pipe
1.9	1.12	Remove 16-inch valve and associated appurtenances; replace with line pipe; Install new 20-inch MLV
2.1 - 2.4	3.93	Relocate Line 880, remove existing pipe bridge crossing of Coldwater Creek and existing crossings of State Highway 367/Lewis and Clark Boulevard
2.5	0.08	Disconnect and cap service tap before hydrotest of Line 880; reconnect prior to putting Line 880 back in service
2.6	0.09	Disconnect and cap service tap before hydrotest of Line 880; reconnect prior to putting Line 880 back in service
2.6	0.07	Removal of syphons and replace with line pipe
2.7	0.07	Disconnect and cap service tap before hydrotest of Line 880; reconnect prior to putting Line 880 back in service
2.8	0.07	Removal of syphons and replace with line pipe
3.2	0.09	Removal of syphons and replace with line pipe
3.3	0.11	Remove 16-inch valve and associated appurtenances; replace with line pipe
4.2	0.17	Remove 16-inch valve and associated appurtenances; replace with line pipe
5.3	1.07	Replace existing Line 880 with 20-inch valve (within in Redman Delivery Station)
6.2	0.11	Remove 16-inch valve and associated appurtenances; replace with line pipe
6.9 - 7.0	4.31	Remove 16-inch valve and associated appurtenances; replace with line pipe(within/adjacent to MRT Bi-directional Station)

Notes:

Workspaces listed are not inclusive of TWS to be utilized as travel corridors between modification sites.

Line 880 will be relocated at Coldwater Creek and State Highway 367 (MP 2.1 - MP 2.4). The existing pipeline below ground approaching Coldwater Creek will be cut, capped, and abandoned in place, and the existing aboveground pipeline will be removed. The existing easement will be abandoned and the right-of-way restored.

Cathodic Protection

An impressed current cathodic protection system with remote groundbeds is proposed for the 24-inch pipeline. Based on field investigations, five remote groundbeds will be required. Locations of the remote groundbeds are included on the Construction Alignment Sheets. Approximate impacts for these facilities are included in Table 1.2-1.



Spire also proposes to implement an AC mitigation system in areas where the pipeline parallels high-voltage electric transmission lines as necessary to reduce stray current, to prevent possible shock to personnel during post-construction activities, and to prevent interference with the cathodic protection system. Spire will analyze the pipeline, power line, and local soil characteristics to determine the induced AC effects to the pipeline under worst-case steady-state and fault conditions on the power lines. Based upon the results of this analysis, an AC mitigation system will be designed which reduces interference levels on the pipeline to acceptable levels for pipeline integrity and personnel safety. For below-grade pipeline segments, this AC mitigation system will consist of zinc ribbon installed parallel to the pipeline and connected to the pipeline through a decoupling device. These decoupling devices are typically installed within above-grade pedestals. For above-grade pipeline appurtenances, such as MLV and M&R sites, the AC mitigation system will consist of gradient control mats. These mats will also be connected to the pipeline through a decoupling device. Above-grade coupon test stations may also be proposed in certain areas where the monitoring of AC interference levels is recommended. Areas which may require continued monitoring include locations where the pipeline will cross wetlands, streams, or other bodies of water, as the low soil resistivity in these areas presents a significant risk for AC corrosion occurring on the pipeline.

The primary areas of concern with regards to AC interference impacts to the pipeline are locations where high voltage transmission lines will cross or parallel the pipeline route. These locations are included in Table 1.3-4 and Resource Report 8, respectively. AC mitigation systems will be installed within the permanent easement or facilities.

Proposed locations of cathodic protection and AC mitigation areas along the pipeline are provided in Table 1.1-3. Spire will seek the appropriate approvals from landowners and FERC for cathodic protection areas located outside the permanent easement.

Line 880 is currently cathodically protected. These existing protection facilities will be repaired or modified as necessary in the locations where construction will occur.

Table 1.1-3. Cathodic Protection Areas along the Project

Facility Name	County, State	Township/Town	Nearest MP
24-Inch Pipeline			
Remote Groundbed 1	Greene County, Illinois	Roadhouse	4.5
Remote Groundbed 2	Greene County, Illinois	Carrollton	15.7
Remote Groundbed 3	Greene County, Illinois	Kane	27.3
Remote Groundbed 4	Jersey County, Illinois	Elsah	41.8
Remote Groundbed 5	St. Charles County, Missouri	Landgrant01838	56.6
AC Mitigation	TBD	TBD	TBD

Note:

TBD - to be determined.



1.1.2.2 Aboveground Facilities

No major aboveground facilities are proposed for the Project. Ancillary aboveground facilities on the proposed 24-inch pipeline and Line 880 include M&R stations, pig launchers/receivers, and MLVs, as described below and further detailed in Table 1.1-4.

M&R Facilities

M&R stations typically include a fenced control building and a permanent access road, along with a supply line and a discharge line from the associated pipeline, an emergency bypass line, and communication equipment for supervisory control. The stations proposed to be constructed as part of the Project include:

- **REX Receipt Station:** The new M&R station is proposed to be located at the start of the proposed 24-inch pipeline in Scott County, Illinois, at the interconnect with the REX pipeline. Proposed equipment on the site will be for the measurement and control of uni-directional gas leaving the "REX" pipeline and entering the 24-inch pipeline. Equipment on the site will include:

- a tap into the REX pipeline;
- a filter/separator skid;
- a meter and control valve skid;
- over pressure protection ("OPP") skid;
- a liquids storage tank and truck loading box;
- gas chromatograph, remote telemetry unit ("RTU");
- monitoring instruments; and
- a 30-inch by 24-inch pig launcher assembly.

Skids will include skid-mounted buildings where applicable. The majority of the equipment will be owned by Spire but operated by REX.

- **Laclede/Lange Delivery Station:** The new M&R station is proposed in St. Louis County, Missouri, at the interconnect between the 24-inch pipeline and the existing Line 880. A portion of LGC's existing Line 880, which will be maintained by LGC and is not part of this Project, will receive gas from the Laclede/Lange Delivery Station for delivery to LGC. This M&R Station will also deliver gas to the existing Line 880 proposed for modifications, which connects to the Redman Delivery Station and proposed MRT Bi-directional Station. Proposed equipment at the M&R facility will be for the measurement and control of uni-directional gas leaving the 24-inch pipeline and entering Line 880 or for delivery to LGC. Equipment on the site will include:

- a 30-inch by 24-inch pig receiver for the 24-inch pipeline;
- a bi-directional 24-inch by 20-inch pig launcher/receiver assembly for Line 880;
- a filter/separator;



- heaters;
- OPP skid;
- meter and control valve skid;
- odorizer skid;
- liquids storage tank and truck loading box;
- gas chromatograph;
- RTU; and
- monitoring instruments.

Skids will include skid- mounted buildings where applicable. Equipment will be owned and operated by Spire.

- Redman Delivery Station: Modification of LGC’s existing Redman Station on Line 880 in St. Louis County, Missouri. Redman Delivery Station is an existing distribution control station which interconnects Line 880 with LGC’s supply feeder distribution system. All work will be done within the existing fenced facility, where the existing building, equipment and aboveground piping will be removed and replaced. Proposed equipment on the site will be for the measurement and control of uni-directional gas leaving Line 880 and supplying LGC’s supply feeder distribution system. Equipment on the site will include;
 - a tie-in to LGC’s supply feeder distribution system;
 - a mainline valve;
 - a filter/separator;
 - heaters;
 - an OPP skid;
 - meter skid;
 - control valve skid;
 - liquids storage tank and truck loading box;
 - gas chromatograph;
 - RTU; and
 - monitoring instruments.

Skids will include skid-mounted buildings where applicable. Most of the equipment will be owned and Operated by Spire. The skids are planned to be placed in residential-style buildings with a privacy fence around the perimeter.



- **MRT Bi-directional Station:** This new M&R station is proposed to be located at the eastern terminus of Line 880 in St. Louis County, Missouri, at the interconnect with Enable MRT. There is an existing facility, MRT Chain of Rocks, at the site which will be expanded to accommodate the facilities for this Project. Proposed equipment at this site will be for the measurement and control of bi-directional gas leaving or entering Line 880 and Enable MRT system. Equipment on the site will include:
 - a tie-in to Enable MRT;
 - a bi-directional 20-inch pig launcher/receiver assembly;
 - a filter/separator;
 - OPP skid;
 - meter skid;
 - control valve skid;
 - liquids storage tank and truck loading box;
 - gas chromatograph;
 - RTU; and
 - monitoring instruments.

Table 1.1-4. Aboveground Facilities Associated with the Project

Facility Name	Approximate MP	County, State	Description
24-Inch Pipeline			
REX Receipt Station	0.0	Scott, Illinois	Construction of a new M&R facility at the interconnect with the REX pipeline.
MLV 1	15.7	Greene, Illinois	Located within the proposed permanent easement.
MLV 2	33.4	Jersey, Illinois	Located within the proposed permanent easement.
MLV 3	46.2	St. Charles, Missouri	Located within the proposed permanent easement.
Laclede/Lange Delivery Station	58.8	St. Louis, Missouri	Construction of a new M&R facility at the interconnect between the proposed 24-inch pipeline and the existing Line 880 (for delivery to LGC) and the Line 880 modifications.



Table 1.1-4. Aboveground Facilities Associated with the Project (Continued)

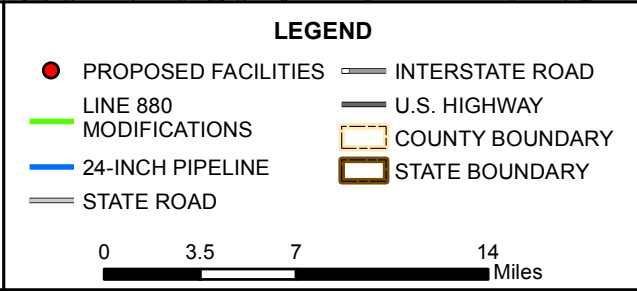
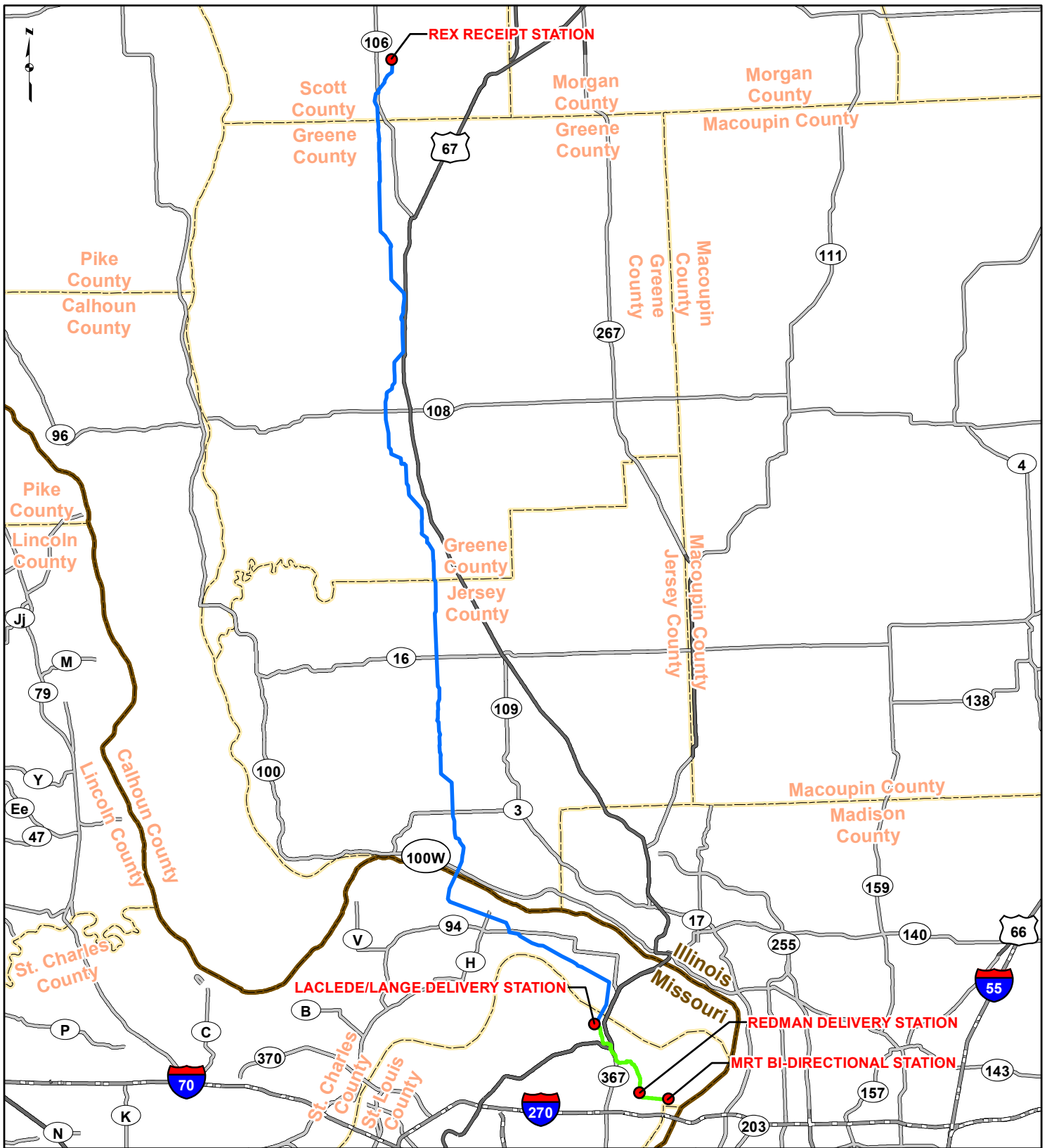
Facility Name	Approximate MP	County, State	Description
Line 880			
Coldwater Creek MLV Site	1.9	St. Louis, Missouri	Located within permanent right-of-way near the Line 880 relocation.
Redman MLV Site	5.3	St. Louis, Missouri	Located within Redman Delivery Station.
Redman Delivery Station	5.3	St. Louis, Missouri	Install M&R equipment at the existing LGC Redman Facility on Line 880.
MRT Bi-directional Station	7.0	St. Louis, Missouri	Expand LGC's existing facility and install M&R equipment at the interconnect with Enable MRT.

Mainline Valves

Spire also proposes to construct MLVs at three locations along the proposed 24-inch pipeline route, with spacing of the MLV facilities meeting the requirements of the United States Department of Transportation (“USDOT”) Pipeline and Hazardous Materials Safety Administration (“PHMSA”). MLVs allow the associated pipeline to be segmented for safety, operations, and maintenance purposes. They are typically sited away from populated areas to allow for safe and rapid gas evacuation if needed. Permanent access roads for the MLVs on the 24-inch pipeline will be located within the permanent easement as shown on the Construction Alignment Sheets. These roads will be permanently graveled and result in the conversion of existing land use to developed land for a total of approximately 0.14 acres. Spire proposes to install two MLVs along Line 880, one of which will be located within the Redman Delivery Station. Proposed MLVs and other ancillary facility locations are provided in Table 1.1-4.

1.1.3 Location Maps, Detailed Route Maps, and Plot/Site Plans

An overview of the Project is shown in Figure 1.1-1. Topographic mapping depicting the proposed Project area is provided in Appendix 1-A. The proposed Project footprint for the pipelines are further detailed in the Construction Alignment Sheets provided in Appendix 1-B. Detailed right-of-way cross-section drawings are provided in Resource Report 8.



**FIGURE 1.1-1
PROJECT OVERVIEW MAP**

DRAWN BY: PMH DATE: 1/9/2017
 CHECKED: MDO APPROVED: LMF

REFERENCE: ROAD, US CENSUS BUREAU, 2015.



1.2 Land Requirements

Land requirements will include both temporary and permanent impacts. Temporarily impacted areas will consist of those areas necessary to facilitate construction including the construction right-of-way, ATWS, contractor yards/staging areas, and temporary access roads. Permanent impact areas will include the new permanent easement associated with the proposed 24-inch pipeline and cathodic protection, new M&R stations, associated ancillary facilities, and new permanent access roads.

The construction right-of-way (including TWS), permanent easement, and ATWS, aboveground facilities, temporary and permanent access roads, and contractor yards/staging areas (to the extent these areas have been identified) will total approximately 933 acres. Of this, approximately 371 acres will be permanently maintained for operation of the Project facilities. Tables 1.2-1 and 1.2-2 include a summary of all Project related land requirements that will be affected by the construction and operation of the Project. Land requirements for the proposed facilities are discussed in greater detail in Sections 1.2.1 through 1.2.6.

1.2.1 Pipeline Facilities

For the proposed 24-inch pipeline, Spire anticipates a typical 90-foot temporary construction right-of-way width, which will include a 50-foot permanent easement. An additional 25 feet of ATWS will be required through agricultural areas, and ATWS will be required to facilitate construction in certain areas, such as crossings of roads, railroads, waterbodies, and wetlands. Sufficient workspace has been incorporated into the construction work area to accommodate topsoil segregation, therefore, Spire will not utilize Section IV.A.2 of the FERC's Plan for additional workspace. The construction right-of-way will be reduced to 75 feet at waterbodies and wetlands. Spire will not clear land between the HDD entry and exit locations for the proposed crossings of the Mississippi and Missouri Rivers. Further information on the HDDs is described in Resource Report 2 and Resource Report 8.

In general, the existing pipeline is primarily located within road and railroad rights-of-way. The limited remaining areas have a permanent easement a minimum of 10 feet wide. The modifications on Line 880 will require TWS at 34 locations along the existing pipeline. TWS is also included for access and travel lanes between modification sites. Depending on the site conditions and modifications required, the workspaces range from less than a tenth of an acre to over four acres in size. For the relocation of Line 880 at State Highway 367/Lewis and Clark Boulevard, the new section of pipeline is within public right-of-ways and Spire does not anticipate acquiring a permanent easement at this location. Construction activities will occur within the existing permanent easement, temporary right-of-way, and ATWS as needed. Locations of these modifications and workspaces are provided on the Construction Alignment Sheets in Appendix 1-B.



Table 1.2-1. Land Requirements for Pipeline Facilities

Facility/County, State	Land Affected During Construction (acres) ^{1,2}	Land Affected During Operation (acres) ³
Pipeline		
<i>24-Inch Pipeline</i>		
Scott, Illinois	38.49	21.42
Greene, Illinois	281.47	156.83
Jersey, Illinois	172.10	96.66
St. Charles, Missouri	133.24	77.21
St. Louis, Missouri	6.67	4.47
<i>Line 880</i>		
St. Louis, Missouri	8.01	0.39
Subtotals⁴	639.99	356.96
ATWS		
<i>24-Inch Pipeline</i>		
Scott, Illinois	22.04	0.00
Greene, Illinois	88.36	0.00
Jersey, Illinois	49.77	0.00
St. Charles, Missouri	56.01	0.00
St. Louis, Missouri	1.66	0.00
<i>Line 880</i>		
St. Louis, Missouri	0.00	0.00
Subtotals⁴	217.83	0.00
Cathodic Protection		
Scott, Illinois	0.00	0.00
Greene, Illinois	1.12	0.76
Jersey, Illinois	0.41	0.27
St. Charles, Missouri	0.41	0.28
St. Louis, Missouri	0.00	0.00
Subtotals⁴	1.95	1.31
Access Roads		
<i>Temporary Access Roads</i>		
Scott, Illinois	0.63	0.00
Greene, Illinois	3.73	0.00
Jersey, Illinois	5.06	0.00
St. Charles, Missouri	1.70	0.00
St. Louis, Missouri	2.13	0.00



Table 1.2-1. Land Requirements for Pipeline Facilities (Continued)

Facility/County, State	Land Affected During Construction (acres)^{1,2}	Land Affected During Operation (acres)³
<i>Permanent Access Roads</i>		
Scott, Illinois	0.40	0.40
Greene, Illinois	0.00	0.00
Jersey, Illinois	0.00	0.00
St. Charles, Missouri	2.26	2.26
St. Louis, Missouri	0.00	0.00
Subtotals⁴	15.90	2.65
Contractor Yards/Staging Areas		
Scott, Illinois	36.24	0.00
Greene, Illinois	0.00	0.00
Jersey, Illinois	2.83	0.00
St. Charles, Missouri	2.87	0.00
St. Louis, Missouri	0.00	0.00
Subtotals⁴	41.95	0.00
Totals⁴	917.62	360.93
Acreage Affected in Illinois⁴	702.66	276.34
Acreage Affected in Missouri⁴	214.97	84.60

Notes:

- ¹ Construction workspace through field delineated and desktop waterbodies and wetlands has been reduced to 75 feet as required and where practicable.
- ² Land affected during construction is inclusive of operational impacts (permanent).
- ³ Acreage for Line 880 is inclusive of portions of the existing easement.
- ⁴ May not equal the sum of the column due to rounding.

A summary of the proposed land requirements for the pipeline facilities is provided in Table 1.2-1. Typical construction right-of-way cross-section diagrams, locations where the pipelines are co-located with existing right-of-ways, and further land use requirements are included in Resource Report 8.

1.2.2 ATWS

ATWS areas typically are required at road, railroad, waterbody and wetland crossing locations and for areas requiring specialized construction techniques, including agricultural land. ATWS to facilitate the hydrostatic tests have also been identified at road crossings closest to potential municipal water sources. These workspaces are intended for use in filling the pipeline, which will likely require the storage of municipal water in tanks, as well as discharge. The configurations and sizes of ATWS areas are based on site-specific conditions and vary in accordance



with the construction methodology, crossing type, and other construction needs. Spire has identified areas where ATWS will be required to facilitate construction, as shown on the Construction Alignment Sheets in Appendix 1-B. ATWS requirements are summarized in Table 1.2-1. A complete list of ATWS locations by MP is provided in Resource Report 8.

1.2.3 Aboveground Facilities

A summary of estimated land requirements for aboveground facilities is provided in Table 1.2-2.

Table 1.2-2. Land Requirements for Aboveground Facilities

Facility	County, State	Property Size (acres) ¹	Land Affected During Construction (acres) ²	Land Affected During Operation (acres) ²
24-Inch Pipeline				
REX Receipt Station	Scott, Illinois	37.17	3.29	2.08
Laclede/Lange Delivery Station	St. Louis, Missouri	56.27	6.24	3.99
MLV 1	Greene, Illinois	N/A	N/A	N/A
MLV 2	Jersey, Illinois	N/A	N/A	N/A
MLV 3	St. Charles, Missouri	N/A	N/A	N/A
Line 880				
Redman Delivery Station	St. Louis, Missouri	0.71	1.07	0.71 ³
MRT Bi-directional Station	St. Louis, Missouri	10.54	4.31	3.24 ³
Coldwater Creek MLV Site	St. Louis, Missouri	N/A	N/A	N/A
Redman MLV Site	St. Louis, Missouri	N/A	N/A	N/A
Totals⁴		104.70	14.91	10.03
Acreage Affected in Illinois⁴			3.29	2.08
Acreage Affected in Missouri⁴			11.62	7.95

Notes:

N/A - not applicable.

¹ The land affected during operation is the portion of the tract that will be required for the permanent easement.

² MLVs are located within the permanent easement, with the exception of one MLV on Line 880 which is located within Redman Delivery Station. The construction and operation acreage is accounted for within the operational acreages of the pipeline and the Redman Delivery Station, respectively.



³ LGC owns the land to be used during operation of the Redman Delivery Station and MRT Bi-directional Station. No new property will be acquired at these locations.

⁴ May not equal the sum of the column due to rounding.

1.2.4 Mainline Valves

Spire proposes that MLVs will generally be installed and operated within the proposed permanent easement associated with the 24-inch pipeline segment. Each MLV will consist of a 50-foot by 60-foot graveled area and will be fenced within the permanent easement. Spire has located MLVs near existing public roads, and permanent access roads to these sites will be included in the FERC application. Two MLVs are proposed on Line 880. One is located within the proposed permanent easement for Line 880 east of State Highway 367/Lewis and Clark Boulevard, and the second is located within the Redman Delivery Station.

1.2.5 Access Roads

Spire proposes to use and/or modify existing access roads as well as develop new access roads to access the Project during construction and operation, as shown on the Construction Alignment Sheets in Appendix 1-B. Public roads will be used to access the right-of-way where possible. To prevent sediment from tracking onto public roads by construction traffic, Spire will adhere to the recommended best management practices as specified by the applicable state and county agencies. Such best management practices typically include installation of stabilized construction entrances and additional erosion and sediment controls (“E&SCs”) as required at locations where vehicles will access a public road from the construction right-of-way. Following construction, Spire will return public roads utilized for access to pre-construction conditions or better. Spire has identified approximately 5.3 miles of access roads for use during construction, with an anticipated width of 25 feet. Of these, approximately 4.4 miles are proposed for temporary use, and 0.9-mile will be permanently maintained for operation of the Project to provide permanent access to the REX Receipt Station and MLV sites. A summary of the land affected by access roads is included in Table 1.2-1. Further information on access roads is included in Resource Report 8.

1.2.6 Contractor Yards/Staging Areas

Spire has identified potential sites to be utilized for staging areas, as shown on the construction alignment sheets in Appendix 1-B. Staging areas may be utilized for a variety of purposes including equipment and materials staging, parking, and mobilization.

Spire is currently working to identify a proposed location for a contractor yard. This area would be temporarily utilized during the duration of construction for equipment and material storage and/or as temporary field offices. Spire is working to identify a previously disturbed site(s) which is already asphalted or graveled for use as a contractor yard(s). It is anticipated that due to the previously disturbed nature of these sites, no land impacts would be anticipated; however, Spire would confirm with the appropriate survey(s). Spire provides additional information regarding contractor yards/staging areas associated with the Project in Resource Report 8. Spire will



provide the locations of such contractor yards once a landowner agreement has been obtained. Locations and acreages of the proposed contractor yards/staging areas are provided in Table 1.2-1.

1.2.7 Areas of No Access

Spire commenced notifications to affected landowners and obtaining survey permission in July 2016. Biological field surveys on properties for which Spire obtained survey access began in September 2016. Cultural resource surveys began in October 2016 in order to avoid unnecessary disruptions to crops prior to harvest. To date, biological and cultural surveys have been completed on the Project areas with the exception of limited ATWS, access roads, and no-access properties. Tables indicating the locations of remaining surveys are provided in Resource Report 2, Water Use and Quality, and Resource Report 4, Cultural Resources, respectively.

1.3 Construction Procedures

The Project will be designed, constructed, and operated in compliance with applicable federal, state, and local regulations and codes. This includes, but is not limited to, the following:

- USDOT 49 CFR Part 192, Transportation of Natural and Other Gas by Pipeline: Minimum Federal Safety Standards, Including All References (6/6/2015) and standards, or portions thereof, incorporated by reference under 49 CFR 192.7 as of 7/7/15;
- Occupational Safety and Health Administration (“OSHA”) 29 CFR Part 1926;
- Illinois Commerce Commission - Gas Pipeline Safety Program;
- Illinois Gas Pipeline Safety Act [220 Illinois Compiled Statutes (“ILCS”) 20];
- Illinois Gas Transmission Facilities Act (220 ILCS 25)
- Missouri Title 4 CSR. Division 240, Chapter 40 Public Service Commission - Gas Utilities and Gas Safety Standards; and
- Missouri Department of Transportation (“MoDOT”) Engineering Policy Guide, Section 643.3: Policy, Standards and Regulations pertaining to utility facilities located on or across state highways.

The Project will also be designed, constructed, and operated in accordance with numerous applicable national specifications issued by the following organizations:

- American Association of State Highway and Transportation Officials;
- American Gas Association;
- American National Standards Institute;
- American Petroleum Institute;
- American Society of Mechanical Engineers;
- American Society of Testing Materials;



- National Association of Pipe Coating Applications; and
- National Fire Protection Association.

Spire will comply with the FERC’s *Upland Erosion Control, Revegetation, and Maintenance Plan* (“Plan”) and FERC’s *Wetland and Waterbody Construction and Mitigation Procedures* (“Procedures”) (May 2013) in conjunction with the Agricultural Impact Mitigation Agreement (“AIMA”) for Illinois as a minimum standard during construction. Where deviations from the Plan and Procedures are necessary for site-specific reasons, these locations are identified in Appendix 1-D. Some ATWS for topsoil segregation in agricultural lands are located within 50 feet of wetlands where the adjacent upland consists of cultivated or rotated cropland as permitted in the FERC Procedures, and are not included in the requested exceptions.

To ensure construction of the proposed facilities will comply with mitigation measures identified in the Resource Reports, the FERC’s evaluation of the Project, and the requirements of other federal and state permitting agencies, Spire will include, whenever appropriate, implementation details in its construction drawings and specifications. Selected contractors will receive copies of specifications and a construction drawing package containing, among other things, plant and equipment drawings designated as being approved for construction. To solicit accurate bids for construction, specifications and advance versions of the construction drawing package will be provided to prospective contractors. For those mitigation measures that address permit conditions from federal, state, and local agencies, copies of permits and related drawings will also be added to the construction bid package. For those mitigation measures that, in part, address post-construction requirements, instructions and documentation will be provided to operating personnel following the completion of construction.

Spire will adequately train construction personnel in the environmental restrictions and/or requirements applicable to their particular job duties. Construction management personnel and environmental inspectors (“EI”) will be provided with the appropriate environmental information/materials specific to the Project. Prior to and during construction, training for field construction personnel and contractor personnel will be conducted. This training will focus on FERC’s Plan and Procedures as well as other regulatory requirements such as the AIMA, endangered species, cultural resources, and wetlands. The training will also cover Project-specific construction and mitigation plans, operator qualification and site-specific safety requirements.

Spire anticipates commencing initial construction activities in January 2018, and expects to place the pipelines and facilities into service November 1, 2018. Anticipated construction dates for each Project facility are included in Table 1.3-1.

Table 1.3-1. Anticipated Construction Dates and Workforce

Facility	Construction Spread #	Anticipated Construction Start	Anticipated Construction End	Estimated Construction Workforce
24-inch Pipeline ^{1, 2}	1	January 2018	November 2018	203
Line 880 ²	N/A	June 2018	September 2018	90
REX Receipt Station ³	N/A	June 2018	July 2018	17



Table 1.3-1. Anticipated Construction Dates and Workforce (Continued)

Facility	Construction Spread #	Anticipated Construction Start	Anticipated Construction End	Estimated Construction Workforce
Redman Delivery Station ³	N/A	July 2018	August 2018	17
Laclede/Lange Delivery Station ³		June 2018	July 2018	
MRT Bi-directional Station ³		July 2018	August 2018	

Notes:

- ¹ Construction at the Mississippi River, Missouri River, and federal property crossings are anticipated to begin in April 2018 and continue through September 2018.
- ² Construction of MLVs on the facilities will be completed sequentially and will require an estimated workforce of seven personnel.
- ³ Construction of M&R stations will be completed sequentially by two crews.

Spire plans to employ the following construction procedures; however, deviations are possible based on actual field conditions or to comply with regulatory requirements as further identified during the consultation and permitting process.

1.3.1 Pipeline

Spire will adhere to the FERC’s Plan and Procedures during construction of the pipeline facilities, unless otherwise noted, in addition to its Design and Construction Standards that outlines safety and integrity standards, among others. In agricultural areas, Spire’s workspaces include the 90 foot construction right-of-way and the additional 25 feet of width granted in the FERC Plan, which accommodates topsoil segregation.

In accordance with the FERC’s Plan and Procedures, one EI will be employed by Spire for each construction spread during construction and restoration. Spire will provide training for its EIs as part of its Environmental Training Program. The number and experience of EIs assigned to each construction spread will be appropriate for the length of the construction spread and the number/significance of resources affected. EIs shall have peer status with all other activity inspectors. EIs shall have the authority to stop activities that violate the environmental conditions of the Certificate, state and federal environmental permit conditions, or landowner requirements; and to order appropriate corrective action.

Spire currently anticipates operating one spread on the proposed 24-inch pipeline during construction of the Project. The estimated workforce for the 24-inch pipeline spread is approximately 200 workers, and the estimated workforce for Line 880 is 90 workers. A summary of the anticipated construction workforce is included in Table 1.3-1. In addition, Spire anticipates hiring 5 permanent employees, to be based in the St. Louis area, for operation of the Project.



Line 880 will be temporarily removed from service during construction. Prior to construction, Spire will coordinate with LGC to establish a temporary service for existing customers to avoid prolonged outages.

Spire will commence cleanup operations immediately following backfill operations. Final grading, topsoil replacement, and installation of permanent erosion control structures will be completed within 20 days after backfilling the trench (10 days in residential areas). If seasonal or other weather conditions prevent compliance with these timeframes, temporary erosion controls would be maintained (temporary slope breakers and sediment barriers) until conditions allow completion of cleanup.

Specific residential area mitigation measures are further described in Resource Report 8.

1.3.1.1 Typical Pipeline Construction Procedures

The procedures below will be followed for the 24-inch pipeline as well as the relocation of Line 880 at Coldwater Creek and State Highway 367/Lewis and Clark Boulevard.

Surveying

Prior to the commencement of ground disturbing activities, a civil survey crew will stake the outside limits of the construction right-of-way, the centerline location of the pipeline, highway and railroad crossings, and any ATWS, such as staging areas or at waterbody crossings. The “One Call” system for each state will be contacted and underground and foreign utilities will be located and flagged within the construction right-of-way.

Clearing and Grading

The construction right-of-way and TWS along Line 880 will be cleared of obstructions (i.e., trees and stumps, brush, logs, and large rocks) according to FERC’s Plan and Procedures and Spire’s Erosion and Sediment Control Plans. At no time will Spire or its contractor clear or alter any areas outside of the boundaries of the pipeline corridor as shown on the Project alignment sheets. Timber will be stacked adjacent to the right-of-way in accordance with landowner preferences. Brush and slash will be stacked or chipped. All stumps will be disposed of to the satisfaction of the property owner and/or Company representative in accordance with applicable law. When feasible, vegetation in wetlands will be cut to ground level, leaving the root systems intact. Where necessary, to contain disturbed soils during clearing and grading in upland areas, and to minimize potential impacts of waterbodies and wetlands, temporary erosion control devices will be installed prior to initial ground disturbance and will be maintained throughout construction.

Trenching

Trenching involves excavation of a ditch for pipeline placement, and is accomplished through the use of a track-mounted backhoe, or similar equipment. Most of the Project area is not expected to have shallow bedrock, therefore extensive blasting is not anticipated to be needed for construction. Large stones in the trench will be broken apart with conventional rock-trenching methods. Further discussion on the proposed locations for blasting is provided in Resource Report 6. Generally, the trench will be excavated at least 12 inches wider than the diameter of the pipe, though the width may increase depending on the stability of the native soils. The trench will be excavated to a sufficient depth to allow a minimum of three feet of soil cover between the top of the pipe and



the final land surface after backfilling. Pipeline cover may be greater than three feet at road, waterbody, wetland, or railroad crossings, and in agricultural areas. Per 49 CFR Part 192, depth of cover will be a minimum of two feet in areas of consolidated rock. Excavated soils will typically be stockpiled along the right-of-way on the side of the trench away from the construction traffic and pipe assembly area. Table 1.3-2 includes minimum specifications for depth of cover.

Stringing

Following preparation of the trench, the new pipe will be strung and distributed along the construction right-of-way parallel to the trench. Depending on available workspace, steel pipe will be procured in nominal double random and/or triple random lengths, or joints, and may be fabricated off-site and transported to the right-of-way in differing lengths or configurations. The individual joints will be transported to the right-of-way by truck and placed along the excavated trench in a single, continuous line. At waterbody crossings, the amount of pipe required to span the waterbody will be stockpiled in ATWS on one or both banks of the waterbody.

Table 1.3-2. Minimum Specifications for Depth of Cover

Location	Minimum Cover ¹ (feet)
Cropland	5
Pasture	3
Non-Agricultural Lands	3
Railway Crossings (below base of rail)	10
Road Crossings (from top of traveled lane)	5
Undeveloped Road Allowances	5
Power Line Right-of-Way (width as per crossing agreement)	5
Waterbodies (streams, rivers, lakes)	5
Shallow Bedrock	3
Ditches (irrigation, drainage)	5
Ditches (adjacent to roads)	5
Minimum Clearance from Underground Structures	1.5

Note:

¹ Cover shall be measured to the top of the carrier pipe, concrete coating or casing pipe, whichever is applicable.



Pipe Bending

Some induction bends may be used, and some bending of the pipe will be required to allow the pipeline to follow natural grade changes and direction changes of the construction right-of-way. Prior to welding, selected joints will be bent in the field by track-mounted hydraulic bending machines.

Pipe Assembly and Welding

Following stringing and bending, the joints of pipe will be placed on temporary supports, adjacent to the trench. The ends will be carefully aligned and welded together using multiple passes for a full penetration weld. Welders and welding procedures will be qualified according to the applicable standards. To ensure that the assembled pipe will meet or exceed the design strength requirements, the completed welds will be visually inspected and tested for integrity using non-destructive examination methods such as radiography or ultrasound, in accordance with American Petroleum Institute standards. Welds displaying unacceptable slag inclusions, void spaces, or other defects will be repaired or cut and re-welded. Following welding, the joints will be epoxy coated. The coating on the completed pipe section will be inspected and any damaged areas will be repaired.

Pipe Lowering

Prior to lowering the pipe, the trench will be inspected to ensure that it is free of rocks or other debris that could damage the pipe or the coating. In rocky areas, a layer of soil or sand may be placed on the bottom of the trench to protect the pipe. Concrete-coated pipe or concrete weights will be used if required for negative buoyancy in areas of saturated soils. The completed section of pipe will be lowered into the trench by side-boom tractors or equivalent equipment.

Padding and Backfilling

Previously excavated materials will be pushed back into the trench using bladed equipment or backhoes. The coated pipe, with or without the use of protective products (e.g., rockshield), requires a minimum of six inches of clean backfill padding around all sides of the pipe. A padding bucket or similar soil sifting device will be used to obtain suitable padding material from the subsoil. Topsoil will not be used as padding material.

Where the previously excavated material contains large rocks or other materials that could damage the pipe or coating, clean fill or protective coating will be placed around the pipe prior to backfilling. Segregated topsoil, where applicable, will be placed after backfilling the trench above the subsoil. Following backfilling in agricultural land, grassland, and open land, or in specified areas, a small crown may be left to account for any future soil settling that may occur. Excess soil will be distributed evenly on the right-of-way, only in upland areas, while maintaining existing contours and will be in accordance with landowner and agency requirements.

Hydrostatic Test and Final Tie-In

Both pipeline facilities will be hydrostatically tested to ensure that it is capable of safely operating at the design pressure. Test segments of the pipeline will be capped and filled with water and pressurized to a minimum of 1.25 to 1.5 times (based on location class) the designed operating pressure for a minimum of eight hours in accordance with the PHMSA requirements prior to being placed in service. Loss of pressure that cannot be



attributed to other factors, such as temperature changes, will be investigated. Leaks detected will be repaired and the segment will be retested. Upon completion of the test, the water may be pumped to the next segment for testing or the water may be discharged in accordance with state permitting requirements. Test water for the 24-inch pipeline hydrostatic test will be discharged through an energy-dissipating device in compliance with National Pollutant Discharge Elimination System (“NPDES”) permit conditions. For Line 880, Spire proposes to pre-wash the pipeline, in addition to the hydrostatic test, before placing the pipe into service. Spire proposes to haul water from the Line 880 pre-wash offsite to an appropriate disposal facility. Spire plans to discharge hydrostatic test water onsite in accordance with state permitting requirements or to tanks for offsite disposal. Once a segment of pipe has been successfully tested and dried, the test cap and manifold will be removed, and the pipe will be connected to the remainder of the pipeline. Further information on hydrostatic testing is provided with Resource Report 2.

Cleanup and Restoration

Spire will adhere to the restoration guidelines as described in the FERC’s Plan and Procedures and applicable permit authorizations. The surface of the construction right-of-way disturbed by construction will be graded to match original contours and to be compatible with surrounding drainage patterns, except at those locations where permanent changes in drainage will be required to prevent erosion, scour and possible exposure of the pipeline. Temporary and permanent E&SC measures, including silt fencing, water bars, and vegetation will be installed at that time. Private and public property, such as fences, gates, driveways, and roads that have been disturbed by pipeline construction will be restored at minimum, to a level meeting their pre-construction condition and function. In most upland locations, excluding actively cultivated cropland, an herbaceous vegetative cover will be reestablished by spreading a grass seed and hydro/straw-mulch mixture over the disturbed surface.

Further discussion on post-construction revegetation is provided in Resource Report 7.

1.3.1.2 Special Construction Procedures

Line 880 Construction Procedures

There are fixtures currently on Line 880 that either constrict the pipe diameter or have features that prohibit a pig to pass. In order to remove these fixtures, Spire proposes to excavate over the existing pipeline to expose the fitting. Topsoil will be separated during excavations. Spire will visually inspect the fitting and surrounding pipe, and cut and remove a section of pipe as appropriate, which may range from 10 to 20 feet. A replacement section of line pipe will be cut off site and delivered to the site for installation. The pipe will be lowered into the trench and welded to the existing pipeline. The trench will be backfilled and topsoil replaced appropriately. The surface type at each site varies; the surface will be restored to pre-construction conditions.

Spire will implement the construction procedures described in Section 1.3.1.1 for the portion of Line 880 that will be relocated.

Steep Slopes/Rugged Topography

Spire does not anticipate significant areas of steep slope due to the topography of the Project area. The majority of construction will occur on relatively flat or gently rolling topography. Steep slopes may be encountered during



construction in Illinois at bluffs near the Mississippi River and stream valley slopes in Scott County. In areas where steep slopes exist, the pipeline has been routed to cross slopes as perpendicular as possible to avoid or minimize side-slope construction. If necessary, the “two-tone” construction technique will be employed to provide for safe working conditions. For this technique, the uphill side of the construction right-of-way is cut during grading. The material removed from this cut is used to fill the downhill side of the construction right-of-way to provide a safe and level surface from which to operate heavy equipment. The trench is then excavated along the newly-graded right-of-way. This technique typically requires ATWS to accommodate the volume of fill material generated. E&SC, as well as revegetation, would be performed in accordance with the Plan and Procedures and applicable permits. On steep slopes, temporary erosion control measures may require closer spacing and more frequent maintenance until permanent post-construction erosion control measures can be established. Following pipeline installation and trench backfill, excavated material is placed back in the cut and compacted to restore the approximate original ground contours, and the disturbed areas are stabilized.

Residential Areas

Where residences are located in close proximity to the edge of the construction right-of-way, Spire will attempt to reduce construction workspace areas as practicable to minimize inconvenience to property owners. For modifications to the existing Line 880, Spire will limit the TWS required within private lands, to the extent practicable. If construction requires the temporary removal of private property features, such as gates or fences, the landowner or tenant will be notified prior to the action. The amount of open trench in residential areas will be minimized to the extent practicable (e.g., utilize stovepipe construction or other minimization technique where conditions and/or situation allow). Stove pipe construction techniques may be used in residential areas or other congested areas where workspace is limited and/or the speed of joining pipes is critical. This technique involves installing one joint of pipe at a time. The welding, weld inspection and coating activities are all performed in the open trench. At the end of each day, after the pipe joint is installed, the trench is backfilled and/or covered with steel plates. Restoration in residential areas is to be performed in accordance with the FERC’s Plan and Procedures. Residential areas crossed by the Project are identified in Resource Report 8, along with proposed mitigation measures.

Active Croplands

In order to avoid and minimize affects to topsoil, Spire proposes to perform topsoil segregation in active croplands over the entire width of the construction right-of-way as well as the subsoil stockpile areas. As described in FERC’s Plan, a minimum of 12 inches of topsoil will be segregated in deep soils; and the entire topsoil layer, where possible, will be segregated in soils with less than 12 inches of topsoil. It is anticipated that Spire will encounter greater than 12 inches of topsoil in Illinois, which will be determined during construction by a qualified soil scientist. The topsoil and subsoil will be temporarily stockpiled in separate windrows on the construction right-of-way. Additional workspace for topsoil segregation may be requested as necessary.

Spire will complete work in accordance with the FERC’s Plan. For the portion of the Project located in Illinois, Spire will also implement the guidelines set forth within the AIMA which has been developed in coordination with the



Illinois Department of Agriculture. Spire proposes five feet of cover in agricultural lands in both Illinois and Missouri.

Spire will coordinate with land owners and local agencies, as appropriate, to identify agricultural drainage systems. Spire proposes to adhere to the FERC’s Plan to avoid or minimize interference with drain tile and irrigation systems. Agricultural and related pasture areas crossed by the Project will be identified in both Resource Report 7 and Resource Report 8, along with proposed mitigation measures.

Road Crossings

The majority of road crossings will be completed using standard open cut or conventional boring methods. Conventional boring entails drilling a hole beneath travel arteries through which the pipe will pass. Generally, state and/or federal road crossings will be bored. Some local roads may be open-cut; however, Spire proposes to maintain one lane of access along with the appropriate safety signage and/or traffic control staff. Roads crossed by open trenching will be restored to pre-construction conditions or better. If an open-cut road requires extensive construction time and it is not feasible to maintain access, provisions will be made for temporary detours or other measures to allow safe traffic flow during construction. The pipeline will be buried to a depth of at least five feet below the road surface, except in areas of consolidated rock. ATWS for road crossings will be shown on the construction alignment sheets. Public roads crossed by the pipelines are included in Table 1.3-3.

Railroad Crossings

Railroad crossings will be completed using conventional boring methods. Three railroads are within the limits of the Project. The Kansas City Southern Railway is crossed by the 24-inch pipeline in Greene County, Illinois, and will be crossed via conventional bore. The Burlington Northern Santa Fe Railroad is crossed by the 24-inch pipeline in St. Charles County, Missouri, and the pipeline crossing will be installed via conventional bore. Line 880 also crosses the Burlington Northern Santa Fe Railroad (formerly Chicago Burlington and Quincy Railroad) in St. Louis County, Missouri. No modifications are anticipated at this crossing. The depths of crossings under the railroads vary and will be specified in the permits. Spire plans to file permits with the railroads for these crossings, and the specific requirements of each railroad company will be considered when designing and constructing the crossings. Railroad crossings are also included in Table 1.3-3.

Table 1.3-3. Roads and Railroads Crossed by the Pipelines

Facility/ Approximate Milepost	County, State	Road or Railroad Name	Proposed Crossing Method ¹
24-Inch Pipeline			
0.6	Scott County, Illinois	Co Hwy 7 / Manchester Alsey Rd	Bore
1.9	Scott County, Illinois	Havens Rd	Open Cut



Table 1.3-3. Roads and Railroads Crossed by the Pipelines (Continued)

Facility/ Approximate Milepost	County, State	Road or Railroad Name	Proposed Crossing Method¹
2.0	Scott County, Illinois	State Rte 106	Bore
2.5	Scott County, Illinois	Gourley Rd	Open Cut
3.0	Scott County, Illinois	Roodhouse Springs Rd	Open Cut
4.5	Greene County, Illinois	Barrow Rd	Open Cut
5.7	Greene County, Illinois	1000 E	Open Cut
5.8	Greene County, Illinois	Patterson Rd	Open Cut
6.7	Greene County, Illinois	1000 E	Open Cut
7.2	Greene County, Illinois	Unknown Rd	Bore
7.2	Greene County, Illinois	Kansas City Southern Railway	Bore
7.3	Greene County, Illinois	2425 N	Open Cut
7.8	Greene County, Illinois	2375 N	Open Cut
9.1	Greene County, Illinois	Co Hwy 10	Bore
10.3	Greene County, Illinois	Unknown Rd	Open Cut
11.3	Greene County, Illinois	Corsa Ln	Open Cut
13.1	Greene County, Illinois	1900 N	Open Cut
13.6	Greene County, Illinois	Belltown Rd	Open Cut
15.7	Greene County, Illinois	1650 N	Open Cut
17.1	Greene County, Illinois	Cemetery Rd	Open Cut
18.1	Greene County, Illinois	1400N	Open Cut
19.5	Greene County, Illinois	State Rte 108	Bore
20.4	Greene County, Illinois	1175 N	Open Cut
21.3	Greene County, Illinois	1025 E	Open Cut
22.8	Greene County, Illinois	Co Hwy 20 / Woody Rd	Open Cut
24.4	Greene County, Illinois	Unknown Rd	Open Cut



Table 1.3-3. Roads and Railroads Crossed by the Pipelines (Continued)

Facility/ Approximate Milepost	County, State	Road or Railroad Name	Proposed Crossing Method¹
26.1	Greene County, Illinois	Unknown Rd	Open Cut
27.3	Greene County, Illinois	Co Rd 17	Open Cut
27.4	Greene County, Illinois	Co Rd 17	Open Cut
28.4	Greene County, Illinois	Co Rd 17 / Kane Rd	Open Cut
28.9	Greene County, Illinois	450 N	Open Cut
29.6	Jersey County, Illinois	Allen Ln	Open Cut
31.9	Jersey County, Illinois	Co Hwy 10 / N Centennial Rd	Open Cut
32.9	Jersey County, Illinois	Hollow Ave	Open Cut
33.4	Jersey County, Illinois	State Hwy 16	Bore
33.8	Jersey County, Illinois	West County Rd	Open Cut
35.5	Jersey County, Illinois	S Centennial Rd	Open Cut
37.3	Jersey County, Illinois	Busch Ln	Open Cut
38.0	Jersey County, Illinois	Co Hwy 6 / McClusky Rd	Bore
38.6	Jersey County, Illinois	Daugherty Rd	Open Cut
39.1	Jersey County, Illinois	Godar Ln	Open Cut
40.3	Jersey County, Illinois	Possum Trot Ln	Open Cut
41.8	Jersey County, Illinois	State Hwy 3	Bore
42.3	Jersey County, Illinois	Croxford Rd	Open Cut
43.9	Jersey County, Illinois	Co Hwy 11 / Chautauqua Rd	Bore
45.1	Jersey County, Illinois	State Rte 100	HDD
46.7	St Charles County, Missouri	Portage Rd	Open Cut
47.6	St Charles County, Missouri	Weber Lake Rd	Open Cut
49.0	St Charles County, Missouri	State Hwy J	Bore
49.4	St Charles County, Missouri	Payne Rd	Open Cut



Table 1.3-3. Roads and Railroads Crossed by the Pipelines (Continued)

Facility/ Approximate Milepost	County, State	Road or Railroad Name	Proposed Crossing Method ¹
50.5	St Charles County, Missouri	State Hwy 94	Bore
51.1	St Charles County, Missouri	Burlington Northern & Santa Fe RR	Bore
51.3	St Charles County, Missouri	Dwiggins Rd	Open Cut
51.8	St Charles County, Missouri	Dwiggins Rd	Open Cut
53.0	St Charles County, Missouri	Saale Rd	Open Cut
54.5	St Charles County, Missouri	Saale Rd	Open Cut
56.6	St Charles County, Missouri	Bradshaw Rd	Open Cut
57.3	St Charles County, Missouri	Mintert Rd	Open Cut
58.6	St Louis County, Missouri	Fort Bellefontaine Rd	Open Cut
58.8	St Louis County, Missouri	Blue Spruce Ln (Private)	Open Cut
Line 880			
2.2	St Louis County, Missouri	State Highway 367 S/ Lewis and Clark Blvd	Bore
2.3	St Louis County, Missouri	State Highway 367 N/ Lewis and Clark Blvd	Bore

Note:

Data sourced from Illinois Department of Transportation and MoDOT public datasets.

Utility Crossings

During the design phase, Spire will use each state’s One-Call program to identify foreign line operators. Spire has planned its construction activities based on requirements provided by those operators as well as crossing methods used for prior construction projects. These methods include, but are not limited to, the use of an air bridge, adding additional fill over the existing utility, temporarily or permanently relocating or burying the utility and at times rerouting the proposed pipeline at the operator’s request. Foreign pipeline operators will be consulted regarding pipeline protection measures.

Precautions will be taken to identify existing pipelines, avoid damage, and safely cross foreign pipelines during construction, including:

- One Call will be contacted to locate known pipelines and utilities, and operators of the existing pipelines will be given adequate notice of the crossing and the opportunity to be present during work around their pipelines.



- Known existing pipelines will be precisely located prior to excavation using a hand-held magnetometer and/or by probing.
- Right-of-way edges will be scanned prior to grading with Passive Inductive Locating equipment to identify any unknown foreign pipelines.
- Mechanized excavation will not be allowed within three feet of existing pipelines; the excavations will be completed by hand shoveling.
- Existing foreign lines will be temporarily supported for the length of the span exposed by the crossing excavation.
- The pipeline trench will be excavated to provide a minimum clearance between the pipeline and the foreign line or structure as designated by officials having authority over the facilities.
- Existing pipelines will be inspected before and after installation of the Project.

In the event accidental damage occurs to a foreign pipeline during construction, appropriate measures will be implemented to minimize undesirable effects to human health and the environment. A list of existing utility lines crossed by the Project is included as Table 1.3-4. An updated table will be provided in the FERC application.

Blasting

Spire has identified locations where blasting may be required on the Project, included in Resource Report 6, Geology. To minimize blasting, large stones in the trench will generally be broken apart with conventional rock-trenching methods where possible. Further discussion on blasting, including proposed locations and a blasting plan, is included in Resource Report 6.

Table 1.3-4. Existing Utility Lines Crossed by the Pipelines

Nearest MP	Utility Type ¹	Owner ²
24-Inch Pipeline		
0.0	Natural Gas Pipeline	Tallgrass Energy
0.0	Natural Gas Pipeline	Panhandle Eastern Pipeline
0.0	Natural Gas Pipeline	Panhandle Eastern Pipeline
0.0	Natural Gas Pipeline	Panhandle Eastern Pipeline
0.1	Natural Gas Pipeline	Panhandle Eastern Pipeline
0.1	Overhead Line	Ameren
0.6	Water Line	SMG Water
0.6	Telephone Line	Frontier
1.0	Overhead Line	Ameren



Table 1.3-4. Existing Utility Lines Crossed by the Pipelines (Continued)

Nearest MP	Utility Type¹	Owner²
24-Inch Pipeline (continued)		
1.0	Overhead Line	Ameren
1.9	Overhead Line	Illinois Elec. Co-Op
2.0	Overhead Line	Ameren
2.5	Overhead Line	Illinois Elec. Co-Op
3.0	Overhead Line	Illinois Elec. Co-Op
4.5	Overhead Line	Illinois Elec. Co-Op
5.7	Overhead Line	Illinois Elec. Co-Op
5.8	Overhead Line	Illinois Elec. Co-Op
6.1	Overhead Line	Ameren
7.3	Overhead Line	Illinois Elec. Co-Op
7.8	Overhead Line	Illinois Elec. Co-Op
9.1	Overhead Line	Illinois Elec. Co-Op
9.1	Fiber Optic Line	General Telephone Company
10.1	Overhead Line	Ameren & Illinois Elec. Co-Op
11.3	Overhead Line	Ameren
12.8	Overhead Lines	Ameren & Illinois Elec. Co-Op
13.0	Overhead Line	Illinois Elec. Co-Op
13.6	Overhead Line	Illinois Elec. Co-Op
13.8	Overhead Line	Illinois Elec. Co-Op
15.0	Overhead Line	Ameren & Illinois Elec. Co-Op
15.1	Overhead Line	Ameren & Illinois Elec. Co-Op
15.7	Overhead Line	Illinois Elec. Co-Op
16.1	Overhead Line	Ameren
17.1	Overhead Line	Ameren & Illinois Elec. Co-Op
17.1	Telephone Line	Frontier
17.9	Overhead Lines	Ameren
18.1	Overhead Line	Ameren & Illinois Elec. Co-Op
19.5	Overhead Line	Ameren
19.5	Overhead Line	Ameren
21.3	Overhead Line	Illinois Elec. Co-Op
22.8	Overhead Line	Illinois Elec. Co-Op
27.3	Overhead Line	Illinois Elec. Co-Op
27.4	Overhead Line	Illinois Elec. Co-Op
27.4	Overhead Line	Ameren



Table 1.3-4. Existing Utility Lines Crossed by the Pipelines (Continued)

Nearest MP	Utility Type¹	Owner²
24-Inch Pipeline (continued)		
28.4	Overhead Line	Illinois Elec. Co-Op
28.9	Overhead Line	Illinois Elec. Co-Op
28.9	Water Line	SMG Water
31.9	Overhead Line	Ameren & Illinois Elec. Co-Op
32.9	Overhead Line	Ameren/MJM Elec. Co-Op
33.4	Overhead Line	Ameren/MJM Elec. Co-Op
33.9	Overhead Line	MJM Elec. Co-Op
37.3	Overhead Line	MJM Elec. Co-Op
38.0	Overhead Line	Ameren
40.2	Overhead Line	MJM Elec. Co-Op
40.3	Overhead Line	MJM Elec. Co-Op
40.3	Fiber Optic Line	Frontier
41.8	Overhead Line	Ameren
42.3	Water Line	Illinois American Water
42.3	Fiber Optic Line	TBD
42.4	Overhead Line	Ameren
43.8	Overhead Line	Ameren
43.9	Ammonia Pipeline	Nustar
43.9	Overhead Line	Ameren
43.9	Fiber Optic Line	AT&T
43.9	Fiber Optic Line	GTI
43.9	Natural Gas Pipeline	Ameren
45.1	Fiber Optic Line	AT&T
45.1	Fiber Optic Line	AT&T
45.1	Fiber Optic Line	AT&T
45.1	Fiber Optic Line	AT&T
45.1	Natural Gas Pipeline	Ameren
46.7	Overhead Line	Southwestern Bell
47.6	Overhead Line	Ameren
49.0	Overhead Line	Ameren
49.4	Overhead Line	Ameren
50.0	Overhead Line	Ameren
50.0	Overhead Line	Ameren
50.0	Overhead Line	Ameren



Table 1.3-4. Existing Utility Lines Crossed by the Pipelines (Continued)

Nearest MP	Utility Type¹	Owner²
24-Inch Pipeline (continued)		
50.0	Overhead Line	Ameren
50.5	Water Line	SBC Global
50.5	Overhead Line	Ameren
50.5	Fiber Optic Line	AT&T
51.0	Non-HVL Pipeline	AMOCO
51.0	Natural Gas Pipeline	MoGas
51.3	Overhead Line	Ameren
51.3	Overhead Line	Ameren
51.3	Overhead Line	Ameren
51.3	Overhead Line	Ameren
51.3	Overhead Line	Ameren
51.6	Crude Oil Pipeline	TC Oil
51.6	Crude Oil Pipeline	Express
51.8	Overhead Line	Ameren
52.3	Overhead Line	Ameren
53.0	Overhead Line	Ameren
53.0	Overhead Line	Ameren
54.0	Oil Pipeline	KOCE
54.0	Oil Pipeline	Explorer Pipeline Company
54.0	Ammonia Pipeline	Nustar
54.5	Overhead Line	Ameren
56.5	Empty Liquid Pipeline	Abandoned
56.5	Empty Liquid Pipeline	Abandoned
56.6	Overhead Line	Ameren
56.7	Crude Oil Pipeline	EnBridge
57.3	Telephone Line	AT&T
57.3	Fiber Optic Line	TBD
57.3	Overhead Line	Ameren
58.5	Overhead Line	Ameren
58.6	Overhead Line	Ameren
58.6	Overhead Line	Ameren
58.8	Overhead Line	Ameren
58.8	Propane Pipeline	Laclede Pipeline Company
58.8	Natural Gas Pipeline	LGC



Table 1.3-4. Existing Utility Lines Crossed by the Pipelines (Continued)

Nearest MP	Utility Type ¹	Owner ²
24-Inch Pipeline (continued)		
58.8	Overhead Line	Ameren
Line 880		
0.8	Overhead Line	Ameren
0.9	Overhead Line	Ameren
1.1	Overhead Line	AT&T
1.3	Overhead Line	Ameren
1.6	Overhead Line	Ameren
1.6	Overhead Line	Ameren
1.9	Fiber Optic Line	AT&T
1.9	Telephone Line	AT&T
1.9	Telephone Line	AT&T
1.9	Telephone Line	AT&T
1.9	Fiber Optic Line	AT&T
1.9	Fiber Optic Line	AT&T
1.9	Telephone Line	AT&T
1.9	Fiber Optic Line	AT&T
2.4	Overhead Line	Ameren
2.4	Overhead Line	Ameren
2.6	Water Line	TBD
4.0	Kerosene/Jet Fuel Pipeline	Buckeye Partners
4.0	Jet Fuel Pipeline	St. Louis Pipeline
5.3	Water Line	TBD
5.3	Water Line	TBD
5.3	Sewer Line	TBD
6.2	Fiber Optic Line	AT&T
6.2	Water Line	Missouri American Water
6.2	Overhead Line	Ameren
6.2	Telephone Line	AT&T
6.9	Overhead Line	Ameren

Note:

- ¹ Foreign utilities crossed were determined through the combination of available field survey data and desktop analysis.
- ² Spire is in the process of identifying some owners. TBD – To be determined.



Wetlands

Crossing of wetlands will be done in accordance with state and federal permits and the FERC Procedures, unless variances are requested by Spire and approved by the FERC. Saturated wetlands will be crossed utilizing timber mats to avoid rutting. Tree stumps and root systems will be removed from areas directly over the trenchline. In the absence of safety-related construction or operational constraints, stumps and root systems will be left in place in the rest of the construction right-of-way. Spire will segregate the topsoil up to one-foot in depth in wetlands where hydrologic conditions permit. Segregated topsoil will be placed in the trench following subsoil backfilling.

Hydrological conditions along the construction corridor in areas proposed for conventional open ditch construction will likely dictate the use of either conventional open ditch lay or open ditch push/pull lay methods. Selection of the most appropriate method will depend on site-specific weather conditions, inundation, soil saturation, and soil stability at the time of construction. Selection of the appropriate method will be decided during construction by the construction supervisor and/or the Spire representative depending on conditions at the time of construction. Restoration and monitoring of wetland crossings will be conducted in accordance with FERC's Procedures. In unsaturated wetlands, most vegetation will be replaced by seeding. Saturated wetlands will typically be allowed to revegetate naturally.

Waterbodies

Crossing of waterbodies will be done in accordance with state and federal permits and the FERC's Procedures, unless variances are requested by Spire and approved by the FERC. Construction methods at waterbodies will vary with the characteristics of the waterbody encountered and will be consistent with permit conditions that will be outlined in the regulatory permit approvals. Intermediate waterbodies (between 10 and 100 feet wide) and minor waterbodies (less than 10 feet wide) will be crossed by the open cut/conventional lay or dry ditch crossing (flume) methods. If waterbodies do not contain discernible flow at the time of construction, the waterbody may be crossed using the open-cut crossing method. In accordance with the FERC Procedures, the duration of construction at open cut crossings will be limited to 24 hours across minor waterbodies and 48 hours across intermediate waterbodies, unless rock-breaking measures are required. The crossing method is subject to change depending upon the actual conditions encountered at the time of construction. Crossing methods are further discussed in Resource Report 2.

For waterbodies that are greater than 100 feet wide, Spire will utilize trenchless technologies to install the pipeline. In waterbodies equal to or less than 100 feet wide, pipe will be installed to provide a minimum of five feet of cover from the waterbody bottom to the top of the pipeline, except in consolidated rock, where a minimum of two feet of cover will be required; in waterbodies more than 100 feet wide, pipeline depth of cover will be at least five feet with the exception of a two-foot minimum depth of cover in consolidated rock. Trench spoil will be placed on the bank above the high water mark for use as backfill. Excavated material not required for backfill will be disposed of at an upland site within the herein described limits of disturbance or otherwise disposed of at a commercial disposal facility. Waterbody banks will be returned to pre-construction grade.

In areas where HDD is the proposed crossing method, no clearing will occur between the HDD entry and exit points. A gyroscopic guidance system is anticipated to be utilized at the Mississippi and Missouri River HDDs. This



guidance system does not require the installation of a tracer wire along the HDD alignment on the ground surface. As such, no ground disturbance is anticipated for utilizing this guidance system. Spire's HDD contractor and inspectors will complete regular inadvertent return walks throughout the duration of the drill which would require foot traffic along the HDD alignment.

A drawing depicting the typical configuration for HDD entry and exit workspaces is included as Figure 1.3-1. A summary of the proposed HDDs is included in Table 1.3-5.



Table 1.3-5. Summary of Planned HDDs

Facility/ Length of Pipe (feet)	Entry Location		Exit Location		Sensitive Resources to be Avoided			Approximate Duration of Drilling	Proposed Nighttime Drilling
	MP	Town/ County, State	MP	Town/ County, State	MP	Resource Type	Resource Name		
24-inch Pipeline									
5,900	45.0	Elsah, Jersey County, Illinois	46.2	Rivers, St. Charles County, Missouri	45.1	Road	Illinois State Route 100	Not to exceed 15 weeks	Estimated 3 shifts of night time work during pullback
					45.1	Special Land Use	Sam Vadalabene Great River Road Bike Trail		
					45.1	Special Land Use	Meeting of the Great Rivers Scenic Route		
					45.1	Waterbody	UNT to Mississippi River (NHD-915)		
					45.3	Waterbody	Mississippi River (NHD-921)		
					45.6	Special Land Use	Upper Mississippi Conservation Area		
					45.7	Wetland	PFO1Ah (NWI-105)		
					45.9	Waterbody	Luesse Lake (NHD-924/NWI-505)		
					46.1	Wetland	PFO (WMO-WJW-011)		
3,302	57.7	Rivers, St. Charles County, Missouri	58.4	Spanish Lake, St. Louis County, Missouri	57.1	Special Land Use	Consolidated North County Levee	Not to exceed 15 weeks	Estimated 2 shifts of night time work during pullback
					57.9	Waterbody	UNT to Missouri River (SMO-TMA-001)		
					57.9	Wetland	PFO/PEM (WMO-TMA-001A)		
					58.0	Waterbody	Missouri River (SMO-CDK-001)		

TOOL TRAILER

TOOL TRAILER

WATER STORAGE TANK

WATER STORAGE TANK

WATER STORAGE TANK

LIGHT TOWER

OFFICE TRAILER

OFFICE TRAILER

PARKING

SPOIL BIN

DRILLING FLUID SEPARATION PLANT

LIGHT TOWER

SPOIL BIN

DRILLING FLUID PRODUCTS

MUD PUMPS

GENERATOR

DRILL PIPE

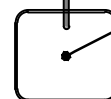
DRILL RIG

DRILL RIG POWER PACK

DRILL RIG CONTROL CABIN

CRANE OR EXCAVATOR

LIGHT TOWER



DRILLING FLUID RETURN PIT (ENTRY/EXIT LOCATION)

NOTES:
THE LAYOUT DEPICTED IS FOR ILLUSTRATIVE PURPOSES. ACTUAL LAYOUT IN THE FIELD MAY VARY DUE TO SITE AND/OR DRILL CONDITIONS.

ENG. RECORD		DATE
DRAWN BY:	MM	12/2016
DRAWING APPROVAL		
PROJECT APPROVAL		
SURVEY DATE:		
SCALE: N.T.S.		
PROJECT ID:		
FILE NAME:		

**HDD TYPICAL
FOR PROPOSED 24-INCH
DIAMETER PIPELINE**

DWG. NO. **N/A**

NO	DATE	BY	DESCRIPTION	PROJ. ID	APPR.
REVISIONS					



Asbestos-Containing Materials

Estimates of the relative amount of asbestos that would be encountered is unknown at this time. Spire anticipates that the existing gaskets on Line 880 have a high probability of containing asbestos. Previous work on Line 880 has indicated a layer of the existing coating on the pipeline contains asbestos. The coating has been observed in good condition and intact. Disturbance to the coating would be limited to the areas where the pipeline is being cut. An estimated 30 square feet or six linear feet of coating will be disturbed at each pipe cut location. In total, Spire anticipates in the magnitude of 3,900 square feet of coating will be disturbed during construction. Spire will implement the procedures described below to ensure on-site worker safety, prevent the emission of airborne asbestos fibers, and comply with federal OSHA standards. Spire would dispose of non-friable asbestos-containing material pipe coatings at an approved asbestos facility.

- Before starting work, plastic sheeting will be laid beneath the work area to catch debris. When joining sheeting, taped seams will be overlapped a minimum of 18 inches. Sheeting will be secured in place with weights.
- Workers will be required to wear personnel protective equipment as specified by the OSHA for working around asbestos-containing materials.
- Pipe coating will be wetted with water, and then pounded with hammers or scraped with razor scrapers, allowing the material to fall onto the plastic sheeting beneath the pipe. Debris will be kept wet to reduce the likelihood of releasing airborne fibers.
- When the pipe is clear of coating material, the edges of the cleaned area will be trimmed with razors, re-wet and then the surfaces will be wet wiped. Asbestos-contaminated rags will be disposed of in waste disposal bags.
- Tools will be rinsed/cleaned over a waste bag and then removed from the work area. Workers' personal protective clothing will be placed in waste bags. Waste material will be bagged and sealed, labeled as containing asbestos waste, and then disposed of in accordance with applicable regulations.

If wind or other conditions carry debris off the plastic sheeting, the following additional steps will be implemented:

- A shroud fabric will be soaked in water and draped over the pipe where the coating is to be disturbed. The shroud and pipe surfaces will be kept wet at all times.
- The pipe coating will be pounded through the shroud until it falls onto the plastic sheeting. If the shroud becomes damaged, it will be dropped onto the plastic sheeting and a new shroud used until the coating removal is completed.
- Used shrouds will be placed into waste bags and disposed of along with the other asbestos-containing debris.



Winter Construction

Spire has prepared a Winter Construction Plan with guidelines for stabilization and construction procedures as limited construction activities are anticipated to occur during winter months. Spire will employ snow removal, E&S, and stabilization procedures to minimize impact and provide a safe working environment. The Winter Construction Plan is provided as Appendix 1-E.

1.3.2 Aboveground Facilities

No major aboveground facilities are proposed for this Project. The proposed aboveground facilities will be designed to be constructible in accordance with DOT 192 and ASME B 31.8 standards. The duration of construction for each aboveground facility is approximately two months. Spire intends to implement the FERC's Plan and Procedures as a minimum. As with the pipeline, deviations from the Plan and Procedures are discussed in Section 1.3, Construction Procedures, and listed in Appendix 1-D.

Two teams of approximately 17 workers each will complete construction of the M&R stations, as shown in Table 1.3-1. One crew will construct the REX Receipt Station and Redman Delivery Station, and a second crew will construct the Laclede/Lange Delivery Station and MRT Bi-directional Station. As REX Receipt Station, Laclede/Lange Delivery Station, and MRT Bi-directional Station are new or expanded facilities. Grading and foundation work will be required to prepare the site and skid-mounted structures will be installed. As an existing station with no proposed expansion, the Redman Delivery Station will require minimal grading work. An existing building at the station will be removed, and skids will be installed inside three residential style buildings.

Access roads will be installed as required to provide permanent access to each site, and gravel or stone will be installed within fenced areas. M&R facilities will utilize above grade pipeline where feasible, which will require the installation of pipe support pedestals to adequately support the pipe. Sites may require storm water retention basins or additional grading for storm water controls. Designs will be included in the Storm Water Pollution Prevention plan in accordance with state requirements.

Surface areas disturbed will be restored in a timely manner. Components in high-pressure natural gas service will be tested prior to placing in service. Hydrostatic testing will follow applicable federal, state and local requirements. Launching and receiving facilities will be installed to meet the same standards and regulatory requirements established for the pipelines. MLVs will be installed within the Project's permanent easement or existing facilities at locations dictated by pipeline class and other requirements.

In addition to construction drawings and/or applicable environmental permits that are provided to the contractor(s), an EI will oversee the implementation of E&SC measures and advise the contractor in the upgrade and maintenance of the measures throughout construction.

1.4 Operation and Maintenance

Spire will operate and maintain the newly constructed pipeline facilities in accordance with the requirements of FERC, USDOT's PHMSA at 49 CFR Part 192, all other applicable legal requirements, and industry-proven practices and techniques. The facilities will be operated and maintained in a manner such that pipeline integrity is protected



to ensure that a safe, continuous supply of natural gas reaches its ultimate destination. Maintenance activities will include regularly scheduled gas-leak surveys and measures necessary to repair any potential leaks. The latter may include repair or replacement of pipe segments. All fence posts, signs, marker posts, aerial markers, and decals will be maintained to ensure that the pipeline locations will be visible from the air and ground. The pipeline and aboveground facilities will be patrolled on a routine basis, and personnel qualified to perform both emergency and routine maintenance on interstate pipeline facilities will handle maintenance.

The Project facilities will be patrolled on a periodic basis. This will provide information on possible leaks, construction activities, erosion, exposed pipe, population density, possible encroachment, and any other potential problems that may affect the safety and operation of the pipeline. Further discussion regarding inspections is included in Resource Report 11, Reliability and Safety.

Spire will operate and maintain the Project and aboveground facilities in compliance with USDOT regulations provided at 49 CFR § 192, FERC's regulations at 18 CFR § 380.15, and maintenance provisions of FERC's Plan and Procedures. The operation of these facilities upon completion of the Project is anticipated to require the hiring of five additional personnel.

1.4.1 Pipelines

Pipeline facilities will be maintained and inspected in accordance with applicable pipeline safety regulations. Operational activity on the pipelines will be limited primarily to maintenance of the right-of-ways and inspection, repair, and cleaning of the pipelines. Vegetation maintenance will be conducted in accordance with FERC's Plan and Procedures.

Maintenance functions will include the following:

- periodic seasonal vegetation management of the Project right-of-way in accordance with the timing restrictions outlined in the FERC's Plan and Procedures;
- terrace repair, backfill replacement, and drain tile repair as necessary;
- periodic inspection of water crossings; and
- maintenance of a supply of emergency pipe, leak repair clamps, sleeves, and other equipment needed for repair activities.

Erosion problems on the pipeline right-of-way will be reported to the local operations supervisor. These reports may originate from landowners or company personnel performing routine patrols. Corrective measures will be conducted as needed.

1.4.1.1 Vegetation Maintenance

A typical post-construction permanent easement width of 50 feet will be maintained for the 24-inch pipeline, and the existing easement will be maintained for Line 880. Maintaining a right-of-way is necessary for the following reasons:

- access for routine pipeline patrols and corrosion surveys;



- avoid pipeline damage from large roots;
- access in the event that emergency repairs of the pipeline are needed;
- visibility during aerial patrols; and
- to serve as a visual indicator to the public of an underground pipeline utility and easement.

Operational vegetation maintenance of Spire's permanent right-of-way in uplands may be conducted on a frequency of approximately once every three years to maintain an herbaceous to low scrub-shrub cover state. Routine vegetation mowing will be completed outside of the migratory bird nesting season, which is April 15 through August 1.

Within wetlands, Spire will only maintain the 10-foot corridor centered over the pipelines, allowing the balance of Spire's permanent easement to revert to its natural, pre-construction vegetated cover state. Additionally, within wetlands, Spire reserves the right to selectively cut and remove trees located within 15 feet of the pipeline with roots that may compromise the integrity of the pipeline coating. Spire will not use herbicides or pesticides on its right-of-way or aboveground facilities for the purpose of vegetation management unless approved by applicable regulatory agencies and landowners. No herbicides or pesticides will be used within 100 feet of a wetland or waterbody unless otherwise approved by applicable federal, state, and local agencies and directly affected landowners.

Post-construction management of the right-of-way will be conducted in accordance with FERC's Plan and Procedures and Spire's Noxious Weeds/Invasive Species Control and Mitigation Plan in Resource Report 3, Appendix 3-A. Vegetation maintenance (with respect to the control of invasive plant species) is detailed in these plans.

Following construction of the pipeline facilities, areas used for TWS and ATWS will be allowed to revert to their pre-construction land use/land cover with no further vegetation maintenance by Spire. Additionally, crop production will be allowed to continue in agricultural areas, immediately following construction or the following growing season.

1.4.1.2 Cathodic Protection and Alternating Current Mitigation Areas

It is currently anticipated that cathodic protection of the pipeline will be conducted with impressed current systems that employ rectifier/groundbed systems. Units will be installed at various locations perpendicular to the pipeline and aboveground test stations will be installed at various locations along the pipeline to gather accurate information for potential current adjustments. The cathodic protection system will be regularly monitored to maintain required pipe-to-soil potential and will be achieved in accordance with the USDOT regulations.

In areas where the pipeline parallels high-voltage electric transmission lines, an AC mitigation system will be implemented as necessary to reduce stray current, to prevent possible shock to personnel during post-construction activities, and to prevent interference with the cathodic protection system.

Cathodic protection and AC mitigation systems are further discussed in Section 1.1.2.1, Pipeline Facilities.



1.4.2 Aboveground Facilities

Spire will operate and maintain the proposed aboveground facilities in accordance with standard procedures designed to ensure the integrity of the facilities and to provide its shippers and the general public with a safe and dependable natural gas supply. The facilities will be designed, constructed, and operated in accordance with requirements of FERC, USDOT, industry-proven practices and techniques, and other federal, state, and local requirements, as applicable.

Responsibilities of Spire will include the following:

- Safe operation and maintenance of pipeline and aboveground facilities to provide the required gas flow;
- Inspection and maintenance of the pipeline system;
- Regular monitoring of the right-of-way;
- Development and implementation of an ongoing program of safety and environmental compliance;
- Regulatory compliance maintenance inspections;
- Administration; and
- Landowner relations.

See Resource Report 11 for further discussion on safety procedures for aboveground facilities.

Areas within the permanent easement outside of the facility fence line will be maintained through routine vegetation maintenance or allowed to revert to preexisting conditions. This is reflected in the operation impacts reported in Section 1.2.3.

1.5 Future Plans and Abandonment

At present, Spire has no firm or immediate plans to expand upon the current Project. There are no current or future plans to abandon facilities as a result of this Project.

1.6 Permits and Approvals

A comprehensive list of the required permits, approvals and consultations, administering agencies, status, and agency contact information is provided as Table 1.6-1. Copies of correspondence are included in Appendix 1-C. Copies of outstanding approvals/consultations will be filed with the FERC upon receipt.



Table 1.6-1. Environmental Permits, Approvals, and Consultations

Agency or Organization	Permit/Approval	Submittal Date¹ (Anticipated)	Receipt Date¹ (Anticipated)
Federal			
FERC	Certificate of Public Convenience and Necessity	January 2017	(December 2017)
United States Fish and Wildlife Service (“USFWS”), Rock Island Field Office	Threatened and Endangered Species Consultation; Migratory Bird Treaty Act, Bald and Golden Eagle Act	June 2016	(December 2017)
USFWS, Columbia Field Office	Threatened and Endangered Species Consultation; Migratory Bird Treaty Act, Bald and Golden Eagle Act	Rock Island will be the lead USFWS office	N/A
United States Army Corps of Engineers (“USACE”), St. Louis District	Section 404, Section 10 [Nationwide Permit (“NWP”) 12]	January 2017	(January 2018)
	Section 408	January 2017	(January 2018)
	Real Estate Agreement	January 2017	(May 2018)
USACE, Kansas City District	Section 408	January 2017	(January 2018)
United States Department of Agriculture	Consultation on Lands Enrolled in Conservation Reserve Program	August 2016	(January 2017)
State-Illinois			
Illinois Department of Natural Resources (“IDNR”)	Statewide Permits #6 and #8	No separate submittal required if general conditions are met.	
	State Species Consultation	June 2016	(August 2017)
	Incidental Take Authorization	(July 2017)	(December 2017)
Illinois Environmental Protection Agency	401 Water Quality Certification	Automatic; No separate submittal required if under NWP-12.	
	State Operating Permit for Wastewater Discharges	(June 2017)	(September 2017)
Illinois Environmental Protection Agency (continued)	General NPDES Permit No. ILR10	Oil and gas activities are exempt from submitting for NPDES Construction Stormwater Permit provided that FERC Plan and Procedures and State Best Management Practices are incorporated into construction activities.	



Table 1.6-1. Environmental Permits, Approvals, and Consultations (Continued)

Agency or Organization	Permit/Approval	Submittal Date1 (Anticipated)	Receipt Date1 (Anticipated)
Illinois Historic Preservation Agency (“IHPA”)	Section 106, National Historic Preservation Act (“NHPA”) Clearance	June 2016	(August 2017)
Illinois Department of Agriculture (“IDOA”)	AIMA	September 2016	(January 2017)
Illinois Department of Transportation (“IDOT”)	Utility Permit and Driveway Permit	(August 2017)	(December 2017)
Scott County Highway Department	Utility Permit and Driveway Permit	(September 2017)	(December 2017)
Greene County	Floodplain Permit	(October 2017)	(December 2017)
Greene County Highway Department	Utility Permit and Driveway Permit	(September 2017)	(December 2017)
Jersey County	Floodplain Permit and Stormwater Development Permit	(October 2017)	(December 2017)
Jersey County Highway Department	Utility Permit and Driveway Permit	(September 2017)	(December 2017)
Alsey Township	Road Crossing and Road Use Agreement	(October 2017)	(December 2017)
Roodhouse Township	Road Crossing and Road Use Agreement	(October 2017)	(December 2017)
Whitehall Township	Road Crossing and Road Use Agreement	(October 2017)	(December 2017)
Carrollton Township	Road Crossing and Road Use Agreement	(October 2017)	(December 2017)
Kane Township	Road Crossing and Road Use Agreement	(October 2017)	(December 2017)
English Township	Road Crossing and Road Use Agreement	(October 2017)	(December 2017)
Otter Creek Township	Road Crossing and Road Use Agreement	(October 2017)	(December 2017)
Elsah Township	Road Crossing and Road Use Agreement	(October 2017)	(December 2017)
City of Alton, IL	Building and Zoning Permits	(October 2017)	(December 2017)
Kansas City Southern Railroad	Utility Permit and Right of Entry Permit	(June 2017)	(December 2017)



Table 1.6-1. Environmental Permits, Approvals, and Consultations (Continued)

Agency or Organization	Permit/Approval	Submittal Date1 (Anticipated)	Receipt Date1 (Anticipated)
State-Missouri			
Missouri Public Service Commission ²	Order approving sale of Line 880	October 2016	(March 2017)
Missouri Department of Natural Resources (“MDNR”), St. Louis Regional Office	401 Water Quality Certification	Automatic; no separate submittal required if under NWP-12.	
	Individual 401 Water Quality Certification (crossing of Coldwater Creek)	October 2017	November 2017
	Hydrostatic Discharge Permit	(April 2017)	(May 2017)
	Water Withdrawal Registration	(April 2017)	(April 2017)
	Land Disturbance Permit ³	(October 2017)	(October 2017)
Missouri Department of Conservation (“MDOC”)	State listed species consultation	June 2016	(August 2017)
	Special Use Permit	(September 2017)	(January 2018)
Missouri State Historic Preservation Office (“MO SHPO”)	Section 106, NHPA clearance	June 2016	(August 2017)
Consolidated North County Levee District	Letter of Endorsement	N/A	August 2017
MoDOT	Utility Permit and Driveway Permit	(August 2017)	(December 2017)
St. Louis County	Floodplain Permit and Land Disturbance Permit	(October 2017)	(December 2017)
	Building and Zoning Permits	(October 2017)	(December 2017)
St. Louis County Highway Department	Utility Permit and Driveway Permit	(September 2017)	(December 2017)
St. Charles County	Floodplain Permit and Land Disturbance Permit	(October 2017)	(December 2017)
	Building and Zoning Permits	(October 2017)	(December 2017)
St. Charles County Highway Department	Utility Permit and Driveway Permit	(September 2017)	(December 2017)
City of West Alton	Floodplain Permit and Land Use Permit	(August 2017)	(September 2017)
Burlington Northern & Santa Fe Railroad	Utility Permit and Right of Entry Permit	(June 2017)	(December 2017)



Notes:

- N/A - Not Applicable.
- ¹ Submittal dates and anticipated permit receipt dates are based on schedules discussed with the regulatory agencies.
 - ² This authorization for transfer of Line 880 is to be obtained by LGC.
 - ³ MODNR will be issuing a new permit in February 2017 for Land Disturbances. If a new permit is sought before the expiration date of the current permit and work is proposed after February 2017, a new permit will be required to be obtained. Additionally, new rules are proposed as part of the issuance of the new permit. As such, Spire will obtain this permit prior to construction.



1.7 Affected Landowners/Stakeholders

Spire has developed and implemented a comprehensive Public, Stakeholder, and Agency Participation Plan that outlines a commitment to engage actively with stakeholders currently and throughout the life of the Project and identifies the following activities to be conducted by Spire to ensure successful ongoing communication with all stakeholders. These engagement activities include:

- holding Community Open Houses to provide Project information to all interested stakeholders;
- continuing to identify and hold meetings with local associations, affected public groups, and other non-governmental organizations (“NGOs”) concerning the Project;
- continuing to meet with state and local government representatives to seek input, and provide updates;
- continuing to meet frequently with state and federal agencies for guidance during permitting and development of the FERC Resource Reports and respond rapidly to any requests for information;
- providing Project information and updates via periodic newsletters sent via hardcopy and made available electronically on the Project website listed below;
- periodically updating the publicly available website providing pertinent information about the Project (<http://www.SpireSTLPipeline.com>); and
- establishing additional channels of communication including the Project Information Line (844-885-7234) and STLPipelineInfo@SpireEnergy.com.

A copy of this Plan was filed with FERC on July 22, 2016 as part of Spire’s Pre-File request letter. An updated version of the Public, Stakeholder and Agency Participation Plan is provided in in Appendix 1-H.

1.7.1 Public Participation

Spire is committed to the early identification and resolution of stakeholder issues and concerns related to the proposed Project. Spire believes that successful resolution of issues is best achieved by involving the appropriate stakeholders at the earliest possible stage of a project and prior to filing its application with FERC. As such, Spire has conducted and will continue to conduct extensive outreach to inform stakeholders about the Project and provide available updates. Early in the stakeholder outreach process, Spire established a Project website (<http://www.SpireSTLPipeline.com>) that provides information about the Project, updates on regulatory proceedings, copies of regulatory filings, and contact information for the public to use to raise questions and concerns.

Efforts to identify stakeholders was focused on federal, state, and local elected officials; federal, state, and local regulatory agencies; Native American tribes; landowners; economic development agencies/chambers of commerce; local law enforcement agencies; local media outlets; non-governmental organizations; and the community at large. Pursuant to 18 CFR §157.21, Spire submitted a comprehensive stakeholder list concurrent with this filing in Appendix 1-I. Spire has continued to develop and maintain a contact management system to



track contact with these stakeholders in a manner that assists in the identification and resolution of emerging issues and concerns.

Spire sent letters to permitting agencies and agencies that require consultation in July 2016 notifying them of its plan to use the FERC pre-filing process and invite them to participate in the pre-file process. Copies of the submitted pre-filing notices are provided in Appendix 1-C. Spire also contacted stakeholders in August 2016, including landowners, to inform them of the pre-filing process timeline and invite them to attend the Community Open Houses. Additionally, letters explaining the Project have been sent to a list of environmental non-government organizations (“ENGOS”) and other NGOs to assure an appropriate, accurate, and complete baseline of information is provided. Copies of the letters are provided in Appendix 1-C. Ongoing efforts to make additional contact with the ENGOS and NGOs will continue to be made.

In August 2016, Spire planned and conducted five community Open Houses in locations along the route:

- Scott County, Illinois on August 16, 2016 at the Scott County Fairgrounds, 401 North Walnut, Winchester, Illinois, 62694;
- Greene County, Illinois on August 24, 2016 at KC Hall Carrollton, US Highway 67, Carrollton, Illinois 62016;
- Jersey County, Illinois on August 17, 2016 at Jerseyville Recreation Center, 401 Mound Street, Jerseyville, Illinois 62052;
- St. Charles County, Missouri on August 23, 2016 at American Legion Post 312, 2500 Raymond Drive, St. Charles, Missouri, 63301;
- St. Louis County, Missouri on August 18, 2016 at Hazelwood Community Center East, 8969 Dunn Road, Hazelwood, Missouri 63042.

A total of 151 stakeholders attended these Open Houses. Comments were focused on preservation or remediation of drain tiles through agricultural fields; compensation for possible damages incurred during survey or construction; easement payments; depth of cover through agricultural land; construction schedule; use of local service companies and businesses during construction; and environmental concerns for crossing waterbodies. Route selection was a topic of discussion at each open house. Spire’s Project team met with each landowner or interested stakeholder to explain the proposed route and take suggestions and comments.

As part of its commitment to keeping stakeholders informed, the Project has committed to periodically creating and distributing, via traditional mail and electronic technologies, Project newsletters that inform stakeholders about the Project in general, what has recently occurred, and what to expect next. The first of these newsletters was distributed to stakeholders in December 2016.

In addition, Spire has and will continue to provide copies of the filing materials, including resource reports, to participating federal agencies, county offices, and public libraries along the proposed pipeline route and to certain state offices so the public will have the opportunity to view the materials and to provide comments. Copies will be provided to the following libraries in the Project area:

- Scott County: Winchester Public Library at 215 North Main Street, Winchester, Illinois 62694;



- Greene County: Carrollton Public Library at 509 South Main Street, Carrollton, Illinois 62016;
- Jersey County: Jerseyville Public Library at 105 North Liberty Street, Jerseyville, Illinois 62052;
- St. Charles County: St. Charles City-County Library at 1825 Common Field Street, Portage Des Sioux, Missouri 63373; and
- St. Louis County: St. Louis County Library at 4153 North Highway 67, Florissant, Missouri, 63034.

1.7.1.1 FERC Scoping Sessions

The Project supported and attended FERC-sponsored scoping sessions held in November 2016. Three meetings were held:

- St. Louis County, Missouri on November 14, 2016 at North County Recreation Complex, 2577 Redman Road, St. Louis, Missouri 63136;
- Jersey County, Illinois on November 15, 2016 at Elsah Township Community Building, 14690 Fessler Road, Dow, Illinois 62022; and
- Greene County, Illinois on November 16, 2016 at Knights of Columbus Hall Carrollton Council No. 1996, US Highway 67, Carrollton, Illinois 62016.

Approximately 65 stakeholders in total attended the three scoping sessions. FERC provided information on the regulatory process and provided stakeholders an opportunity to ask questions and provide comments. Spire Project staff were also available to provide general information and answer specific questions about the proposed Project. Detailed route maps and Project fact sheets were available for review.

Spire filed responses to the public comments originating at the scoping sessions, as well as other comments submitted to the docket, on December 9, 2016. A copy of the responses, which references the location in the Environmental Report where each comment is addressed, is included as Appendix 1-K. Public comments submitted since December 9, 2016 have been incorporated into the responses.

1.7.2 Landowner Notification

The names and addresses of landowners whose property will be crossed by the Project are provided in Appendix 1-G. This list of landowners will be continually updated and maintained throughout the Project. These landowners were contacted beginning in July 2016 to request access for civil and environmental surveys for the pipeline route, access roads, contractor yards and aboveground facility sites.

Throughout the course of the Project, landowners and stakeholders will be kept informed about Project permitting developments, construction, and restoration through various means, such as Project notification letters and newsletters. At the time of this application, and in accordance with Section 157.6(d) of the Commission's regulations (18 CFR § 157.6(d)), Spire will provide the required notification of the Project to the directly affected and abutting properties affected by the construction work areas. The landowner notification letters will also provide information regarding procedures to follow in the event that the landowner has any concerns or problems



during construction. Spire will implement a Landowner Complaint Resolution Process which outlines these procedures. Spire has provided this plan in Appendix 1-J.

1.7.3 Agency Outreach

In addition to public outreach efforts with landowners and governmental officials described in Sections 1.7.1 and 1.7.2, Spire has been conducting an extensive planning and consultation process with federal and state regulatory agencies, resource agencies, and Native American Tribes. The consultation process has involved meetings, letter requests for resource information, and telephone discussions and emails. Project information and letters requesting environmental information have been sent to the state and local agencies in Illinois and Missouri. This section provides a brief description of the more significant agency and stakeholder consultations that have occurred. A list of agencies contacted to date, as well as correspondence materials is provided in Appendix 1-C.

1.7.3.1 Interagency and Other Review/Resource Agency Meetings

Beginning in June 2016, Spire began contacting federal and state regulatory agencies in Illinois and Missouri with respect to the relevant permitting requirements for the Project. Spire conducted several Project introduction meetings and provided the agencies with the Project Description, and advised these agencies of Spire's intent to use the FERC's National Environmental Policy Act pre-filing process.

On December 13, 2016 at the request of the Office of the Governor of Illinois, an Interagency meeting was held in Springfield, Illinois with agencies responsible for reviewing and issuing permits. The meeting was attended by Illinois agencies, the USEPA, and USFWS in person and by teleconference. The purpose of the meeting was to provide a Project overview, answer questions, and to coordinate agency input and reviews of the Project. FERC staff attended by phone and provided guidance as needed.

A list of the agency meetings conducted to date is provided in Table 1.7-1. In addition to agency meetings, Spire has continued to engage the regulatory agencies via conference calls and emails in order to address further concerns. Records of these communications are provided in Appendix 1-C. Spire is filing for the federal authorizations needed for the Project concurrent with submittal of this application for the Project to FERC, consistent with Commission Order No. 687.



Table 1.7-1. Agency Meetings Conducted to Date

Agency	Meeting Date	Topic
USACE, St. Louis District	June 29, 2016	Project introduction
	August 3, 2016	Review of Project design and geotechnical investigations
	August 23, 2016	Review of river crossings
	September 16, 2016	Coordination of Section 408 review
	October 18, 2016	Project update and permitting schedule
	November 30, 2016	Pre-application meeting
	December 13, 2016	Illinois Interagency Meeting
USFWS, Rock Island Field Office	July 7, 2016	Project introduction
	August 23, 2016	Review of river crossings
	December 13, 2016	Illinois Interagency Meeting
	January 4, 2017	Federal listed species
USEPA, Region 5	December 13, 2016	Illinois Interagency Meeting
IHPA	June 21, 2016	Project introduction
	December 13, 2016	Illinois Interagency Meeting
IDNR	June 21, 2016	Project introduction
	December 13, 2016	Illinois Interagency Meeting
IDOA	June 21, 2016	Project introduction
	December 13, 2016	Illinois Interagency Meeting
MO SHPO	July 8, 2016	Project introduction
MDOC	June 29, 2016	Project introduction
MDNR	August 3, 2016	Project introduction
Consolidated North County Levee District	August 3, 2016	Project introduction

1.7.3.2 Threatened and Endangered Species Consultations

As required under Section 7 of the United States Endangered Species Act (“ESA”) and the endangered species laws in Illinois and Missouri, Spire initiated informal consultations with federal and state resource agencies to update the known locations of federal or state-listed threatened and endangered species or candidate species that could potentially be affected by construction or operation of the Project. Spire initiated consultation with the USFWS (Rock Island District) and the state agencies in Illinois and Missouri in June 2016. Spire has also provided further



information on planned surveys and will coordinate with USFWS, IDNR and MODC for technical assistance. A record of agency correspondence is provided in Appendix 1-C.

A list of stakeholders that Spire is coordinating with throughout the Project planning process is provided in Appendix 1-I.

1.8 Non-jurisdictional Facilities

No non-jurisdictional facilities are anticipated for this Project.

It is assumed that the REX Receipt Station and Laclede/Lange Delivery Station will need an individual single phase power drop with meter from the applicable electric utility. Since three phase power will not be needed, there are no anticipated upgrades to the existing power infrastructure in the area. Spire anticipates the need for power to amount to requesting power service from the applicable electric utility that will consist of a transformer, power pole(s), and a meter base. Spire is coordinating with the local utility company to obtain the power necessary for these facilities.

1.9 Cumulative Impacts

Spire has completed a cumulative impact analysis for the Project, including the resource-specific temporal and geographic scope within which cumulative impacts may occur from the construction and operation of the Project. Cumulative impacts associated with the Project would result from the combined effect of construction and operation of the Project facilities with other major developments occurring in the vicinity of the Project. To evaluate the potential cumulative impacts, Spire considered the “impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions”, per 40 Code of Federal Regulations (CFR) § 1508.7.

This analysis generally follows the methodology set forth in relevant guidance (Council on Environmental Quality, 1997; United States Environmental Protection Agency, 1999). Under these guidelines, inclusion of other actions within the analysis is based on identifying commonalities of impacts from past, present, and potential actions to potential impacts that would result from the proposed Project. For an action to be included in the cumulative impact analysis, it must:

- impact a resource area potentially affected by the Project;
- cause this impact within the proposed Project; or
- cause this impact within the time span for the potential impact from the proposed Project.

The proposed geographic scope for the cumulative impact analysis is included as Table 1.9-1. Spire proposes to follow FERC’s standard guidance included with FERC staff’s Comments on Spire’s Initial Draft Resource Report 1 dated September 23, 2016, with the exception of Environmental Justice. Spire proposes to adjust the geographic scope to be consistent with the Affected Environment established for the Environmental Justice methodology



utilized in Resource Report 5. Further justification for the identification of the Affected Environment is included in Resource Report 5.

Table 1.9-1. Geographic Scope for Cumulative Impact Analysis

Environmental Resource	Geographic Scope
Soils and Geology	Construction workspaces
Groundwater, Wetlands, Vegetation, Wildlife	Hydrologic Unit Code (“HUC”) 12 Watershed
Surface Water Resources	HUC 12 Watershed. For direct in-water work (e.g., dredging) include potential overlapping impacts from sedimentation, turbidity, and water quality
Cultural Resources	Overlapping impacts within the Area of Potential Effects
Land Use	one-mile radius
Visual	For aboveground facilities, distance that the tallest feature at the planned facility would be visible from neighboring communities. For pipelines, use 0.25-mile and existing visual access points (e.g., road crossings)
Noise - Operations	Other facilities that would impact any noise sensitive area located within one-mile of a noise emitting permanent aboveground facility
Noise - Construction	0.25-mile from pipeline or aboveground facilities. 0.5-mile from horizontal direction drill or direct pipe installation
Air Quality - Operation	Not applicable - No significant aboveground facilities are proposed, therefore no cumulative impacts for air quality - operation are anticipated
Air Quality - Construction	0.25-mile from pipeline or aboveground facilities
Socioeconomics	Affected counties and municipalities
Environmental Justice	Affected Environment (within one-mile of 24-inch pipeline and within 0.25-mile of Line 880)



1.9.1 Scoping

Spire has reviewed publicly available data, and received additional guidance from local governments and state agencies regarding actions within the geographic scope of the Project. A list of past, present, and reasonably foreseeable actions identified within the geographic scope of Spire's Project are provided in Table 1.9-2.

1.9.1.1 Federal and State

The FERC eLibrary and lists of approved and pending major pipeline projects were reviewed to identify approved or pending regulated actions that may be constructed during a similar timeframe in the counties crossed by the Project (FERC 2016a; FERC 2016b; FERC 2016c). Both natural gas and other FERC-regulated energy actions were evaluated. No actions within the geographic scope were identified.

Major highway or bridge actions currently underway, recently completed in 2016 or later, or planned within the counties crossed by the Project were reviewed using the IDOT and MoDOT databases (IDOT 2016a, 2016b, 2016c, and 2016d; MDOT 2016). Road infrastructure actions were included for analysis if there was potential for construction to extend significantly beyond the existing road right-of-way (i.e. expansions or new roads) or for impacts to waterbodies (i.e. bridge replacements or repairs). Several upcoming actions are planned within the counties crossed by the Project, though most have a limited disturbance footprint. The primary road infrastructure action discussed in this analysis are the proposed and potential construction and upgrades of the US-67 corridor. Several new bypasses are proposed for this existing road, and the Project has been routed to avoid potential future conflict with these preliminary design plans. Most of the US-67 corridor improvements are in the preliminary design or planning stage, and only one is included in IDOT's programmed projects for 2018-2022. Road infrastructure actions share geographic scope with the Project for Groundwater, Wetlands, Vegetation and Wildlife; Surface Water Resources; Land Use; Socioeconomics; and Environmental Justice.

Oil and gas permit trends were reviewed for counties crossed by the Project, based on records available from IDNR and MDNR. In general, Illinois and Missouri have minimal production of natural gas, though Illinois does have modest production of oil in the southern portion of the state (USEIA 2016a and 2016b). Approximately 800 drilling permits for oil, gas and injection wells are issued each year in Illinois, with most production located in the Illinois Basin province (IDNR 2016a). The Project area is located near the boundary of this formation. Weekly drill logs were reviewed for the Project area from June 2016 through December 19, 2016, with no record identified within the geographic scope. Oil and gas permit lists in Missouri, current as of May 2016, do not show prolific recent activity, as the last recorded active well in St. Charles County was drilled in 1975, and the last recorded active well in St. Louis County was drilled in 2012 (MDNR 2016). Therefore, though future production of oil and gas resources may be feasible within the geographic scope of the Project, no present, past or reasonably foreseeable development of these resources is included in this analysis. Future development would be subject to the appropriate state regulations.



Public notices from the USACE St. Louis and Kansas City Districts dated June through December 2016 were reviewed, focusing on stream disturbance and wetland permits (USACE 2016a and 2016b). Three minor actions and one 90-acre development were identified within the geographic scope for Socioeconomics. The USACE St. Louis District has also issued a public notice on the update of the 1979 Environmental Impact Statement for its Regulating Works Project on the Middle Mississippi River, which begins at the confluence of the Missouri River and extends south for approximately 195 miles. The USACE St. Louis is responsible for operating and maintaining a navigation channel on the Middle Mississippi River, and the preferred alternative is to continue with dredging and river training structure construction with the future potential addition of compensatory mitigation for unavoidable adverse effects to main channel border habitat. This portion of the Mississippi is adjacent to the Line 880 Project area. However, as this EIS does not propose a new action, it was excluded from analysis.

Other energy infrastructure developments may fall under the jurisdiction of the states; therefore, publicly available information for primary infrastructure provider Ameren was reviewed (Ameren Illinois 2016; Ameren Missouri 2016). State approved actions by CleanLine Energy Partners and Energy Transfer Partners, LP were also identified (Clean Line Energy Partners 2016; Energy Transfer Partners 2015). One electric transmission action, the Grain Belt Express Clean Line, is proposed to be constructed in the Project area as early as 2018, and crosses at approximate MP 2.6. With the exception of the CleanLine action, which intersects all geographic scopes in this analysis, energy infrastructure actions identified are within the geographic scope for only Socioeconomics.

1.9.1.2 Local Reviews

Spire contacted the county and local municipalities for information regarding planned developments within the Project area, as discussed in Resource Report 8, and several commercial or residential developments were identified (Leezer 2016; Nichols 2016; Lang 2016; Soufer 2016; and Myers 2016b). Additional online reviews were conducted to review publicly available actions online (NorthPark 2016; Rizvic 2016; Unglesbee 2015; St. Charles County 2016). Several commercial/industrial developments completed in 2016, ongoing, or planned for 2017-2018 were identified within the geographic scope for Groundwater, Wetlands, Vegetation and Wildlife; Surface Water Resources; and Socioeconomics. Two planned residential developments, which may occur during the temporal scope of the Project depending on construction start, are located within the geographic scope for Socioeconomics. Expansion of the existing New Town at St. Charles community is expected to continue over the next 20 years, with several hundred acres available for continued development of this mixed use neighborhood. This action is located within the geographic scope for Groundwater, Wetlands, Vegetation and Wildlife; Surface Water Resources; and Socioeconomics.

1.9.2 Potential Cumulative Impacts of the Proposed Action

1.9.2.1 Soils and Geology

One action, the Grain Belt Express Clean Line, is located within the geographic scope for Soils and Geology in Scott County, Illinois. Construction is proposed to begin as early as 2016. Disturbance will largely be limited to the footprint of the structures and access roads (locations to be determined). The proponent will repair damage to



soil resulting from construction and maintenance and compensate landowners for crop damages. It is not known at this time if disturbance will coincide with the Project workspaces.

Spire's proposed right-of-way crosses several properties currently being used for agricultural purposes. Soil impacts will occur during the construction period and restoration. Depending on soil conditions, these impacts may include loss of excavated soil from water and wind erosion, soil compaction from construction equipment, and mixing of wetland topsoil and subsoil. Spire will follow the FERC's Plan and Procedures in conjunction with the AIMA for portions of the Project in Illinois, which includes additional measures to avoid impacts to soils, therefore cumulative impacts to soils would be minimized or avoided. The likelihood of cumulative impacts on soils is minimal.

Potential cumulative impacts associated with geologic mineral resources may include disruption or loss of access to potential resources at mining facilities or reserves. Given that no active mining is located within the area of the Project proposed to be crossed by the Grain Belt Express Clean Line, no anticipated cumulative impacts to mineral resources are expected. While no new oil and gas wells have been identified within the Project area, few new wells are being developed according to the IDNR databases. Should a new well be proposed within the Project work area, Spire will coordinate with the producer to avoid adverse impacts on production and transportation of oil and gas. In addition, blasting is not proposed for this area of the Project. Installation of any proposed electric transmission structures may require blasting depending on structure design; however these would not be expected to be located within Spire's right-of-way. Therefore, cumulative impacts are not anticipated.

1.9.2.2 Groundwater, Wetlands, Vegetation, Wildlife

Several actions were identified within the geographic scope for Groundwater, Wetlands, Vegetation and Wildlife, including three small transportation actions in St. Louis County, Missouri, and new hanger construction at Smartt Field Airport in St. Charles County, Missouri. These small road infrastructure and building actions have limited footprints primarily contained to existing developed sites and likely entail de minimus impacts to resources.

Several sections of the anticipated US-67 corridor improvements cross a HUC-12 watershed affected by the Project in Greene and Jersey Counties, Illinois, including new bypasses and improvement corridors. New bypasses could be expected to have temporary and permanent impacts. Improvement corridors would entail expansion of the existing roadway, which would minimize impacts to the resources. Detailed analysis of these actions is not publicly available. It is presumed that the loss of some vegetation habitats is likely to occur, though most impacts would be to agricultural lands. The Delhi Bypass is the only portion of the corridor improvements that has been programmed, and is expected to be constructed sometime between 2018 and 2022, which may overlap with the temporal scope of the Project. The remaining improvements are in varying stages of design, and the construction timeframes are unknown. It is improbable that improvements not yet programmed would be constructed at the same time as the Project.

For the Grain Belt Express Clean Line action, located within Scott and Greene Counties, Illinois, vegetation in the right-of-way will be maintained at less than ten feet in height. Based on aerial imagery, some forest clearing would be expected within the same HUC-12 as the Project. The proponent will implement their Avian Protection Plan to identify avoidance, minimization and mitigation measures to address avian risk. The route is collocated with



existing roads where possible. The proponent will work with landowners on vegetation maintenance procedures and has requested input on best practices from local conservation organizations.

Future development at New Town at St. Charles will likely continue to utilize and construct the system of lakes and canals that is unique to the community. These structures are also utilized for storm water control; and may have effects on groundwater recharge in the area. Remaining areas that may be developed are primarily open or agricultural, therefore tree clearing would be negligible. Wetland resources may be present on the site. Wildlife common to agricultural landscapes may be displaced by development; however the surrounding land use is comparable and would provide suitable habitat.

The Project is not expected to have a significant impact on groundwater resources. Spire will adhere to the Project-specific Spill Prevention Control and Countermeasures Plan and Storm Water Pollution Prevention Plan to minimize potential impacts to groundwater. The Project will primarily consist of shallow excavation. Trenchless (HDD) crossings will exceed these trench depths; however, these activities are not expected to have an impact on groundwater quality due to the relatively narrow diameter of the boreholes. Other actions would likely employ similar erosion and sediment control measures, which would minimize risk for contamination from fuel or other sources.

Long-term aquifer recharge will not be affected by pipeline construction or subsequent operations due to the relatively narrow right-of-way width. The Project would not involve the permanent loss of wetlands and, therefore, would be expected to have primarily short-term temporary impacts on wetland quality, with limited long-term impacts such as the conversion of forested wetlands. However, routine vegetative maintenance in accordance with FERC's Plan and Procedures will maintain some Palustrine Forested and Palustrine Scrub-Shrub wetlands as Palustrine Emergent. Temporary impacts to wetlands include disturbance of the soils and removal of vegetation. Runoff from construction activities near wetlands could also result in cumulative impacts, although this effect would be relatively minor and would be controlled by the implementation of erosion and sediment control measures and by compliance with federal, state and local requirements. Spire will obtain the applicable federal and state permits, which seek to avoid and minimize individual and cumulative impacts to federally-regulated wetlands and would be required for all development actions impacting wetlands. Should development actions result in the unavoidable loss or conversions of wetlands, the permitting agencies have comprehensive mitigation processes to offset these impacts.

When actions are constructed in the same general location and timeframe, they could have a cumulative impact on local vegetation and wildlife communities. Right-of-way clearing and grading and other construction activities associated with the Project and other actions would result in the removal of vegetation; alteration of wildlife habitat; displacement of wildlife; and may contribute to other potential secondary effects such as increased population stress, predation, and the establishment of invasive plant species. Cumulative impacts to vegetation would be associated with large-scale construction or development actions that would seek to clear significant areas of upland forest contiguous to the pipeline corridor. This would result in additional habitat fragmentation and would modify the vegetation classification from forest to either scrub-shrub or herbaceous classes. However, the Project is located within a predominantly agricultural landscape. For most other actions within the geographic scope, sufficient habitat would be expected to be located adjacent to the proposed right-of-ways.



Potential impacts from the Project would be avoided or minimized by the use of both standard and specialized construction techniques, including those specified in the Spill Prevention Control and Countermeasures Plan, Noxious Weeds/Invasive Plant Species Control and Mitigation Plan, and Project-specific Storm Water Pollution Prevention Plan. In addition, Spire is consulting with the USFWS, IDNR, and MDOC regarding threatened and endangered species and migratory birds to avoid or minimize impacts to sensitive wildlife. The New Town at St. Charles development is sufficiently distant from the Project (8 miles distant near the boundary of the shared HUC-12) to minimize concerns for cumulative impacts to resources. Other actions would be subject to similar permitting requirements for impacts to wetlands, as well as state and federal regulations relating to vegetation and wildlife. Therefore, Spire does not anticipate significant cumulative impacts to these resources as a result of the proposed Project and/or other development actions in the Project area.

1.9.2.3 Surface Water Resources

As the geographic scope for Surface Water Resources is comparable to that for Groundwater, Wetlands, Vegetation, and Wildlife, the same energy and road infrastructure actions are discussed.

Smaller actions would be expected to utilize erosion and sediment controls to minimize potential impacts to surface water resources, and due to the scale no cumulative impact would be anticipated.

The new bypasses proposed on the US-67 corridor may temporarily or permanently impact streams. Use of the existing road corridor for the proposed improvements would be expected to minimize impacts to resources. The proposed route for the Grain Belt Express Clean Line crosses waterbodies, though the structures design will likely minimize direct impacts to these resources.

Future development at New Town at St. Charles will likely continue to utilize and construct the system of lakes and canals that is unique to the community. These structures are also utilized for storm water control. Natural waterbody resources may be present on the site.

The Project would not involve the construction of permanent diversions or dams and, therefore, would be expected to have only short-term temporary impacts on surface water quality. Temporary impacts on surface waters include disturbance of stream banks, removal of bank vegetation, and, in some instances, modification of flow during dry-crossing construction. The level of temporary impact of the proposed Project on surface waters would depend on precipitation events, sediment loads, stream area/velocity, channel integrity, and bed material. Runoff from construction activities near waterbodies could also result in cumulative impacts, although this effect would be relatively minor and would be controlled by implementation of erosion and sediment control measures and by compliance with federal, state, and local requirements.

Spire will obtain the permits required by the applicable federal and state permits, which seek to avoid and minimize individual and cumulative impacts to federally-regulated waters of the United States and would be required for all development actions impacting wetlands and waterbodies. Should development actions result in the unavoidable loss of wetlands or streams, the permitting agencies have comprehensive mitigation processes to offset and prevent net loss to resources. Therefore, Spire does not anticipate significant cumulative impacts to



wetlands and waterbodies as a result of the proposed Project and/or other development actions in the Project area.

1.9.2.4 Cultural Resources

One action, the Grain Belt Express Clean Line, is within the geographic scope for Cultural Resources in Scott County, Illinois. Earth disturbance will largely be limited to the footprint of the structures and access roads (locations to be determined).

Spire is currently in consultation with the State Historic Preservation Offices (“SHPOs”) and has conducted archaeological testing and historic architecture studies. As discussed in Resource Report 4, Cultural Resources, sites that are potentially eligible for listing in the National Register of Historic Places are currently located within the Project’s limits of disturbance. However, Spire will evaluate these locations and coordinate with the SHPOs to conduct Phase II assessments to confirm eligibility or avoid the sites by rerouting or constricting the disturbance limits of the Project. Therefore, no adverse effects to archaeological or architectural resources are anticipated as a result of the Project. In the event of an unanticipated discovery during construction, Spire’s ongoing compliance with Section 106 of the NHPA would effectively minimize impacts on cultural resources.

This Project, and other major actions requiring a federal authorization, are subject to NHPA Section 106 review and approval through delegated SHPOs, to avoid and/or minimize impacts and address any unavoidable impacts. Both known and unknown private and non-Federal actions/activities have the potential to result in some level of impacts to Cultural Resources. However, it is not currently expected that this Project will contribute to a cumulative or quantifiable impact to these resources.

1.9.2.5 Land Use

The Grain Belt Express Clean Line and several portions of the anticipated US-67 Corridor improvements are located within the geographic scope for Land Use.

The proposed route of the Grain Belt Express Clean Line near the Project area in Scott County, Illinois crosses a primarily agricultural landscape with some areas of forest, and is collocated with existing roads where possible. The easement will be approximately 150-200 feet wide. The proponent estimates that less than one percent of the easement will be occupied by structures; existing land use (e.g. farming, grazing, etc.) may continue provided activities do not interfere with operation of the line. The proponent will compensate landowners for crop damages and commercially marketable timber. It is not known at this time if disturbance will coincide with the Project workspaces.

The US-67 Corridor in Greene and Jersey Counties, Illinois includes both new bypasses and improvements to the existing road. Land use is primarily agricultural with some forest.

The Project and actions described above would result in both temporary disturbances and permanent conversions of land uses. Primary impacts from the Project are anticipated to be temporary in nature, with limited areas of permanent impact at aboveground facilities. Forested lands make up a small proportion of the Project. Forested areas within the construction right-of-way would be cleared during construction. Long term impacts would be minimized as the areas of work space outside of the permanent easement would be allowed to revegetate



following completion of construction. Through natural succession these areas may return to forest. Landowners will be compensated for easements or other damages, and no major aboveground facilities are proposed. The primary land use is agricultural, and areas within the permanent easement will be able to revert back to cropland. It is expected that landowners on other actions will be compensated for easements or other damages.

Based on the anticipated impacts of the Project, along with state and local regulation of proposed actions in the Project area, it is anticipated that cumulative impacts on land use would not be significant.

1.9.2.6 Visual

Permanent visual impacts are expected from the transmission line structures on the Grain Belt Express Clean Line in Scott County, Illinois. The typical span length between structures ranges from 750 feet to 1,320 feet; therefore it is likely that a structure will be within the geographic scope. Structures are typically 110 to 150 feet tall. The proponent will take landowner feedback into consideration when determining structure placements.

The improvements to the US-67 Corridor between Carrollton and White Hall, Greene County, Illinois may have a visual impact if the width of the existing road is expanded. However, this would be expected to have a fairly localized impact.

These actions may also result in temporary or permanent impacts to visual resources, including the presence of large construction vehicles and changes to the viewshed resulting from permanent buildings/structures.

Aboveground facilities for the Project are not proposed within 0.25 mile of the other actions. Temporary impacts will occur due to disturbance and clearing associated with construction; however, TWS and ATWS will be allowed to revegetate following completion of the Project. As the permanent easement is largely located within agricultural areas, minimal permanent impacts to visual resources due to permanent clearing are anticipated. Based on the anticipated impacts and the predominantly below-ground nature of the Project, along with local regulation of proposed actions in the Project area, it is not anticipated that this Project would contribute significant cumulative impacts on visual resources.

1.9.2.7 Noise – Operations

None of the actions identified during scoping are within the geographic scope for Noise – Operations, therefore no cumulative impacts are expected as a result of the Project.

1.9.2.8 Noise – Construction

Two actions were identified within the geographic scope for Noise - Construction. The Grain Belt Express Clean Line in Scott County, Illinois, and the improvements to the US-67 Corridor between Carrollton and White Hall, Greene County, Illinois will involve noise from heavy vehicles and machinery associated with clearing and construction; however this noise would be temporary annoyances to noise receptors in the vicinity of the actions.

While the US-67 Corridor improvements do not have a set construction time period, the Grain Belt Express Clean Line will likely be in construction at the same time as the Project. Noise impacts during the construction phase would be localized and would attenuate quickly as the distance from the construction increases. Cumulative impacts from noise construction are possible should construction occur during the same time period, but would



temporary and minimal as the areas where the Project and other actions are anticipated to overlap or be in close proximity are sparsely populated.

1.9.2.9 Air Quality – Operation

No significant aboveground facilities are proposed as part of the Project, therefore no cumulative impacts for Air Quality - Operation are anticipated.

1.9.2.10 Air Quality – Construction

Two actions were identified within the geographic scope for Noise – Construction: the Grain Belt Express Clean Line in Scott County, Illinois, and the improvements to the US-67 Corridor between Carrollton and White Hall, Greene County, Illinois. Temporary air quality impacts would be expected from heavy vehicles and machinery in use during construction.

Heavy equipment would generate emissions of air contaminants, fugitive dust, and noise during construction. Construction of the Project and other actions would result in temporary air emissions, but these emissions are not likely to significantly affect long-term air quality in the region. During construction, elevated levels of ambient pollutants are likely to occur in the immediate vicinity of the actions. Because pipeline construction moves through an area quickly, air emissions associated with construction of the pipeline would be intermittent and short term. The majority of these impacts would be minimized further because the construction activities would be spatially dispersed. Cumulative impacts related to construction emissions are possible should construction occur during the same time period, but air quality impacts would be localized and would attenuate quickly as the distance from the construction area increases. In addition, Spire will implement the Fugitive Dust Control Plan for the Project to control/minimize potential impacts.

1.9.2.11 Socioeconomics

All potential actions included in Table 1.9-2 are located within the geographic scope for Socioeconomics. These actions range from energy and road infrastructure to industrial and residential developments.

Larger actions such as Dakota Access Pipeline and Grain Belt Express Clean Line are projected to provide revenue to the counties crossed and create construction jobs. New or expanding industrial/commercial developments including North Park, Boeing, and the Wentzville Logistics Center are expected to generate several hundred to several thousand jobs over the life of the action and facility. Many smaller actions undertaken by IDOT, MDOT, and Ameren will likely support existing operation/maintenance positions or local workforces.

All actions would be expected to contribute to local traffic during construction for the transportation of construction equipment. As Spire will coordinate with the appropriate authorities, action proponents would be expected to be coordinate with the state/county as needed to alleviate traffic hazards or congestion. Actions that may contribute to increased local traffic during operation include the industrial/commercial and residential developments; however the majority of the actions will already have been constructed prior to construction of the Project, and these are located sufficiently distant from the Project area to minimize the likelihood of cumulative impacts at the time of the Project's construction.



The Project's impacts on employment, housing, public services, or transportation within the vicinity would be short-term (during the construction period). Other actions that are expected to be constructed during the same timeframe as the proposed Project are either not anticipated to require a significant workforce, may likely be completed by existing workforces that support small infrastructure actions in the region, or will require non-local workers who can be accommodated by the temporary housing and infrastructure of the greater St. Louis area. Therefore, any potential strains on local temporary housing and resources should be avoided.

1.9.2.12 Environmental Justice

The Grain Belt Express Clean Line, in Scott County, Illinois, and several portions of the anticipated US-67 Corridor improvements in Greene and Jersey Counties, Illinois, are located within the geographic scope for Environmental Justice.

The portion of the Grain Belt Express Clean Line in the Project area is primarily located in agricultural areas. The proponent will site the action to minimize the overall effect on the human environment and has conducted extensive public outreach. Landowner feedback will be considered during structure placements.

Sections of the US-67 Corridor improvements, including improvements to the existing road corridor and new bypasses are located in a primarily agricultural landscape with few residences. These actions are pending and are subject to public comment.

Minority populations were not identified in the affected environment for the Project within Scott, Greene, or Jersey Counties, Illinois. Scott and Greene Counties were identified as having low income populations within the affected environment. Most impacts will be temporary during construction of the Project. Permanent negative effects on these populations would be avoided because there will be no displacements of businesses or residences. The majority of the area impacted by the 24-inch pipeline is rural, with low population density. Any economic losses from potential temporary or permanent reductions in agricultural/pasture land productivity or other potential property damage will be compensated accordingly. Best management practices used for construction in streams and wetlands will avoid potential negative impacts to persons who may rely on hunting and fishing for a portion of their subsistence. Therefore, cumulative impacts to Environmental Justice are not anticipated as a result of the Project and/or other development actions in the Project area.

1.9.3 Conclusions

Most developments or construction actions proposed, in progress, or recently constructed within the geographic scope of the Project are minor in nature and expected to have localized temporary impacts. One major action, Grain Belt Express Clean Line, is proposed within the Project area during a similar timeframe. Spire plans to implement specialized construction techniques and carefully developed resource protection and mitigation plans designed to minimize and control environmental impacts for the Project as a whole, therefore minimizing or avoiding the contribution of cumulative impacts. In addition, many of these actions would be subject to permit requirements not unlike that of the proposed Project which will further minimize impacts to the human and natural environment.



Table 1.9-2. Past, Present, and Reasonably Foreseeable Actions within the Geographic Scope

Action Name (Sponsor/Proponent)	Location	Approximate Distance and Direction from the Project	Type	Description	Footprint/Layout and Anticipated Impacts	Permits/Authorizations Required and Description of Environmental Review required (if any)	Current Status and Schedule	Overlapping Geographic Scope(s) and Discussion on Area of Impact
Regulated Energy Actions								
None.	-	-	-	-	-	-	-	-
Other Regulated Energy Actions								
Dakota Access Pipeline (Energy Transfer Partners, L.P.; Dakota Access, LLC)	Scott County, Illinois (Project extends outside of the geographic scope)	6 miles Northeast of 24-inch Pipeline	Pipeline	The Project includes an approximate 1,172-mile, 30-inch diameter pipeline that will transport domestically produced light sweet crude oil from the rapidly expanding Bakken and Three Forks productions areas in North Dakota to terminal facilities in Patoka, Illinois.	14.5 miles	Illinois Commerce Commission, USACE Section 404/408, IDNR Section 401	Pending – ongoing Federal review.	<u>Socioeconomics:</u> - Estimated \$750,000 in property tax during the first year of operation. - Estimated \$16.4 million in state sales tax during construction. - Estimated \$3.0 million in local sales tax during construction. - Estimated creation of nearly 12,000 construction jobs nationally
Grain Belt Express Clean Line (Clean Line Energy Partners)	Scott and Greene Counties, Illinois (Project extends outside the geographic scope)	0-mile from 24-inch Pipeline (crosses at MP 2.7)	Electric	An approximately 780-mile overhead, direct current transmission line that will deliver wind energy from western Kansas to utilities and customers in Missouri, Illinois, Indiana and neighboring states.	20 miles Locations of structures are pending.	Illinois Commerce Commission, USACE Section 404, IDNR Section 401	Construction as early as 2018. Approved by Illinois Commerce Commission in November 2015.	<u>Soils and Geology:</u> - Proponent will repair damage to soil. <u>Groundwater, Wetlands, Vegetation and Wildlife:</u> - Avian Protection Plan. - Wetland impacts would be permitted by state/federal agencies. <u>Surface Water Resources:</u> - Stream impacts would be permitted by state/ federal agencies. <u>Cultural Resources:</u> - APE will be determined in coordination with the SHPO. <u>Land Use:</u> - Primarily agricultural landscape. - Easement approximately 150-200 feet wide. - Existing land use would largely continue. <u>Visual:</u> - Structures typically 110 to 150 feet tall and may affect local viewshed. <u>Noise - Construction:</u> - Localized noise from heavy vehicles and machinery. <u>Air Quality - Construction:</u> - Localized emissions from heavy vehicles and machinery. <u>Socioeconomics:</u> - \$700 million investment in infrastructure in Illinois. - Around 1,500 construction/ manufacturing jobs for Illinoisans. - Coordination and mitigation for heavy road traffic. <u>Environmental Justice:</u> - Siting to minimize the overall effect on the human environment. - Proponent has conducted extensive public outreach.
Illinois Rivers Project (Ameren Illinois)	Scott County, Illinois	6 miles North of 24-inch Pipeline	Electric	An approximately 330 mile overhead electric transmission line from Palmyra, Missouri, to Sugar Creek, Indiana for reliability improvements, meeting growing demands for electricity, access to renewable energy, and enhancement of market efficiency.	14 miles	Illinois Commerce Commission, USACE Section 404, IDNR Section 401	Approved by Illinois Commerce Commission in February 2014. In-service as early as December 2016.	<u>Socioeconomics:</u> - Local road traffic for construction equipment.
Maryland Heights Substation Rebuild (Ameren Missouri)	St. Louis County, Missouri	12 miles Southwest of Line 880	Electric	Replace an aging substation with new technology.	Existing substation. Footprint not available. Existing facility is approx. 0.25 acre on aerial.	Actions are subject to Section 404/401 and coordination with other agencies as appropriate.	Construction scheduled for March to November 2016.	<u>Socioeconomics:</u> - Local road traffic for construction equipment. - Replacement of existing infrastructure, not a major facility.



Table 1.9-2. Past, Present, and Reasonably Foreseeable Actions within the Geographic Scope (Continued)

Action Name (Sponsor/Proponent)	Location	Approximate Distance and Direction from the Project	Type	Description	Footprint/Layout and Anticipated Impacts	Permits/Authorizations Required and Description of Environmental Review required (if any)	Current Status and Schedule	Overlapping Geographic Scope(s) and Discussion on Area of Impact
Glendale Substation Upgrade (Ameren Missouri)	St. Louis County, Missouri	16 miles Southwest of Line 880	Electric	Replace an aging substation switch house.	Existing substation. Footprint not available. Existing facility is approx. 0.25 acre on aerial.	Actions are subject to Section 404/401 and coordination with other agencies as appropriate.	Construction scheduled for August to December 2016.	<u>Socioeconomics:</u> - Local road traffic for construction equipment. - Replacement of existing infrastructure, and not a major facility.
South County Substation Rebuild (Ameren Missouri)	St. Louis County, Missouri	19 miles Southwest of Line 880	Electric	Replace an aging substation with new technology.	Existing substation. Footprint not available. Existing facility is approx. 0.25 acre on aerial.	Actions are subject to Section 404/401 and coordination with other agencies as appropriate.	Construction scheduled for December 2015 to November 2016.	<u>Socioeconomics:</u> - Local road traffic for construction equipment. - Replacement of existing infrastructure, and not a major facility.
Florissant Switchgear Replacement (Ameren Missouri)	St. Louis County, Missouri	6 miles West of Line 880	Electric	Replace aging switchgear to enhance service reliability from local substation.	Existing substation. Footprint not available. Existing facility is approx. 0.5 acre on aerial.	Actions are subject to Section 404/401 and coordination with other agencies as appropriate.	Construction scheduled for November to December 2016.	<u>Socioeconomics:</u> - Local road traffic for construction equipment. - Replacement of existing infrastructure, and not a major facility.
River Valley Undergrounding Project (Ameren Missouri)	St. Louis County, Missouri	18 miles Southwest of Line 880	Electric	Underground a section of power lines to protect service reliability from tree damage.	Footprint not available.	Actions are subject to Section 404/401 and coordination with other agencies as appropriate.	Construction scheduled for November 2016 to December 2017.	<u>Socioeconomics:</u> - Local road traffic for construction equipment.
USACE Regulated Projects¹								
Sun River Village & Ferber Stormwater Improvement (City of St. Peters)	St. Charles County, Missouri	16 miles Southwest of 24-inch Pipeline	Stormwater control for Existing Residential Development	Retrofit existing Sun River Village detention basin to increase flood storage, decrease peak flows and reduce downstream streambank erosion.	660 feet.	Actions are subject to Section 404/401 and coordination with other agencies as appropriate.	Public notice issued September 2016.	<u>Socioeconomics:</u> - Local road traffic for construction equipment. - Small project. - Needs and welfare of the people considered in project evaluation.
Channel Modification Activities (City of Frontenac)	St. Louis County, Missouri	15 miles Southwest of Line 880	Channel Modification activities for existing development	Replacement of existing culvert and reconstruction of stream channel, and construction of new variable width normal-flow channel. No permanent loss of stream channel.	340 feet.	Actions are subject to Section 404/401 and coordination with other agencies as appropriate.	Public notice issued August 2016.	<u>Socioeconomics:</u> - Local road traffic for construction equipment. - Small project. - Needs and welfare of the people considered in project evaluation.
Overflow Parking Facility (Reckitt Benckiser Manufacturing)	St. Charles County, Missouri	16 miles Southwest of 24-inch Pipeline	Commercial Development	Commercial development of 8 acres of agricultural land for construction of overflow parking facility. Grading and construction will impact a 0.85-acre wetland.	7.5 acres.	Actions are subject to Section 404/401 and coordination with other agencies as appropriate.	Public notice issued July 2016.	<u>Socioeconomics:</u> - Local road traffic for construction equipment. - Small project. - Needs and welfare of the people considered in project evaluation.
P-20 Parkdale/Blackwood Channel Improvements (City of St. Peters)	St. Charles County, Missouri	17 miles southwest of 24-inch Pipeline	Channel Improvements in existing development	Channel improvements to two reaches to relieve flooding, alleviate erosion, and improve water quality.	2,715 feet.	Actions are subject to Section 404/401 and coordination with other agencies as appropriate.	Public Notice issued December 2016.	<u>Socioeconomics:</u> - Local road traffic for construction equipment. - Small project. - Needs and welfare of the people considered in project evaluation.
Davidson Surface Air/Department of Defense (Michael T. Steiniger)	St. Louis County, Missouri	12 miles west-southwest of 24-inch Pipeline and Line 880	Commercial Development	Development of 800,000 square foot warehouse/distribution center. Site grading will impact approximately 4 acres of wetland, with potential impacts to levee.	90 acres.	Actions are subject to Section 404/401 and coordination with other agencies as appropriate.	Public Notice issued November 2016.	<u>Socioeconomics:</u> - Local road traffic for construction equipment. - Needs and welfare of the people considered in project evaluation.
Transportation Actions								
Illinois River Bridge at Florence (IDOT)	Scott County, Illinois	11 miles Northwest of 24-inch Pipeline	Road Infrastructure	Bridge rehabilitation, painting, deck overlay, joint repair, catwalk access replacement for Illinois 100/Illinois 106 Illinois River Bridge at Florence.	Existing bridge. Footprint not available.	Actions are subject to Section 404/401 and coordination with other agencies as appropriate.	Programmed for 2018-2022.	<u>Socioeconomics:</u> - Local road traffic for construction equipment. - Small project.
Illinois 267 - Bridge at Lick Creek (IDOT)	Greene County, Illinois	12 miles East of 24-inch Pipeline	Road Infrastructure	Bridge maintenance - install new bridge deck for safety and to preserve system.	Existing bridge. Footprint not available.	Actions are subject to Section 404/401 and coordination with other agencies as appropriate.	Programmed for 2018-2022.	<u>Socioeconomics:</u> - Local road traffic for construction equipment. - Small project.



Table 1.9-2. Past, Present, and Reasonably Foreseeable Actions within the Geographic Scope (Continued)

Action Name (Sponsor/Proponent)	Location	Approximate Distance and Direction from the Project	Type	Description	Footprint/Layout and Anticipated Impacts	Permits/Authorizations Required and Description of Environmental Review required (if any)	Current Status and Schedule	Overlapping Geographic Scope(s) and Discussion on Area of Impact
Illinois 267 - Bridge at Apple Creek (IDOT)	Greene County, Illinois	12 miles East of 24-inch Pipeline	Road Infrastructure	Bridge maintenance - install new bridge deck for safety and to preserve system.	Existing bridge. Footprint not available.	Actions are subject to Section 404/401 and coordination with other agencies as appropriate.	Programmed for 2018-2022.	<u>Socioeconomics:</u> - Local road traffic for construction equipment. - Small project.
US 67 - Delhi Bypass (IDOT)	Jersey County, Illinois	6 miles East of 24-inch Pipeline	Road Infrastructure	New construction of four-lane expressway for bypass around Delhi including grading, paving, drainage, signing and lighting.	New bypass. Approximately 3 miles.	Actions are subject to Section 404/401 and coordination with other agencies as appropriate.	Programmed for 2018-2022.	<u>Socioeconomics:</u> - Local road traffic for construction equipment.
US 67 - North of Delhi Bypass to Crystal Lake Road (IDOT)	Jersey County, Illinois	5 miles East of 24-inch Pipeline	Road Infrastructure	Two and/or four lane corridor improvement project.	Existing road. Approximately 2.5 miles.	Actions are subject to Section 404/401 and coordination with other agencies as appropriate.	Plans are 90% complete. Construction start TBD.	<u>Socioeconomics:</u> - Local road traffic for construction equipment.
US 67 - Crystal Lake Road to Jerseyville Bypass (IDOT)	Jersey County, Illinois	4.5 miles East of 24-inch Pipeline	Road Infrastructure	Two and/or four lane corridor improvement project.	Existing road. Approximately 1-mile.	Actions are subject to Section 404/401 and coordination with other agencies as appropriate.	Plans are 75% complete. Construction start TBD.	<u>Groundwater, Wetlands, Vegetation and Wildlife:</u> - Wetland impacts would be permitted by state/federal agencies. <u>Surface Water Resources:</u> - Stream impacts would be permitted by state/ federal agencies. <u>Socioeconomics:</u> - Local road traffic for construction equipment.
US 67 - Jerseyville Bypass (IDOT)	Jersey County, Illinois	2.6 miles East of 24-inch Pipeline	Road Infrastructure	New construction of bypass around Jerseyville, Illinois, part of two and/or four lane corridor improvement project.	New bypass. Approximately 5 miles.	Actions are subject to Section 404/401 and coordination with other agencies as appropriate.	Plans are 75% complete. Construction start TBD.	<u>Groundwater, Wetlands, Vegetation and Wildlife:</u> - Loss of some vegetation habitats likely to occur (new road). - Wetland impacts would be permitted by state/federal agencies. <u>Surface Water Resources:</u> - Stream impacts would be permitted by state/ federal agencies. <u>Socioeconomics:</u> - Local road traffic for construction.
US 67 - Jerseyville Bypass to Macoupin Creek (IDOT)	Greene and Jersey Counties, Illinois	0.4-mile east of 24-inch Pipeline	Road Infrastructure	Two and/or four lane corridor improvement project.	Existing road. Approximately 9 miles.	Actions are subject to Section 404/401 and coordination with other agencies as appropriate.	Plans are 75% complete. Construction start TBD.	<u>Groundwater, Wetlands, Vegetation and Wildlife:</u> - Wetland impacts would be permitted by state/federal agencies. <u>Surface Water Resources:</u> - Stream impacts would be permitted by state/ federal agencies. <u>Land Use:</u> - Area adjacent to existing road is primarily agriculture. <u>Socioeconomics:</u> - Local road traffic for construction equipment. <u>Environmental Justice:</u> - Existing road corridor through primarily agricultural land use with few residences.
US 67 - Carrollton Bypass (IDOT)	Greene County, Illinois	0.5-mile east of 24-inch Pipeline	Road Infrastructure	New construction of bypass around Carrollton, Illinois, of two and/or four lane corridor improvement projects.	New bypass. Approximately 5 miles.	Actions are subject to Section 404/401 and coordination with other agencies as appropriate.	Planning phase. Construction start TBD.	<u>Groundwater, Wetlands, Vegetation and Wildlife:</u> - Loss of some vegetation habitats likely to occur (new road). - Wetland impacts would be permitted by state/federal agencies. <u>Surface Water Resources:</u> - Stream impacts would be permitted by state/ federal agencies. <u>Land Use:</u> - Primarily agricultural with some forest. <u>Socioeconomics:</u> - Local road traffic for construction equipment. <u>Environmental Justice:</u> - New road proposed through primarily agricultural land use with few residences.



Table 1.9-2. Past, Present, and Reasonably Foreseeable Actions within the Geographic Scope (Continued)

Action Name (Sponsor/Proponent)	Location	Approximate Distance and Direction from the Project	Type	Description	Footprint/Layout and Anticipated Impacts	Permits/Authorizations Required and Description of Environmental Review required (if any)	Current Status and Schedule	Overlapping Geographic Scope(s) and Discussion on Area of Impact
US 67 - Carrollton to White Hall (IDOT)	Greene County, Illinois	0.1-mile east of 24-inch Pipeline	Road Infrastructure	Two and/or four lane corridor improvement project.	Existing road. Approximately 6 miles.	Actions are subject to Section 404/401 and coordination with other agencies as appropriate.	Planning phase. Construction start TBD.	<p><u>Groundwater, Wetlands, Vegetation and Wildlife:</u></p> <ul style="list-style-type: none"> - Wetland impacts would be permitted by state/federal agencies. <p><u>Surface Water Resources:</u></p> <ul style="list-style-type: none"> - Stream impacts would be permitted by state/ federal agencies. <p><u>Land Use:</u></p> <ul style="list-style-type: none"> - Area adjacent to existing road is primarily agriculture. <p><u>Visual:</u></p> <ul style="list-style-type: none"> - May have impact to local viewshed if road width expands. <p><u>Noise - Construction:</u></p> <ul style="list-style-type: none"> - Localized noise from heavy vehicles and machinery. <p><u>Air Quality - Construction:</u></p> <ul style="list-style-type: none"> - Localized emissions from heavy vehicles and machinery. <p><u>Socioeconomics:</u></p> <ul style="list-style-type: none"> - Local road traffic for construction equipment. <p><u>Environmental Justice:</u></p> <ul style="list-style-type: none"> - Existing road corridor through primarily agricultural land use with few residences.
US 67 - White Hall to Scott County (IDOT)	Greene County, Illinois	0.7-mile east of 24-inch Pipeline	Road Infrastructure	New construction of bypass around White Hall and Roodhouse, Illinois, of two and/or four lane corridor improvement project.	New bypass. Approximately 9 miles.	Actions are subject to Section 404/401 and coordination with other agencies as appropriate.	Planning phase. Construction start TBD.	<p><u>Groundwater, Wetlands, Vegetation and Wildlife:</u></p> <ul style="list-style-type: none"> - Loss of some vegetation habitats likely to occur (new road). - Wetland impacts would be permitted by state/federal agencies. <p><u>Surface Water Resources:</u></p> <ul style="list-style-type: none"> - Stream impacts would be permitted by state/ federal agencies. <p><u>Land Use:</u></p> <ul style="list-style-type: none"> - Primarily agricultural with some forest. <p><u>Socioeconomics:</u></p> <ul style="list-style-type: none"> - Local road traffic for construction equipment. <p><u>Environmental Justice:</u></p> <ul style="list-style-type: none"> - New road proposed through primarily agricultural land use with few residences.
Route N (MoDOT)	St. Charles County, Missouri	20 miles Southwest of 24-inch Pipeline	Road Infrastructure	Construct left turn lane and shoulder additions.	Road expansion. 1.08 miles.	Actions are subject to Section 404/401 and coordination with other agencies as appropriate.	Scheduled for 2016.	<p><u>Socioeconomics:</u></p> <ul style="list-style-type: none"> - Local road traffic for construction equipment.
US 61 (MoDOT)	St. Charles County, Missouri	29 miles west of 24-inch Pipeline	Road Infrastructure	New interchange at Route P and Peine Road and safety improvements from north of Peine Road to north of Route A.	2.52 miles.	Actions are subject to Section 404/401 and coordination with other agencies as appropriate.	Scheduled for 2017.	<p><u>Socioeconomics:</u></p> <ul style="list-style-type: none"> - Local road traffic for construction equipment.
Route N (MoDOT)	St. Charles County, Missouri	34 miles west of 24-inch Pipeline	Road Infrastructure	Bridge improvement over Sam's Creek.	0.50-mile.	Actions are subject to Section 404/401 and coordination with other agencies as appropriate.	Scheduled for 2018.	<p><u>Socioeconomics:</u></p> <ul style="list-style-type: none"> - Local road traffic for construction equipment.
Interstate 70 (MoDOT)	St. Charles County, Missouri	20 miles west of 24-inch Pipeline	Road Infrastructure	Improve interchanges, construct outer roads and sidewalks.	5.55 miles.	Actions are subject to Section 404/401 and coordination with other agencies as appropriate.	Scheduled for 2018.	<p><u>Socioeconomics:</u></p> <ul style="list-style-type: none"> - Local road traffic for construction equipment.
Interstate 270 (MoDOT)	St. Louis County, Missouri	1-mile south of Line 880	Road Infrastructure	Repair and clean out culvert at Bellefontaine Road Interchange.	Existing culvert. 0.09-mile.	Actions are subject to Section 404/401 and coordination with other agencies as appropriate.	Scheduled for 2016.	<p><u>Groundwater, Wetlands, Vegetation and Wildlife:</u></p> <ul style="list-style-type: none"> - Wetland impacts would be permitted by state/federal agencies. <p><u>Surface Water Resources:</u></p> <ul style="list-style-type: none"> - Stream impacts would be permitted by state/ federal agencies. <p><u>Socioeconomics:</u></p> <ul style="list-style-type: none"> - Local road traffic for construction equipment.



Table 1.9-2. Past, Present, and Reasonably Foreseeable Actions within the Geographic Scope (Continued)

Action Name (Sponsor/Proponent)	Location	Approximate Distance and Direction from the Project	Type	Description	Footprint/Layout and Anticipated Impacts	Permits/Authorizations Required and Description of Environmental Review required (if any)	Current Status and Schedule	Overlapping Geographic Scope(s) and Discussion on Area of Impact
Interstate 270 - Bridge (MoDOT)	St. Louis County, Missouri	1-mile south of Line 880	Road Infrastructure	Bridge deck rehabilitation at Bellefontaine Road interchange.	Existing bridge. 0.04-mile.	Actions are subject to Section 404/401 and coordination with other agencies as appropriate.	Scheduled for 2016.	<u>Groundwater, Wetlands, Vegetation and Wildlife:</u> - Wetland impacts would be permitted by state/federal agencies. <u>Surface Water Resources:</u> - Stream impacts would be permitted by state/ federal agencies. <u>Socioeconomics:</u> - Local road traffic for construction equipment.
Interstate 70 - Bridge (MoDOT)	St. Louis County, Missouri	7 miles southwest of Line 880	Road Infrastructure	Bridge improvements at I-170 interchange, including bridges on I-170 over Route 115.	Existing bridges. 1.28 miles.	Actions are subject to Section 404/401 and coordination with other agencies as appropriate.	Scheduled for 2016.	<u>Groundwater, Wetlands, Vegetation and Wildlife:</u> - Wetland impacts would be permitted by state/federal agencies. <u>Surface Water Resources:</u> - Stream impacts would be permitted by state/ federal agencies. <u>Socioeconomics:</u> - Local road traffic for construction equipment.
Interstate 44 Interchange (MoDOT)	St. Louis County, Missouri	22 miles southwest of Line 880	Road Infrastructure	Design/build project. Interchange improvements at I-44/Route 141, intersection improvements at Vance Road/Route 141 and pavement improvements along Route 141.	Interchange improvements. 1.34 miles.	Actions are subject to Section 404/401 and coordination with other agencies as appropriate.	Scheduled for 2016.	<u>Socioeconomics:</u> - Local road traffic for construction equipment.
Old Route 44 - Bridge (MoDOT)	St. Louis County, Missouri	28 miles southwest of Line 880	Road Infrastructure	Removal of remainder of bridge over Meramec River.	0.10-mile.	Actions are subject to Section 404/401 and coordination with other agencies as appropriate.	Scheduled for 2017.	<u>Socioeconomics:</u> - Local road traffic for construction equipment.
Interstate 270 - Bridge (MoDOT)	St. Louis County, Missouri	3 miles southwest of Line 880	Road Infrastructure	Bridge replacement at Route AC interchange.	0.10-mile.	Actions are subject to Section 404/401 and coordination with other agencies as appropriate.	Scheduled for 2019-2021.	<u>Groundwater, Wetlands, Vegetation and Wildlife:</u> - Wetland impacts would be permitted by state/federal agencies. <u>Surface Water Resources:</u> - Stream impacts would be permitted by state/ federal agencies. <u>Socioeconomics:</u> - Local road traffic for construction equipment.
Interstate 270 - Bridge (MoDOT)	St. Louis County, Missouri	12 miles southwest of Line 880	Road Infrastructure	Bridge improvements over Fee Creek.	Existing bridge. 0.10-mile.	Actions are subject to Section 404/401 and coordination with other agencies as appropriate.	Scheduled for 2018.	<u>Socioeconomics:</u> - Local road traffic for construction equipment.
Route AB - Bridge (MoDOT)	St. Louis County, Missouri	16 miles southwest of Line 880	Road Infrastructure	Bridge improvements at Hibler Creek.	Existing bridge. 0.10-mile.	Actions are subject to Section 404/401 and coordination with other agencies as appropriate.	Scheduled for 2018.	<u>Socioeconomics:</u> - Local road traffic for construction equipment.
Missouri 340 (MoDOT)	St. Louis County, Missouri	20 miles southwest of Line 880	Road Infrastructure	Add dual left turn lanes and right turn lane off ramp.	0.36-mile.	Actions are subject to Section 404/401 and coordination with other agencies as appropriate.	Scheduled for 2018.	<u>Socioeconomics:</u> - Local road traffic for construction equipment.
Missouri 340 (MoDOT)	St. Louis County, Missouri	21 miles southwest of Line 880	Road Infrastructure	Add auxiliary lane and extend left turn lane.	0.35-mile.	Actions are subject to Section 404/401 and coordination with other agencies as appropriate.	Scheduled for 2018.	<u>Socioeconomics:</u> - Local road traffic for construction equipment.
Commercial/Industrial Actions								
NorthPark Phase I (NorthPark Partners)	St. Louis County, Missouri	7 miles southwest of Line 880	Business Park	Close to 400 acres in Phase I of a business park where seven separate buildings have been constructed to date since purchase of the blighted property in 2006, with the most recent openings in 2016.	Up to 400 acres	Development would be subject to applicable federal, state, and local reviews, depending on the resources identified on site.	Ongoing. Most recent construction completed in 2016 with additional parcels available for development.	<u>Groundwater, Wetlands, Vegetation and Wildlife:</u> - Wetland impacts would be permitted by state/federal agencies. <u>Surface Water Resources:</u> - Stream impacts would be permitted by state/ federal agencies. <u>Socioeconomics:</u> - Local road traffic for construction equipment. - Local traffic for use. - Job creation projected. - Estimated to have created 5,000 permanent jobs, 1,238 construction jobs, and 1,426 indirect jobs to date.



Table 1.9-2. Past, Present, and Reasonably Foreseeable Actions within the Geographic Scope (Continued)

Action Name (Sponsor/Proponent)	Location	Approximate Distance and Direction from the Project	Type	Description	Footprint/Layout and Anticipated Impacts	Permits/Authorizations Required and Description of Environmental Review required (if any)	Current Status and Schedule	Overlapping Geographic Scope(s) and Discussion on Area of Impact
NorthPark Phase II (NorthPark Partners)	St. Louis County, Missouri	7 miles southwest of Line 880	Business Park	Up to 200 acres Phase II of NorthPark includes cleanup and removal of an additional 480 foundations/basements to prepare site for development. Newest site development projected opening is 2016.	Up to 200 acres	Development would be subject to applicable federal, state, and local reviews, depending on the resources identified on site.	Ongoing. Most recent construction is anticipated to be completed in 2016.	<u>Groundwater, Wetlands, Vegetation and Wildlife:</u> - Wetland impacts would be permitted by state/federal agencies. <u>Surface Water Resources:</u> - Stream impacts would be permitted by state/ federal agencies. <u>Socioeconomics:</u> - Local road traffic for construction equipment. - Local traffic for use. - Job creation projected.
Boeing	St. Charles County, Missouri	10 miles southwest of 24-inch Pipeline	Industrial	Additional 424,000 sq. ft. of warehouse space to its facility located on Little Hills Expressway.	Approximately 10 acres	Development would be subject to applicable federal, state, and local reviews, depending on the resources identified on site.	Scheduled complete in late 2016 or 2017.	<u>Socioeconomics:</u> - Local road traffic for construction equipment. - Local/regional traffic for use. - Estimated to create approximately 700 jobs by 2020.
Fountain Lakes Commerce Center (The Millstone Company)	St. Charles County, Missouri	10 miles southwest of 24-inch Pipeline	Industrial Park	Expansions of the Fountain Lakes Industrial Park that will include new warehouse spaces of 375,000 sq. ft. and 158,000 sq. ft.	Approximately 12 acres	Development would be subject to applicable federal, state, and local reviews, depending on the resources identified on site.	Phase I Complete. Phase II & III Ongoing 2017-2018.	<u>Socioeconomics:</u> - Local road traffic for construction equipment. - Local traffic for use. - Estimated to create approximately 700 jobs by 2020.
General Motors Plant	St. Charles County, Missouri	25 miles west-southwest of 24-inch Pipeline	Industrial	42,000 sq. ft. facility expansion at the existing General Motors Plant in Wentzville, MO	Approximately 10 acres	Development would be subject to applicable federal, state, and local reviews, depending on the resources identified on site.	To be completed in 2017.	<u>Socioeconomics:</u> - Local road traffic for construction equipment. - Local traffic for use.
Wentzville Logistics Center (North Point Development)	St. Charles County, Missouri	26 miles west-southwest of 24-inch Pipeline	Industrial Park	New industrial park to support the General Motors Wentzville Assembly Center and other users. Initial plans include a 1.1 million square foot building.	Approximately 132 acres	Development would be subject to applicable federal, state, and local reviews, depending on the resources identified on site.	Completed in 2016.	<u>Socioeconomics:</u> - Local road traffic for construction equipment. - Local traffic for use. - Estimated to create approximately 400 jobs.
Smartt Field Airport (Smartt Field Airport)	St. Charles County, Missouri	2 miles west of 24-inch Pipeline	Airport	New hanger construction below flood elevations.	Estimated 12 acres at existing airport	Development would be subject to applicable federal, state, and local reviews, depending on the resources identified on site.	Construction TBD	<u>Groundwater, Wetlands, Vegetation and Wildlife:</u> - Wetland impacts would be permitted by state/federal agencies. <u>Surface Water Resources:</u> - Stream impacts would be permitted by state/ federal agencies. <u>Socioeconomics:</u> - Local road traffic for construction equipment.
St. Peters' Highway 370 Development (Duke Realty and Gundaker Commercial)	St. Charles County, Missouri	12 miles southwest of 24-inch Pipeline	Industrial Park	850-acre business park with commercial sites located south and north of Highway 370.	688 acres of developable land available	Development would be subject to applicable federal, state, and local reviews, depending on the resources identified on site.	Facilities completed in 2016. Additional space for future builds - Construction TBD.	<u>Socioeconomics:</u> - Local road traffic for construction equipment. - Local traffic for use.
Residential Actions								
Cambridge Crossing Apartments	St. Charles County, Missouri	18.5 miles southwest of 24-inch Pipeline	Apartment Complex	Approximately 255 units at a planned apartment complex at	Up to 50 acres	Development would be subject to applicable federal, state, and local reviews, depending on the resources identified on site.	Construction start 2017.	<u>Socioeconomics:</u> - Local road traffic for construction equipment. - Local traffic for use.
Vanguard Apartment Homes	St. Charles County, Missouri	22 miles southwest of 24-inch Pipeline	Apartment Complex	Approximately 234 units at a planned apartment complex with 2 commercial units at Weldon Springs of Highway 94.	Up to 50 acres	Development would be subject to applicable federal, state, and local reviews, depending on the resources identified on site.	Construction start 2017.	<u>Socioeconomics:</u> - Local road traffic for construction equipment. - Local traffic for use.



Table 1.9-2. Past, Present, and Reasonably Foreseeable Actions within the Geographic Scope (Continued)

Action Name (Sponsor/Proponent)	Location	Approximate Distance and Direction from the Project	Type	Description	Footprint/Layout and Anticipated Impacts	Permits/Authorizations Required and Description of Environmental Review required (if any)	Current Status and Schedule	Overlapping Geographic Scope(s) and Discussion on Area of Impact
New Town at St. Charles (Whittaker Builders, Inc.)	St. Charles County, Missouri	8 miles southwest of 24-inch Pipeline	Residential Community	Existing mixed use neighborhood designed in 2003 that will continue to expand over the next 20 years.	Up to 700 acres	Development would be subject to applicable federal, state, and local reviews, depending on the resources identified on site.	Construction TBD, but potential for intermittent construction through 2030s.	<u>Groundwater, Wetlands, Vegetation and Wildlife:</u> - Wetland impacts would be permitted by state/federal agencies. - Alteration of vegetation and wildlife habitats. <u>Surface Water Resources:</u> - Stream impacts would be permitted by state/ federal agencies. <u>Socioeconomics:</u> - Local road traffic for construction equipment. - Local traffic for use.

Note:

¹ Public notices for USACE regulated projects were reviewed from June 2016 to December 22, 2016.



1.10 References

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APPENDIX 1-A
Topographic Map



APPENDIX 1-B
Construction Alignment Sheets



APPENDIX 1-C
Agency Correspondence



United States Army Corps of Engineers



United States Fish and Wildlife Service



National Oceanic and Atmospheric Administration



United States Environmental Protection Agency



United States Department of Agriculture



Illinois Department of Natural Resources



Illinois Department of Agriculture



Illinois Historic Preservation Agency



Illinois Environmental Protection Agency



Missouri Department of Natural Resources



Missouri State Historic Preservation Office



Missouri Department of Conservation



Missouri Department of Agriculture



Local Agencies and Governments – Scott County, Illinois



Local Agencies and Governments – Greene County, Illinois



Local Agencies and Governments – Jersey County, Illinois



Local Agencies and Governments – St. Charles County, Missouri



Local Agencies and Governments – St. Louis County, Missouri



Native American Tribes



**Non-Governmental Organizations/
Environmental Non-Governmental Organizations**



APPENDIX 1-D

Exceptions to the FERC Plan and Procedures



Appendix 1-D. Exceptions to the FERC Plan and Procedures

Approximate MP ¹	ATWS ID	Feature ID (Type)	Description of Modification	Justification	Approx. Distance (feet) ²
24-Inch Pipeline					
0.0	ATWS-467	SIL-JJP-002 (Ephemeral)	ATWS within 50FT of Stream	M&R Facility Construction	37
14.1	ATWS-544	WIL-TMA-006 (PEM)	ATWS within 50FT of Wetland	Wetland/Waterbody Crossing	49
19.1	ATWS-188	SIL-JJP-100 (Ephemeral)	ATWS within 50FT of Stream	Stream Crossing	20
25.8	ATWS-599	SIL-JJP-104 (Perennial) / WIL-TMA-021 (PEM)	ATWS within 50FT of Stream and Wetland	Wetland/Stream Crossing	30
25.8	ATWS-232	SIL-JJP-104 (Perennial) / WIL-TMA-021 (PEM)	ATWS within 50FT of Stream and Wetland	Wetland/Stream Crossing	25
25.8	ATWS-233	SIL-JJP-104 (Perennial) / WIL-TMA-020 (PEM)	ATWS within 50FT of Stream and Wetland	Access Road Provisions	31
26.1	ATWS-603	WIL-TMA-018 (PEM)	ATWS within 50FT of Wetland	Access Road Provisions	20
27.4	ATWS-618	WIL-JTR-002 (PFO)	ATWS within 50FT of Wetland	Road Crossing	47
31.6	ATWS-268	SIL-DFW-002 (Intermittent)	ATWS within 50FT of Stream	Stream Crossing	49
35.7	ATWS-644	SIL-JJP-120 (Ephemeral)	ATWS within 50FT of Stream	Stream Crossing	28
45.0	ATWS-368	NHD-913 (Intermittent)	ATWS within 50FT of Stream	HDD Crossing	39
45.0	ATWS-369	NHD-913 (Intermittent) / NHD-915 (Intermittent) ³	ATWS within 50FT of Stream	HDD Crossing	0
46.3	ATWS-372	SMO-TMA-008 (Ephemeral) ³ / SMO-TMA-011 (Ephemeral) ³	ATWS within 50FT of Stream	HDD Crossing	0
46.9	ATWS-378	SMO-JJP-002 (Ephemeral) ³	ATWS within 50FT of Stream	Access Road Apron	0
49.6	N/A	SMO-TMA-009 (Ephemeral)	Construction Right-of-Way greater than 75FT	Area in review.	N/A
57.3	ATWS-449	WMO-TMA-002 (PEM) ³ / WMO-TMA-003 (PUB) ³ / WMO-TMA-003A (PEM) ³	ATWS within 50FT of Wetland	HDD Crossing	0
58.3	ATWS-463	WMO-CDK-004 (PEM)	ATWS within 50FT of Wetland	HDD Crossing	36
58.3	ATWS-464	WMO-CDK-004 (PEM) / WMO-CDK-005 (PEM) ³	ATWS within 50FT of Wetland	HDD Crossing	0
Line 880					
2.2	N/A	SMO-DFW-008 (Perennial)	Construction Right-of-Way greater than 75FT	Road and Stream Crossing; Steep Stream Bank; Limited Work Area.	N/A

Note:

- ¹ Milepost based on nearest point between ATWS and pipeline where encroachment within 50' buffer occurs.
- ² Approximate distance rounded to nearest foot. ATWS within 50' approximate distance fall between 49.5' and 49.9' and are intended to maintain the 50' buffer from an environmental feature.
- ³ Feature is within ATWS.



APPENDIX 1-E
Winter Construction Plan



Spire STL Pipeline Project

Winter Construction Plan

FERC Docket No. CP17-___-___

January 2017

Public



Table of Contents

Winter Construction Plan	1
1.0 Stabilization/Winterization	1
1.1 Erosion and Sediment Control Measures.....	1
1.2 Lowering-in and Backfill	2
1.3 Access Road Usage and Maintenance.....	2
1.4 Right-of-Way Snow Removal.....	3
1.5 Soil Handling.....	3
1.6 Winter Inspection and Maintenance.....	3
1.7 Spring and Summer Restoration	4



Acronyms and Abbreviations

Spire	Spire STL Pipeline LLC
Project	Spire STL Pipeline Project
EI	Environmental Inspector



Winter Construction Plan

This Winter Construction Plan will be utilized should standard construction and restoration of the Spire STL Pipeline LLC's ("Spire's") Spire STL Pipeline Project ("Project") occur during the winter season. Spire has developed this plan to provide guidelines for erosion and sediment controls, soil handling, right-of-way and access road use and stabilization, and inspection and maintenance procedures. When consistent weather conditions preclude normal reclamation efforts and installation of permanent erosion and sediment control devices, the disturbed areas will be winterized in accordance with this plan. Final restoration and reseeding will occur the following spring.

Winter work and spring restoration will be conducted in accordance with the Federal Energy Regulatory Commission's *Upland Erosion Control, Revegetation, and Maintenance Plan* and *Wetland and Waterbody Construction and Mitigation Procedures*, the Project-specific Stormwater Pollution Prevention Plan, and applicable state or local permits.

1.0 Stabilization/Winterization

The following practices will be implemented where winter construction prevents complete restoration of the site:

- The trench will be backfilled as completely as possible with subsoil.
- Grade cuts will be restored to the extent possible and water bars will be installed across the right-of-way to direct run-off away from the right-of-way.
- Equipment mats will be removed from stream areas where practical to allow high flows in streams that may wash them out.
- Gaps will be cut in to spoil piles and through the berm over the ditch line to allow drainage across the right-of-way.
- Wetland areas where mats are removed will be cleaned up to the extent possible and disturbed soils adjacent to streams and wetlands will be mulched, where needed.
- Water bars, berms, and erosion/sediment control measures will be installed to minimize erosion along the right-of-way and deposition of sediments off the right-of-way.
- In areas where final restoration has not been completed, the right-of-way will be mulched and left roughed in to reduce the potential for erosion during snow melt and significant rain events.

1.1 Erosion and Sediment Control Measures

The following erosion and sediment control measures will be utilized:

- Temporary water bars will be constructed on slopes greater than five percent where final clean-up and permanent erosion and sediment control devices have not been completed.



- Mulch will be applied on all slopes (except in actively cultivated cropland) concurrent with or immediately after seeding where necessary to stabilize the soil surface and to reduce wind and water erosion. Spread mulch uniformly over the area to cover at least 75 percent of the ground surface of straw or its equivalent, unless the local soil conservation authority, landowner, or land managing agency approves otherwise in writing.
- Temporary mulch will be applied to the right-of-way on slopes greater than 5 percent and within 100 feet of water bodies and wetlands where final clean-up has not been obtained.
- If the right-of-way is snow covered, the snow will serve as suitable ground cover. If snow cover recedes, the exposed right-of-way will be stabilized utilizing the measures detailed in this plan.
- Topsoil piles will be left in a stabilized condition and replaced in the spring when weather conditions permit proper decompaction of the areas.
- Temporary seeding will be applied as necessary to areas where the topsoil has not been replaced.
- Sediment barriers (i.e., silt fence, straw bales, earthen berms) will be installed and maintained across the right-of-way at water bodies, wetlands, and paved road crossings. These structures will be maintained during the winter construction season.

1.2 Lowering-in and Backfill

Spire will implement the following recommendations during lowering-in and backfill activities during construction in winter conditions:

- Prior to lowering the pipe into the trench, the trench will be cleared of snow, as practicable.
- Backfill will immediately follow lowering-in to prevent snow from accumulating over the pipe.
- While backfilling, Spire will limit the mixing of snow with spoil material to the extent practical. Unfrozen soils will be used to backfill the trench.
- Remaining spoil material will be stabilized until soils in the trench have thawed and any settlement has occurred. The trench backfill will be inspected and repaired as necessary after soils have fully thawed.

1.3 Access Road Usage and Maintenance

All access roads approved for this project will continue to be used during winter construction. All roads will be maintained in accordance with applicable permit and landowner requirements. In addition, the following practices will be in place:

- Access roads will be graded where needed and approved by the Environmental Inspector (“EI”).
- Snow will not be plowed down to the road bed to minimize mixing soils with snow.



- Spire may discontinue snow removal on certain access roads as winter construction is complete for sections of the pipeline. Areas will be monitored and repaired as needed following construction.

1.4 Right-of-Way Snow Removal

Spire will remove snow from the construction right-of-way as needed for construction with the following guidelines:

- All snow removed from the right-of-way will be in compliance with the footprint laid out for the Project. No equipment will be allowed beyond the boundary limits of this footprint.
- If in the event that there is an extraordinary amount of snowfall, Spire's contractor will work with the EI to designate snow pile areas. Gaps in the windrowed snow will be left at drainage crossings and as requested by the landowner.
- Snow will be removed from topsoil or spoil storage areas prior to using.

1.5 Soil Handling

The following procedures will be followed for soil handling during winter construction:

- Topsoil segregation will be completed prior to frozen soil conditions, where practicable.
- When stripping frozen topsoil, multiple passes with a bulldozer or other specialized equipment may be used to break up the topsoil prior to removal so that only topsoil is removed.
- The trench may be crowned to allow for more compaction and settling issues to occur in freezing and thawing conditions.

1.6 Winter Inspection and Maintenance

Spire will inspect and maintain the construction right-of-way as follows:

- Spire will continue to maintain the erosion and sediment controls as needed during the winter period.
- Inspections of both stabilized and active construction areas will be conducted on a regular basis. When snow melts or the ground thaws, the frequency of inspections may be increased.
- Spire's contractor and the EIs will evaluate the condition of the right-of-way, and will determine if there is a need for additional temporary erosion and sediment control measures and where corrective measures need to be taken when conditions allow. Contractor shall have the proper equipment available to allow access to the right-of-way under soft soil conditions.



1.7 Spring and Summer Restoration

Following winter construction, restoration will be completed during the spring or summer season according to the following procedures:

- Spire and its contractor will identify storm or winter damage that may have occurred on the right-of-way.
- Spire's contractor and the EIs will evaluate the condition of the right-of-way and will determine if there is a need for additional temporary erosion and sediment control measures.
- Trench compaction will be facilitated by back walking in the backfill materials with the equipment and obtaining optimum moisture for the backfill material.
- Spire's contractor will continue with final clean-up, which may require disking or tilling of the right-of-way to create a seed bed for germination.
- Restoration of topsoil will occur, where practicable, after both the stockpiled topsoil and the exposed subsoil have thawed and the ground has dried following the spring melt.



APPENDIX 1-F
Typical Facility Plot Plans



LOCATION MAP
N.T.S.



LEGEND

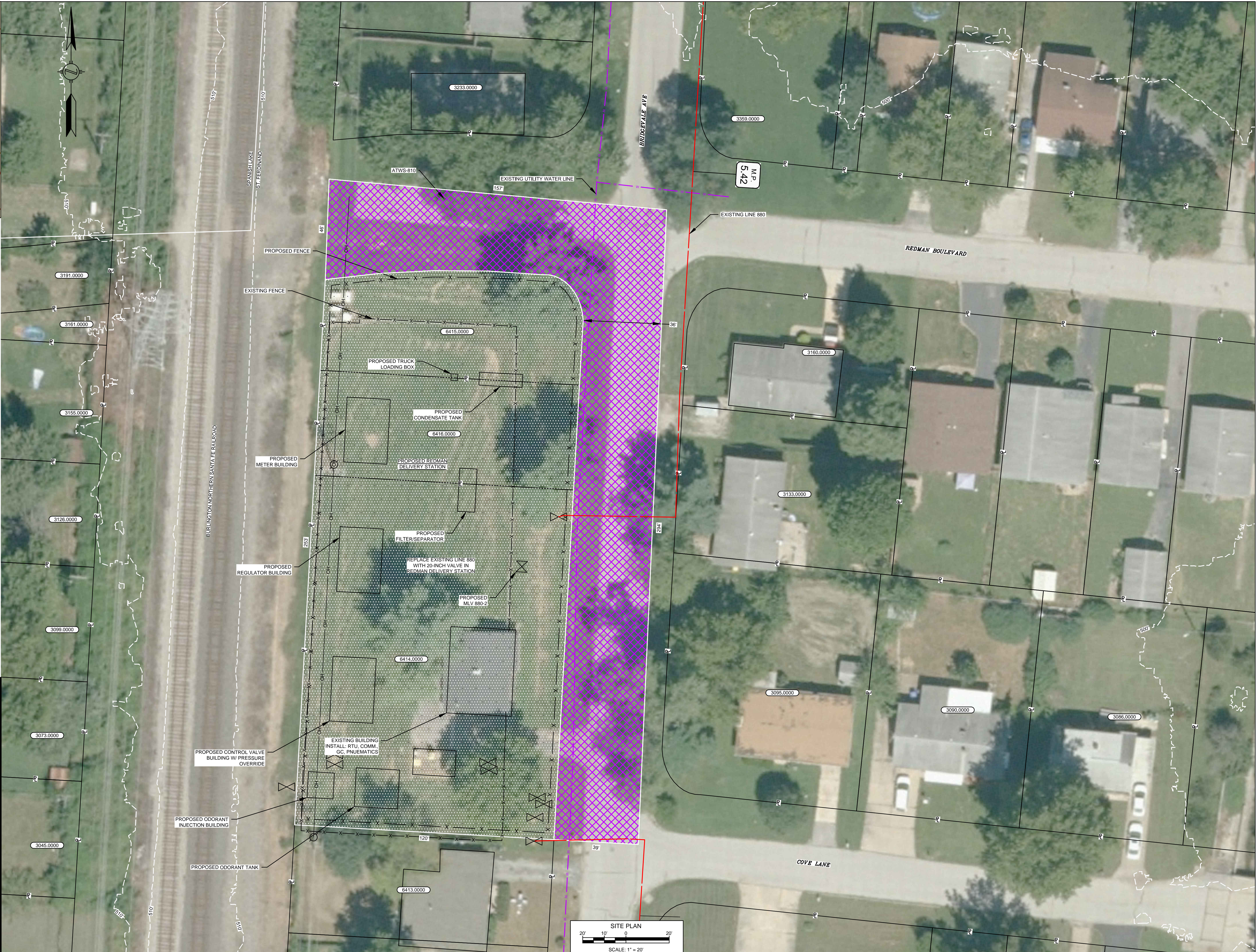
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- PROPOSED PERMANENT EASEMENT
- TEMPORARY WORKSPACE
- ADDITIONAL TEMPORARY WORKSPACE (ATWS)
- PROPOSED CONTRACTOR YARD
- ACCESS ROAD
- PROPOSED 24-INCH DIAMETER PIPELINE
- PROPOSED 20-INCH DIAMETER LINE 880 RELOCATION
- EXISTING GAS PIPELINE
- EXISTING FOREIGN PIPELINE
- OVERHEAD POWER LINE
- EXISTING FIBER OPTIC LINE
- MMD
- PROPERTY LINE
- MUNICIPAL LINE
- WETLAND (DESKTOP)
- WETLAND (DELINEATED)
- OF STREAM (DESKTOP)
- OF STREAM (DELINEATED)
- PROPOSED FENCE
- UTILITY POLE
- STORM SEWER



REFERENCE DRAWINGS		REFERENCE DRAWINGS		REVISIONS				REVISIONS				APPROVALS				PREPARED FOR Spire STL Pipeline	PREPARED BY MOTT MACDONALD	SPIRE STL PIPELINE PROJECT REX RECEIPT STATION SITE LAYOUT SCOTT COUNTY, ILLINOIS				
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STLP-A-001	ALIGNMENT SHEET			1	ISSUE FOR FERC	01/2017											RJR	10/2016	DGG	10/2016		
																	EB	10/2016	JEV	10/2016		



LOCATION MAP
N.T.S.



LEGEND	
	EXISTING PERMANENT EASEMENT
	PROPOSED PERMANENT EASEMENT
	TEMPORARY WORKSPACE
	ADDITIONAL TEMPORARY WORKSPACE (ATWS)
	PROPOSED CONTRACTOR YARD
	ACCESS ROAD
	PROPOSED 24-INCH DIAMETER PIPELINE
	PROPOSED 20-INCH DIAMETER LINE 880 RELOCATION
	EXISTING GAS PIPELINE
	EXISTING FOREIGN PIPELINE
	OVERHEAD POWER LINE
	EXISTING FIBER OPTIC LINE
	MMID
	PROPERTY LINE
	MUNICIPAL LINE
	WETLAND (DESKTOP)
	WETLAND (DELINEATED)
	OF STREAM (DESKTOP)
	OF STREAM (DELINEATED)
	PROPOSED FENCE
	UTILITY POLE
	STORM SEWER

REFERENCE DRAWINGS		REFERENCE DRAWINGS		REVISIONS				REVISIONS				APPROVALS				PREPARED FOR Spire STL Pipeline	PREPARED BY M MOTT MACDONALD	SPIRE STL PIPELINE PROJECT REDMAN DELIVERY STATION SITE LAYOUT ST LOUIS COUNTY, MISSOURI				
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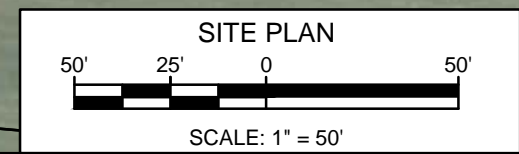


LOCATION MAP
N.T.S.



LEGEND

- EXISTING PERMANENT EASEMENT
- PROPOSED PERMANENT EASEMENT
- TEMPORARY WORKSPACE
- ADDITIONAL TEMPORARY WORKSPACE (ATWS)
- PROPOSED CONTRACTOR YARD
- ACCESS ROAD
- PROPOSED 24-INCH DIAMETER PIPELINE
- PROPOSED 20-INCH DIAMETER LINE 880 RELOCATION
- EXISTING GAS PIPELINE
- EXISTING FOREIGN PIPELINE
- OVERHEAD POWER LINE
- EXISTING FIBER OPTIC LINE
- MMID
- PROPERTY LINE
- MUNICIPAL LINE
- WETLAND (DESKTOP)
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- STORM SEWER

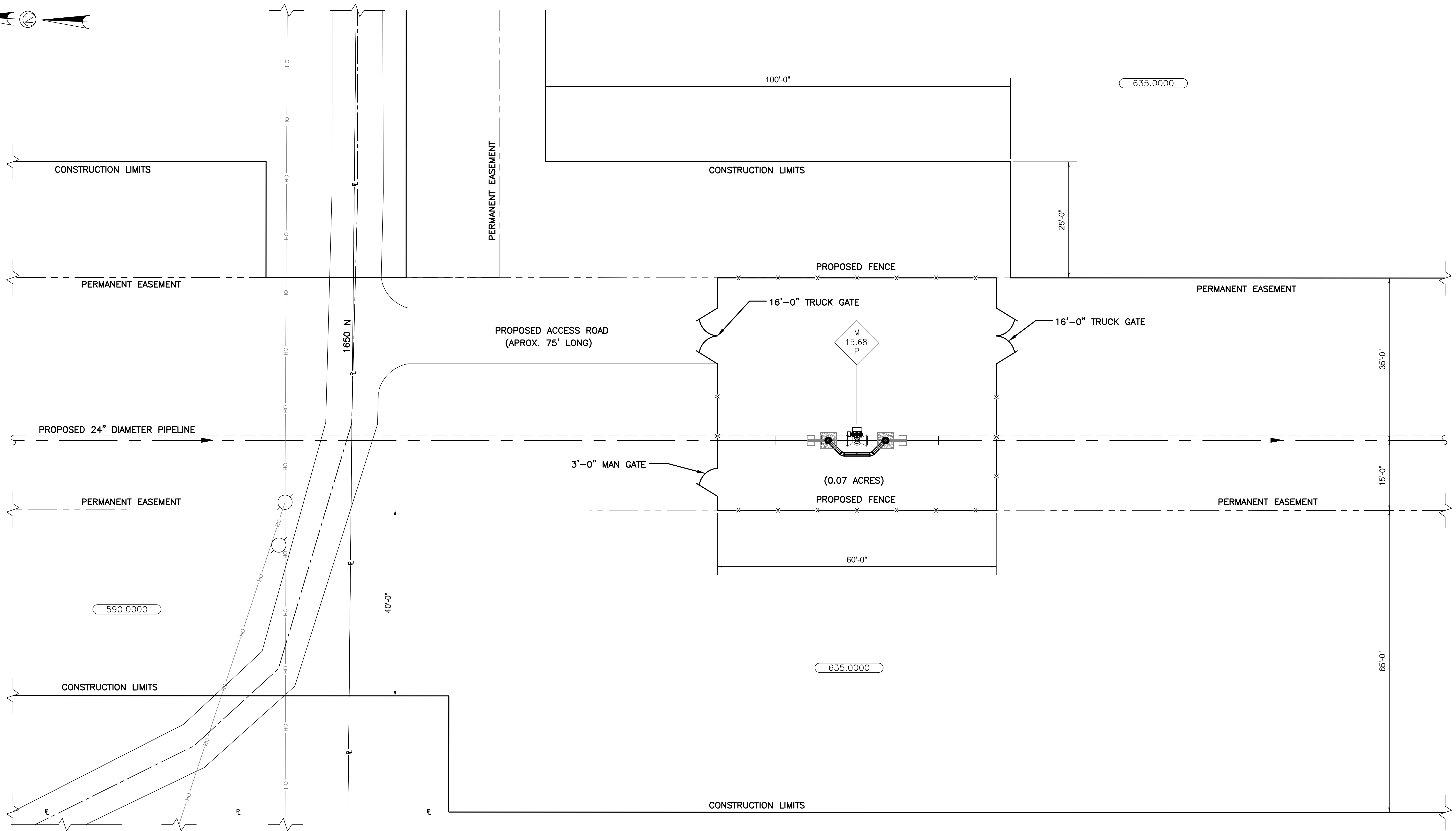


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				1	ISSUE FOR FERC	01/2017										RJR	10/2016	DGG	10/2016			
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PREPARED FOR
Spire STL Pipeline

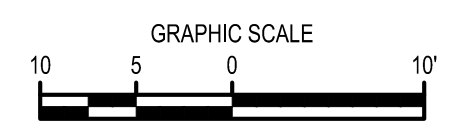
PREPARED BY
MOTT MACDONALD

SPIRE STL PIPELINE PROJECT
MRT BI-DIRECTIONAL STATION
SITE LAYOUT
ST LOUIS COUNTY, MISSOURI



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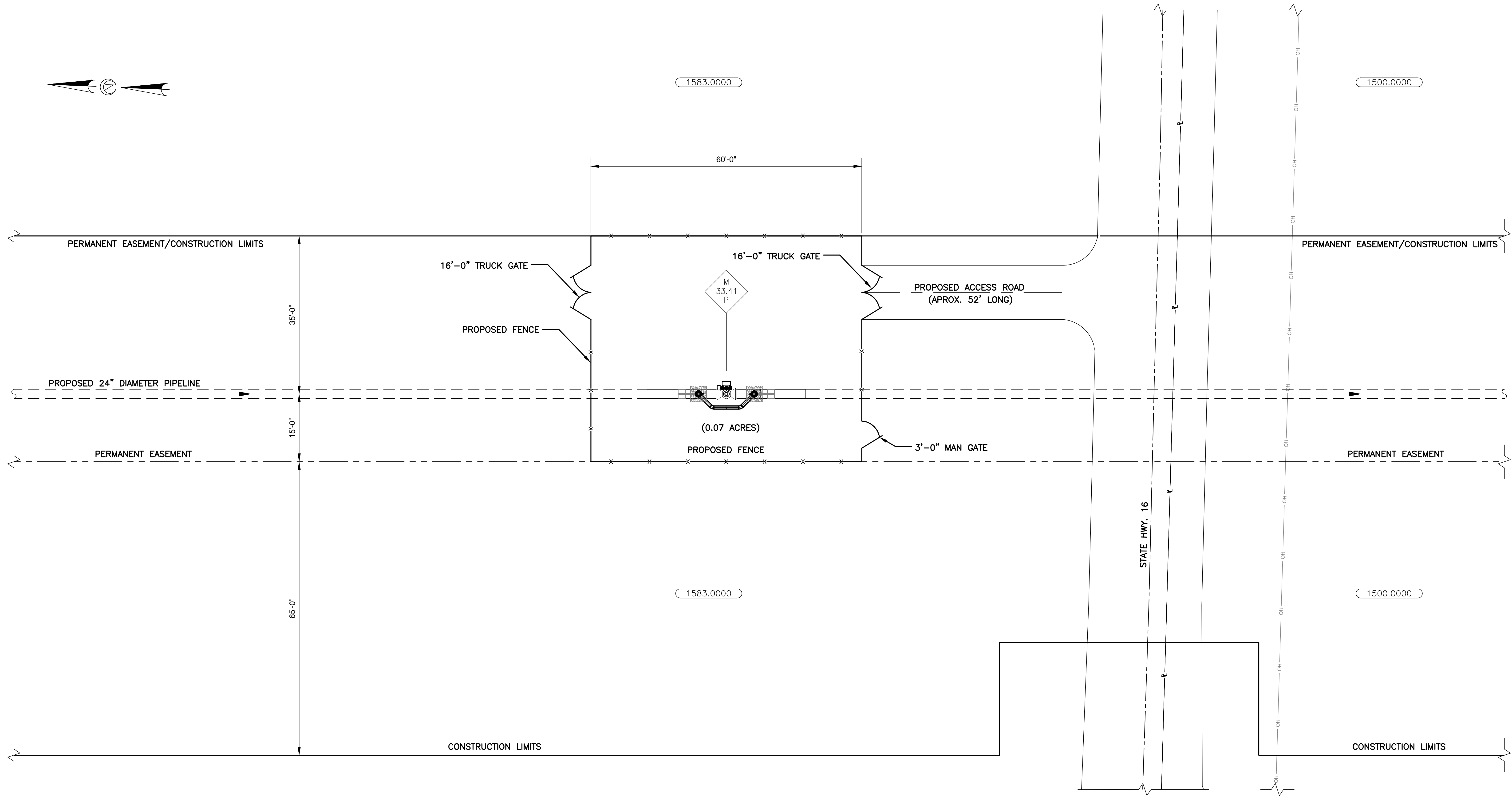
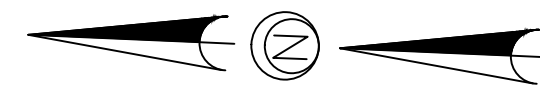
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- LEGEND:**
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 - PROPERTY LINE
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 - UTILITY POLE

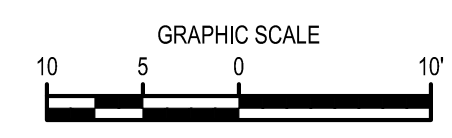
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MLV SITE 1
SITE PLAN



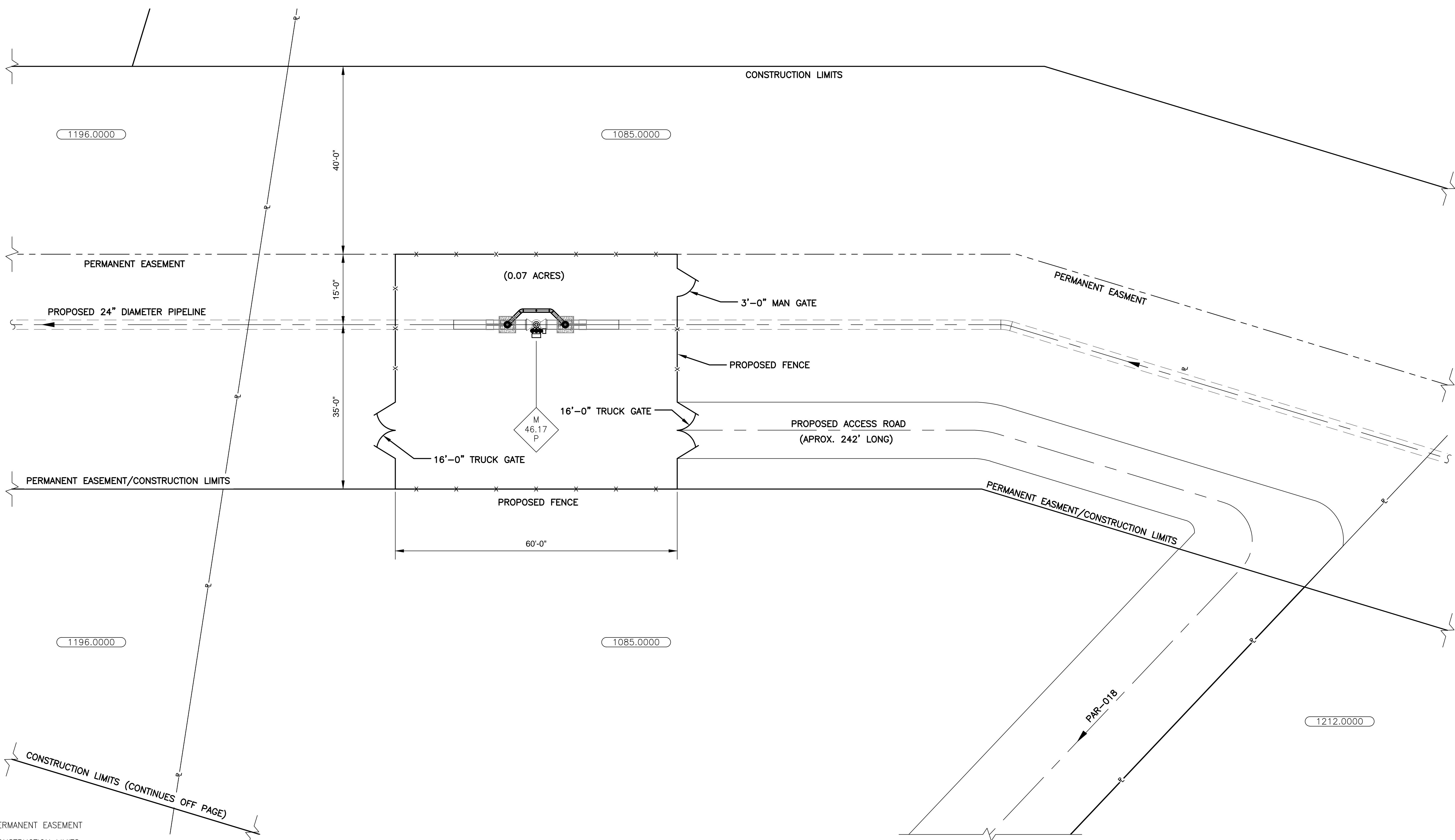
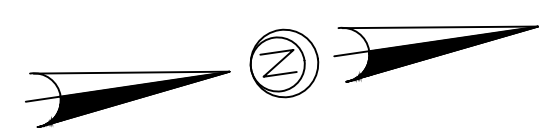
SITE PLAN-MLV SITE 2

SCALE: 1" = 10'-0"



- LEGEND:**
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 - CONSTRUCTION LIMITS
 - OH — OH POWER LINE
 - P — PROPERTY LINE
 - xxx.0000 MMID
 - x- PROPOSED FENCE
 - UTILITY POLE

REFERENCE DRAWINGS		REFERENCE DRAWINGS		REVISIONS				REVISIONS				APPROVALS				PREPARED FOR Spire STL Pipeline	PREPARED BY MOTT MACDONALD	SPIRE STL PIPELINE PROJECT PROPOSED 24" DIAMETER PIPELINE MLV SITE 2 SITE PLAN						
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- LEGEND:**
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 - UTILITY POLE

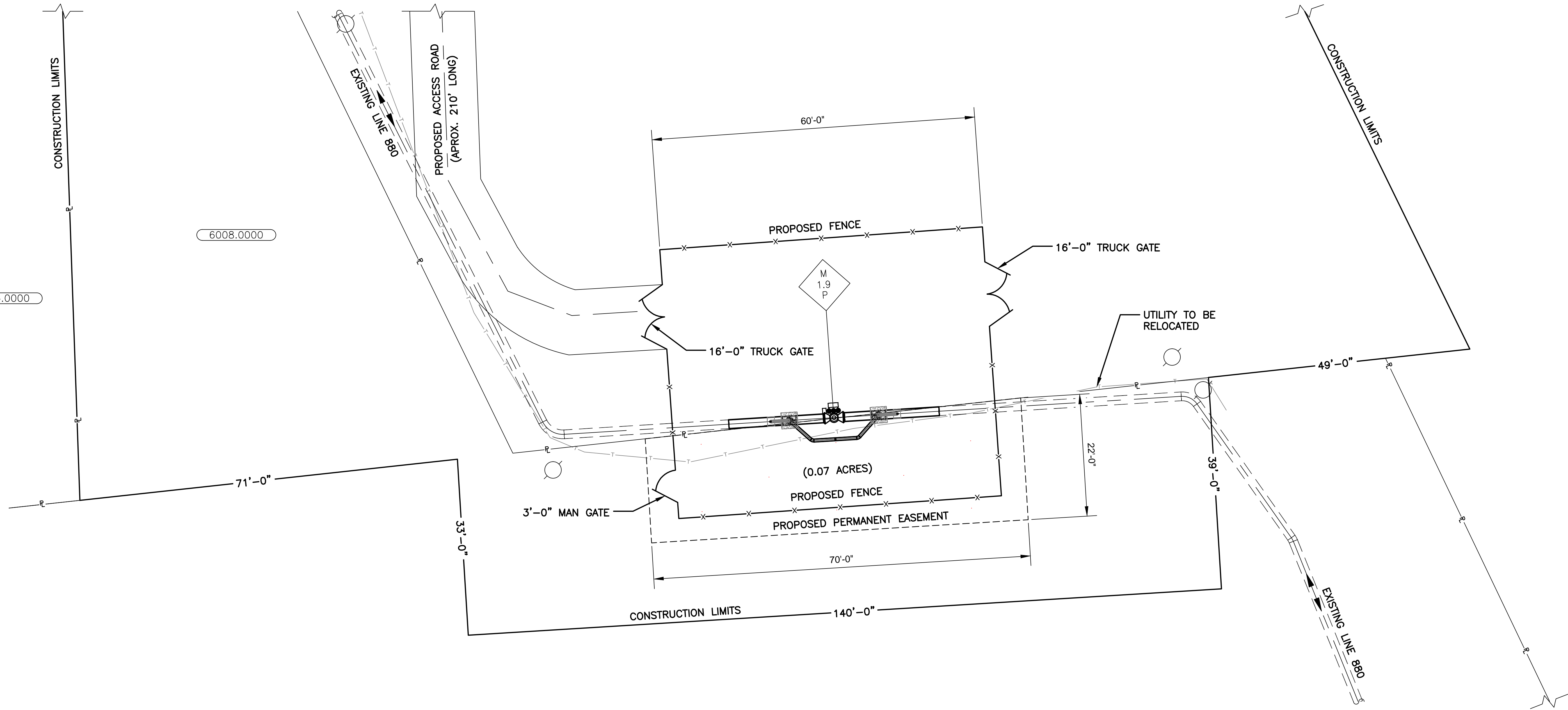
SITE PLAN-MLV SITE 3

SCALE: 1" = 10'-0"



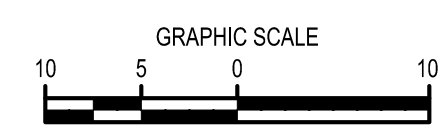
CONSTRUCTION LIMITS (CONTINUES OFF PAGE)

REFERENCE DRAWINGS		REFERENCE DRAWINGS		REVISIONS				REVISIONS				APPROVALS				PREPARED FOR Spire STL Pipeline	PREPARED BY MOTT MACDONALD	SPIRE STL PIPELINE PROJECT PROPOSED 24" DIAMETER PIPELINE MLV SITE 3 SITE PLAN				
DWG. NO.	TITLE	DWG. NO.	TITLE	NO.	REVISIONS	DATE	DRAWN	CK	APPR	NO.	REVISIONS	DATE	DRAWN	CK	APPR				DRAWN BY	DATE	ENG. APPROVAL	DATE
STLP-A-053	ALIGNMENT SHEET			1	ISSUE FOR FERC	01/2017											BOP	01/2017	DGG	01/2017		
STLP-AR-006	ACCESS ROAD SITE PLAN-PAR-018																EB	01/2017	JEV	01/2017	SCALE: AS SHOWN	STLP-SS-007



SITE PLAN—MLV 880-1

SCALE: 1" = 10'-0"



LEGEND:

- PERMANENT EASEMENT
- CONSTRUCTION LIMITS
- OH --- OH POWER LINE
- |— PROPERTY LINE
- xxx.0000 MMID
- x- PROPOSED FENCE
- UTILITY POLE

REFERENCE DRAWINGS		REFERENCE DRAWINGS		REVISIONS				REVISIONS				APPROVALS					PREPARED FOR Spire STL Pipeline	PREPARED BY M MOTT MACDONALD	SPIRE STL PIPELINE PROJECT LINE 880 MODIFICATIONS LINE 880 SITE PLAN			
DWG. NO.	TITLE	DWG. NO.	TITLE	NO.	REVISIONS	DATE	DRAWN	CK	APPR	NO.	REVISIONS	DATE	DRAWN	CK	APPR	DRAWN BY				DATE	ENG. APPROVAL	DATE
STLP-880D-009	SITE SPECIFIC PLAN			1	ISSUE FOR FERC	01/2017											BDP	01/2017	DGG	01/2017		
																	EB	01/2017	JEV	01/2017		
																	SCALE: AS SHOWN		STLP-SS-008			



APPENDIX 1-G

Landowner Line List

CONTAINS PRIVILEGED INFORMATION - DO NOT RELEASE

(UNDER SEPARATE COVER)



APPENDIX 1-H
Public Participation Plan



Spire STL Pipeline

Public, Stakeholder, and Agency Participation Plan

Table of Contents

I. PUBLIC, STAKEHOLDER, AND AGENCY PARTICIPATION PLAN.....	2
<i>A. Purpose.....</i>	<i>2</i>
<i>B. Outreach Plan Goal</i>	<i>2</i>
II. OUTREACH AND PUBLIC PARTICIPATION PLAN	3
<i>A. Stakeholder Identification and Notification.....</i>	<i>4</i>
<i>B. Stakeholder Outreach Activities</i>	<i>5</i>
<i>C. Community Open House Overview and Format.....</i>	<i>9</i>
<i>D. Communications Overview.....</i>	<i>10</i>
III. CONCLUSION	13

I. Public, Stakeholder, and Agency Participation Plan

This Public Participation Plan (“Plan”) was developed for the Spire STL Pipeline Project (“Project”) to establish clear lines of communication with all interested stakeholders from Project inception to completion.

The Plan provides an overview of the strategies and communication methods used during the first phase of the project, known as Pre-filing, associated with FERC docket PF16-09-000, and what will be continue to be done once the project files the full 7(c) application.

A complete project description, overview, and proposed schedule can be found in Resource Report 1 of the Environmental Report for the Federal Energy Regulatory Commission (FERC) docket PF16-9-000 assigned to the project (<http://www.ferc.gov>).

A. Purpose

The Plan’s purpose is to identify key stakeholders and any potential concerns related to the proposed Project, to determine and establish appropriate and effective methods of communication with stakeholders, identify responsible parties, document the public consultation process, and adhere to communication protocols.

We know that stakeholder outreach and public consultation are essential elements of the permitting process and play an important role in the overall successful development of the Project. We are committed to seeking out greater involvement from the various affected groups early in the planning stage so that those who are interested may participate in the design of the Project and the decision-making process. We believe an early and more collaborative approach will lead to a Project design that will minimize impacts to landowners, communities, and the environment, while enabling us to develop more comprehensive applications for submittal to FERC and other agencies.

B. Outreach Plan Goal

Our goal is to involve stakeholders, to achieve consensus, and settlements on mutually acceptable project designs.

We have developed a comprehensive stakeholder list and this Plan. The Plan is built around the fundamental principle that open, honest and proactive communication is simply the right thing to do and necessary for the sound development of the Project.

We strive to be a good neighbor and a good corporate citizen, and believe that every person, organization, and institution that might be affected by the Project has the right to be informed and should have an opportunity to participate in the decisions that might affect them.

II. Outreach and Public Participation Plan

Our objective is to ensure that all potential Federal, state and community stakeholders are informed of our intentions relative to the proposed Project in a timely manner. The Public, Stakeholder, and Agency Participation Plan, herein outlined, has the following objectives:

Examples of FERC Key Stages and other information to be communicated:

- Pre-filing Request
- Open Houses
- Draft Resource Reports and Alternatives
- Monthly Status Reports
- FERC issues Notice of Intent
- Draft Resource Reports
- FERC Scoping Meetings
- Responses to Scoping Comments
- File Application
- Data Requests & Responses
- Supplemental information
- Commission Order
- Construction

Identify all key stakeholders along the proposed pipeline route. While landowners are the most obvious and directly affected stakeholders, many other individuals and organizations along the proposed 66-mile route also have a stake in the Project. Identifying and engaging them is important to the success of the Project.

Establish channels for two-way communication throughout the life of the Project. We realize that effective communication must be two-way. In addition to sharing information, the Project's outreach effort is designed to create a continuing dialogue with stakeholders, from the start of the pre-filing process through construction and restoration. It is also designed to provide stakeholders with a central point of contact to maintain ease of communication and ensure consistency of messaging.

Ask for public input at critical stages of planning. We believe that the Project is a partnership not only with the commercial partners, but with all stakeholders. With that idea in mind, the Project will seek to gain input and ideas from stakeholders during the planning and pre-filing process. This will help identify and address areas of concern.

Keep stakeholders informed throughout the process. Many outreach plans are designed to communicate effectively during early stages of implementation — especially during the approval stage — but then reduce communication during construction. While communication regarding the Project will certainly be heaviest early in the process, we plan to proactively communicate, via website updates and other methods, during all phases of the Project, even after all approvals have been received.

Engage local resources. To gain insight into public perception along the proposed route and to improve the credibility of the Project, we have retained community involvement specialists to

supplement the efforts of employees of the two partner companies. These specialists will arrange community meetings and other necessary meetings between Project staff and stakeholders.

Additionally, they will serve as the “eyes and ears” of the Project, helping to identify growing areas of concern, potential issues, and misinformation.

A. Stakeholder Identification and Notification

The Project will focus its efforts on reaching the following audiences:

- Local elected officials
- Mayors, city councils, and/or administrators
- County commissioners, county boards and/or county councils
- County and municipal planning organizations
- Zoning boards, etc.
- State elected officials
- State senators (local area staff)
- State congressmen (local area staff)
- Federal elected officials
- U.S. senators (local area staff)
- U.S. congressmen (local area staff)
- Federal, state, and local regulatory agencies
- Landowners
- Economic development agencies/chambers of commerce
- Local law enforcement agencies
- Local media outlets
- Non-governmental organizations
- Community at large

The status of contacts made to-date with Federal and state agencies, local elected officials, and municipal planning agencies can be found in Resource Report 1 of the Environmental Report listed for PF16-9-000 located on the FERC website (<http://www.ferc.gov> or the Project website; <http://www.SpireSTLPipeline.com>).

Landowners

The project has strived to contact all the landowners of record and current tenants of all of those identified as owning land or living on property along the proposed Project preferred and alternate routes. Professional Land Agents started working in late June of 2016 with the identified landowners to ensure they are informed about the project and answer questions in a timely manner. Personal interaction by Land Agents with Landowners, beginning early and continuing often during the course of the lifetime of the project, establishes relationships leading to two-way communication and the ability to find mutual agreement that benefits both sides.

A comprehensive landowner list was developed for the use of the Project and is maintained as changes to the proposed route occurs. This list is also used to create mailing labels to send out letters and informational communications regarding the Project.

Elected and Appointed Officials

A list of elected and appointed officials at the municipal, county, state, and federal levels for Illinois and Missouri was put together very early in the project lifecycle based on the proposed routing. Beginning in Spire STL Pipeline | Public, Stakeholder, and Agency Participation Plan

May of 2016, Project staff began meeting with the officials on the list to brief them on the Project. The intent of these meetings was to alert and inform them about the Project and to provide them with a source of contact for questions they may have or that their constituents may bring to them regarding the Project. If a face-to-face meeting was not possible, a phone call was made where appropriate.

The Elected and Appointed Officials list is reviewed frequently and names are added to it based on changes to the proposed route, elections, appointments, and the need to speak with as many officials as possible to keep them informed. This list is used for mailing Project Notifications and the same information that is sent to landowners to the elected and appointed officials so that they have the same information as their constituents.

Agencies

In addition to public outreach efforts with landowners and governmental officials, the Project conducted an extensive planning and consultation process with federal and state regulatory agencies, resource agencies, and Native American Tribes. The consultation process has involved meetings, letter requests for resource information, and telephone discussions and emails. Project information and letters requesting environmental information have been sent to the state and local agencies in Illinois and Missouri.

Beginning in June 2016, Spire began contacting federal and state regulatory agencies in Illinois and Missouri with respect to the relevant permitting requirements for the Project. Spire conducted several Project introduction meetings and provided the agencies with the Project Description, and advised these agencies of Spire's intent to use the FERC's National Environmental Policy Act pre-filing process. A list of the agency meetings conducted to date is available on the FERC website in Resource Report 1 for the Project. In addition to agency meetings, Spire has continued to engage the regulatory agencies via conference calls and emails to address any further concerns.

Other Stakeholders

The Project welcomes any individual or group who is interested in staying informed about the Project to call us toll free at [844-885-7234](tel:844-885-7234) or email us at STLPipelineInfo@spireenergy.com. We will be happy to add you to our mailing list.

In order to keep all stakeholders informed, the Project website will be updated as new information about the Project becomes publicly available. If mailing information is necessary or required by regulation, the Project will continue to follow the Landowner Notification process as outlined in 18 CFR Section 157.6(d) and described below:

Within 14 days of the Director's Notice, the Project will contact all stakeholders not already informed about the Project, including any affected landowners (as that term is defined by 18 CFR Section 157.6(d)(2)). In areas where notifying a larger group may be necessary, we will expand the mailing list to include landowners that may fall outside the requirements stated in 18 CFR Section 157.6(d)(2). This same process of notification by letter and Public Notice in local papers will be used for future notifications from the FERC regarding the Project as required by statute or if not required, the Project team thinks it is in the best interest of our stakeholders and the Project.

B. Stakeholder Outreach Activities

The Project continues to employ the following methods to ensure successful communication and outreach, including:

Stakeholder identification and issues management database/tracking system. After identifying stakeholders, we developed and maintained a contact management system to track contacts with

these stakeholders in a manner that helps identify and resolve emerging issues and concerns.

Project Information materials. We developed and maintain messages and materials to inform stakeholders about the Project and to address potential questions and areas of concern. These materials include, for example:

- A Project Fact sheet
- A Frequently Asked Questions (FAQ) document
- “Standard presentation” information storyboards and other materials for use at Community Open Houses and other meetings
- Internal Project guidance concerning key messages about the Project to ensure consistency in communication
- Public Notices to announce public meetings
- Newsletters periodically mailed to directly affected landowners along the proposed and alternative routes, as well as other stakeholders, and will be made available online via the Project website. The first Spire STL Pipeline Newsletter was sent to the project stakeholder list at the end of December of 2016.

Keeping the media appropriately informed helps minimize the potential for misunderstanding and allows us to inform all stakeholders while reducing inaccurate information. Messages and materials about the Project will be refined throughout the Project to contain updated information and to address stakeholder concerns that may arise. In addition, materials will contain the following information:

- Purpose and need of the Project
- General information on Spire STL Pipeline LLC
- Information on the environment and need and reasons for the project
- FERC background information — the role of the FERC and other regulatory agencies in the process, and an overview of the pre-filing and filing processes
- Information on construction, including the types and sizes of equipment used
- Information on environmental activities conducted throughout the Project, including pre-construction environmental surveys, measures during construction to minimize impact on environmental resources including agricultural resources, restoration, and post-construction monitoring
- Safety information — a discussion of pre- and post-construction safety, and an overview of the safety record of the interstate natural gas pipeline industry
- A Project timeline — an intended timeframe for completing key phases of the Project

Training. A significant component of the outreach and communication team’s effort is focused on training the Project team. The goal of the training effort is to familiarize all personnel who participate in the Project (including home office, field staff and sub-contractors) of the Plan and to provide specific modules of training. Training includes aspects taken from modules developed by INGAA, Interstate Natural Gas Association of America and IRWA, International Right of Way Association, for those personnel and contractors who will interface directly with our stakeholders and the general public. Project staff receiving Ambassador training includes all company personnel and all contractors involved in field engineering, siting and survey, permitting and environmental impact mitigation, land acquisition, operations, property-owner relations, and government affairs. The Project’s guiding principle is to train each individual shortly after retention for the Project or before the individual engages in his or her designated role.

The first comprehensive Ambassador training session was given to Project staff and field crews prior to any contacts being made with landowners along the proposed route. Each time new field crewmembers were assigned to the project, they received the Ambassador training module prepared for the project. Additional training will be given on an as need and periodic basis throughout the life of the project to all field personnel serving as an update for project information and a refresher in conduct and purpose of the project.

Website. Because of its accessibility and the ability to be constantly updated, online communications play a vital role in stakeholder dialogue. In addition to serving as a Project repository for up-to-date materials and information, the Project website features mechanisms for stakeholders to ask questions and provide input about the Project. The Project website contains:

- A narrative and graphic overview of the Project
- Maps of the proposed route
- Downloadable Project fact sheet
- Frequently Asked Questions (“FAQs”) and answers, collected during outreach meetings and arranged by topic
- FERC Information, including an overview of FERC’s role and where the Project is in the FERC process
- Information on Community Open Houses
- Information on FERC scoping sessions
- Newsroom (Project announcements, press releases, media advisories, newsletter)
- Links to partner company websites, FERC, Office of Pipeline Safety, industry coalitions, state agencies, etc.
- Natural gas pipeline safety information
- Typical pipeline construction sequence
- How natural gas pipelines work
- Project newsletters

The above list of materials and contents have been created, added, and will be maintained based on status of the project and availability of materials.

Direct Contact. The Project utilizes direct contact, either in person, by phone, or correspondence (e-mail and letter) for stakeholders throughout the Project, as appropriate. We notify landowners affected by the Project as required by FERC’s regulations. For example, direct contact by Land Agents is a necessity in communicating with affected landowners. Direct contact with agencies has already been initiated by Project environmental staff and continues with pre-filing/pre-application agency scoping meetings. The Projects Regulatory and Public Affairs staff will continue the use of direct contact with elected officials (municipal leaders, county commissioners, state and federal senators and key representatives) along the proposed route. Direct contact will allow us to respond in a timely fashion to all inquiries from any agency, federal, state, or local authorities. Other stakeholders, including non-governmental organizations, economic development councils, and the news media will be contacted directly as appropriate to inform those stakeholders of the status of the Project.

Community Open Houses. The Project conducted 5 Open Houses along the route during the month of August 2016. An Open House was held in each of the five counties in which the proposed project is located. Public notices were placed in locally distributed newspapers and Open House invitation letters were mailed to the stakeholder list as defined at the time of mailing. The letters contained information on the content and purpose of the Open House, location, times of availability, and contact information. Local catering was used to provide a variety of food and beverage choices. The sites were selected based on their proximity to the proposed route and meeting room capacity (additional Open Houses will be held if needed).

Community Open Houses

County/State	Community	Date	State
Scott	Winchester	Aug. 16, 2016	IL
Green	Carrollton	Aug. 24, 2016	IL
Jersey	Jerseyville	Aug. 17, 2016	IL
St. Charles	St. Charles	Aug. 23, 2016	MO
St. Louis	Hazelwood	Aug. 18, 2016	MO

Scoping Sessions. The FERC conducted 3 scoping sessions held in November of 2016. The project team supported and attended FERC sponsored scoping sessions. Three meetings were held across the length of the proposed project:

Approximately 65 stakeholders in total attended the 3 scoping sessions. FERC provided information on the regulatory process and gave stakeholders an opportunity to ask questions and provide comments. Spire Project staff was also on hand to provide general information and answer specific questions about the proposed project. Detailed project route maps were available for review and project facts sheets were there for stakeholders who wanted them.

The FERC Scoping sessions were held at the following locations and dates:

FERC Scoping Sessions

County/State	Community	Date	State
Green	Carrollton	Nov. 16, 2016	IL
Jersey	Dow	Nov. 15, 2016	IL
St. Louis	St. Louis	Nov. 14, 2016	MO

FERC provided information on the regulatory process and gave stakeholders an opportunity to ask questions and provide comments

C. Community Open House Overview and Format

Stakeholders were notified and invited, both directly (with invitations sent by U.S. mail) and indirectly (through the media). The Open Houses were arranged so that most stakeholders would not need to travel long distances to participate.

A “station” format was used as the presentation style for the meetings. Stations were established for different areas of expertise, including rights-of-way, environmental, construction, engineering, etc. as well as a FERC station. Each station contained information pertinent to that area of project responsibility, presented both in larger visual aids and/or in handout form and manned by Project team members knowledgeable of the subject presented. This allowed attendees arriving at different times to circulate among the stations and gather information in a more informal fashion. The information provided to attendees is basic enough to allow people who are unfamiliar with a project like Spire STL Pipeline, to gain a solid understanding of the various parts of the project and how they are all important individually and together as a complete project.

Proposed Community Open House Stations:

- About Us & Project Overview
- Environmental Stewardship
- Engineering & Construction Best Practices
- Pipeline Safety
- Mapping & Alignment
- Federal Energy Regulatory Commission

Mapping & Alignment Station. The station was staffed by several Right-of-Way agents knowledgeable with the route and landowners along the proposed corridor. An electronic mapping display using large format LED display monitors connected to the Internet were used to show interested landowners and stakeholders how the proposed route may affect their individual parcels. Additionally, multiple hardcopies of the maps for the proposed route were available for Open House attendees to view as backups if the Internet or monitors fail.

Project Contact Information. The Project operates and monitors a toll-free phone number (1-844- 885-7234), e-mail address, and postal mailing address that enables stakeholders to obtain additional project information, ask questions, and provide input. This contact information will be printed on all materials and included on the Project web site, and includes a single point of contact for stakeholder inquiries.

If deemed necessary, additional community Open Houses or similar public meetings may be held to

communicate important information and provide direct communication and dialogue between local stakeholders and Project leadership.

We understand that stakeholder outreach does not stop with the submittal of the FERC application or possible receipt of a Certificate of Public Convenience and Necessity, but is an ongoing commitment to keeping the public at large, affected landowners, the market, and other interested parties informed of the Project status, and will seek to continue the relationships and dialogue built during the crucial early stages of public interaction.

D. Communications Overview

Communications can be described as the exchange of information. The Project is committed to providing and maintaining several vehicles for communicating with all stakeholders identified with the project. These include electronic and print media, along with local meetings on a periodic basis with community groups.

Below are the tentative milestones that may trigger an intensified activity level of communications.

Tentative Milestone Dates:

Date	Event
May 2016	Begin Stakeholder Outreach
Jul 2016	Per-filing with FERC Pre-filing Notification Letter
Aug 2016	Open House Invitation Letter Public Notice Placement for Open Houses Open Houses Held
Nov 2016	Public Notice Placement for Scoping sessions FERC Scoping sessions
Jan 2017	Full filing of 7C Application
Feb 2017	Landowner Notification Letter
Nov 2017	Requested date for FERC Final Order
Dec 2017	FERC Final Notice to Proceed Notice to Proceed Letter
Nov 2018	Target In-Service date Notice of In Service Letter

The list of communication vehicles listed below are the various tools used to disseminate the project information.

Proposed Communication Vehicles

- Briefing materials for elected officials
- Cut sheets and Project info. developed to discuss with Stakeholders
- Website: www.SpireSTLPipeline.com
- Toll-free hotline: [1\(844\)-885-7234](tel:18448857234)
- Community Open Houses (5)
- Site Visits (as appropriate)
- Maps for stakeholders to view
- High level maps for general distribution
- Regular mailings to engage stakeholders without internet access and locations set up to review voluminous Project info.
- Informational/updates via print media outlets along the route

Media Relations

Because of their reach and influence, the media are an important resource in communicating information about the Project. The Project is building relationships with reputable media outlets and reporters in the project area. The Project continues to look at all opportunities to communicate information to its stakeholders using earned and paid media, editorial board interviews, and deskside meetings.

A list of Media outlets by county are listed in the Table below. This list of media outlets will be periodically reviewed to assure that is current and applicable:

Organization	City	County	State
Scott County Times	Winchester	Scott	IL
Greene Prairie Press	Carrollton	Greene	IL
Jersey County Journal	Jerseyville	Jersey	IL
Community News	O'Fallon	St. Charles	MO
Community News	O'Fallon	St. Louis	MO
FloValley News	Florissant	St. Louis	MO
St. Louis Business Journal	St. Louis	St. Louis	MO

III. Conclusion

Our stated goal is to involve stakeholders. The Plan was drafted and implemented using the best available techniques applicable to the project area to do that. Considerations were made to include both corporate and community cultures in which the proposed project route is planned. Efforts to engage the stakeholders at every level in open and honest dialogue continue to be made. We recognize that our stakeholders have a wide range of experience and exposure to a variety of communication methods. The Project uses and will continue to use a variety of methods of communication tools including more traditional mail, newspapers, public meetings, individual briefings, and, websites.

The Plan is a living document and the project continues to look for successful ways to provide information that is relevant and helpful to our stakeholders and the public at large about the Spire STL Pipeline project.



APPENDIX 1-I
Stakeholder Lists

Appendix 1.1
Spre STL Pipeline
Agency Contact List

Contact Name	Blank	Contact Title	Contact Organization	Phone	Email	P. O. Box	Address Line 1	Address Line 2	City	Zip 1	Zip 2	State	Docket
Keith McMullen		Illinois Section Chief	United States Army Corps of Engineers - St. Louis District	314-331-8582	Keith.A.McMullen@usace.army.mil		1222 Spruce Street		St. Louis	63103	2833	MO	CP17-___000
Jacob Prebianca		Formerly Utilized Sites Remedial Action Program	United States Army Corps of Engineers - St. Louis District		Jacob.A.Prebianca@usace.army.mil		1222 Spruce Street		St. Louis	63103	2833	MO	CP17-___000
Jon Rankins		Radiation Safety Officer	United States Army Corps of Engineers - St. Louis District	314-260-3933	jonathan.e.rankins@usace.army.mil		1222 Spruce Street		St. Louis	63103	2833	MO	CP17-___000
Lynn Hoerner		Real Estate Division	United States Army Corps of Engineers - St. Louis District	314-331-8157	melissa.l.hoerner@usace.army.mil		1222 Spruce Street		St. Louis	63103	2833	MO	CP17-___000
David Meyer		Regulatory Branch	United States Army Corps of Engineers - St. Louis District	314-331-8810	david.a.meyer@usace.army.mil		1222 Spruce Street		St. Louis	63103	2833	MO	CP17-___000
Edward Rodriguez Robles		ICW Program Manager	United States Army Corps of Engineers - St. Louis District	314-331-8568	edward.c.rodriguezrobles@usace.army.mil		1222 Spruce Street		St. Louis	63103	2833	MO	CP17-___000
Michael Chapman		Implementation Manager - Missouri River Recovery Program	United States Army Corps of Engineers - Kansas City District	816-389-3310	Michael.d.chapman@usace.army.mil		601 E. 12th Street		Kansas City	64106		MO	CP17-___000
Chase Allred		Fish and Wildlife Biologist	United States Fish and Wildlife - Rock Island Field Office	309-757-5800, ext. 221	chase_allred@fws.gov		1511 47th Avenue		Moline	61265		IL	CP17-___000
Matthew Mangan		Ecological Services	United States Fish and Wildlife - Marion County Sub-Office	618-997-3344, ext. 340	matthew.mangan@fws.gov		8588 Route 148		Marion	62959		IL	CP17-___000
Kraig McPeck		Director	United States Fish and Wildlife - Rock Island Field Office	309-757-5800 ext. 202	kraig_mcpeck@fws.gov		1511 47th Avenue		Moline	61265		IL	CP17-___000
Kristen Lundh		Fish and Wildlife Biologist	United States Fish and Wildlife - Rock Island Field Office	309-757-5800 ext. 215	kristen_lundh@fws.gov		1511 47th Avenue		Moline	61265		IL	CP17-___000
Trisha Crabill		Fish and Wildlife Biologist	United States Fish and Wildlife - Columbia Field Office	573-234-2132	trisha_crabill@fws.gov		101 Park De Ville Dr	Suite A	Columbia	65203		MO	CP17-___000
TBD		NOAA NEPA Coordinator	NOAA National Marine Fisheries Services	301-713-9668	rosa.nepa@noaa.gov		Office of General Counsel 1315 East-West Highway	Room 1513Z	Silver Springs	20910		MD	CP17-___000
Virginia Laszewski		Environmental Impact Statements Contact	United States Environmental Protection Agency - Region 5	312-886-7501	Laszewski.virginia@epa.gov		77 W. Jackson Blvd		Chicago	60604		IL	CP17-___000
Joe Summerlin		Environmental Impact Statements Contact	United States Environmental Protection Agency - Region 7	913-551-7029	Summerlin.joe@epa.gov		11201 Renner Blvd		Lenexa	66219		KS	CP17-___000
Ivan Dozier		State Conservationist	USDA-Natural Resources Conservation Service - Illinois State Office	217-353-6600	NA		2118 W. Park Court		Champaign	61821		IL	CP17-___000
Johanna Fuller		District Conservationist	USDA-Natural Resources Conservation Service - Scott County/Winchester Field Office	217-742-9561, ext. 3	johanna.fuller@il.usda.gov		656 North Main		Winchester	62694		IL	CP17-___000
Brad Behyner		District Conservationist	USDA-Natural Resources Conservation Service - Greene County/Carrollton Field Office	217-942-5464, ext. 3	bradley.behyner@il.usda.gov		R.R. 3, Box 129	Route 267 North	Carrollton	62016		IL	CP17-___000
Brad Behyner		District Conservationist	USDA-Natural Resources Conservation Service - Jersey County/Jerseyville Lincoln Field Office	217-942-5464, ext. 3	bradley.behyner@il.usda.gov		604 East Franklin		Jerseyville	62052		IL	CP17-___000
Rebecca D. Walls		County Executive Director	USDA - Farm Service Agency - Scott County	217-742-9561, ext. 2	rebecca.walls@il.usda.gov		656 North Main St		Winchester	62694	3611	IL	CP17-___000
TBD			USDA-Farm Service Agency - Carrollton Service Center	217-942-5402			Route 267 North		Carrollton	62016	9545	IL	CP17-___000
TBD			USDA - Farm Service Agency - Jerseyville Service Center	618-498-6836			604 E Franklin		Jerseyville	62052	3400	IL	CP17-___000
Kimberly Martin		Conservation and Environmental Programs	United States Department of Agriculture-IL State Farm Service Agency Office	217-241-6600	kimberly.martin@il.usda.gov		3500 Wabash Avenue		Springfield	62711		IL	CP17-___000
Jamie Diebal		Conservation and Environmental Programs	United States Department of Agriculture-IL State Farm Service Agency Office	217-241-6600	jamie.diebal@il.usda.gov		3500 Wabash Avenue		Springfield	62711		IL	CP17-___000
Kevin Machens		President	Consolidated North County Levee District	314-750-2519	kvmachens@lvee.com		135 Payne Road		Portage Des Sioux	63373		MO	CP17-___000
Dat Maloon		Impact Assessment Sections - Interagency- Wetlands	Illinois Department of Natural Resources - Endangered Species	217-785-4901	dat.maloon@illinois.gov		One Springfield Way		Springfield	62702	1231	IL	CP17-___000
Keith Shank		Impact Assessment	Illinois Department of Natural Resources - Endangered Species		keith.shank@illinois.gov		One Springfield Way		Springfield	62702	1271	IL	CP17-___000
Jenny Skufka		Incidental Take Authorization Coordinator	Illinois Department of Natural Resources - Endangered Species	217-557-8243	jenny.skufka@illinois.gov		One Springfield Way		Springfield	62702	1271	IL	CP17-___000
Brent Krebs		Chief of Staff	Illinois Department of Natural Resources		Brent.Krebs@illinois.gov		One Springfield Way		Springfield	62702	1271	IL	CP17-___000
Mike Diedrichsen		P.E. Downstate Regulatory Program	Illinois Department of Natural Resources - Water Resources	217-782-4426	mike.diedrichsen@illinois.gov		One Springfield Way		Springfield	62702	1271	IL	CP17-___000
Terry Savko			Illinois Department of Agriculture - Bureau of Land and Water Resources	217-785-4458	terry.savko@illinois.gov	P.O. Box 19281	Statefairgrounds		Springfield	62794	9281	IL	CP17-___000
Rachel Leibowitz		Division Manager & Deputy SPHD	Illinois Historic Preservation Agency	217-785-5031	rachel.leibowitz@illinois.gov		1 Old State Capitol Plaza		Springfield	62701	1507	IL	CP17-___000
Joe Philippe			Illinois Historic Preservation Agency		joephilippe@illinois.gov		1 Old State Capitol Plaza		Springfield	62701	1507	IL	CP17-___000
Heidi Brown-McCreery		Director of Illinois Historic Preservation Agency	Illinois Historic Preservation Agency	217-785-1512			1 Old State Capitol Plaza		Springfield	62701	1507	IL	CP17-___000
Darin LeCrone		Industrial Unit Manager	Illinois Environmental Protection Agency - Bureau of Water	217-782-0610	darin.lecron@illinois.gov	P.O. Box 19276	1021 North Grand Avenue East		Springfield	62794	9276	IL	CP17-___000
Dan Heacock		Facility Evaluation Manager	Illinois Environmental Protection Agency - Bureau of Water	217-782-0610	dan.heacock@illinois.gov	P.O. Box 19276	1021 North Grand Avenue East		Springfield	62794	9276	IL	CP17-___000
Lance Mueller		Resource Conservationist	Scott County Soil and Water Conservation District	217-742-9561	lance.mueller@nacdnet.net		656 North Main		Winchester	62694		IL	CP17-___000
Annyce Winters		Administrative Coordinator	Greene County Soil and Water Conservation District	217-942-5464	annyce.winters@il.nacdnet.net		RR3, Box 129		Carrollton	62016		IL	CP17-___000
Jeff Blackorby		Resource Conservationist	Jersey County Soil and Water Conservation District	618-498-3712	jeff.blackorby@il.nacdnet.net		604 E. Franklin		Jerseyville	62052		IL	CP17-___000
Stan Crusius			Greene County - Floodplain Management	217-942-5443	N/A		519 N. Main St		Carrollton	62016		IL	CP17-___000
Cindy Craigmiles		Jersey County Code Administrator	Jersey County	618-498-5571 ext. 146	codeadmin1@jerseycounty-il.us		200 N. Lafayette	Suite 6	Jerseyville	62052		IL	CP17-___000
Sara Parker Pauley		Director	Missouri Department of Natural Resources	573-522-6221	N/A	P.O. Box 176			Jefferson City	65102		MO	CP17-___000
Paul Mueller			Missouri Department of Natural Resources	314-416-2960	N/A	P.O. Box 176			Jefferson City	65102		MO	CP17-___000
Lorisa Smith		Policy Coordinator	Missouri Department of Natural Resources	573-751-7370	lorisa.smith@dnr.mo.gov	P.O. Box 176			Jefferson City	65102		MO	CP17-___000
Mike Irwin		Water Protection Program Section 401	Missouri Department of Natural Resources	573-522-1131	mike.irwin@dnr.mo.gov	P.O. Box 176			Jefferson City	65102		MO	CP17-___000
Jennifer Campbell		Policy Coordinator	Missouri Department of Conservation	573-522-4115, ext. 3169	jennifer.campbell@mdc.mo.gov		2901 West Truman Blvd.		Jefferson City	65109		MO	CP17-___000
Audrey Beres		Policy Coordinator	Missouri Department of Conservation	573-522-4115 ext. 3346	audrey.beres@mdc.mo.gov		2901 West Truman Blvd.		Jefferson City	65109		MO	CP17-___000
Gary Calvert		Manager of Pools 24, 25 and 26 - Upper Mississippi Conservation Area	Missouri Department of Conservation	573-898-5905 ext. 1890	ludith.deel@dnr.mo.gov	P.O. Box 201	3333 North Highway 79		Elsberry	63343	201	MO	CP17-___000
Raenhard Wesselschmidt		Wildlife Management Biologist	Missouri Department of Conservation - Wildlife	636-441-4554 ext. 4132	raenhard.wesselschmidt@mdc.mo.gov		2360 Hwy D		St. Charles	63304		MO	CP17-___000
Judith Deel		Compliance Coordinator	Missouri State Historic Preservation Office	573-751-7862	N/A	P.O. Box 176			Jefferson City	65102		MO	CP17-___000
J.R. Flores		State Conservationist	USDA-Natural Resources Conservation Service - Missouri State Office	573-876-0901	N/A		Parkade Center 601 Business Loop 70 West	Suite 250	Columbia	65203	2546	MO	CP17-___000
Renee Cook		District Conservationist	USDA-Natural Resources Conservation Service - Missouri County Service Center-St. Charles and St. Louis Counties	636-952-2283, ext. 105	renee.cook@mo.usda.gov		160 Saint Peters Centre Blvd		St. Peters	63376		MO	CP17-___000
Connie Gibson		County Executive Director	USDA-Farm Service Agency - St. Charles County/St. Louis County	636-952-2283, ext. 105	Connie.Gibson@mo.usda.gov		160 Saint Peters Centre Blvd		St. Peters	63376		MO	CP17-___000
Rich Gnecco		Director Development Review	St. Charles County - Community Development Department	636-949-1814 ext. 7160	development@scrcmo.org		201 N Second St		St. Charles	63301		MO	CP17-___000
Ellie Marr		Board Liaison	St. Charles County - Floodplain Vision Board	636-949-7900 ext. 7235	emarr@scrcmo.org		201 N Second St		St. Charles	63301		MO	CP17-___000
Frankie Coleman		District Manager	St. Charles County Soil and Water Conservation District	636-922-2833 ext. 3	frankie.coleman@scwd.mo.gov		160 St. Peters Centre Blvd		St. Peters	63376		MO	CP17-___000
James M. Knoll		Supervisor	St. Louis County Department of Highways and Traffic	314-615-8554	jmknoll@stlouisco.com		41 South Central Ave		Clayton	63105		MO	CP17-___000
Jenn Fear		District Manager	St. Louis County Soil and Water Conservation District	636-922-2833 ext. 111	jenn.fear@scwd.mo.gov		160 St. Peters Centre Blvd		St. Peters	63376		MO	CP17-___000
Jason Farley		Planning and Zoning Commissioner	City of West Alton	314-306-4695	N/A	P.O. Box 42	West Alton City Hall		West Alton	63386		MO	CP17-___000
Janet Neustadt		Floodplain Administrator	City of West Alton	636-899-0233	N/A	P.O. Box 42	West Alton City Hall		West Alton	63386		MO	CP17-___000

Yellow highlights indicate updates since 10/28/16.

Strikout text indicates contacts that have been removed.

Appendix 1-1
Spire STL Pipeline
Native American Contact List

Contact Name	Blank	Contact Title	Contact Organization	Phone	Email	P. O. Box	Address Line 1	Address Line 2	City	Zip 1	Zip 2	State	Docket
Ms. Sandra Kaye Massey		Cultural Resources	Sac and Fox Nation of Oklahoma	918-968-3526	smassey@sacandfoxnation-nsn.gov		920883 S. Hwy 99	Bldg A	Stroud	74079	5178	OK	CP17___000
Elvis E Ellis		Repatriation/NAGPRA Committee, Chairman	Sac and Fox Nation of Oklahoma				920883 S. Hwy 99	Bldg A	Stroud	74079	5178	OK	CP17___000
George Thurman		Principal Chief	Sac and Fox Nation of Oklahoma				920883 S. Hwy 99	Bldg A	Stroud	74079	5178	OK	CP17___000
Mr. Johnathan L. Buffalo		Historic Preservation Director	Sac and Fox Tribe of the Mississippi in Iowa	641-484-3185	jbuffalo@meskwaki.org		349 Meskwaki Road		Tama	52339		IA	CP17___000
Tony Wanatee		Chief	Sac and Fox Tribe of the Mississippi in Iowa				349 Meskwaki Road		Tama	52339		IA	CP17___000
Mr. Edmore Green		Chief	Sac and Fox Tribe of the Missouri in Kansas and Nebraska	785-742-7471	egreen@sacandfoxcasino.com		305 North Main		Reserve	66434		KS	CP17___000
Mr. John Berrey and Mr. Everett Bandy		Chairman and THPO	Quapaw Tribe of Oklahoma	888-641-4724	ebandy@quapawtribe.com	P.O. Box 765			Quapaw	74363		OK	CP17___000
Ms. Hattie Mitchell			Prairie Band Potawatomi Nation	785-966-4000	hattiem@pbnation.org		16281 Q Road		Mayetta	66509	8970	KS	CP17___000
Liana Omin		Chairperson	Prairie Band Potawatomi Nation				16281 Q Road		Mayetta	66509	8970	KS	CP17___000
Mr. Marcus Winchester		Tribal Historic Preservation Officer	Pokagon Band of Potawatomi Indians	269-462-4224	marcus.winchester@pokagonband-nsn.gov	P.O. Box 180	58620 Sink Road		Dowagiac	49047		MI	CP17___000
John Warren		Chairman	Pokagon Band of Potawatomi Indians			P.O. Box 180			Dowagiac	49047		OK	CP17___000
Jason Scott Wesaw		Tribal Historic Preservation Officer	Pokagon Band of Potawatomi Indians			P.O. Box 180			Dowagiac	49047		OK	CP17___000
Mr. Kenneth Mechigaud		Chairperson	Potawatomi Nation-Hannahville Indian Community	906-466-9933	kennethmechigaud@hannahville.org		N14911 Hannahville B-1 Road		Wilson	49896		MI	CP17___000
Earl Meshigaud		Tribal Historic Preservation Officer	Potawatomi Nation-Hannahville Indian Community				N14911 Hannahville B-1 Road		Wilson	49896		MI	CP17___000
Melissa Cook		Tribal Historic Preservation Officer	Forest County Potawatomi	800-960-5479	melissa.cook@fcpotawatomi-nsn.gov	P.O. Box 340	8130 Mishkoswen Drive	Cultural Center, Library & Museum	Crandon	54520		WI	CP17___000
Harold Frank		Chairman	Forest County Potawatomi			P.O. Box 340			Crandon	54520	0340	WI	CP17___000
Mr. Andrew Gourd		Asst. Tribal Historic Preservation Officer	Citizen Potawatomi Nation	405-878-5830	andrew.gourd@potawatomi.org		1601 S. Gordon Cooper Drive		Shawnee	74801		OK	CP17___000
John Barrett, Jr.		Chairman	Citizen Potawatomi Nation				1601 S. Gordon Cooper Drive		Shawnee	74801		OK	CP17___000
Kelli Mosteller		Tribal Historic Preservation Officer	Citizen Potawatomi Nation				1601 S. Gordon Cooper Drive		Shawnee	74801		OK	CP17___000
Halona Clawson		Tribal Historic Preservation Officer	Ponca Tribe of Oklahoma	580-762-8104	halona.clawson@ponca.com		20 White Eagle Drive		Ponca City	74601		OK	CP17___000
Earl S. Howe III		Chairman	Ponca Tribe of Oklahoma				20 White Eagle Drive		Ponca City	74601		OK	CP17___000
Mr. Shannon Wright		Tribal Historic Preservation Officer	Ponca Tribe of Nebraska	402-857-3519	N/A	P.O. Box 288			Niobrara	68760		NE	CP17___000
Randy Teboe		Tribal Historic Preservation Officer	Ponca Tribe of Nebraska			P.O. Box 288			Niobrara	68760		NE	CP17___000
Larry Wright Jr.		Chairman	Ponca Tribe of Nebraska			P.O. Box 288			Niobrara	68760		NE	CP17___000
Mr. Logan Davenport			Peoria Tribe of Indians of Oklahoma	918-540-2535	ldavenport@peoriatribes.com	P.O. Box 1527	118 S. Eight Tribes Trails		Miami	74355		OK	CP17___000
Jason Dollarhide		Repatriation/NAGPRA Committee, Chairperson	Peoria Tribe of Indians of Oklahoma				118 S. Eight Tribes Trails		Miami	74355		OK	CP17___000
John P. Froman		Chief	Peoria Tribe of Indians of Oklahoma			P.O. Box 1527			Miami	74355		OK	CP17___000
Mr. John Fox		Archaeologist	Osage Nation	918-287-5328	ahunter@osage-tribe.org	P.O. Box 779	627 Grandview		Pawhuska	74056	4201	OK	CP17___000
Geoffrey Standingbear		Principle Chief	Osage Nation				627 Grandview		Pawhuska	74056	4201	OK	CP17___000
Dr. Andrea A. Hunter		Tribal Historic Preservation Officer	Osage Nation				627 Grandview		Pawhuska	74056	4201	OK	CP17___000
Ms. Diane Hunter		Acting Tribal Historic Preservation Officer	Miami Tribe of Oklahoma	918-541-8966	dhunter@miamination.com	P.O. Box 1326			Miami	74355		OK	CP17___000
Mr. Douglas Lankford		Chief	Miami Tribe of Oklahoma			P.O. Box 1326			Miami	74355		OK	CP17___000
Mr. Kent Collier		Attorney/Preservation Rep	Kickapoo Tribe of Oklahoma	405-964-7053	kcollier@kickapootribeofoklahoma.com	P.O. Box 70			McCloud	74851		OK	CP17___000
Gilbert Salazar		Chairman	Kickapoo Tribe of Oklahoma			P.O. Box 70			McCloud	74851		OK	CP17___000
Mr. Juan Garza, Jr.		Chairman	Kickapoo Traditional Tribe of Texas	830-758-1936	juangarza73@yahoo.com		HCR 1, Box 9700		Eagle Pass	78852		TX	CP17___000
Ms. Nellie Cadue		NAGPRA Director	Kickapoo Tribe in Kansas	785-486-2601, ext. 5	N/A	P.O. Box 271	1107 Gold Finch Road		Horton	66439	9537	KS	CP17___000
Lester Randall		Chairman	Kickapoo Tribe in Kansas				1107 Gold Finch Road		Horton	66439	9537	KS	CP17___000
Ms. Jaclyn Secondine Hensley		Chairman	Kaw Indian Nation of Oklahoma	580-269-2552	jwhensley@kiwnation.com Crystal_douglas@kawnation.com	Drawer 50			Kaw City	74641		OK	CP17___000
Ms. Crystal Douglas		Museum Director	Kaw Indian Nation of Oklahoma			Drawer 50			Kaw City	74641		OK	CP17___000
Mr. Patrick Durham		Division Director	Iowa Tribe of Oklahoma	405-547-5433, ext. 350	pdurham@iowanation.org		R.R. 1, Box 721		Perkins	74059	9599	OK	CP17___000
Bobby Walkup		Chairman and THPO	Iowa Tribe of Oklahoma				335588 E. 780 Road		Perkins	74059		OK	CP17___000
Mr. Lance M. Foster		Tribal Historic Preservation Officer	Iowa Tribe of Kansas and Nebraska	785-595-3258	lfoster@iowas.org		3345 B. Thrasher Road		White Cloud	66094	4028	KS	CP17___000

Appendix 1-1
Spire STL Pipeline
Native American Contact List

Contact Name	Blank	Contact Title	Contact Organization	Phone	Email	P. O. Box	Address Line 1	Address Line 2	City	Zip 1	Zip 2	State	Docket
Timothy Rhodd		Chairman	Iowa Tribe of Kansas and Nebraska				3345 B. Thrasher Road		White Cloud	66094	4028	KS	CP17___000
Ms. Robin Dushane		Cultural Preservation Director	Eastern Shawnee Tribe of Oklahoma	918-666-2435, ext. 247	radushane@gmail.com	P.O. Box 350	127 West Oneida		Seneca	64865		MO	CP17___000
Glenna J. Wallace		Chief	Eastern Shawnee Tribe of Oklahoma				12755 S 705 Rd		Wyandotte	74370	3148	OK	CP17___000
Dr. Brice Obermeyer		Director, Historic Preservation Office	Delaware Tribe of Indians	918-335-7026	bobermeyer@delawaretribe.org		1200 Commercial St	Roosevelt Hall, Rm 212	Emporia	66801		KS	CP17___000
Chet Brooks		Chief	Delaware Tribe of Indians				1200 Commercial St	Roosevelt Hall, Rm 212	Emporia	66801		KS	CP17___000
Nekole Allgood		Director of Cultural Preservation	Delaware Nation	405-247-2448	nallgood@delawarenation.com	P.O. Box 825	31064 State Highway 281		Anadarko	73005		OK	CP17___000
John Ross		Section 106 Manager	Delaware Nation			P.O. Box 825			Anadarko	73005		OK	CP17___000
Kerry Holton		President	Delaware Nation			P.O. Box 825			Anadarko	73005		OK	CP17___000
Mr. Leonard Longhorn		Tribal Historic Preservation Officer	Absentee-Shawnee Tribe of Indians of Oklahoma	405-275-4030	leonard.longhorn@astribe.com		2025 South Gordon Cooper Drive		Shawnee	74801		OK	CP17___000
Edwina Butler-wolfe		Governor	Absentee-Shawnee Tribe of Indians of Oklahoma				2025 South Gordon Cooper Drive		Shawnee	74801		OK	CP17___000
Bill Quackenbush		Tribal Historic Preservation Officer	Ho-Chunk Nation	715-284-7181, ext. 1121	bill.quackenbush@ho-chunk.com	P.O. Box 667			Black River Falls	54815		WI	CP17___000
Wilford Cleveland		President	Ho-Chunk Nation			P.O. Box 667			Black River Falls	54615		WI	CP17___000
John Blackhawk		Chairman	Winnebago Tribe of Nebraska	402-878-3103	jblackhawk@aol.com	P.O. Box 687			Winnebago	68071	687	NE	CP17___000
Henry Payer		Tribal Historic Preservation Officer	Winnebago of Nebraska			P.O. Box 687			Winnebago	68071	687	NE	CP17___000
Robyn Burlingham		Council/Board	Huron Potawatomi Nation	269-704-8373	rburlingham@nhbpi.com		1484 Mno-8madzewen Way		Fulton	49502		MI	CP17___000
Homer A. Mandoka		Chairman	Huron Potawatomi				2221 1 1/2 Mile Road		Fulton	49052	9602	MI	CP17___000
Beth Moddy		Tribal Historic Preservation Officer	Huron Potawatomi				1485 Mno-8madzewen Way		Fulton	49052		MI	CP17___000
DJ Hoffman		Tribal Historic Preservation Officer	Match-e-be-nash-she-wish Band of Potawatomi Indians of Michigan	906-632-6896		P.O. Box 218			Dorr	49323		MI	CP17___000
Scott Sprague		Chairman	Match-e-be-nash				2872 Mission Drive		Shelbyville	49344		MI	CP17___000
Sydney Martin		Tribal Historic Preservation Officer	Match-e-be-nash				3556 26th Street		Hopkins	49328		MI	CP17___000
Jodi Hayes		Archaeologist	Shawnee Tribe	918-542-2441		P.O. Box 189			Miami	74355	0189	OK	CP17___000
Ron Sparkman		Chief	Shawnee Tribe			P.O. Box 189			Miami	74355	0189	OK	CP17___000
Dr. Richard Allen		Archaeologist	Cherokee Nation	918-456-6485		P.O. Box 948			Tahlequah	74465		OK	CP17___000
Bill John Baker		Principal Chief and Tribal Historic Preservation Officer	Cherokee Nation			P.O. Box 948			Tahlequah	74465		OK	CP17___000
Eric Oosahwee-Voss		Acting Tribal Historic Preservation Officer	United Keetoowah Band of Cherokee Indians of Oklahoma	918-456-8698		P.O. Box 746			Tahlequah	74465		OK	CP17___000
Joe Bunch		Chief	United Keetoowah (Band of Cherokee Indians in Oklahoma)			P.O. Box 746			Tahlequah	74465		OK	CP17___000

Yellow highlights indicate updates since 10/28/16.

Tribal Historic Preservation Officer ("THPO") contacts have been refined through consultation with each respective State Historic Preservation Office ("SHPO") and only include those Native American groups that have interest within the Project area.

Appendix 1-1
Spire STL Pipeline
Environmental and Non-Governmental Organizations ("NGOs, NGOs") Contact List

Contact Type	Contact Name	Blank	Contact Title	Contact Organization	Phone	Email	P. O. Box	Address Line 1	Address Line 2	City	Zip 1	Zip 2	State	Docket
NGO	Mark Flaspohler		Manager of Conservation	Ducks Unlimited-Missouri	573-234-2132 EX: 178	mflaspohler@ducks.org		101 Park DeVillie Drive	Suite B	Columbia	65203		MO	CP17-000
NGO	Mark Flaspohler		Manager of Conservation	Ducks Unlimited-Illinois	573-234-2132 EX: 178	mflaspohler@ducks.org		101 Park DeVillie Drive	Suite B	Columbia	65203		MO	CP17-000
NGO	Brooke Thurau		Campaign Coordinator	One Mississippi Campaign	312-754-0402	bturau@volunteercommunications.org		14 N. Pezra Street	Suite 4F	Chicago	60607		IL	CP17-000
NGO	May Bove		Executive Director	Chicago 350		mbove@350.org		20 Jay Street	Suite 732	Brooklyn	11201		NY	CP17-000
NGO	Shari Harden		President	Audubon Society-Missouri				2101 W. Broadway	PMB 122	Cloumbia	65203	1261	MO	CP17-000
NGO	Tom Clay		Executive Director	Audubon Society-Illinois	217-544-2473	tclay@illinoisaudubon.org		2315 Clear Lake Avenue		Springfield	62703		IL	CP17-000
NGO	Adam McLane		State Director	Nature Conservancy-Missouri	314-968-1105	mssouri@ncs.org		2800 S. Brentwood Blvd		Saint Louis	63144		MO	CP17-000
NGO	John Hickey		Chapter Director	Sierra Club - Missouri Chapter	314-644-1011	mssouri_chapter@sierraclub.org		2818 Sutton Blvd		St. Louis	63143		MO	CP17-000
NGO	Patricia Hagen		VP and Executive Director	Audubon Missouri	636-899-0990	hagen@audubon.org		301 Riverlands Way		West Alton	63386		MO	CP17-000
NGO	Heather Brouillet Navarro		Executive Director	Missouri Coalition for the Environment	314-727-0600	hnavarro@moenviro.org		3115 S. Grand Blvd	Suite 650	St. Louis	63119		MO	CP17-000
NGO	Rob Sargent		Energy Program Director	Environment Illinois	617-747-4317			328 S. Jefferson St.	Suite 620	Chicago	60661		IL	CP17-000
NGO	Tripp Van Noopen		President	Earthjustice	800-584-6460	headquarters@earthjustice.org		50 California Street	Suite 500	San Francisco	94111		CA	CP17-000
NGO	TBD			American Bottomlands Conservancy	N/A	N/A		527 Washington Place		East St. Louis	62205		IL	CP17-000
NGO	Susan Trautman		Executive Director	Great Rivers Greenway	314-436-7009	trautman@grgwi.org		6178 Delmar Boulevard		St. Louis	63112		MO	CP17-000
NGO	David Stokes		Executive Director	Great Rivers Habitat Alliance			P.O. Box 50014			St. Louis	63105		MO	PH16-9-000
NGO	Jack Darin		Chapter Director	Sierra Club - Illinois Chapter	312-251-1680 EX: 112	jack.darin@sierraclub.org		70 E Lake Street	Suite 1500	Chicago	60601		IL	CP17-000
NGO	Michelle Carr		State Director	Nature Conservancy-Illinois	312-580-2100	mjcarra@ncs.org		8 S. Michigan Ave	Suite 900	Chicago	60603		IL	CP17-000
NGO	David Stokes		Executive Director	Great Rivers Habitat Alliance	314-918-1351	dinfo@grha.org	P.O. Box 50014			St. Louis	63150		MO	CP17-000
NGO	Alicia Wallace		President	Missouri Caves & Karst Conservancy		president@mccavesandkarst.org	P.O. Box 190456			St. Louis	63119		MO	CP17-000
NGO	Ryan Verkamp		President	Trout Unlimited Mid-Missouri	573-817-0631	Ryan.Verkamp@gmail.com		1777 N. Kent Street	Suite 100	Arlington	22209		VA	CP17-000
NGO	John Williams		President	Great Rivers Land Trust	618-467-2265		P.O. Box 821			Alton	62002		IL	CP17-000
NGO	Yabitha Tripp		Heartwood Coordinator, Illinois	Heartwood	740-591-8166	ytripp@heartwood.org	P.O. Box 1926			Bloomington	47402		IN	CP17-000
NGO	TBD			Center for American Archeology	618-653-4316	cas@caaa-archeology.org	P.O. Box 366			Kampsville	62053		IL	CP17-000
NGO	Richard Pender		Chief	Rivers Pointe Fire Department	636-899-1122	rinfo@rpfd.com		100 Firehouse Drive		West Alton	63386		MO	CP17-000
NGO	Jeff Soer		Director of Building & Zoning and Director of Economic Development	City of Jerseyville Economic Development	618-498-3312	jsoer@jerseyville-il.us		115 East Prairie Street		Jerseyville	62052		IL	CP17-000
NGO	Jaime Aslin		Manager	Two Rivers Marina	217-437-2321	jaime@tworiversmarina.com		13495 U.S. Hwy 54		Rockport	62370		IL	CP17-000
NGO	Todd Maisch		President and CEO	Illinois Chamber of Commerce	217-522-5512 EX: 233	tmaisch@ilchamber.org		215 E. Adams St.		Springfield	62701		IL	CP17-000
NGO	Bonni L. Waters		Vice President	Jacksonville Regional Economic Development Council	217-479-4627	bonni@jredc.org		221 E. State St		Jacksonville	62850		IL	CP17-000
NGO	Harold Waggoner		President	Alton Volunteer Emergency Corps	618-462-2202			2400 Bloomer Dr		Alton	62002		IL	CP17-000
NGO	Jim Maizer		Director	Greene County Economic Development Group, Inc.	618-980-5036	jmaizer@gmai.com		314 5th Street		Carrollton	62016		IL	CP17-000
NGO	Bernie Sebold		Chief	Alton Fire Department	618-463-3565			333 E. 20th Street		Alton	62002		IL	CP17-000
NGO	Daniel Mehan		President and CEO	Missouri Chamber of Commerce	573-634-3511			428 East Capitol Ave		Jefferson City	65101		MO	CP17-000
NGO	Greg Prestemon		President and CEO	St. Charles County Economic Development Center	636-441-6880	gprestemon@edcsc.com		5988 Mid Rivers Mall Drive		St. Charles	63304		MO	CP17-000
NGO	Kelly Applegate		Staff Contact	St. Louis Economic Development Partnership	314-615-7688	kinfo@stljartnership.com		7733 Forsyth Blvd	Suites 2200 & 2300	St. Louis	63105		MO	CP17-000
NGO	Pat Van DeVelde		President	Scott County Development Corporation	N/A	pat@peepkinsuranceagency.net		35 E. Market Street		Winchester	62694		IL	CP17-000
NGO	Ellen Lutzow		President	Old Jamestown Association	314-550-0184	N/A	P.O. Box 2223			Florissant	63032		MO	CP17-000
NGO	Shari Altbrecht		CEO	Jersey County Business Association				209 N. State Street		Jerseyville	62052		IL	CP17-000

Yellow highlights indicate updates since 10/28/16.

Appendix 1-1
 Spire STL Pipeline
 Newspaper and Library Contact List

Contact Name	Blank	Contact Title	Contact Organization	Phone	Email	P. O. Box	Address Line 1	Address Line 2	City	Zip 1	Zip 2	State	Docket
Nichole Liehr		Advertising Director, General Manager	Scott County Times	217-285-2345	nliehr@campbellpublications.net		115 W. Jefferson		Pittsfield	62363		IL	CP17-__000
Nichole Liehr		Advertising Director, General Manager	Greene Prairie Press	217-285-2345	nliehr@campbellpublications.net		115 W. Jefferson		Pittsfield	62363		IL	CP17-__000
Nichole Liehr		Advertising Director, General Manager	Jersey County Journal	217-285-2345	nliehr@campbellpublications.net		115 W. Jefferson		Pittsfield	62363		IL	CP17-__000
Bob Huneke		Publisher	O'Fallon Community News	636-379-1780	bhuneke@mycnews.com		2139 Bryan Valley Commercial Drive		O'Fallon	63366		MO	CP17-__000
Bob Lindsey		Publisher	FloValley News	314-831-4645	independentnws@aol.com		25 St. Anthony Lane		Florissant	63031		MO	CP17-__000
Matt Ceresia		Advertising	St. Louis Business Journal	314-421-8343	mceresia@bizjournals.com		815 Olive St.	Suite 100	St. Louis	63101		MO	CP17-__000
Bob Botelho		Account Manager, Strategic Media	Gas Daily	720-264-6618	Robert.Botelho@sageglobal.com		1800 Larimer St.	Suite 2000	Denver	80202		CO	CP17-__000
Darlene Smith		Branch Manager	Winchester Public Library	217-742-3150	winplibrary@rtc.net		215 N Main St		Winchester	62694		IL	CP17-__000
Angie Custer		Branch Manager	Carrollton Public Library	217-942-6715			509 S Main St		Carrollton	62016		IL	CP17-__000
Anita Driver		Director	Jerseyville Public Library	618-498-9514	anita@jerseyvillelibrary.org		105 N Liberty St		Jerseyville	62052		IL	CP17-__000
Ann King		Branch Manager	St Charles City-County Library	636-753-3070	aking@stchlibrary.org		1825 Common Field St		Portage Des Sioux	63373		MO	CP17-__000
Kristen Sorth		Director	St Louis County Library (Jamestown Bluffs Branch)	314-994-3300			4153 N Hwy 67		Florissant	63034		MO	CP17-__000

Appendix 1-I
 Spire STL Pipeline
 Federal Stakeholder Contact List

Contact Name	Blank	Contact Title	Contact Organization	Phone	Email	P. O. Box	Address Line 1	Address Line 2	City	Zip 1	Zip 2	State	Docket
Dick Durbin		U.S. Senator	U.S. Senate	202-224-2152			711 Hart Senate Building		Washington	20510		DC	CP17-__-000
Dick Durbin		U.S. Senator	U.S. Senate	217-492-4062			525 S. 8th Street		Springfield	62703		IL	CP17-__-000
Karla A. Hagan		Legislative Fellow	U.S. Senate	201-224-2152	Karla_Hagan@Durbin.Senate.gov		711 Hart Senate Building		Washington	20510		DC	CP17-__-000
Mark Kirk		U.S. Senator	U.S. Senate	202-224-2854			524 Hart Senate Office Building		Washington	20510		DC	CP17-__-000
Mark Kirk		U.S. Senator	U.S. Senate	217-492-5089			607 East Adams	Ste.1520	Springfield	62701		IL	CP17-__-000
Jonathon VanderPlas		Legislative Counsel	U.S. Senate	202-224-2854	Jon_VanderPlas@kirk.senate.gov		524 Hart Senate Office Building		Washington	20510		DC	CP17-__-000
Deborah Haffner		Outreach Coordinator	U.S. Senate	217-492-5089			607 East Adams	Ste. 1520	Springfield	62701		IL	CP17-__-000
Rodney L. Davis		U.S. Representative	U.S. House of Representatives	202-225-2371			1740 Longworth House Office Building		Washington	20515		DC	CP17-__-000
Rodney L. Davis		U.S. Representative	U.S. House of Representatives	217-791-6224			2833 S Grand Ave. East		Springfield	62703		IL	CP17-__-000
Miles Chiotti		Legislative Assistant	U.S. House of Representatives	202-225-2371	Miles.Chiotti@Mail.house.gov		1740 Longworth House Office Building		Washington	20515		DC	CP17-__-000
Phillip Lesseigne		Projects and Grants Director	U.S. House of Representatives	618-205-8660			15 Professional Park Drive		Maryville	62062		IL	CP17-__-000
Darin LaHood		U.S. Representative	U.S. House of Representatives	202-225-6201			2464 Rayburn House Office Building		Washington	20515		DC	CP17-__-000
Darin LaHood		U.S. Representative	U.S. House of Representatives	309-671-7027			100 NE Monroe Street	Room 100	Peoria	61602		IL	CP17-__-000
Ashley Antoskiewicz		Legislative Director	U.S. House of Representatives	202-225-6201	Ashley.Antoskiewicz@mail.house.gov		2462 Rayburn House Office Building		Washington	20515		DC	CP17-__-000
Roy Blunt		U.S. Senator	U.S. Senate	202-224-5721			260 Russell Senate Office Building		Washington	20510		DC	CP17-__-000
Roy Blunt		U.S. Senator	U.S. Senate	314-725-4484			7700 Bonhomme	#315	Clayton	63105		MO	CP17-__-000
Downey Palmer Magallanes		Counsel	U.S. Senate	202-224-5721 202-2248148	Magallanes@B;unt.senate.gov		260 Russell Senate Office Building		Washington	20510		DC	CP17-__-000
Andrew Luck		Legislative Correspondent	U.S. Senate	202-224-5721	Andrew_Lock@Blunt.senate.gov		260 Russell Senate Office Building		Washington	20510		DC	CP17-__-000
John Scates		Community Liason	U.S. Senate	314-725-4484	John_Scates@Blunt.Senate.gov		7700 Bonhomme Ave.	#315	Clayton	63105		MO	CP17-__-000
Mary Beth Wolf		District Office Director	U.S. Senate	314-725-4484	marybeth_Wolf@Blunt.Senate.gov		7700 Bonhomme Ave	#315	Clayton	63105		MO	CP17-__-000
Emily Romines		Senate Staffer	U.S. Senate				7700 Bonhomme Ave.	#315	Clayton	63105		MO	CP17-__-000
Claire McCaskill		U.S. Senator	U.S. Senate	202-224-6154			730 Hart Senate Office Building		Washington	20510		DC	CP17-__-000
Claire McCaskill		U.S. Senator	U.S. Senate	314-367-8649			5850 Delmar Blvd.	Ste. A	St. Louis	63112		MO	CP17-__-000
Heather M. Majors		Legislative Policy Advisor	U.S. Senate				730 Hart Senate Office Building		Washington	20510		DC	CP17-__-000
Patrick T. Bond		Legislative Assistant	U.S. Senate				730 Hart Senate Office Building		Washington	201510		DC	CP17-__-000
Devine W. Shelton		Field Representative	U.S. Senate	314-361-8649			5850 Delmar Blvd.	Ste. A	St. Louis	63112		MO	CP17-__-000
Wm. Lacy Clay		U.S. Representative	U.S. House of Representatives	202-225-2406			2428 Rayburn House Office Building		Washington	20515		DC	CP17-__-000
Wm. Lacy Clay		U.S. Representative	U.S. House of Representatives	314-367-1970			111 S. 10th Street	Suite 24.344	St. Louis	63102		MO	CP17-__-000
Wm. Lacy Clay		U.S. Representative	U.S. House of Representatives	314-383-5240			1281 Graham Rd	Suite 202	Florissant	63031		MO	CP17-__-000
Tony Grandison		Congressional Staffer	U.S. House of Representatives				1281 Graham Rd	Suite 202	Florissant	63031		MO	CP17-__-000
Blaine Luetkemeyer		U.S. Representative	U.S. House of Representatives	202-225-2956			2440 Rayburn House Office Building		Washington	20515		DC	CP17-__-000
Blaine Luetkemeyer		U.S. Representative	U.S. House of Representatives	573-635-7232			2117 Missouri Boulevard		Jefferson City	65109		MO	CP17-__-000
Tammy Duckworth		U.S. Senator	U.S. Senate	202-224-2854			612 Dirksen Senate Office Building		Washington	20510		DC	CP17-__-000
Tammy Duckworth		U.S. Senator	U.S. Senate	312-886-3506			230 S. Dearborn	Suite 3900	Chicago	60604		IL	CP17-__-000

Yellow highlights indicate updates since 10/28/16.

Appendix 1-1
Spire STL Pipeline
State Stakeholder Contact List

Contact Name	Blank	Contact Title	Contact Organization	Phone	Email	P. O. Box	Address	Address 2	City	Zip 1	Zip 2	State	Docket
Bruce Rauner		Governor	Office of the Governor, State of Illinois	217-782-0244			207 State House		Springfield	62706		IL	CP17-__000
Bruce Rauner		Governor	Office of the Governor, State of Illinois	312-814-2121			100 W. Randolph	JRTC - STE 16-100	Chicago	60601		IL	CP17-__000
Alec Messina		Illinois Environmental Protection Agency	Office of the Governor, State of Illinois	217-782-3397	Alec.Messina@illinois.gov		207 State1021 North Grand Ave. East Springfield, IL 62794-9276 House		Springfield	62794		IL	CP17-__000
Evelyn Sanguinetti		Lieutenant Governor	State of Illinois	217-558-3085			214 State House		Springfield	62706		IL	CP17-__000
Evelyn Sanguinetti		Lieutenant Governor	State of Illinois	312-814-5240			100 W. Randolph	JRTC - STE 15-200	Chicago	60601		IL	CP17-__000
Lisa Madigan		Attorney General	State of Illinois	217-782-1090			500 S. Second St.		Springfield	62706		IL	CP17-__000
John J. Cullerton		President of the Senate	Illinois State Senate	217-782-2728			327 Capital Building		Springfield	62706		IL	CP17-__000
Wm. Sam McCann		State Senator	Illinois State Senate	217-782-8206	SenatorMcCann@gmail.com		108 E. State Capital Building		Springfield	62706		IL	CP17-__000
Wm. Sam McCann		State Senator	Illinois State Senate	217-245-0021			221 Dunlap Ct.		Jacksonville	62650		IL	CP17-__000
William R. Haine		State Senator	Illinois State Senate	217-782-5247			311C Capital Building		Springfield	62706		IL	CP17-__000
Patrick McGuire		State Senator	Illinois State Senate	217-782-8800			311B Capital Building		Springfield	62706		IL	CP17-__000
Sue Rezin		State Senator	Illinois State Senate	217-782-3840			309J Capital Building		Springfield	62706		IL	CP17-__000
Michael J. Madigan		State Representative	Illinois General Assembly	217-782-5350			300 Capital Building		Springfield	62706		IL	CP17-__000
C. D. Davidsmeyer		State Representative	Illinois General Assembly	217-782-1840	repccdavidsmeyer@gmail.com		220- N Stratton Office Building		Springfield	62706		IL	CP17-__000
C. D. Davidsmeyer		State Representative	Illinois General Assembly	217-243-6221			325 W. State St.		Jacksonville	62650		IL	CP17-__000
Patrick J. Verschoore		State Representative	Illinois General Assembly	217-782-5970			263-S Stratton Office Building		Springfield	62706		IL	CP17-__000
Brandon W. Phelps		State Representative	Illinois General Assembly	217-782-5131			200-9S Stratton Office Building		Springfield	62706		IL	CP17-__000
Daniel V. Beiser		State Representative	Illinois General Assembly	217-782-5996			269-S Stratton Office Building		Springfield	62706		IL	CP17-__000
Linda Chapa LaVia		State Representative	Illinois General Assembly	217-558-1002			229-E Stratton Office Building		Springfield	62706		IL	CP17-__000
Raymond Poe		Director	Illinois Department of Agriculture	217-782-2172		P. O. Box 19281	State Fair Grounds		Springfield	62794		IL	CP17-__000
Warren D. Goetsch		Deputy Director	Illinois Department of Agriculture	217-785-4747	warren.goetsch@illinois.gov	P. O. Box 19281	State Fair Grounds		Springfield	62794		IL	CP17-__000
Wayne Rosenthal		Director	Illinois Department of Natural Resources	217-785-0075	dnr.director@illinois.gov		One Natural Way		Springfield	62702		IL	CP17-__000
Sean McCarthy		Acting Director	Illinois Department of Commerce and Economic Development	217-782-7500			500 E. Monroe		Springfield	62701		IL	CP17-__000
Brien Sheahan		Chairman	Illinois Commerce Commission	217-782-7701			527 E. Capitol Ave	FL 007	Springfield	62701		IL	CP17-__000
John Rosales		Commissioner	Illinois Commerce Commission	312-814-2850			160 N. LaSalle	FL 008	Chicago	60601		IL	CP17-__000
Ann McCabe		Commissioner	Illinois Commerce Commission	312-814-2850			160 N. LaSalle	FL 008	Chicago	60601		IL	CP17-__000
Miguel del Valle		Commissioner	Illinois Commerce Commission	312-814-2850			160 N. LaSalle	FL 008	Chicago	60601		IL	CP17-__000
Sherina Maye Edwards		Commissioner	Illinois Commerce Commission	312-814-2850			160 N. LaSalle	FL 008	Chicago	60601		IL	CP17-__000
Jim Watson		Executive Director	Illinois Petroleum Council	217-544-7404			400 W Monroe St	#205	Springfield	62704		IL	CP17-__000
Nick Williams		Associate Director	Illinois Petroleum Council	217-544-7404			400 W Monroe St	#205	Springfield	62704		IL	CP17-__000
Kim Tribbet		Permit Supervisor	Illinois Dept of Transportation	217-524-7765	Michael.p.lrwin@illinois.gov		126 E. Ash St.		Springfield	62702		IL	CP17-__000
Michael P. Irwin		Plans & Design Engineer	Illinois Dept of Transportation	217-782-7745	kim.tribbet@illinois.gov		126 E. Ash St.		Springfield	62702		IL	CP17-__000
Katie Stonewater		Executive Director	Illinois Chamber of Commerce	618-540-8381 C	kstonewater@lchamber.org		300 S. Wacker Dr.	Suite 1600	Chicago	60606		IL	CP17-__000
Bill P. Houlihan		State Director	Office of US Senator Richard J. Durbin	217-492-4062	bill_houlihan@durbin.senate.gov		525 S. 8th Street		Springfield	62703		IL	CP17-__000
Brad Stotler		District Director	Peoria Office, Office of Representative Darin LaHood	309-671-7027	brad.scotler@mail.house.gov		100 NE Monroe Street	Room 100	Peoria	62602		IL	CP17-__000
Jason Heffley		Policy Advisor for Environment & Energy	Office of the Governor, State of Illinois	217-685-9867	jason.heffley@illinois.gov		207 State House		Springfield	62706		IL	CP17-__000
Jay Nixon		Governor	State of Missouri	573-751-3222		P.O. Box 720	Office of Governor Jay Nixon		Jefferson City	65102		MO	CP17-__000
William Miller		Senior Policy Advisor	State of Missouri	573-645-8862	bill.miller@mo.gov		Office of the Governor Jay Nixon	State Capitol Building Room 216	Jefferson City	65102		MO	CP17-__000
Peter Kinder		Lieutenant Governor	State of Missouri	573-751-4727			Office of the Lieutenant Governor	State Capitol Building- Room 224	Jefferson City	65104		MO	CP17-__000
Jason Kander		Secretary of State	State of Missouri	573-751-4936			600 West Main Street		Jefferson City	65104		MO	CP17-__000
Chris Koster		Attorney General	State of Missouri	573-751-3321			Supreme Court Building	207 W. High	Jefferson City	65102		MO	CP17-__000
Joan Gummels		General Counsel	Attorney Generals Office of Missouri	573-751-3321			P. O. Box 899		Jefferson City	65101		MO	CP17-__000
Ron Richard		State Senator	Missouri Senate	573-751-2173			201 W Capitol Ave.	Rm. 326	Jefferson City	65101		MO	CP17-__000
Gina Walsh		State Senator	Missouri Senate	573-751-2420			201 W Capitol Ave.	Rm. 427	Jefferson City	65101		MO	CP17-__000
Todd Richardson		Mr. Speaker	Missouri House of Representatives	573-751-4039			201 W Capitol Ave.	Rm. 308	Jefferson City	65101		MO	CP17-__000
Anne Zerr		State Representative	Missouri House of Representatives	573-751-3717			201 W Capitol Ave.	Rm. 315	Jefferson City	65101		MO	CP17-__000
Tommie Pierson		State Representative	Missouri House of Representatives	573-751-6845			201 W Capitol Ave.	Rm. 101-H	Jefferson City	65101		MO	CP17-__000
Alan Green		State Representative	Missouri House of Representatives	573-751-2135			201 W Capitol Ave.	Rm. 102-BA	Jefferson City	65101		MO	CP17-__000
Daniel Hall		Chairman	Missouri Public Service Commission	573-751-3234		PO Box 360	200 Madison Street		Jefferson City	65102		MO	CP17-__000
Mark Hughes		PSC Advisor	Missouri Public Service Commission	573-751-7434		PO Box 360	200 Madison Street		Jefferson City	65102		MO	CP17-__000
Stephen Stoll		Commissioner	Missouri Public Service Commission	573-751-3234		PO Box 360	200 Madison Street		Jefferson City	65102		MO	CP17-__000
William Kenny		Commissioner	Missouri Public Service Commission	573-751-3234		PO Box 360	200 Madison Street		Jefferson City	65102		MO	CP17-__000
Scott Rupp		Commissioner	Missouri Public Service Commission	573-751-3234		PO Box 360	200 Madison Street		Jefferson City	65102		MO	CP17-__000
Maida Coleman		Commissioner	Missouri Public Service Commission	573-751-3234		PO Box 360	200 Madison Street		Jefferson City	65102		MO	CP17-__000
Shelley Burggemann		General Counsel	Missouri Public Service Commission	573-751-3234		PO Box 360	200 Madison Street		Jefferson City	65102		MO	CP17-__000
Eric Greitens		Governor	State of Missouri	573-751-3222		P.O. Box 720	Office of Governor Eric Greitens		Jefferson City	65102		MO	CP17-__000
Mike Parson		Lieutenant Governor	State of Missouri	573-751-4727			Office of the Lieutenant Governor	State Capitol Building Room 224	Jefferson City	65101		MO	CP17-__000
John R. Ashcroft		Secretary of State	State of Missouri	573-751-4936			600 West Main Street		Jefferson City	65101		MO	CP17-__000

Yellow highlights indicate updates since 10/28/16.
Strikeout text indicates contacts that have been removed.

Appendix 1-1
 Spire STL Pipeline
 County Stakeholder Contact List

Contact Name	Blank	Contact Title	Contact Organization	Phone	Email	P.O. Box	Address Line 1	Address Line 2	City	Zip 1	Zip 2	State	Docket
Pam Warford		County Clerk & Recorder	Jersey County	618-498-5571	countyclerk@jerseycounty-il.us	P. O. Box 216			Jerseyville	62052		IL	CP17-__000
Donald Little		County Board Chairman	Jersey County	618-203-3662	boardchairman@jerseycounty-il.us		200 N. Lafayette St	Suite 3	Jerseyville	62052		IL	CP17-__000
Pam Heitzig		Vice Chairman	Jersey County	618-498-5572	pheitzig@jerseycounty-il.us		200 N. Lafayette St	Suite 4	Jerseyville	62052		IL	CP17-__000
Roger Newberry		Board Member	Jersey County	618-946-4991	rnewberry@jerseycounty-il.us		200 N. Lafayette St		Jerseyville	62052		IL	CP17-__000
Mary Kirbach		Board Member	Jersey County	618-946-5407	mkirbach@jerseycounty-il.us		200 N. Lafayette St		Jerseyville	62052		IL	CP17-__000
Wayne Schell		Board Member	Jersey County	618-946-1143	wshell@jerseycounty-il.us		200 N. Lafayette St		Jerseyville	62052		IL	CP17-__000
Sandy Hefner		Board Member	Jersey County	618-954-8650	shefner@jerseycounty-il.us		200 N. Lafayette St		Jerseyville	62052		IL	CP17-__000
Jerry Whittman		Board Member	Jersey County	618-954-0846	jwhittman@jerseycounty-il.us		200 N. Lafayette St		Jerseyville	62052		IL	CP17-__000
Rhonda Linders		Board Member	Jersey County	618-709-6667	rlinders@jerseycounty-il.us		200 N. Lafayette St		Jerseyville	62052		IL	CP17-__000
Ron Henerfouth		Board Member	Jersey County	618-560-1585	rhenerfouth@jerseycounty-il.us		200 N. Lafayette St		Jerseyville	62052		IL	CP17-__000
Brian Kanallakan		Board Member	Jersey County	618-781-6759	bkanallakan@jerseycounty-il.us		200 N. Lafayette St		Jerseyville	62052		IL	CP17-__000
Gary Krueger		Board Member	Jersey County	618-535-5419	gkrueger@jerseycounty-il.us		200 N. Lafayette St		Jerseyville	62052		IL	CP17-__000
Ed Koenig		Board Member	Jersey County	618-885-5415	ekoenig@jerseycounty-il.us		200 N. Lafayette St		Jerseyville	62052		IL	CP17-__000
Gilbert Ashlock		County Treasurer	Jersey County	618-498-5571 ex: 109, 110, 111	treasurer@jerseycounty-il.us		200 N. Lafayette St	Suite 5	Jerseyville	62052		IL	CP17-__000
Crystal Perry		County Assessor	Jersey County	618-498-5571 x126	countyassessor@jerseycounty-il.us		200 N. Lafayette St	Suite 4	Jerseyville	62052		IL	CP17-__000
Cindy Cregmiles		Code Administrator	Jersey County	618-498-5571 x146	codeadmin1@jerseycounty-il.us		200 N. Lafayette St	Suite 6	Jerseyville	65052		IL	CP17-__000
Tom Klasner, P.E.		County Engineer	Jersey County	618-535-7969	tklasner@jerseycounty-il.us		722 State Hwy 16	Jersey County Highway Dept.	Jerseyville	62052		IL	CP17-__000
Deborah Banghart		County Clerk	Greene County	217-942-5443	grctyck@hotmail.com		519 North Main Street		Carrollton	62016		IL	CP17-__000
Joe Nord		Chairman	Greene County	217-942-5443			519 North Main Street		Carrollton	62016		IL	CP17-__000
Randy Custer		Board Member	Greene County	217-942-5443			519 North Main Street		Carrollton	62016		IL	CP17-__000
John Goode		Board Member	Greene County	217-942-5443			519 North Main Street		Carrollton	62016		IL	CP17-__000
Luke Lamb		Board Member	Greene County	217-942-5443			519 North Main Street		Carrollton	62016		IL	CP17-__000
Michael McNear		Board Member	Greene County	217-942-5443			519 North Main Street		Carrollton	62016		IL	CP17-__000
Mark Strang		Vice Chair/Board Member	Greene County	217-370-6830	strang550@yahoo.com		519 North Main Street		Carrollton	62016		IL	CP17-__000
Joyce Clark		Board Member	Greene County	217-942-5443			519 North Main Street		Carrollton	62016		IL	CP17-__000
Joyce Clark		Board Member	Greene County	217-942-5443			519 North Main Street		Carrollton	62016		IL	CP17-__000
David Maruth		County Engineer	Greene County	217-942-5124			IL-108		Carrollton	62016		IL	CP17-__000
Jill Waldheuser		County Assessor	Greene County	217 942-6412			519 North Main Street		Carrollton	62016		IL	CP17-__000
Sandy Hankins		County Clerk	Scott County	217-742-3173	scottclerk@frontier.com		35 E Market		Winchester	62694		IL	CP17-__000
Craig Lashmett		Commissioner	Scott County	217-742-3178	clash@irtc.net	PO Box 106	989 Old Rt 36,		Winchester	62694		IL	CP17-__000
Bob Schafer		Commissioner	Scott County	217-742-5217	scha4@irtc.net		273 Harts School Rd		Murrayville	62694		IL	CP17-__000
Danny Hatcher		Commissioner	Scott County	217-742-5532			35 E Market		Winchester	62694		IL	CP17-__000
Mark Ford		County Treasurer	Scott County		scottctreasurer@frontier.com		35 E Market		Winchester	62694		IL	CP17-__000
Lorrie Koch		County Assessor	Scott County		scottcoassessor@frontier.com		35 E Market		Winchester	62694		IL	CP17-__000
David King		Sheriff	Scott County	217-742-3141			35 E Market		Winchester	62694		IL	CP17-__000
Steve Stenger		County Executive	Saint Louis County	314-615-7016	sstenger@stlouisco.com		41 South Central Ave		Clayton	63105		MO	CP17-__000
Jeff Wagner		Chief of Policy	Saint Louis County	314-615-7020	jwagner@stlouis.co.com		41 South Central Ave		Clayton	63105		MO	CP17-__000
Genevieve Frank		County Clerk	Saint Louis County	314-615-5440	gfrank@stlouisco.com		41 South Central Ave		Clayton	63105		MO	CP17-__000
Hazel Erby		County Council	Saint Louis County	314-615-5436	HErby@stlouisco.com		41 South Central Ave		Clayton	63105		MO	CP17-__000
Sam Page		County Council	Saint Louis County	314-615-5437	SPage@stlouisco.com		41 South Central Ave		Clayton	63105		MO	CP17-__000
Colleen Wasinger		County Council	Saint Louis County	314-615-5438	CWasinger@stlouisco.com		41 South Central Ave		Clayton	63105		MO	CP17-__000
Michael O'Mara		County Council	Saint Louis County	314-615-5439	MOmara@stlouisco.com		41 South Central Ave		Clayton	63105		MO	CP17-__000
Pat Dolan		County Council	Saint Louis County	314-615-5441	PDolan@stlouisco.com		41 South Central Ave		Clayton	63105		MO	CP17-__000
Kevin O'Leary		County Council	Saint Louis County	314-615-0159	koleary@stlouisco.com		41 South Central Ave		Clayton	63105		MO	CP17-__000
Mark Harder		County Council	Saint Louis County	314-615-5443	mharder@stlouisco.com		41 South Central Ave		Clayton	63105		MO	CP17-__000
Mark Devore		Collector of Revenue	Saint Louis County	314-615-7191	mdevore@stlouisco.com		41 South Central Ave		Clayton	63105		MO	CP17-__000
Mark Diedrich		Director of Emergency Management	Saint Louis County	314-615-9500	mdiedrich@stlouisco.com		1150 Hanna Road		Ballwin	63021		MO	CP17-__000

Appendix 1-I
 Spire STL Pipeline
 County Stakeholder Contact List

Contact Name	Blank	Contact Title	Contact Organization	Phone	Email	P.O. Box	Address Line 1	Address Line 2	City	Zip 1	Zip 2	State	Docket
Jake Zimmerman		County Assessor	Saint Louis County	314-615-5500	jjzimmerman@stlouisco.com		41 South Central Avenue		Clayton	63105		MO	CP17-__-000
Nicholas D. Gardner, Ph.D., P.E.		Director	Saint Louis County Transportation & Public Works	314-615-8501	ngardner@stlouisco.com		1050 N. Lindbergh		St. Louis	63132		MO	CP17-__-000
Matthew J. Gruendler, P.E.		Construction Division Manager	Saint Louis County Transportation & Public Works	314-615-1159	mgruendler@stlouisco.com		1050 N. Lindbergh		St. Louis	63132		MO	CP17-__-000
Stephanie Leon Streeter, P.E.		Deputy Dircetor	Saint Louis County Transportation & Public Works	314-615-8501	sleonstreeter@stlouisco.com		1050 N. Lindbergh		St. Louis	63132		MO	CP17-__-000
Glenn A. Powers		Director of Planning	Saint Louis County Planning	314-615-2515	gpowers@stlouisco.com		41 South Central Avenue		St. Louis	63105		MO	CP17-__-000
Daniel W. Drisewerd, P.E., PTOE		Division Manager, Code Enforcement	Saint Louis County Transportation & Public Works	314-615-8190	dtdreisewerd@stlouisco.com		41 South Central Avenue		St. Louis	63105		MO	CP17-__-000
Ruth Miller		County Clerk/Registrar	St. Charles County	636-949-7560	registrar@sccmo.org		201 N. Second Ave	Suite 541	St. Charles	63301		MO	CP17-__-000
Joe Cronin		Councilmember	St. Charles County	636-949-7530	jcronin@sccmo.org		100 N. 3rd Street	Suite 124	St. Charles	63301		MO	CP17-__-000
Joe Brazil		Councilmember	St. Charles County	636-949-7530	jbrazil@sccmo.org		100 N. 3rd Street	Suite 124	St. Charles	63301		MO	CP17-__-000
Mike Elam		Councilmember	St. Charles County	636-949-7530	melam@sccmo.org		100 N. 3rd Street	Suite 124	St. Charles	63301		MO	CP17-__-000
Dave Hammond		Councilmember	St. Charles County	636-949-7530	dhammond@sccmo.org		100 N. 3rd Street	Suite 124	St. Charles	63301		MO	CP17-__-000
Terry Hollander		Councilmember	St. Charles County	636-949-7530	thollander@sccmo.org		100 N. 3rd Street	Suite 124	St. Charles	63301		MO	CP17-__-000
Mike Klinghammer		Councilmember	St. Charles County	636-949-7530	mklinghammer@sccmo.org		100 N. 3rd Street	Suite 124	St. Charles	63301		MO	CP17-__-000
John White		Councilmember	St. Charles County	636-949-7530	jwhite@sccmo.org		100 N. 3rd Street	Suite 124	St. Charles	63301		MO	CP17-__-000
Michelle McBride		Collector of Revenue	St. Charles County	636-949-7470	collector@sccmo.org		201 N. Second Ave	Suite 134	St. Charles	63301		MO	CP17-__-000
Ina McCaine-Obenland		Operations and Public Outreach	St. Charles County	636-949-3023 314-267-6908 C	imccaine@sccmo.org		301 N. Second Street	Room 280	St. Charles	63301		MO	CP17-__-000
Tom Koch		Emergency Management Director	St. Charles County	636-949-3023	ema@sccmo.org		301 N. Second Street	Room 280	St. Charles	63301		MO	CP17-__-000
Scott Shipman		County Assessor	St. Charles County	636-949-7425	cyassess@sccmo.org		201 N. Second Ave		St. Charles	63301		MO	CP17-__-000
Steve Ehlmann		County Executive	St. Charles County	636-949-7520	executive@sccmo.org		100 N. 3rd Street		St. Charles	63301		MO	CP17-__-000

Appendix 1-1
Spire STL Pipeline
City Stakeholder Contact List

Contact Name	Blank	Contact Title	Contact Organization	Phone	Email	P.O. Box	Address Line 1	Address Line 2	City	Zip 1	Zip 2	State	Docket
William Russel		Mayor	City of Jerseyville	618-498-2400	brussell@jerseyville-il.us		115 East Prairie Street		Jerseyville	62052		IL	CP17- -000
Gary Goetten		City Council	City of Jerseyville	618-498-3312	rgarygoetten@jerseyville-il.us		115 East Prairie Street		Jerseyville	62052		IL	CP17- -000
Richard Perdun		City Council	City of Jerseyville	618-498-3312	rperdun@jerseyville-il.us		115 East Prairie Street		Jerseyville	62052		IL	CP17- -000
Steve Pohlman		City Council	City of Jerseyville	618-498-3312	spohlman@jerseyville-il.us		115 East Prairie Street		Jerseyville	62052		IL	CP17- -000
Kevin Stork		City Council	City of Jerseyville	618-498-3312	kstork@jerseyville-il.us		115 East Prairie Street		Jerseyville	62052		IL	CP17- -000
William Strang		City Council	City of Jerseyville	618-498-6821	bstrang@jerseyville-il.us		115 East Prairie Street		Jerseyville	62052		IL	CP17- -000
Denise Hayes		Deputy City Clerk	City of Jerseyville	618-498-3312	denisehayes@jerseyville-il.us		115 East Prairie Street		Jerseyville	62052		IL	CP17- -000
Cathie Ward		City Clerk	City of Jerseyville	618-498-3312	cathieward@jerseyville-il.us		115 East Prairie Street		Jerseyville	62052		IL	CP17- -000
Jeffery S. Soer		Director of Building and Zoning	City of Jerseyville	618-498-3312	jeffsoer@jerseyville-il.us		115 East Prairie Street		Jerseyville	65052		IL	CP17- -000
Alan Gowin		Fire Chief	City of Jerseyville	618-498-3312	jerseyvillefd@jerseyville-il.us		115 East Prairie Street		Jerseyville	62052		IL	CP17- -000
Earl "Joe" Harness Jr.		Mayor Pro Tempore	City of Carrollton	217-942-5517			621 South Main Street		Carrollton	62016		IL	CP17- -000
Ryan Scott		City Clerk	City of Carrollton	217-942-5517	ryanscott.cityclerk@gmail.com		621 South Main Street		Carrollton	62016		IL	CP17- -000
Francis "Gene" Baker		Alderman	City of Carrollton				621 South Main Street		Carrollton	62016		IL	CP17- -000
Susie Keller		Alderman	City of Carrollton				621 South Main Street		Carrollton	62016		IL	CP17- -000
Tom Wilson		Alderman	City of Carrollton				621 South Main Street		Carrollton	62016		IL	CP17- -000
Sharon Butler		Alderman	City of Carrollton				621 South Main Street		Carrollton	62016		IL	CP17- -000
Dewain Freand		Alderman	City of Carrollton				621 South Main Street		Carrollton	62016		IL	CP17- -000
Terry Gross		Chief of Police	City of Carrollton	217-942-3135	carrolltonpd1@gmail.com		621 South Main Street		Carrollton	62016		IL	CP17- -000
Tom Lakin		Mayor	City of White Hall	217-374-2481	tlakin@whitehallcitygov.com		116 East Sherman		White Hall	62092		IL	CP17- -000
Mike Kleidon		Alderman	City of White Hall	217-374-2345	mkleidon@whitehallcitygov.com		116 East Sherman		White Hall	62092		IL	CP17- -000
Rick Cox		Alderman	City of White Hall	217-374-2345	rcox@whitehallcitygov.com		116 East Sherman		White Hall	62092		IL	CP17- -000
Brad Staats		Alderman	City of White Hall	217-374-2345	bstaats@whitehallcitygov.com		116 East Sherman		White Hall	62092		IL	CP17- -000
Tamra Winters		Alderwoman	City of White Hall	217-374-2345	twinters@whitehallcitygov.com		116 East Sherman		White Hall	62092		IL	CP17- -000
Ed Foley		Alderman	City of White Hall	217-374-2345	efoley@whitehallcitygov.com		116 East Sherman		White Hall	62092		IL	CP17- -000
Norman Coad		Alderman	City of White Hall	217-374-2345	ncoad@whitehallcitygov.com		116 East Sherman		White Hall	62092		IL	CP17- -000
Sue Reno		City Clerk	City of White Hall	217-374-2345	sreno@whitehallcitygov.com		116 East Sherman		White Hall	62092		IL	CP17- -000
Gary Sheppard		Fire Chief	City of White Hall	217-374-2134	gsheppard@whitehallcitygov.com		116 East Sherman		White Hall	62092		IL	CP17- -000
Tommy Martin		Mayor	City of Roodhouse	217-589-4351			137 West Palm St		Roodhouse	62082		IL	CP17- -000
Gladys "Patty" Plahn		City Clerk	City of Roodhouse	217-589-4351			137 West Palm St		Roodhouse	62082		IL	CP17- -000
Dennis Cumby		Alderman	City of Roodhouse	217-589-4352			137 West Palm St		Roodhouse	62082		IL	CP17- -000
Jim Knox		Alderman	City of Roodhouse	217-589-4353			137 West Palm St		Roodhouse	62082		IL	CP17- -000
Garrett Rogers		Alderman	City of Roodhouse	217-589-4354			137 West Palm St		Roodhouse	62082		IL	CP17- -000
Charlie Huffine		Alderman	City of Roodhouse	217-589-4355			137 West Palm St		Roodhouse	62082		IL	CP17- -000
Joe Starnes		Fire Chief	City of Roodhouse	217-589-4141			1140 S. State St		Roodhouse	62082		IL	CP17- -000
David R. King		Sheriff	City of Winchester	217-742-3141			101 East Market Street		Winchester	62694		IL	CP17- -000
Brenda Robinson		City Clerk	City of Winchester	217-742-3191			121 S. Hill Street		Winchester	62694		IL	CP17- -000
Rex McIntire		Mayor	City of Winchester	217-742-3191			121 S. Hill Street		Winchester	62694		IL	CP17- -000
Steve Hoots		Alderman	City of Winchester	217-742-3191			121 S. Hill Street		Winchester	62694		IL	CP17- -000
Barb Nash		Alderman	City of Winchester	217-742-3191			121 S. Hill Street		Winchester	62694		IL	CP17- -000
Cheryl Day		Alderwoman	City of Winchester	217-742-3191			121 S. Hill Street		Winchester	62694		IL	CP17- -000
Bill Jacquot		Alderman	City of Winchester	217-742-3191			121 S. Hill Street		Winchester	62694		IL	CP17- -000
Fred Andrews		Alderman	City of Winchester	217-742-3191			121 S. Hill Street		Winchester	62694		IL	CP17- -000
Chris Renner		Alderwoman	City of Winchester	217-742-3191			121 S. Hill Street		Winchester	62694		IL	CP17- -000
John Coonrod		City Attorney	City of Winchester	217-742-3191			121 S. Hill Street		Winchester	62694		IL	CP17- -000
Amy Brown		Treasurer	City of Winchester	217-742-3191			121 S. Hill Street		Winchester	62694		IL	CP17- -000
Joe Starnes		Fire Chief	City of Winchester	217-742-3191			121 S. Hill Street		Winchester	62694		IL	CP17- -000
Thomas P. Schneider		Mayor	City of Florissant	314-839-7601			955 Rue St Francois		Florissant	63031		MO	CP17- -000
Karen Goodwin		City Clerk	City of Florissant	314-839-7630	kgoodwin@florissantmo.com		955 Rue St Francois		Florissant	63031		MO	CP17- -000
Anita Moore		Deputy City Clerk	City of Florissant	314-839-7631	amoore@florissantmo.com		955 Rue St Francois		Florissant	63031		MO	CP17- -000
Tim Lee		City Council	City of Florissant	314-839-7631	ward1@florissantmo.com		955 Rue St Francois		Florissant	63031		MO	CP17- -000
Timothy Jones		City Council	City of Florissant	314-839-7631	ward2@florissantmo.com		955 Rue St Francois		Florissant	63031		MO	CP17- -000
Joseph Eagan		City Council	City of Florissant	314-839-7631	ward3@florissantmo.com		955 Rue St Francois		Florissant	63031		MO	CP17- -000
Jeff Caputa		City Council	City of Florissant	314-839-7631	ward4@florissantmo.com		955 Rue St Francois		Florissant	63031		MO	CP17- -000
Keith Schildroth		City Council	City of Florissant	314-839-7631	ward5@florissantmo.com		955 Rue St Francois		Florissant	63031		MO	CP17- -000
Gerald Henke		City Council	City of Florissant	314-839-7631	ward6@florissantmo.com		955 Rue St Francois		Florissant	63031		MO	CP17- -000
Jackie Pagano		City Council	City of Florissant	314-839-7631	ward7@florissantmo.com		955 Rue St Francois		Florissant	63031		MO	CP17- -000
Mark Schmidt		City Council	City of Florissant	314-839-7631	ward8@florissantmo.com		955 Rue St Francois		Florissant	63031		MO	CP17- -000
Tommy Siam		City Council	City of Florissant	314-839-7631	ward9@florissantmo.com		955 Rue St Francois		Florissant	63031		MO	CP17- -000
Julie Griffith		President	Spanish Lake Community Association	314-791-8083	rjgriffy@sbcglobal.net		8969 Dunn Road		Hazelwood	63042		MO	CP17- -000
William Richter		Mayor	West Alton	636-899-0808		PO Box 42	14068 N State Route 94		West Alton	63386		MO	CP17- -000
Beth Machens		City Clerk	West Alton	636-899-0808		PO Box 42	14068 N State Route 94		West Alton	63386		MO	CP17- -000
Janet Neustadt		Alderman	West Alton	636-899-0233		PO Box 42	14068 N State Route 94		West Alton	63386		MO	CP17- -000
Edward Shaub		Alderman	West Alton	636-448-4075		PO Box 42	14068 N State Route 94		West Alton	63386		MO	CP17- -000
William Brass		Alderman	West Alton	636-899-1546		PO Box 42	14068 N State Route 94		West Alton	63386		MO	CP17- -000
Nick Wunderlich		Alderman	West Alton	636-233-1583		PO Box 42	14068 N State Route 94		West Alton	63386		MO	CP17- -000
Norman C. McCourt		Mayor	City of Black Jack	314-355-0400	mayor@cityofblackjack.com		City Hall	12500 Old Jamestown Road	Black Jack	63033		MO	CP17- -000
Rick Steigenwald		City Council	City of Black Jack				City Hall	12500 Old Jamestown Road	Black Jack	63033		MO	CP17- -000
Donald Krank		City Council	City of Black Jack				City Hall	12500 Old Jamestown Road	Black Jack	63033		MO	CP17- -000
Sandra Muller		City Council	City of Black Jack				City Hall	12500 Old Jamestown Road	Black Jack	63033		MO	CP17- -000
Al Schroeder		City Council	City of Black Jack				City Hall	12500 Old Jamestown Road	Black Jack	63033		MO	CP17- -000
Arnold Hinkle		City Council	City of Black Jack				City Hall	12500 Old Jamestown Road	Black Jack	63033		MO	CP17- -000
A. J. White		City Council	City of Black Jack				City Hall	12500 Old Jamestown Road	Black Jack	63033		MO	CP17- -000

Appendix 1-1
Spire STL Pipeline
City Stakeholder Contact List

Contact Name	Blank	Contact Title	Contact Organization	Phone	Email	P.O. Box	Address Line 1	Address Line 2	City	Zip 1	Zip 2	State	Docket
Benjamin T. Allen		City Council	City of Black Jack				City Hall	12500 Old Jamestown Road	Black Jack	63033		MO	CP17- -000
John Taylor		City Council	City of Black Jack				City Hall	12500 Old Jamestown Road	Black Jack	63033		MO	CP17- -000
Vijay K. Bhasin, P.E.		City Engineer	City of Black Jack	314-355-0400 ext. 110	cityengineer@cityofblackjack.com		City Hall	12500 Old Jamestown Road	Black Jack	63033		MO	CP17- -000
Rodney Grady		Treasurer	City of Black Jack				City Hall	12500 Old Jamestown Road	Black Jack	63033		MO	CP17- -000

Appendix 1-1
Spire STL Pipeline
Additional Stakeholder Contact List

Contact Name	Blank	Contact Title	Contact Organization	Phone	Email	P.O.Box	Address	Address 2	City	Zip 1	Zip 2	State	Docket
Shari Albrecht		CEO	Jersey County Business Association	618-639-5222			209 N State St		Jerseyville	62052		IL	CP17-__000
Eric Arbetter		Assitant Superintendent for Curriculum and Instruction	Hazelwood School District	314-953-5000	earbettr@hazelwoodschoools.org		15955 New Halls Ferry Road		Florissant	63031		MO	CP17-__000
Andrea Ahearn		Account Manager	Aerotek	314-801-5245	aahearn@aerotek.com		Two City Place Drive	Suite100	St. Louis	63141		MO	CP17-__000
Barb Baker for Congressman Darin LaHood				217-245-1431	barb_baker@mail.house.gov		201 W. Morgan		Jacksonville	62650		IL	CP17-__000
Greg Bates				618-779-2417			1009 State HWY 16		Jerseyville	62052		IL	CP17-__000
Brad Behymer				942-5402 ex. 112	bradley.behymer@il.usda.gov		RR #3 Box 129A		Carrollton	62016		IL	CP17-__000
Kenny Biermann				636-561-0993			3308 Apple Valley Drive		O'Fallon	63366		MO	CP17-__000
Jim Boeringer				636-634-1779			5520 N. HWY 94		St. Charles	63301		MO	CP17-__000
David Bonderer				636-899-0933	saalefr@aol.com		535 Saale Rd.		West Alton	63301		MO	CP17-__000
Jeanne Clanton				314-331-8810	willie@richterfarms.com		R#1 Box 12A		Carrollton	62016		IL	CP17-__000
John Coonrod				217-370-3593	john.p.coonrod@coonrodlawoffice.com		PO Box 197		Winchester	62694		IL	CP17-__000
Rachel Cooper				217-320-2492	starcoop@frontier.com		1247 Clay Hollow Rd		Winchester	62694		IL	CP17-__000
Emma Crathis							1901 Chocteau Ave		St. Louis	63103		MO	CP17-__000
Cindy Creggiles				618-535-1797			13749 Otter Creek W. Fiedod (illegible)		Jerseyville	62052		IL	CP17-__000
Dee Damm							RR #3 Box 14		Roodhouse	62082		IL	CP17-__000
Bernie Darg				217-788-4306	bdarg@stlouisco.com		25265 Bethany Ch. Rd.		Springfield	62701		IL	CP17-__000
Bonnie Diaz				314-615-7116	bdiaz@stlouisco.com		41 S. Central Ave		St. Louis	63105		MO	CP17-__000
Linda Dislehorst				217-787-3920	linddis@aol.com		2232 W Laurel St		Springfield	62704		IL	CP17-__000
Dan Drescher					cdandrescher@aol.com		PO Box 73		Elsah	62028		IL	CP17-__000
Gary Flatt				217-942-3189	bradley.behymer@il.usda.gov		R3-Box 410		Carrollton	62016		IL	CP17-__000
Laura Duckett				217-341-5084	lduckett@gmail.com		RR 1 Box 98A		Roodhouse	62082		IL	CP17-__000
Tim Eggers					teggers1@yahoo.com		2339 Stoncrest		Washington	63090		IL	CP17-__000
Rich Georgy							RR 1 Box 136		Roodhouse	62082		IL	CP17-__000
Robert Ginness				636-947-7711	ginness@ste-legal.com		50 Hill Pointe Ct. Ste 200		St. Charles	63303		MO	CP17-__000
Mike Gourley				217-371-9661	Gourley03@frontier.com		RR#3 Box 124		Carrollton	62016		IL	CP17-__000
Rita Gormy				618-791-6046			814-6th		Collinsville	62234		IL	CP17-__000
Larry Gowrley				314-575-1910			RR3 Box 233		Carrollton	62016		IL	CP17-__000
Nick W. Graham				217-942-6966	nick@rustinelaw.com		620 North Main St.		Carrollton	62016		IL	CP17-__000
Chauncey Granger		Principal of Hazelwood Southeast Middle School	Hazelwood School District	314-953-5000	CGranger@hazelwoodschoools.org		15955 New Halls Ferry Road		Florissant	63031		MO	CP17-__000
Julie Griffith				314-791-8083	mgriffit@sbglobal.net		13115 Lester Dr		St. Louis	63138		MO	CP17-__000
Jerry Harris				314-355-0369			1008 Prigge Road		St. Louis	63138		MO	CP17-__000
Randy Harris				217-782-4306	rharris@midwestlaborers.org		1 NW. Old State Capital Plaza Ste. 525		Springfield	62701		IL	CP17-__000
Jeff Haug		Assitant Superintendent for Middle School Education	Hazelwood School District	314-953-5000	jhaug@hazelwoodschoools.org		15955 New Halls Ferry Road		Florissant	63031		MO	CP17-__000
Rob Hedger				618-304-7090			1210 Eagle Ln		Grafton	62037		IL	CP17-__000
Randall Henson				217-204-3193			1107 Hawklnd Dr.		Carrollton	62016		IL	CP17-__000
Blake Hurst		Board of Directors President	MO Farm Bureau	573-893-1400			701 S. Country Club Drive		Jefferson City	65109		MO	CP17-__000
Brian Kalb				217-204-3193			411 St. Louis St.		Carrollton	62016		IL	CP17-__000
Henry Kallal				618-498-9534			20398 Lax Cemetery Rd.		Jerseyville	62052		IL	CP17-__000
Stephanie Knittel		Manager	IL Farm Bureau	618-498-9576			402 S Jefferson St		Jerseyville	62052		IL	CP17-__000
Daryl Knobbe				314-486-6042	dknobbe@orcolan.com		4 Westbury		St. Charles	63303		MO	CP17-__000
Laef Lorton							123 W. Pearl		Jerseyville	62052		IL	CP17-__000
Marcelyn Love					marcelynlove@yahoo.com		3117 LaConner Dr		Springfield	62704		IL	CP17-__000
Tony Lucia		Assitant Director of Cusctodial Services	Hazelwood School District	314-953-5000	alucia@hazelwoodschoools.org		15955 New Halls Ferry Road		Florissant	63031		MO	CP17-__000
Bob Manns				618-498-6418			1004 State Hwy. 16		Jerseyville	62052		IL	CP17-__000
Fred Marshall				618-498-2949			26810 Old Fidelity Road		Jerseyville	62052		IL	CP17-__000
Jim Massmann				314-560-2244	jmassmann@sbglobal.net		1130 Shadwoak Dr.		Ballwin	63021		MO	CP17-__000
Bob McDonald				618-304-2447			23783 Rangeline Rd		Jerseyville	62052		IL	CP17-__000
Thomas Mangogna		Director of Facilities	Hazelwood School District	314-953-5000	tjmando@hazelwoodschoools.org		15955 New Halls Ferry Road		Florissant	63031		MO	CP17-__000
Melissa McKenna				618-304-2447	bluesfarm@frontier.net		404 Short St.		Jerseyville	62052		IL	CP17-__000
Larry Mead				618-498-2998			23336 Beach Ct.		Jerseyville	62052		IL	CP17-__000
Danny R. Miller							Box 15		Fieldon	62031		IL	CP17-__000
Michael Morgan							34120 Canoe Ct.		Brighton	62012		IL	CP17-__000
Jeff Naville				217-381-8100	jnaville@midwestlaborers.org		RR 1 Box 40 B		Rockbridge	62081		IL	CP17-__000
Jimmy Naville				618-498-6418	shevy-man77@charter.net		205 Walnut St		Jerseyville	62052		IL	CP17-__000
Joey Naville				217-204-3895			RR1 Box10B		Rockbridge	62081		IL	CP17-__000
Bill & Suzanne O'Brien				314-831-4233	billysueob@att.net		2265 Wedgewood Dr.		Florissant	63037		MO	CP17-__000
Alan Poggemoeller				636-899-0634			6565 Portage Rd		Portage Des Sioux	63373		MO	CP17-__000
Mark Poggemoeller				636-899-0634			6565 Portage Rd		Portage Des Sioux	63373		MO	CP17-__000
Andrew Jesper				217-248-1893			Principia College		Carrollton	62016		IL	CP17-__000
Fred Randolph				217-248-1893	randolphfarms@yahoo.com		RR #1 Box 7A		Carrollton	62016		IL	CP17-__000
John Reed				618-303-4856			PO Box 14 18 Mill St.		Elsah	62028		IL	CP17-__000
Charlie Rives			Greene County Rural Water	217-248-6292			323A 6th Street		Carrollton	62016		IL	CP17-__000
Blake Roderick		Executive Director	IL Farm Bureau	217-473-1600 C	blake@pikefb.org		7 E Market St.		Winchester	62694		IL	CP17-__000
Ina McCaine Obenland				314-791-8083	john_scates@blunt.senate.gov		201 N 2nd St. Rm 280		St. Louis	63138		MO	CP17-__000
Shawn Saale				636-397-4500	shawn@saalebailey.com		220 Salt Lick Road		St. Peters	63376		MO	CP17-__000
Monty Sade				314-393-6515			1290 Sade Dr		West Alton	63386		IL	CP17-__000
Norman Sacks				636-561-0993			111 Wake Forest Pl		O'Fallon	63368		MO	CP17-__000

Appendix 1-1
 Spire STL Pipeline
 Additional Stakeholder Contact List

Contact Name	Blank	Contact Title	Contact Organization	Phone	Email	P.O.Box	Address	Address 2	City	Zip 1	Zip 2	State	Docket
John W. Scates				314-725-4484	john_scates@blunt.senate.gov		7700 Bonhomme Ave.		Clayton	63105		MO	CP17- -000
Vonda Seckler				618-791-6016			212 Willow Dr		Collinsville	62234		IL	CP17- -000
Ray Sinclair				618-535-5642	rsinclair62052@gmail.com		20306 Otterville Rd		Jerseyville	62052		IL	CP17- -000
John Spencer					spencerjb1@yahoo.com		67 Spencer Rd		Roodhouse	62082		IL	CP17- -000
Michael Thelen		Director of Maintenance	Hazelwood School District	314-953-5000	mthelen@hazelwoodschoools.org		15955 New Halls Ferry Road		Florissant	63031		MO	CP17- -000
Shirley VanMeter				217-371-8268			514 Grant St		White Hall	62092		IL	CP17- -000
Brad Wilson				217-245-9071	bwilson@rblawyers.net		6 Rosemary Lane		Jacksonville	62650		IL	CP17- -000
Mary Beth Wolf		Representing US Senator Blunt	Senator Blunt's Office	314-725-4484	marybeth_wolf@blunt.senate.gov		7700 Bonhomme Ste. 315		Clayton	63105		MO	CP17- -000

Yellow highlights indicate updates since 10/28/16.

Strikeout text indicates contacts that have been removed.



APPENDIX 1-J

Landowner Complaint Resolution Process



Spire STL Pipeline Project

Landowner Complaint Resolution Process

FERC Docket No. CP17-___-___

January 2017

Public



Table of Contents

Landowner Complaint Resolution Process	1
Step 1: Gather Information	1
Step 2: Define the Inquiry/Issue	1
Step 3: Resolution	1



Acronyms and Abbreviations

Project	Spire STL Pipeline Project
Spire	Spire STL Pipeline LLC



Landowner Complaint Resolution Process

Spire STL Pipeline LLC (“Spire”) established its Landowner Complaint Resolution process and protocol to address landowner concerns and answer questions during the construction of the Spire STL Pipeline Project (“Project”). The protocol utilizes the Project-specific 24-hour toll-free phone line (1-844-885-7234) and/or email submission to STLPipelineInfo@SpireEnergy.com. This same protocol will be utilized during the construction phase as well. These communication vehicles were created as a way for landowners and all stakeholders to contact Spire representatives with questions, concerns, and issues. The Project also keeps a formal record of all calls and emails received in order to effectively track inquiries and resolutions. The three-step process is as follows:

Step 1: Gather Information

Spire representatives will request all necessary information to complete the information section of the Inquiry/Issues Tracking Log. This includes the individual’s name, address, phone number, and Project reference along with any details offered regarding the purpose of the call.

Step 2: Define the Inquiry/Issue

Spire representatives will work with the individual to help understand and address their concerns. If the representatives can resolve the issue, they will record this on the Tracking Log. Otherwise, the individual will be advised that their concerns have been documented and that they can generally expect a return call within three business days from a Spire representative. The questions/concerns/issues, as documented on the Tracking Log, will then be directed to the appropriate Land agent.

Step 3: Resolution

If the issues are resolved during Step 2, the Spire representatives will complete the process by documenting how a resolution was reached for the Tracking Log. If a resolution is not reached during Step 2, the Tracking Log is forwarded to the appropriate land agent who will return the call and also update the Tracking Log with the resolution. The delegation of the issue should generally follow this progression until resolution is reached. If a land agent receives a direct phone call relating to the environmental, construction, or non-right-of-way/land issues from a landowner during pre-construction, construction, or post-construction activities, the agent will request all necessary information (as outlined in Step 1) and will initiate submission of the information on the Inquiry/Issues Tracking Log. The agent will then proceed to Steps 2 and 3 until a resolution is reached. After working with the Spire representatives and appropriate land agent, if the landowner is still not completely satisfied with the resolution, the individual should contact the Federal Energy Regulatory Commission’s Landowner Helpline at 877-337-2237, or by email at Landownerhelp@ferc.gov.



APPENDIX 1-K
Response to Scoping Comments

Appendix 1-K
Spire STL Pipeline Project
Comment Letters and Scoping Comments

Agency and/or Individual	Date	Type	Comment Number	Comment	Response	Location Where Comment is Addressed in January 2017 FERC Application		
						Resource Report	Section	Page
Osage Nation (John A. Fox)	8/16/2016	Comment Letter to FERC	1a	The Osage Nation requests consulting party status on the Spire STL Pipeline project.	This request will be addressed by FERC as part of the cooperating agency and consulting party processes.	NA	NA	NA
			1b	We also request that Spire and FERC organize a tribal consultation meeting with us as soon as possible.	Spire has agreed to discuss the results of its cultural surveys with the Osage Nation upon completion in late 2016. Phase I Cultural Resources Survey Reports will be filed with FERC and the applicable state agencies in January 2017.	NA	NA	NA
Individual (unnamed)	9/2/2016	Comment Letter to FERC	2	How is Spire's project going to effect the Rte. 67 expansion project? They follow some of the same paths. Is this going to be 2 projects going on at different times? This effects Greene and Jersey Counties.	Spire has met with the Illinois Department of Transportation ("IDOT") and routed the 24-inch pipeline such that it avoids the current expansion plans of Highway 67. Spire anticipates commencing construction on the Project in Q1 2018. The Highway 67 projects will be discussed in Resource Report 1 of Spire's FERC Application filing in January 2017 as they relate to cumulative impacts within the vicinity of the proposed Project.	10	10.4	10-13
Illinois Historic Preservation Agency	9/12/2016	Comment Letter to FERC	3a	The project area has not been surveyed and may contain prehistoric/historic archaeological resources. Accordingly, a Phase I archaeological reconnaissance survey to locate, identify, and record all archaeological resources within the project area will be required. This decision is based upon our understanding that there has not been any large scale disturbance of the ground surface (excluding agricultural activities) such as major construction activity within the project area which would have destroyed existing cultural resources prior to your project. If the area has been heavily disturbed prior to your project, please contact our office with the appropriate written and/or photographic evidence. The area(s) that need(s) to be surveyed include(s) all area(s) that will be developed as a result of the issuance of the federal agency permit(s) or the granting of the federal grants, funds, or loan guarantees that have prompted this review.	Spire initiated archaeological surveys in November 2016. Surveys were conducted at proposed Project locations where landowner permission was granted. Results of the cultural resources surveys will be filed with FERC and the applicable state agencies in January 2017.	4	4.3	4-9
			3b	In addition to the archaeological survey please provide clear photographs of all structures in, or adjacent to, the current project area as part of the archaeological survey report.	Spire's Phase I Cultural Resources Survey Reports will contain the necessary components in accordance with the Illinois and Missouri state guidelines, as well as the FERC's <i>Guidelines for Reporting on Cultural Resources Investigations for Pipeline Projects</i> . These reports will include documentation for structures 50 years old or older, and will be filed with FERC and the applicable state agencies in January 2017.	4	4.3	4-9
Miami Tribe of Oklahoma (Diane Hunter)	9/14/2016	Comment Letter to FERC	4a	The Miami Tribe offers no objection to the above-mentioned project at this time, as we are not currently aware of existing documentation directly linking a specific Miami cultural or historic site to the project site. However, as this site is within the aboriginal homelands of the Miami Tribe, any human remains or Native American cultural items falling under the Native American Graves Protection and Repatriation Act (NAGPRA) or archaeological evidence is discovered during any phase of this project, the Miami Tribe requests immediate consultation with the entity of jurisdiction for the location of discovery.	Spire initiated archaeological surveys in November 2016. Surveys were conducted at proposed Project locations where landowner permission was granted. Results of the archaeological surveys will be filed with FERC and the applicable state agencies in January 2017. If archaeological resources identified through surveys contain Native American significance, tribal entities will be consulted with as necessary. Additionally, Spire has developed an Unanticipated Discovery Plan for Illinois and Missouri should unknown cultural sites or human remains be discovered during construction. This Plan was provided as part of Resource Report 4 in Spire's October 2016 FERC filing. Updates to this Plan will be supplemented as necessary in Spire's FERC Application filing in January 2017.	4	4.2.2	4-2
			4b	The Miami Tribe requests to serve as a consulting party to the proposed project.	This request will be addressed by FERC as part of the cooperating agency and consulting party processes.	NA	NA	NA
Osage Nation (John A. Fox)	11/8/2016	Comment Letter to FERC	5a	The Osage Nation requests consulting party status for this project.	This request will be addressed by FERC as part of the cooperating agency and consulting party processes.	NA	NA	NA
			5b	The Osage Nation has a vital interest in protecting its historic and ancestral cultural resources. The Osage Nation anticipates reviewing and commenting on the planned Environmental Assessment for the proposed project.	Osage Nation will have the opportunity to review and comment on the Environmental Assessment as developed by FERC.	NA	NA	NA
Individual (Arthur J. Trybek)	11/21/2016	Comment Letter to FERC	6	Comments to the commissions to REJECT acquisition of an easement to construct, operate and maintain the planned pipeline on my property. We only have 80 acres. We don't have a large acreage farm. The property was bought for recreational use. We have 30 acres in CRP. From April to August the acres are for breeding birds, deer, butterflies, quail and other species. The land is not flat. We have many hills and deep slopes with winding creeks throughout the property. There is also a two acre pond for fishing. Our grandchildren have enjoyed this since we purchased the property. We plan to pass the land to our children and grandchildren. Once a pipeline runs through our property, it will restrict us as to what and where we can build or construct out buildings on the property. We already gave the Baptist Church adjacent to our property to the north a quarter acre for a parking lot. The pipeline would devalue our property and limit its use in the future. If the pipeline would run in front of the property, it may affect the 2 acre pond. Please consider our petition not to have the pipeline on this property.	Spire is coordinating with stakeholders on the routing and alignment of the proposed 24-inch pipeline. In 2016, Interstate Natural Gas Association of America ("INGAA") released a study, conducted by Integra Realty Resources ("IRR") of selected FERC-jurisdictional natural gas transmission pipelines throughout the county and their impact on property values (IRR 2016). Based on IRR's analysis, there is no measurable impact on the sales price of properties located along or in proximity to a natural gas pipeline versus properties which are not located along or in proximity to the same pipeline. Additionally, Spire is coordinating with landowners regarding the locations of crop reserve program ("CRP") that may be crossed by the pipeline. Additional information regarding the crossing of these areas will be provided in Resource Report 8 of Spire's FERC Application filing in January 2017.	8	8.3.1.3	8-26
Individual (Ross A. Chronister)	11/22/2016	Comment Letter to FERC	7	We, being a concerned landowner. We have small acreage farm, w/ beautiful hills and woods. Plentiful wildlife, etc. This Pipe line on our property will diminish our possibilities to build where needed and feasible. We have numerous tile in our ag fields which will interfere and be problems. The easement agreements and payments are only for immediate damage. What about the future? It changes the outlook on property values and inheritance issues to our children and grandchildren. I'm all for getting gas to supply STL but surely there is a more efficient direction to get pipeline to where its needed w/out going through the agricultural community. Just a very concerned landowner trying to preserve What God has Given us to be good stewards of.	Spire is coordinating with stakeholders on the routing and alignment of the proposed 24-inch pipeline. Wherever possible, Spire has minimized impacts to wooded and wildlife areas. A discussion of mitigation measures to be implemented in agricultural areas was provided in Resource Report 7 of Spire's October 2016 FERC filing. Updates to this information will be supplemented as necessary in Spire's FERC Application filing in January 2017.	7	7.3	7-11
Missouri Department of Conservation (Audrey Beres)	11/22/2016	Comment Letter to FERC	8a	The Department has been in discussion with Spire regarding the proposed Project since June 2016. Information and recommendations to date include: A Natural Heritage Review for the proposed route, and verbal discussion regarding temporary construction impacts and emergency leak plans.	Spire received the Natural Heritage Database review document from the Missouri Department of Conservation ("MDOC") and addressed species related issues within Resource Report 3 of Spire's October 2016 FERC filing. Additional consultations are ongoing. Updates to this information will be supplemented as necessary in Spire's FERC Application filing in January 2017.	3	3.4.1	3-23
			8b	The Department manages the Upper Mississippi River Conservation Area through a contract with the US Fish and Wildlife Service and US Army Corps of Engineers. A Special Use Permit or temporary easement may be required if materials or equipment will be staged at the Upper Mississippi River Conservation Area. A different process may be necessary if the exit point occurs on the Conservation Area.	Spire is coordinating with the MDOC (and the USACE, St. Louis District) on the Project crossing of the Upper Mississippi Conservation Area. Spire intends to cross this property via the use of trenchless technologies (e.g. horizontal directional drill). Currently, Spire does not anticipate locating its proposed construction workspaces within this area. Detailed information on the proposed workspaces, profiles and vegetation management was provided to the MDOC and the USACE on November 29, 2016. Updated information will be provided to the MDOC in January 2017, as part of Spire's Special Use Permit application package.	3	3.2.3.2	3-13
			8c	To date, representatives of Spire Pipeline indicate that the pipeline will be installed by Horizontal Directional Drilling (HDD) and the intent is to tie in to existing infrastructure just outside of the Mississippi Conservation Area. Installation of the pipeline via this method will likely reduce the potential for impacts to aquatic wildlife in the Mississippi River. The department seeks to understand locations where the depth of pipe below the land surface would be 15 feet or less; vegetation management requirements above the pipeline; and proximity and design of exit point infrastructure. Additionally, the Department requests a copy of advanced contingency plans for the pipeline in the event of a natural gas release.	Spire is coordinating with the MDOC (and the USACE, St. Louis District) on the Project crossing of the Upper Mississippi Conservation Area. Spire intends to cross this property via the use of trenchless technologies (e.g. horizontal directional drill). Currently, Spire does not anticipate locating its proposed construction workspaces within this area. Detailed information on the proposed workspaces, profiles and vegetation management was provided to the MDOC and the USACE on November 29, 2016. Updated information and Spire's Emergency Response Plan will be provided to the MDOC in January 2017, as part of Spire's Special Use Permit application package.	3	3.2.3.2	3-13
			8d	It is unknown at this time whether the project will have any wetland or stream impacts in Missouri. Department policy regarding compensatory mitigation for private projects, such as this one, may influence whether compensatory mitigation for unavoidable impacts can be accomplished on the Upper Mississippi Conservation Area.	Spire is in discussion with the USACE and the Missouri Department of Natural Resources ("MDNR") regarding wetland and stream mitigation. Currently, Spire does not anticipate utilizing the Upper Mississippi Conservation Area as a mitigation site for the Project.	2	2.3.3	2-35

Appendix 1-K
Spire STL Pipeline Project
Comment Letters and Scoping Comments

Agency and/or Individual	Date	Type	Comment Number	Comment	Response	Location Where Comment is Addressed in January 2017 FERC Application		
						Resource Report	Section	Page
Individual (Juli Viel)	11/24/2016	Comment Letter to FERC	9	Comment that this pipeline will be damaging to the climate, water and air.	Spire has addressed potential impacts to water, climate, and air in Resource Report 2, and Resource Report 9, respectively within Spire's October 2016 FERC filing. Updates to this information will be supplemented as necessary in Spire's FERC Application filing in January 2017.	2,9	2.2	2-8
The Faculty at The Principia College	11/23/2016	Comment Letter to FERC	10a	<u>Educational Asset</u> West farm is used regularly by Principia classes and by students conducting ecological and other research. In the last 10 years the following classes have used West Farm and specifically the area in close proximity of the proposed pipeline right of way for their activities: BNR 191 (Introduction to Ecology); BNR 161 (Field Natural History); BNR 255 (Natural Resource Management); BNR 230 (Ornithology); BNR 231 (Herpetology); BNR 325 (Wildlife Management); BNR 312 (Grassland Ecology); BNR 313 (Forest Ecology); BNR 401 Senior Thesis; SOAN 130 (Introduction to Archaeology). All of these courses rely on relatively pristine and well-managed forests and hill prairies for their studies.	Spire acknowledges that the West Farm area is utilized for educational purposes by Principia classes. Spire does not anticipate that construction of the Project will affect these ongoing activities. Spire would welcome an opportunity to collaborate with Principia on avoiding impacts to their ongoing research and educational programs in the vicinity of the Project. Spire will continue to reach out to Principia to address their concerns.	NA	NA	NA
			10b	<u>Educational Asset</u> The proposed pipeline will cause significant fragmentation of the largely contiguous nature of this forested habitat. While we recognize that there is currently a small pipeline right-of-way (approximately 10 meters wide) through the property that was established in the late 1960's, in recent years we have worked closely with the operator to minimize its ecological impact. The addition of the much larger (2 – 3 times wider footprint) in close proximity to the existing right-of-way, will dramatically increase the fragmentation effect by dividing the forest into two parcels. Such fragmentation of Midwest forests has been shown as a primary cause of native species decline (e.g. Robinson et al. 1995; Culley and Grubb 2003; Rosenblatt et al. 1999 3). In our own research on the Illinois Threatened timber rattlesnake (Crotalus horridus) at Principia, we have shown that the species will not cross open field areas, preferring instead to use deep forest cover to transit from foraging area to foraging area (S. Eckert, unpub. data). Snakes, which use natal hibernacula on the bluffs to overwinter will likely be cut off from their foraging grounds by the pipeline right-of-way.	Spire's anticipated temporary and permanent right-of-way widths is discussed in Resource Report 1 of Spire's October 2016 FERC filing. As part of the consultation with the Illinois Department of Natural Resources ("IDNR"), Spire ran the Ecological Compliance Assessment Tool ("EcoCat") analysis of the proposed Project components to determine the potential for affecting state listed species. Additionally, Spire consulted directly with the Illinois Natural Heritage Division to determine the locations of known state listed species records. Consultation with the IDNR is ongoing. A discussion of the Project's potential affect on the Timber Rattlesnake will be provided in Resource Report 3 of Spire's FERC Application filing in January 2017.	1,3	3.4.1.7	3-35
			10c	<u>Educational Asset</u> Student independent research projects (e.g. Senior Honors Theses or special credit research) conducted on the property include an evaluation of white tailed deer body condition; comparison of habitat use by bats between logged and unperturbed forest plots; a U.S. Forest Service collaboration investigating the growth patterns of 10 different genetic variety of tulip poplar (Liriodendron tulipifera)	Spire acknowledges that the West Farm area is utilized for educational purposes by Principia classes. Spire does not anticipate that construction of the Project will affect these ongoing activities, however, Spire would welcome an opportunity to collaborate with Principia on avoiding impacts to their ongoing research and educational programs in the vicinity of the Project. Spire will continue to reach out to Principia to address their concerns.	NA	NA	NA
			10d	<u>Educational Asset</u> West farm hosts a 45 acre Community Sponsored Agriculture (CSA) farm (Three-Rivers Community Farm) which demonstrates organic farming practices. The proposed pipeline will bisect this property under the proposed route, and is routed through its recently constructed barn and home. The farmer has leased cropland from Principia for more than 15 years and last year, Principia sold a 5 acre parcel adjoining the 40 acres of leased land to enable the owner to build a home and barn in close proximity to the farm. The presence of this farm is considered by the college to be an educational asset as the farm provides internship opportunities for the College's students and the owner has long supported educational activities by the College for our students learning organic and sustainable farming practices as well as small-business management. Routing of the pipeline through this farm will likely destroy the farm structures; substantially degrade the land value; and cause undue hardship to a small business that we see as a significant academic asset.	Where properties affected by the Project are certified as organic under an accredited program, Spire will work with individual affected landowners to minimize impact to the property. Additional discussion of the crossing of this property will be provided in Resource Report 8 of Spire's FERC Application filing in January 2017.	8	8.3.1, 8.3.1.1	8-22
			10e	<u>Research</u> Forest management practices LTER. There is currently a long-term-ecological-research (LTER) project to evaluate the effect of forest management practices on a section of West Farm that will be bisected by the proposed pipeline. This project would largely be destroyed by the installation of the pipeline and 4 years of research effort and expense will be lost.	Spire acknowledges that the West Farm area is utilized for educational purposes by Principia classes. Spire does not anticipate that construction of the Project will affect these ongoing activities, however, Spire would welcome an opportunity to collaborate with Principia on avoiding impacts to their ongoing research and educational programs in the vicinity of the Project. Spire will continue to reach out to Principia to address their concerns.	NA	NA	NA
			10f	<u>Research</u> Other forest management projects that will be significantly degraded include demonstration timber harvests designed to test the effect of various cutting prescriptions on the light environment and tree growth and competition. In addition, we maintain continuous forest inventory plots as well as bat monitoring plots in the area. A new pipeline project would degrade our ability to maintain these forest studies because the pipeline will permanently affect the forest structure through fragmentation and through the removal of forest from the proposed route. We also propose that our regular forest stewardship activities such as prescribed fires will be hampered if not entirely prevented by the pipeline right-of-way. Principia has maintained Forest Stewardship Council certification for its management of its forests. The idea of sustainable forestry involves the ability to return to a forest time and time again to harvest the wood resources without diminishing the overall ability of the forest to produce these resources in perpetuity. Permanently removing forest at the right-of-way and degradation of our management activities will interfere with our ability to sustain the forest for generations.	Spire's anticipated temporary and permanent right-of-way widths is discussed in Resource Report 1 of Spire's October 2016 FERC filing. A discussion addressing forest fragmentation in the area of Principia College will be provided in Resource Report 8 of Spire's FERC Application filing in January 2017. Spire would welcome an opportunity to collaborate with Principia on construction measures that could be employed across the property to minimize impacts to Principia's forest management projects. Spire will continue to reach out to Principia to address their concerns.	1,8	1.2.1, 8.3.1.1	1-15, 8-20
			10g	<u>Research</u> Timber Rattlesnake habitat use. The installation of the pipeline will damage a long-term study on habitat use of the Illinois threatened species, Crotalus horridus, (timber rattlesnake). This study began 5 years ago with the identification of rattlesnake hibernacula on the Principia property and studies into the thermal biology of the species and their use of the hibernacula. Results of that research have been adopted by the Illinois Department of Natural Resources in establishing forest management practices. Two years ago the research program moved into an evaluation of habitat use and movement patterns by the timber rattlesnake population using radio telemetry, as we sought to identify critical habitats for this threatened species with the ultimate goal of developing a management strategy to protect and enhance timber rattlesnake populations on the property. Most of this research occurred in the eastern forest of Principia. Research into the West Farm parcel began in 2016 with the identification of West Farm hibernacula. The proposed pipeline will destroy one of these hibernacula that has been known as an active hibernacula since the 1940's as well as a second site that has been determined to be a potential basking and hibernacula site based on its ecological and physical characteristics.	As part of the consultation with the IDNR, Spire ran the EcoCat analysis of the proposed Project components to determine the potential for affecting state listed species. Additionally, Spire consulted directly with the Illinois Natural Heritage Division to determine the locations of known state listed species records. Consultation with the IDNR is ongoing. A discussion of the Project's potential affect on the Timber Rattlesnake will be provided in Resource Report 3 of Spire's FERC Application filing in January 2017.	3	3.4.1.7	3-35
			10h	<u>Ecological</u> Protected species. A number of protected species have been identified from the area. Each of these species will need mitigation if the pipeline is allowed to proceed. Some, impacts such as to the destruction of timber rattlesnake hibernacula or isolation from foraging areas by habitat fragmentation have no scientifically validated mitigation measures available. We have confirmed the presence of Timber Rattlesnake (Crotalus horridus) and their dens in near proximity to the proposed pipeline route. Numerous threatened and endangered species are found or presumed to inhabit the specific area of the pipeline right-of-way. Our own monitoring (using bat detection equipment and recordings) of the right-of-way and nearby habitats suggest that the presence of the Gray bat (Myotis grisescens), Indiana bat (Myotis sodalis), Northern long-eared bat (Myotis septentrionalis) are likely. Eastern prairie fringed orchid (Platanthera leucophaea), Leafy prairie clover (Dalea foliosa), Mead's milkweed (Asclepias meadii), Large Ground Plum (Astragalus crassicaucus var. trich) have a high likelihood of presence in our hill prairies, forest, or ravines and the pipeline routes in close proximity (and possibly through....depending on final pipeline routing) a hill prairie. Such prairies have been identified as "rare of declining habitats" by the Illinois Department of Natural Resources.	Spire initiated consultation in June 2016 with the United States Fish and Wildlife Service ("USFWS") for federal protected species and the IDNR and MDOC for state listed species. A discussion of the potential federal and state listed species within the vicinity of the Project is provided in Resource Report 3 of Spire's October 2016 FERC filing. Spire initiated biological surveys in October 2016. Consultation with USFWS, IDNR and MDOC is in progress. Updated information regarding federal and state listed species, based on recent consultations, will be provided in Resource Report 3 of Spire's FERC Application filing in January 2017.	3	3.4.1	3-24
The Principia College	11/23/2016	Comment Letter to FERC	10i	<u>Ecological</u> Soils. The soils on our property are primarily loess (wind deposited) on steep slopes and are highly erodible. Because the soil was deposited by wind, the soil forming processes that regenerate soil is no longer operating and any soil loss is considered permanent. Due to the intensive soil disturbance during the installation the pipeline and the following maintenance of the right-of-way to keep the area free from forest cover, erosion of this non-renewable resource is a significant concern.	As part of Spire's October 2016 FERC filing, Spire has prepared and submitted mitigative measures and best management practices ("BMPs") that will be implemented during and after construction to minimize for potential impacts to the surrounding environment. The BMPs will be used to minimize erosion of disturbed soils and prevent the transportation of sediment outside the construction right-of-way. These BMPs incorporate the FERC Plan and Procedures. A discussion of soil disturbances and mitigation measures was provided in Resource Report 7 of Spire's October 2016 FERC filing. Updates to this information will be supplemented as necessary in Spire's FERC Application filing in January 2017.	7	7.3	7-11

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Agency and/or Individual	Date	Type	Comment Number	Comment	Response	Location Where Comment is Addressed in January 2017 FERC Application		
						Resource Report	Section	Page
			10j	<u>Ecological</u> Invasive species. We have spent significant financial resources to reduce the size of invasive species populations from the Principia Forest. Most persistent are Amur Honeysuckle (Lonicera maackii), Johnson Grass (Sorghum halepense), Autumn Olive (Elaeagnus umbellata) Garlic Mustard (Alliaria petiolata). Establishment and promotion of all of these species is facilitated by the removal of forest canopy. The addition of a large pipeline right-of-way will significantly enhance habitat for these invasive species and will require substantial and continuous mitigation.	As part of Resource Report 3 in Spire's October 2016 FERC filing, Spire has prepared and submitted mitigative measures and BMPs that will be implemented during and after construction to control and minimize the spread of noxious weeds. Spire would welcome an opportunity to collaborate with Principia on restoration measures that could be employed across the property that could address Principia's concerns. Spire is working to develop a restoration plan which incorporates native seed mixes for non-agricultural areas and updated discussions will be provided in Spire's FERC Application	3,7	3.3.3 and Appendix 3-A, 7.5.4	3-22, 7-18
			10k	<u>Economic</u> Development. The land directly adjacent and crossing the proposed pipeline right-of-way is platted for a sub-division development (see http://jersey.il.bhamaps.com). While the college has no plans in the short term to conduct such development, the location of the pipeline through that land effectively destroys its development potential.	Spire's proposed route parallels an existing pipeline right-of-way and is not proposed to bisect the West Farm portion of the Principia property. Spire will coordinate with Principia to identify locations of the College's future development and limit the potential impacts to this area.	NA	NA	NA
			10l	<u>Economic</u> Viewshed. Principia has been in negotiation with the Great Rivers Land Trust to purchase an easement for viewshed rights to the West Farm. Addition of the pipeline and above ground infrastructure, maintenance of a cleared right-of-way and potential removal of a section of bluff, will significantly degrade the viewshed, resulting in an economic loss to The Principia.	Spire's anticipated temporary and permanent right-of-way widths is discussed in Resource Report 1 of Spire's October 2016 FERC filing. A discussion addressing forest fragmentation in the area of Principia College will be provided in Resource Report 8 of Spire's FERC Application filing in January 2017. Spire would welcome an opportunity to collaborate with Principia on construction measures that could be employed across the property to minimize impacts to Principia's forest management Projects. Spire will continue to reach out to Principia to address their concerns.	1,8	1.2.1, 8.3.1.1	1-15, 8-20
			10m	<u>Economic</u> Loss of investment. Principia has spent significant resources to establish the LTER noted earlier. Destruction of that study with the construction of a pipeline will represent a significant financial loss.	Spire acknowledges that the West Farm area is utilized for educational purposes by Principia classes. Spire does not anticipate that construction of the Project will permanently affect these ongoing activities, however, Spire would welcome an opportunity to collaborate with Principia on avoiding impacts to their ongoing research and educational programs in the vicinity of the Project. Spire will continue to reach out to Principia to address their concerns.	NA	NA	NA
			10n	<u>Economic</u> Contract revenue. Loss or removal of Three Rivers Community Farm, will result in loss of economic revenue for the Principia. Currently Three Rivers Community Farm leases 40 acres of farmland from the Principia. Furthermore, Principia leases hunting rights on this land each fall to Illinois Trophy Bowhunters. If construction or right-of-way maintenance occurs during the fall hunting season, the Principia will lose both the revenue generated by this contract, but also will need to invest its own resources in deer management efforts to limit deer populations to sustainable levels.	Spire acknowledges that the West Farm area is source of revenue for the college. Spire does not anticipate that construction of the Project will permanently affect these ongoing activities, however, Spire would welcome an opportunity to collaborate with Principia to understand and discuss compensation for the impacts on these sources of revenue. Spire will continue to reach out to Principia to address their concerns.	NA	NA	NA
			10o	<u>Cultural</u> Native American sites. Surveys by Principia BNR and Anthropology staff indicate a number of native people's sites along the pipeline route.	Spire initiated Native American consultation in June 2016 with entities with potential interest in the Project area. Spire initiated archaeological surveys in November 2016. Surveys were conducted at proposed Project locations where landowner permission was granted. Survey permission has not yet been granted on the Principia property. However, if surveys are allowed to proceed and archaeological resources identified contain Native American significance, tribal entities will be consulted with as	4	4.2.2	4-2
			10p	<u>Cultural</u> General Surveys. This area has had a number of archaeological surveys since the 1950s. The Center for American Archaeology (CAA) conducted the largest survey of this area in 1994 (Goatley & Atwell 1994), recording 14 sites with a wide range of cultural periods from the Paleo-Indian to Mississippian times along the bluff line East of Grafton. This survey indicates that all of the bluff valleys and ridges overlooking them along the river from Lockhaven to Grafton were the location for Native American settlement and ceremonial activities. The stewardship of most of this and by Principia since the 1930s has largely protected the land from development and treasure hunters, creating a uniquely preserved record of important	Prior to the initiation of archaeological surveys, Spire conducted background research with the IHPA to determine the location of potential known sites. This background research did not identify any known archaeological sites within the Principia property; which implies that these sites may have not been recorded with the state historic preservation office. Spire initiated archaeological surveys in November 2016 at proposed Project locations where landowner permission was granted. Survey permission has not yet been granted on the Principia property. However, if surveys are allowed to proceed in this area, Spire will conduct archeological surveys in accordance with state guidelines and report any cultural sites identified and identify measures to avoid or mitigate sites that are found to be of cultural	4	4.3.1	4-12
			10q	<u>Cultural</u> Hopewell Culture. The most significant culture that occupied this area was the Middle Woodland Hopewell Culture. The Hopewell Culture was the first pan-american culture that extended from Canada in the north to Louisiana and Florida in the south, Kansas City in the West to Pennsylvania in the East. The region from Lockhaven to the area above Kampsville, was one of two major epicenters of this vast Hopewell culture (the other being in Ohio). This particular region also has a unique importance in archaeology for having a fully developed society with over a thousand elaborate burial mounds, several floodplain ceremonial plazas and artifacts sourced from all over North America, all without intensive agriculture (the usual criteria for such a culture). This makes this region especially important for archaeologists to study and drew our professor Dr. Andrew Martin here from Cambridge University in England to study it for his doctorate.	Spire is aware and acknowledges the potential for archaeological resources within the Principia property. Similar to the cultural surveys that have been completed on other private properties along the proposed route (where landowner permission has been granted), a Phase I Cultural Resources Survey would need to be completed within the proposed Project areas on the Principia property to determine the extent and potential affect to cultural resources from the construction of the Project. Archaeological surveys conducted along Project areas was done in accordance with state guidelines for pedestrian and shovel test pit surveys.	4	4.3	4-9
			10r	<u>Cultural</u> West Farm. The West Farm valley is one of three bluff valleys on the Principia property. The other two valleys have been destroyed by modern settlement (the Village of Elsay and the 1830s Village of Eminence). This means that the West Farm valley is the most important location for archaeological surveys and excavation, and indispensable for the archaeology program at the college. Surveys so far of the creekbed cuts, and habitable areas (using shovel test pits every twenty feet and sieved with 0.5mm mesh), have found a range of domestic tools including drills, scrapers and knives confirming the existence of a settlement site). Burial mounds sited on the bluffs around the valley also indicate that the valley was inhabited.	Spire is aware and acknowledges the potential for archaeological resources within the Principia property. Similar to the cultural surveys that have been completed on other private properties along the proposed route (where landowner permission has been granted), a Phase I Cultural Resources Survey would need to be completed within the proposed Project areas on the Principia property to determine the extent and potential affect to cultural resources from the construction of the Project. Archaeological surveys conducted along Project areas was done in accordance with state guidelines for pedestrian and shovel test pit surveys.	4	4.3	4-9
			10s	<u>Cultural</u> Significance of the Settlement Site. There have been very few excavations of Hopewell settlements in this important region (Smiling Dan, Napoleon Hollow, and Kampsville Gardens being the only others, and all in the Illinois River Valley). This is largely because settlements tend to be covered by a thick layer of colluvium from the bluffs and alluvium from the Mississippi. So, unless a university is associated with a site, archaeology is rarely allowed on private property, because of the amount of soil excavation necessary. So to destroy the one opportunity to study Hopewell settlement on the campus and possibly in the whole area, would be tragic for the archaeology program as well as for knowledge of this important region.	Spire is aware and acknowledges the potential for archaeological resources within the Principia property. Similar to the cultural surveys that have been completed on other private properties along the proposed route (where landowner permission has been granted), a Phase I Cultural Resources Survey would need to be completed within the proposed Project areas on the Principia property to determine the extent and potential affect to cultural resources from the construction of the Project. Archaeological surveys conducted along Project areas was done in accordance with state guidelines for pedestrian and shovel test pit surveys.	4	4.3	4-9
The Principia College	11/23/2016	Comment Letter to FERC	10t	<u>Conclusions</u> It is clear to us that Spire has been largely negligent when planning the siting of their proposed pipeline. In a review of Spire documentation filed during the pre-submission phase of project development (http://www.spireenergy.com/our-projects-pipeline/regulatory-information), "Principia College" is noted only 5 times (pages 8-20, 8-23-8-26) and only in brief, with little evaluation of impacts to the forested lands, species that inhabit those lands, or to the loss of important cultural sites that Spire proposes to cross. "Principia" is mentioned 4 times (again briefly) and is noted as "the Principia Hills" area (pgs 3-8, 3-9, 3-18, 3-21). There is mention of only one protected species on the property (Ground plum milkvetch). There is no acknowledgement that the pipeline will destroy at least 1 and possibly 2 timber rattlesnake hibernacula or that Jersey county lists 20 protected species in the county, many of whom are located on Principia's west farm. There is no acknowledgement of native peoples or other cultural sites on the property, nor any acknowledgement that the pipeline will destroy existing farm structures. Finally, there is no acknowledgement that the siting of the drilling platform, will require significant removal of bluff face to create large enough flat space to support pipeline construction efforts. Furthermore, The siting route of the proposed pipeline is largely inaccurate and while the plan notes that the gas pipeline will be co-located with the existing ammonia pipeline right-of-way (pg 1-14), the pipeline maps provided by Spire (Appendix 1b A5) shows that the proposed pipeline is shown located 40-50 meters to the east of the right-of-way, though in some cases crosses over the existing right-of-way. This lack of precision in the siting proposal when combined with the generally poor scholarship already noted in Spire's proposal calls into question the decision "process" that led to this siting of the pipeline route. Yet, the Spire proposal claims that all environmental and cultural factors were taken into account in the siting of the pipeline route. We suggest that this is not the case since it is clear that the data provided to the siting model was cursory at best. A number of recent studies (see Milt et al. 20165) note the importance of providing thorough input data to models of energy infrastructure when trying to reduce environmental degradation. We argue that such due diligence has not occurred and that FERC should require a complete re-evaluation of the routing chosen by Spire in their pre-proposal.	Potential impacts from the construction of the Project are generally discussed on a Project-wide basis by milepost. Therefore, Spire's documents to FERC may not specifically identify environmental resources by property owner. Additionally, Spire completed the necessary background research with each state's historic preservation office to identify known archaeological sites along a 1-mile corridor of the proposed Project route. Based on this desktop information, no sites were previously identified on the West Farm portion of the Project within the Project corridor. This does not negate the need for archaeological surveys in this area nor does it indicate that archaeological resources are not present. Phase I Cultural Resources Surveys need to be conducted in order to fully determine the extent of cultural resources within the area of the proposed Project route. Phase I cultural resource surveys on private properties have been initiated along the proposed route where landowner survey permission has been obtained. Likewise, potential habitat for certain federal and state-listed species has the potential to exist within this area. However, biological field surveys would need to be conducted by qualified biologists to make the determination of the extent of any potential habitat. If sensitive environmental resources are found during field surveys, Spire can work with the landowners and federal and state agencies to avoid or mitigate potential impacts to these resources.	NA	NA	NA

Appendix 1-K
Spire STL Pipeline Project
Comment Letters and Scoping Comments

Agency and/or Individual	Date	Type	Comment Number	Comment	Response	Location Where Comment is Addressed in January 2017 FERC Application		
						Resource Report	Section	Page
EPA Region 5 (Kenneth A. Westlake)	11/23/2016	Comment Letter to FERC	11a	Enable Mississippi Transmission, LLC's Enable MRT Pipeline ("Enable MRT") - EPA understands that the proposed project will connect to the Enable MRT pipeline; but it is not clear how, where or why. Recommendation: We recommend the EA identify what the Enable MRT pipeline is, where it is located (provide its location on EA maps/figures) and explain how it fits into Spire's proposed Project and the Project purpose and need. Identify any changes that would need to be made to Enable MRT as part of, or due to, Spire's proposed Project and identify any associated impacts and mitigation measures that will be implemented, if applicable.	Enable Mississippi River Transmission LLC ("Enable MRT") is an existing interstate gas pipeline that currently provides gas transportation service to Spire's Foundation Shipper, Laclede Gas. Enable MRT interconnects with Laclede Gas at the terminus of Laclede Gas's Line 880 in St. Louis County at a point called Chain of Rocks, among other locations. Spire is proposing in this Project to acquire Line 880 from Laclede Gas and operate it as part of the Spire pipeline, after which Spire will have an interconnection point with Enable MRT at Chain of Rocks. Based on existing facilities, and without any further construction, Chain of Rocks would be a point of physical receipt into Spire. Spire is, in addition, proposing to reconstruct the Chain of Rocks interconnecting facilities so that this point can be used on a bi-directional basis, with deliveries into, as well as receipts from, Enable MRT. No additional facilities construction on Enable MRT is proposed as part of this Project, or would be necessary for the Project to fulfill its proposed purpose and need. The purpose and need associated with the Enable MRT interconnection is discussed in Resource Report 1 of Spire's October 2016 FERC filing, and will be discussed further in Spire's FERC Application filing in January 2017. All facilities proposed to be constructed at the Enable MRT interconnect will be specified, and their locations identified on	1	1.1.1	1-1
			11b	Line 880 - EPA understands that Line 880 may have been initially installed more than 50 years ago. Recommendation: We recommend the EA provide a description of existing Line 880. This might include, but is not limited to, identifying the year of initial installation, total length, termini connections, current condition, maintenance history, the amount of natural gas currently transmitted, minimum and maximum safe operating pressures, and pipeline components that would be removed during proposed Project modifications. Identify any hazardous material, such as asbestos, that may likely be encountered during proposed Project modifications.	This information will be provided in Spire's FERC Application filing in January 2017.	1	1.1.1	1-1
			11c	The Purpose and Need/Alternatives The Purpose and Need for a proposal is the basis for identifying all feasible alternatives that undergo environmental impact analyses in a NEPA document. All feasible alternatives that would satisfy the Purpose and Need should be given equal consideration in the EA. Recommendations: EPA recommends an adequate and clear Purpose and Need statement substantiated by FERC be developed and included in the EA. We recommend the EA identify all alternatives considered by Spire prior to and during FERC's pre-filing process, and identify and briefly explain the economic, community and environmental reasons for the dismissal of any from further consideration.	Spire has provided its Purpose and Need in Resource Report 1 and its discussion of alternatives in Resource Report 10 of its October 2016 FERC filing. Both Resource Reports will be supplemented as necessary in Spire's FERC Application filing in January 2017.	1	1.1.1	1-1
			11d	Affected Environment - A detailed characterization of the affected environment in the EA will explain a proposal's impacts on various resources and communities. Recommendations: We recommend the EA include detailed descriptions of the resources and communities in the study areas for the proposed new 24-inch pipeline, existing Line 880, Enable Mississippi Transmission, LLC's Enable MRT pipeline and all associated facilities, access roads staging areas, and contractor yards supported with photos and figures/maps. The figures and maps should depict the various alternative pipeline routes considered in relation to the study area resources, residences, schools, hospitals, and Environmental Justice communities. Existing pipelines and other utility corridors in the study area should also be clearly identified and delimited on EA figures.	Spire has provided a description of the resources and communities in the area of its proposed Project as part of its October 2016 FERC filing. Updates to this information will be supplemented as necessary in Spire's FERC Application filing in January 2017.	NA	NA	NA
			11e	Clean Water Act (CWA) Section 404 permits and compliance with CWA Section 404(b)(1) Guidelines EPA understands that Spire plans to use the horizontal directional drill (HDD) method for major river crossings (i.e., Mississippi and Missouri Rivers), thereby avoiding impacts to wetlands and federal land associate with these rivers. However, the proposal will impact additional streams and wetlands and will need a Clean Water Act (CWA) Section 404 permit from the U.S. Army Corps of Engineers (Corps). Mitigation requirements under 40 CFR Section 230 address the replacement of the wetland functions and values that are unavoidably lost. Recommendations: We recommend the EA contain a level of information and analysis adequate to support compliance with the CWA, Section 404(b)(1) Guidelines, including alternatives and mitigation sequencing requirements (first avoid, then minimize, and finally compensate for those impacts that cannot be avoided or minimized). Direct, indirect and cumulative impacts analysis should be included in the EA. If mitigation banking is proposed, then include details on the proposed mitigation bank/s in the EA.	Spire has provided a description and potential impacts to water resources crossed by the Project as part of Resource Report 2 of its October 2016 FERC filing. Updates to this information will be supplemented as necessary in Spire's FERC Application filing in January 2017.	2	2.2	2-8
			11f	Surface Water and Groundwater Quality/Quantity - The EA will need to clearly describe water bodies, streams and ground water resources within the analysis areas. Recommendations (Impaired Waters/401 Certification/TMDLs): Impacts of the various alternatives on water quality should address, but not be limited to, a water body's designated use and compliance with Illinois and Missouri Water Quality Standards and Clean Water Act, Section 401 Water Quality Certification. The EA should also identify whether or not water bodies located in the various proposed project areas are listed by the state as impaired, and, if so, are part of a Total Maximum Daily Load (TMDL) plan. If impaired waters are identified, the EA should identify the impairment/s and the reason/s for the impairment/s. We recommend the EA identify the measures Spire will take to insure no further degradation of these waters will take place during project construction and operation.	Spire has provided a description and potential impacts to water resources crossed by the Project as part of Resource Report 2 of its October 2016 FERC filing. Updates to this information will be supplemented as necessary in Spire's FERC Application filing in January 2017.	2	2.2	2-8
EPA Region 5 (Kenneth A. Westlake)	11/23/2016	Comment Letter to FERC	11g	Recommendations (Potable Water): Special attention should be given to work that would occur in an identified well head (drinking water) protection zone, or upstream of a drinking water intake. While the EA would most likely not identify the specific locations of public and private drinking water supply intakes or wells, impacts to these resources should be evaluated and mitigation measures identified, if applicable.	Spire has provided a description and potential impacts to water protection areas crossed by the Project as part of Resource Report 2 of its October 2016 FERC filing. Updates to this information will be supplemented as necessary in Spire's FERC Application filing in January 2017.	2	2.2	2-8
			11h	Recommendations (Stream Crossings): Details regarding the widths of proposed stream crossings and how these crossings will be accomplished - horizontal directional drilling (HDD) or otherwise - should be identified and discussed. Where feasible, we recommend the use of directional drilling for all water crossings, including directional drilling of their associated floodplains, wetlands and unique wildlife habitats, such as forest land. Recommendations (NPDES 402 Discharge Permits/402 Construction Permits/Hydrostatic Testing): We recommend that the EA identify and discuss whether National Pollution Discharge Elimination System (NPDES) Clean Water Act Section 402 direct discharge permits and/or storm water construction permits may be required.	Spire has provided a description and potential impacts to water resources crossed by the Project as part of Resource Report 2 of its October 2016 FERC filing. Updates to this information will be supplemented as necessary in Spire's FERC Application filing in January 2017.	2	2.2	2-8
			11i	Recommendations (Hydrostatic Testing and Erosion/Sediment Control and Nuisance/Invasive Species): We recommend the EA disclose whether hydrostatic testing will be undertaken for the proposed new 24-inch pipeline, Line 880 and/or Enable MRT. If applicable, we recommend including details of testing methods. We recommend the EA identify the potential source waters, locations and amounts of water proposed for each hydrostatic test and proposed discharge locations. Potential impacts to water resources from erosion and/or spread of aquatic nuisance species, associated with hydrostatic testing should be identified in the EA. Mitigation measures to protect upland and aquatic resources should be identified.	Spire has provided a description of hydrostatic testing as part of Resource Report 2 of its October 2016 FERC filing. Updates to this information will be supplemented as necessary in Spire's FERC Application filing in January 2017.	2	2.2.4.1	2-21
			11j	Recommendation (Pre-cleaning Prior to Pressure Testing): If pre-cleaning of the new 24-inch pipe and Line 880 is proposed, then we recommend the EA explain what pre-cleaning entails. Including the amount of water used, and whether this is in addition to the water used for the hydrostatic test. In addition, we recommend explaining what chemicals, if any, are used in the pre-cleaning process.	Spire has provided a description of hydrostatic testing as part of Resource Report 2 of its October 2016 FERC filing. Updates to this information will be supplemented as necessary in Spire's FERC Application filing in January 2017.	2	2.2.4.1	2-21
			11k	Hazardous Materials: Events such as construction equipment spills of hazardous or toxic materials could result in substantial adverse impacts to surface and ground water quality and aquatic habitats. The construction and operation of pipelines and their associated facilities can generate used oils and solvents from maintenance activities. (See our earlier comments under Line 880 concerning potential to encounter asbestos during proposed Line 880 modifications.) Recommendations: We recommend the EA discuss the frequency or likelihood of such events, and describe spill and release response capabilities. In addition, we recommend appropriate state-identified and FERC-identified Best Management Practices (BMPs) to reduce potential non-point sources of pollution from project proposed activities are designed into the project and identified in the EA.	Spire has provided a description of water resources as part of Resource Report 2 of its October 2016 FERC filing. Updates to this information will be supplemented as necessary in Spire's FERC Application filing in January 2017.	2	2.2	2-8

Appendix 1-K
Spire STL Pipeline Project
Comment Letters and Scoping Comments

Agency and/or Individual	Date	Type	Comment Number	Comment	Response	Location Where Comment is Addressed in January 2017 FERC Application		
						Resource Report	Section	Page
			11l	Air Quality - Impacts to air quality can occur from construction, modification and operation of a natural gas pipelines and associated facilities. Spire consultants identified that the proposed project is located within the Metropolitan St. Louis Interstate (Missouri-Illinois), Air Quality Control Region (AQCR). The project area in St. Charles and St. Louis Counties, Missouri in the AQCR is designated as non-attainment for both 8-hour ozone and PM2.5. Jersey County, Illinois was designated as maintenance for ozone in 2012. EPA understands that all of Line 880 and approximately 28.8 miles of the new 24-inch pipeline are located within these areas. Recommendations: We recommend the EA identify and discuss the potential impacts to air quality from construction, modification and operation of the proposed project. The air quality analysis should address and disclose the project's potential effect on: 1) all criteria pollutants under the National Ambient Air Quality Standards (NAAQS), including ozone; 2) any significant concentrations of hazardous air pollutants; and 3) protection of public health. Mitigation measures should be identified. We recommend the project proponents consider whether there may be opportunities to use clean diesel equipment, vehicles and fuels in construction of the project, and reduce diesel equipment idling time, and that FERC identify and disclose in the EA any opportunities to utilize these measures.	Spire has provided a discussion of air quality impacts as part of Resource Report 9 of its October 2016 FERC filing. Updates to this information will be supplemented as necessary in Spire's FERC Application filing in January 2017.	9	9.1.1	9-1
			11m	Greenhouse Gases (GHGs) Climate Change Methane Leakage Recommendations: Consistent with Council on Environmental Quality's (CEQ's) Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews (CEQ Guidance), the EPA recommends that the EA estimate the direct and indirect GHG emissions that would be caused by the proposal and provide a qualitative summary of the impacts of climate change. Examples of tools for estimating and quantifying GHG emissions can be found on CEQ's website. In addition, if the project is being proposed, in part, to replace propane networks with methane, identify the replacement amounts and estimate potential changes in emissions from the use of methane instead of propane. Please note that the CEQ GHG Guidance considers end use product combustion as an indirect emission to be included in GHG emission calculations for each alternative.	Spire has provided a discussion of greenhouse gas emissions as part of Resource Report 9 of its October 2016 FERC filing. Updates to this information will be supplemented as necessary in Spire's FERC Application filing in January 2017.	9	9.1.1	9-1
			11n	Climate Adaptation and Resiliency Recommendations: Consistent with the CEQ guidance, we recommend that the EA describe potential changes to the affected environment that may result from climate change. Including future climate scenarios, such as those provided by the U.S. Global Change Research Program's (USGCRP) National Climate Assessment, in the EA provide information useful to determine whether the proposal includes appropriate resilience and preparedness measures for the impacts of climate change.	Spire has provided a description of greenhouse gas emissions as part of Resource Report 9 of its October 2016 FERC filing. Updates to this information will be supplemented as necessary in Spire's FERC Application filing in January 2017.	9	9.1.1	9-1
			11o	Methane Leakage Fugitive GHG Emissions Recommendation: We recommend that FERC estimate expected GHG emissions from leakage and consider potential BMPs to reduce leakage of methane from the proposal. EPA has compiled useful information on technologies and practices that can help reduce methane emissions. This information may be found at http://www3.epa.gov/gasstar/mehtaneemissions/index.html .	Spire has provided a discussion of greenhouse gas emissions as part of Resource Report 9 of its October 2016 FERC filing. Updates to this information will be supplemented as necessary in Spire's FERC Application filing.	9	9.1.1	9-1
			11p	Noise - Construction and operation of pipelines and associated facilities, may cause an increase in local noise levels. Increased noise levels may, in part, affect sleep patterns and consequently, adult job performance and children's ability to learn in school. Recommendations: EPA recommends the EA: - Identify and discuss the sources of short-term and long-term noise pollution. - Provide detailed information regarding the make-up of each noise sensitive area (NSA) (e.g., residences, residence with school aged children, schools, hospitals, etc.). - Identify whether each NSA is part of a community with environmental justice (EJ) concerns, and assess and disclose whether there would be a disproportionate noise impact. (See additional EPA comments under "Environmental Justice and Sensitive Receptors".) - Identify and discuss appropriate mitigation measures. Mitigation measures may include, but are not limited to, the use of noise barriers, placement of trees and shrubs, sound- proofing structures, and the use of equipment that emit the lowest levels of noise possible.	Spire has provided a discussion of potential noise impacts as part of Resource Report 9 of its October 2016 FERC filing. Updates to this information will be supplemented as necessary in Spire's FERC Application filing in January 2017.	9	9.2	9-16
EPA Region 5 (Kenneth A. Westlake)	11/23/2016	Comment Letter to FERC	11q	Community, Social and Economic Impacts The proposed Project will traverse a variety of human environments, ranging from low population rural farming communities to more populated urban communities, such as St. Louis, Missouri. Recommendation: We recommend the EA identify and address the social and economic impacts this project may have on area communities. This would include, but is not limited to, identifying the number of outside workers that would be brought in to construct the project and duration of proposed construction and/or modification activities in the various communities.	Spire has provided a discussion of potential socioeconomic impacts as part of Resource Report 5 of its October 2016 FERC filing. Updates to this information will be supplemented as necessary in Spire's FERC Application filing in January 2017.	5	5.1	5-1
			11r	Farmland Impacts The proposed route of the 24-inch pipeline in Illinois would be a new terrain pipeline substantially traversing through agricultural land. EPA understands that Spire has been in discussions with the Illinois Department of Agriculture to develop an Agricultural Impact Mitigation Agreement (AIMA). Recommendation: EPA recommends that the Illinois AIMA, if signed, be included as an appendix in the EA and that the EA provide a summary of the mitigation measures in the "Soils" section or other appropriate section of the EA.	Spire has provided a discussion of potential agricultural impacts as part of Resource Report 7 of its October 2016 FERC filing. Spire has been coordinating with the Illinois Department of Agriculture ("IDOA") to develop a Agricultural Impact Mitigation Agreement ("AIMA") and this agreement is in the final stages of development. Updates to this information will be supplemented as necessary in Spire's FERC Application filing in January 2017.	7	Appendix 7-C	-
			11s	Environmental Justice (EJ) and Sensitive Receptors - There are environmental justice communities and other sensitive receptor locations (e.g., schools, residences) near portions of the proposed Project. Recommendations: EPA recommends FERC identify, evaluate and disclose in the NEPA document the impacts of this proposal: on low-income and/or minority communities (i.e., EJ populations) and sensitive receptors (e.g., children, people with asthma, etc.), as compared to the general population. This might include, but is not limited to, an assessment of: - risk of exposure to hazardous materials such as asbestos that may be encountered during modification of Line 880; - impacts from noise (e.g., sleep deprivation) due to HDD activities, blow down events, construction and operation of meter and regulator stations, delivery stations, and bi-directional flow stations associated with pipeline and facility construction. In addition to consulting EPA's EJSCREEN website at http://www.epa.gov/ejscreen , FERC may wish to consult "Promising Practices for EJ Methodologies in NEPA Reviews" at the following website: https://www.epa.gov/sites/production/files/2016-08/documents/nepa_promising_practices_document_2016.pdf We recommend identifying mitigation measures in the EA. (See additional information and recommendations under "Children's Health and Safety" next.)	Spire has provided a discussion of potential socioeconomic impacts as part of Resource Report 5 of its October 2016 FERC filing. Updates to this information will be supplemented as necessary in Spire's FERC Application filing in January 2017.	5	5.1; 5.2	5-5

Appendix 1-K
Spire STL Pipeline Project
Comment Letters and Scoping Comments

Agency and/or Individual	Date	Type	Comment Number	Comment	Response	Location Where Comment is Addressed in January 2017 FERC Application		
						Resource Report	Section	Page
			11t	<p>Children's Health and Safety</p> <p>Recommendations: Because children can be more susceptible to noise levels, mobile source air pollution, construction dust, and the chemicals associated with building and construction materials, we recommend that the NEPA document specifically address the potential direct, indirect, and cumulative impacts of the proposed project on children's health, including consideration of prenatal exposures (exposures that may be experienced by pregnant women). Per E.O. 13045 and EPA's 1996 memorandum on NEPA and children's health (http://www.epa.gov/compliance/resources/policies/nepa/children-health-risks-pg.pdf), analysis of impacts to children should be included in a NEPA analysis if there is a possibility of disproportionate impact on children related to the proposed action. We recommend the EA characterize and address children's exposures and susceptibilities to the pollutants of concern, which could include, but are not limited to, the following:</p> <ul style="list-style-type: none"> - Identification of the pollutants and sources of concern. There are various sources of information to identify pollutants of potential concern and the nature of the specific concerns (such as neurotoxicity, respiratory effects, carcinogenicity, etc.). One such source is EPA's America's Children and the Environment Report, 3'd - Edition, which provides useful information about such pollutants, including criteria air pollutants and hazardous air pollutants, drinking water contaminants, contaminants in indoor environments, and others. This report can be found at http://www.epa.gov/envirohealth/children/ - Exposure Assessment: Describe demographic characteristics of affected neighborhoods/populations/communities and focus exposure assessments on schools, recreation areas, childcare centers, parks, and residential areas in close proximity to the proposed project, and other areas of apparent frequent and/or prolonged exposure. - Baseline health conditions: Consider analyzing available relevant health data for the impacted communities. In some localities, community or census tract data may be available for indicators such as lead screening rates, number of children with elevated blood lead levels, age of housing, or asthma emergency room visits and hospitalizations rates, etc. In instances where local-level data is unavailable, county- or state-level data may be the lowest scale available. Meaningful use of county- or state- level health data, as a surrogate for local-level data, requires understanding demographic, geographic, and other characteristics of the specific locations affected by the project. Consultation with public health officials is an appropriate way to identify and access relevant data. - Respiratory Impacts/Asthma: To the extent possible, consider data on existing asthma rates and asthma severity among children and the general community living, working, playing, and attending school and child care near the project site. If such information is only available at the county- or state-level, meaningful interpretation of its applicability to the project area will require consideration of demographic, geographic, and other characteristics and potentially assistance from public health officials. - Noise and Vibration: Consider impacts from noise on health and learning, especially near homes, schools and daycare centers. - Obesity Factors: Consider potential impacts that could influence childhood obesity factors, including any factors that may reduce or improve opportunities for walking, bicycling, exercise, or other recreation. These include impacts to school commutes, and on the accessibility of neighborhood parks, green spaces, and other recreation areas. <p>Air Pollutant Emissions: Consider exposure and impacts to children from mobile source air pollutants, including proximity to transportation corridors, transportation hubs, ports, and project construction emissions. Combine these with other area sources/baseline air quality.</p>	The majority of the proposed 24-inch pipeline route is situated in predominately rural/agricultural areas. The Line 880 portion of the Project consists of upgrades/modifications on an existing line where maintenance work is already conducted on a routine basis. Construction activities on both portions of the Project would be temporary in nature and Spire will coordinate in advance with landowners to limit exposures to noise and construction dust. Spire will also work with local officials to maintain traffic patterns through residential areas such that typical driving, walking, biking etc. will be maintained.	5	5.2	5-6
			11u	<p>Listed Species, Candidate Species, and Species of Concern/Rare Species -The proposed Project may adversely impact species. EPA understands that Spire and FERC are currently coordinating with the U.S. Fish and Wildlife Service (USFWS), Illinois Department of Natural Resources (IDNR) and the Missouri Department of Natural Resources (MDNR).</p> <p>Recommendation: We recommend the EA discuss and document the results of FERC and Spire's coordination with USFWS, IDNR and MDNR. Identify proposed mitigation, if applicable.</p>	Spire has provided a description of potential impacts to listed species as part of Resource Report 3 of its October 2016 FERC filing. Updates to this information will be supplemented as necessary in Spire's FERC Application filing in January 2017.	3	3.4.1	3-24
			11v	<p>Wildlife Habitats The proposed project will impact forest land. Forest land provides valuable habitat for wildlife. In addition, forests protect surface water and ground water quantity and quality, in part, by providing soil stabilization in a watershed.</p> <p>Recommendations: We recommend the EA assess and disclose impacts to the various habitats associated with the proposal. We recommend mitigation for habitat loss be included in the EA. EPA recommends the project proponents undertake voluntary mitigation for tree loss that is due to the Project. We recommend a 1:1 replacement with native saplings in the watershed where the tree loss takes place.</p>	Spire has provided a description of potential impacts to wildlife as part of Resource Report 3 of its October 2016 FERC filing. Updates to this information will be supplemented as necessary in Spire's FERC Application filing in January 2017.	3	3.2	3-8
			11w	<p>Pollinator Habitat "Pollinators (e.g., honey bees, monarch butterflies) are integral parts of managed and natural ecosystems, providing billions of dollars in pollination services. Today, pollinators face a variety of challenges, including habitat loss due to development, altered land use patterns, and climate change, as well as exposure to pests, pathogens, pesticides, and other stressors." (Pollinator Partnership Action Plan, Pollinator Health Task Force, June 2016)</p> <p>Recommendations: We recommend the EA discuss the feasibility of using pollinator promoting plants and/or plant seed mixtures for reclamation of disturbed areas associated with Project construction/modification activities. EPA recommends Spire and FERC consult with the relevant federal and state resource agencies for their recommendations regarding plant species that promote pollinator habitat and identify potential seed sources.</p>	Spire will provide a description of the potential seed mixes and restoration measures to be employed on the Project in Resource Report 7 of Spire's FERC Application filing in January 2017.	7	7.5.4	7-18
EPA Region 5 (Kenneth A. Westlake)	11/23/2016	Comment Letter to FERC	11x	<p>Noxious Weeds and Exotic Species - The spread of noxious weeds and exotic (non-indigenous) plants is a threat to biodiversity. Many noxious weeds can out-compete native plants and produce a monoculture that has little or no plant species diversity or benefit to wildlife. Noxious weeds tend to gain a foothold where there is disturbance in the ecosystem. Studies show that new roads and pipeline/utility rights of way can become a pathway for the spread of invasive plants. Early recognition and control of new infestations is essential to stopping the spread of infestation and avoiding future widespread use of herbicides, which could correspondingly have more adverse impacts on biodiversity and nearby water quality.</p> <p>Recommendations: We recommend that a vegetation management plan be prepared to address control of such plant intrusions. The plan should list the noxious weeds and exotic plants that occur in the resource area. In cases where noxious weeds are a threat, U.S. EPA recommends the</p>	Spire has provided a description of the potential for noxious/invasive species as part of Resource Report 3 of its October 2016 FERC filing. Updates to this information will be supplemented as necessary in Spire's FERC Application filing in January 2017.	3	3.3.3 and Appendix 3-A	3-22
			11y	<p>Tribal Cultural Resources Recommendation: EPA recommends FERC consult with appropriate tribal governments and indigenous organizations to identify any cultural resources (e.g., burial mounds, sacred sites) and Traditional Cultural Properties that may be impacted by the proposed project. We recommend the EA document this consultation and identify mitigation measures, if applicable. (See additional comments next.)</p>	Spire has provided a description of the potential for tribal resources as part of Resource Report 4 of its October 2016 FERC filing. Updates to this information will be supplemented as necessary in Spire's FERC Application filing January 2017.	4	4.2.2	4-2
			11z	<p>National Historic Preservation Act (NHPA) and NHPA Section 106 Compliance - NEPA and NHPA require agencies to consider historic properties and effects to them. NEPA includes aesthetic, historic, and cultural resources, including sacred sites. Section 106 is concerned exclusively with impacts to historic properties, defined in NHPA, as properties that are listed, or may be eligible for listing, in the National Register of Historic Places (National Register). These may include prehistoric or historic districts, sites, buildings, structures, objects, or properties of traditional religious and cultural importance to, in part, a tribe, that meet the National Register criteria.</p> <p>Recommendation: We recommend early coordination with the State Historic Preservation Officers (SHPO) in Illinois and Missouri and any applicable Tribal Historic Preservation Officer (THPO) and/or appropriate tribal representative. We recommend the EA include documentation of FERC's compliance with Section 106 of NHPA.</p>	Spire has provided a description of the potential for archaeological resources as part of Resource Report 4 of its October 2016 FERC filing. Updates to this information will be supplemented as necessary in Spire's FERC Application filing in January 2017.	4	4.3	4-9

Appendix 1-K
Spire STL Pipeline Project
Comment Letters and Scoping Comments

Agency and/or Individual	Date	Type	Comment Number	Comment	Response	Location Where Comment is Addressed in January 2017 FERC Application		
						Resource Report	Section	Page
Individual (Mary L. Parcelli)	11/14/2016	Scoping Comment	12	I do not want the Spire STL Pipeline (Project) to extend through St. Charles and St. Louis Counties in Missouri. Tons of thousands of people live here. They all plus many more people in surrounding counties and states would be affected if a problem would occur. Last winter flooding here created havoc all over. You cannot expose all these people to contamination of the Mississippi River, which drains half the country. Also, the Missouri River right here at Saint Charles provides our household water. If you put the pipeline in or below the river or try to run it attached below a bridge; this will not be safe. Barges break loose and crash into structure. This is in the New Madrid earthquake zone. An earthquake actually change the course of the Mississippi River. Another severe earthquake could break the pipeline. Scoping needs to be done in Saint Charles and St. Louis Counties. The Historic First State Capitol since 1769, Saint Charles, cannot be exposed to danger. Scoping needs to be done at every area river, creek and stream here; no matter how small. Coldwater Creek had contamination. Radioactive waste in St. Charles County could be unleashed by pipeline explosion or damage. Radioactive waste in the (?West Lake?) landfill is in St. Louis County. We don't want it underground. Every one of these areas must be considered. This is a dangerous proposal for my home area. We are supposed to be moving away from gas and oil, and going to electricity. Where is this gas going to come from?... Fracking in Oklahoma? which is already causing earthquakes there? This pipeline is irresponsible and should not be allowed. Federally protected birds here at our lake, and the eagles at the Mississippi River must be kept safe.	Spire will cross the Mississippi and Missouri Rivers utilizing trenchless technologies (e.g. horizontal directional drill) in order to avoid direct impacts to the channels of each river. A discussion of this crossing technique is described in Resource Report 2 of Spire's October 2016 FERC filing. A discussion of earthquake resiliency is provided in Resource Report 6 of Spire's October 2016 FERC filing. Additionally, Spire will obtain appropriate approvals from MDNR to cross Coldwater Creek and other rivers, creeks, and streams in Missouri prior to the commencement of construction. Spire held Open House meetings for all stakeholders in August 2016 to discuss Project concerns. Likewise, FERC held Public Scoping Sessions for all stakeholders in November 2016. Spire participated in these scoping sessions.	2,6	2.2.6.3	2-25
Individual (Scott Hughes)	11/14/2016	Scoping Comment	13	My name is Scott Hughes, H u g h e s. I'm with the Laborers Midwest Region, and I'm here to support the project. Our organization supports this project for a number of reasons. One, we believe that it will provide a new energy source to the St. Louis region, that will help the region and all of our local businesses grow and thrive over time; and again, provide a new route, new alternative for energy to the region. The project will also create I think several hundred good, high quality, high paying jobs; and the men and women of the Laborers' International Union are highly skilled, highly trained workers in the pipeline sector. And I believe that this project would be very beneficial to the community by creating those good paying jobs. And those are the reasons we're here to support this project. We think it will be great for the community, great for the workforce, and great for the businesses in the region.	Spire acknowledges Scott Hughes's comments with the Laborers Midwest Region in support of the Project. Additional information regarding potential employment will be provided in Resource Report 5 of Spire's FERC Application filing in January 2017.	5	5.1	5-1
Individual (John Hudson)	11/14/2016	Scoping Comment	14	My name is John Hudson, H u d s o n. I'm here representing the Teamsters Union out of St. Louis, Missouri. We are for this project, for the economic benefit that it will bring to the State of Missouri. We have a trained workforce here, out of the Local in St. Louis that has worked several, several pipeline jobs here in the last two or three years; and now a bunch of them are working out of state, still working pipeline down in Florida and Iowa, on the different lines and things. So we have people that are trained to do pipeline work and nothing else; that's all they do is pipeline work, which we feel like is good for the economy; it's good for the environment because we know what we're doing on putting in the rivers and the streams and so on and so forth, and all of the things that are associated with the pipeline. We have pensions, we have insurance, we have all kinds of benefits on these things for the members and the people that are working here. And the economic impact that the towns, where these pipeline companies move in is millions and millions and millions of dollars; not only in the wages that they pay, but we turn around and stay in the motels, we eat the food, we buy the gas. And then the pipeline companies when they're in these towns, and all up and down the line, they buy local, get all their supplies from the local vendors and things. So it creates just a tremendous amount of money into our economy and things, and we feel like we need it. Jobs are hard to come by, and these are good paying, professional jobs. So having said that, we are definitely for the project and hope that the project is approved, and we go through and have an opportunity to work on it. I thank you very much.	Spire acknowledges John Hudson's comments with the Teamsters Union in St. Louis, Missouri in support of the Project. Additional information regarding potential employment will be provided in Resource Report 5 of Spire's FERC Application filing in January 2017.	5	5.1	5-1
Individual (Matt Stewart)	14-Nov	Scoping Comment	15	My name is Matt Stewart. I represent Teamsters Local 682 here in St. Louis. We have approximately 1500 members. And the reason that I am here is I would like to see this job get approved, because for one, the economics. It gives our members good-paying jobs; it pays their insurance; they have a good pension out of it. And I guess, you know, they get -- some of these guys only work four or five months out of the year. But they can make a living working four or five months out of the year on these jobs. Also, Spire is a good company; pipelines are good for the country, I believe; they're a lot safer than rail transportation, they work 24/7, they don't wreck. And that's basically it. I'd just like to see FERC approve this project.	Spire acknowledges Matt Stewart's comments with the Teamsters Local 682 in support of the Project. Additional information regarding potential employment will be provided in Resource Report 5 of Spire's FERC Application filing in January 2017.	5	5.1	5-1
Individual (Robert Hormell)	15-Nov	Scoping Comment	16	My name is Robert Hormell, H o r m e l l ; I am the Treasurer of New Piasa Chautauqua, and my role here today is to provide you with the comment that have been at least reviewed with some of our directors. and call and concerns. The first one is that when we look at the diagram that was provided to us, the location of the pipeline, we experience on heavy rains some significant runoff, and that creates some very big flash floods that damage our property. In fact, this summer the last major rainstorm that came through took out one of our small bridges and we had to rebuild it. It was just a frame bridge, but still it took it out. So that's one concern that we have, is that with the -- what I've been told, a 50-foot total open area around the point where the pipeline is, that that will all be cleared. And that to me means potential runoff; maybe half it in one direction -- by the look of this, you're following a ridgeline more often than not, on the topology of the area. So that's our first concern. Our second is really -- we're in the midst of a, call it a long range plan, part of which will address new construction of cottages, as we call them -- think of them as residential structures. Even though this looks like it's far enough away, we at least want to have an understanding of 'what's the distance that we must keep away from the pipeline' for any kind of construction, whether it's outbuildings or whether it's actual residential. The third is more of an environmental -- should I assume that there will be an environmental impact statement made relative to this in terms of wildlife disruption, destroying natural habitats for different kinds of animals - - one that has been mentioned is rattlesnakes, believe it or not. And that yes, I know they do propagate underground at times, but that's one. And just what is going to be the level of remediation? My understanding is when you come through, you'll be digging a five foot deep trench and placing the pipe in that. There is going to have to be heavy equipment coming through, and that it's going to have to come from somewhere. Is it coming through our property? It will obviously come through the property when it traverses right there, but access to it in the long run is going to be reset once it's through. One of our people who met with Spire said that he thought he heard something about, 'You might have to have a 450-foot wide area to have access to, to just actually construct the pipeline.' That's what he said; I don't know whether that's correct or not, but that's what he said. The last thing, and I'm looking at this -- it seems to me that on this diagram, this section, somewhere in this section, assuming that this was thought to be our property inside this red perimeter, there's a piece of this that is not, to my knowledge; and the Great Rivers Land Trust I think has access -- it may be this one, but I think it's this one (indicating) somewhere in here. But that would be something for you all to look at. You all have probably done a fine job of doing that, but it just is in question. And that's it. Those are our concerns.	Spire's current proposed route does not cross the Chautauqua area, however, it was an alternative that will be discussed in Resource Report 10 of Spire's FERC Application filing in January 2017. Other concerns identified in this letter will be addressed in Spire's FERC Application filing in January 2017 as applicable to the proposed route.	10	10.4	10-13
Individual (Herman Chase)	15-Nov	Scoping Comment	17	My name is Herman Chase, H e r m a n C h a s e. I'm a resident of Fern Glen Valley Road, and have been for twenty-plus years. I guess my main concern is during the period of construction, the loss of tranquility and peacefulness that the valley maintains, and it's more like stepping back into time when you walk through there. In addition to the construction noise and traffic, we are concerned with the erosion possibilities due to the steep slopes and the extreme runoff issues we've had in the past, when any other construction has been nearby. There's one way in to the valley, which is a small, one-lane road, oil and chip; that during construction would be severely compromised, in my opinion, and also we have concerns during the flood whether or not there would be any type of access issues during that time period, which generally happens one to two times every year. We also, I also have concerns about the nature of the use of the property afterwards. Currently it's fully wooded; the only thing that walks through there are deer and possums, and on occasion a coon. I perceive the possibility of people running ATVs and motorcycles and a lot more public intervention in the area when it's open and more inviting, shall we say. Environmentally, I don't know that there's anything other than the creek below, which may suffer from a sediment influx during construction and potentially afterwards with any erosive materials. That's really about it, other than if they had to blast. Blasting would be a concern. I know that the whole mountaintop is just that; rock. Vibrations, noise and blasting concerns -- I live very close to the area. And this is the alternative route I'm speaking of, that runs through Chautauqua's property. That's about really all I've got.	Spire's current proposed route does not cross the Chautauqua area, however, several of these concerns will be addressed in Spire's FERC Application filing in January 2017 applicable to the current proposed route. An alternative near Chautauqua will be discussed in Resource Report 10 of Spire's FERC Application filing in January 2017.	10	10.4	10-13

Appendix 1-K
Spire STL Pipeline Project
Comment Letters and Scoping Comments

Agency and/or Individual	Date	Type	Comment Number	Comment	Response	Location Where Comment is Addressed in January 2017 FERC Application		
						Resource Report	Section	Page
Individual (Janet Hampton)	15-Nov	Scoping Comment	18	<p>Janet Hampton, J a n e t H a m p t o n. Address: 13367 Teal, T e a l Lane, Grafton, 62037. And of course that's Illinois. My concern is if they come Chautauqua way, the disruption of the woods in that area. It's a very beautiful area and I don't want to see that scarred, I guess would be a good word; and also my property is within less than a quarter of a mile from the pipeline. I really don't want the pipeline that close to me. Not that it's going to matter that much, I don't think, if they go Principia way, but I'd prefer they went that way since there's an already- existing pretty much route.</p> <p>Erosion is another issue that I'm afraid would happen in the wooded area, just because of the terrain. And I think that's probably about it.</p> <p>I had asked them how easily it would be to --they would fly over every two weeks to inspect it, and I just don't know how easily that would be able to see the erosion issues. They say they would put it back to the way it is, but I don't know. I think the growth issue that would occur there.</p>	Spire's current proposed route does not cross the Chautauqua area, however, several of these concerns will be addressed in Spire's FERC Application filing in January 2017 applicable to the current proposed route. An alternative near Chautauqua will be discussed in Resource Report 10 of Spire's FERC Application filing in January 2017.	10	10.4	10-13
Individual (Richard Stern)	16-Nov	Scoping Comment	19	<p>My name is Richard Stern, S t e r n. And I'm with the Teamsters National Pipeline Training Fund, which is a separate and distinct entity from the Teamsters National Pipeline Labor Management Cooperation Trust and the Teamsters Illinois Training Fund, which are all separate. The Teamsters National Pipeline Training Fund, we represent over 70 union pipeline contractors who are affiliated with the Pipeline Contractors Association and the International Brotherhood of Teamsters, with over 1.2 million members, and we affirm our support for the Spire STL pipeline project.</p> <p>The Spire Pipeline Project will provide pipeline Teamsters who belong to the following local unions having jurisdiction along the Spires route with high wages and health insurance and pension benefits, all who pay taxes in Illinois and Missouri. We have Local 525 here in Alton, Illinois, and Local 682 in St. Louis, Missouri.</p> <p>The Teamsters National Pipeline Training Fund is committed to building this project with well trained and qualified Teamsters workers, most who reside in the states of Illinois and Missouri, and some who may reside along the route of the Spire Pipeline Project. Therefore, they have an interest in building this project in an environmentally safe manner, since their families could be affected by the project also.</p> <p>By utilizing union contractors to build the Spire project, it guarantees at least 50 percent of the workers will be from the areas in Illinois and Missouri where the work is taking place.</p> <p>The collective bargaining agreement between the Teamsters and the Pipeline Contractors Association states: Regular employees shall mean those who are regularly and customarily employed by the individual employer, and because of their special knowledge and experience in pipeline construction work, are considered key men. It is anticipated that the number of regular employees shall not be more than a majority of the total number required, but there should be no limitation on the clarification of such regular employees. With the understanding, these classifications will be distributed as evenly as possible.</p> <p>And in Exhibit A of my written submission, I have the language from the contract documenting what I just read.</p>	Spire acknowledges Richard Stern's comments on behalf of the Teamsters National Pipeline Training Fund in support of the Project. Additional information regarding potential employment will be provided in Resource Report 5 of Spire's FERC Application filing in January 2017.	5	5.1	5-1
Individual (Richard Stern)	16-Nov	Scoping Comment	19	<p>Therefore, when a pipeline project such as the Spire is being built using local union labor, the majority of pipeline construction workers are from the local community. Again, these workers care about building the job in an environmentally safe manner because they live here, too.</p> <p>On our pipeline projects we receive Stoot reports, listing information on the Teamsters workers, including home local unions such as the following: Old Oak environmental restoration shows two out of three Teamsters are from Local 179 in Joliet. Precision pipeline, showing 5 out of 5 Teamsters are from Local 179 in Joliet and Local 673 in West Chicago. Price Gregory currently working showing 8 out of 10 Teamsters are from Local 179 in Joliet.</p> <p>These reports are contained in Exhibit B in my written submission.</p> <p>Furthermore, we have pipeline contractors who specialize in horizontal directional drilling type of work. Horizontal directional drilling is used for the installation of pipelines beneath rivers, highways and other environmentally sensitive areas requiring technology and equipment that can install pipelines without any disturbance to natural habits. And what it means, they usually go underneath the riverbed.</p> <p>Some of the specialized signatory contractors, and a more detailed explanation of the work they perform in the areas of great environmental concern are included in this submission, and that is contained in Exhibits 3 of my submission, and it gives a detail of what horizontal directed drilling pipeline work is like.</p> <p>Under pages 6 and 7 in the collective bargaining agreement, workers must have certain qualifications prior to working on the project. Those are also contained in the written submission in Exhibit D.</p> <p>Under pages 16 and 17, the language on drug and alcohol testing to ensure a drug-free work environment in our training, DOT rules, to maintain high quality work standards and qualifications.</p> <p>That language is contained in Exhibit E of my submission.</p> <p>Furthermore, the Teamsters national pipeline supports are Illinois, Missouri Teamsters pipeline veterans who will be working on the Spire pipeline project, if the pipeline project is awarded to a union contractor. These veterans will receive high wages and health insurance and pension credits.</p> <p>A brochure of the Teamsters military assistance program is provided in the written submission, for greater detail on its activities on behalf of our veterans.</p> <p>In closing, we support the building of the Spire Pipeline Project based upon this written submission and its supporting exhibits. We believe it can be built in a safe and environmentally friendly manner, based upon our worker training programs and our union contractors who perform specialized training and skill in the areas where wetlands, rivers and streams exist.</p>				
Individual (Michael T. Borjas)	16-Nov	Scoping Comment	20	<p>Good evening. My name is Michael T. Borjas, B o r j a s. I'm the Executive Director of the Illinois Teamsters Joint Council 25 Apprenticeship and Training Fund.</p> <p>I have some points with some exhibits here. First of all, on behalf of the Illinois Teamsters Apprenticeship Fund, I want to affirm my support for the project. Support the issuance of the permits -- a lot, of course -- floodways, bywater including wetlands and other related work on the Spire pipeline project.</p> <p>The Illinois Teamsters Training Fund has certified training throughout the employment skills, health skills, safety and skills. In the package here -- we're also a certified Department of Labor apprenticeship program. We cover the entire state. This is, we're the Illinois Teamsters Training Fund, so this impacts our folks.</p> <p>Our Illinois Teamsters Apprenticeship Training Fund is also VA-approved; we're certified. In our recent apprenticeship class, 2016, we had three veterans that were in class, and versus we're VA-approved, are able to secure a stipend while they're in the program.</p> <p>Also, my other Exhibit C is, in the six years -- I've included all the training we've done -- that includes a lot of pipeline training, if you notice. Myself, I'm an instructor. I am the Director, but I am also an instructor. I have two other instructors, and we've trained over 9000 members, which includes the pipeline. A lot of Illinois.</p> <p>We're also certified third party, licensed by the Secretary of State, so we can come in and do certification training. I've also included our program catalog for the review. This is the entire program of our, combination of what we do. And I also included the brochures of our facility; that includes all the other training that we bring in.</p> <p>Again, we concentrate on safety; OSHA; we do hazmat training; we do pipeline training; we do skill training, we do all that, and then we also do hazmat training.</p> <p>Last one, I'm kind of pleased to announce, we've been awarded by the National Safety Council. In the last two years, we received the award in the category of Trend Setter for professional truck driver defensive driving. If you notice, in our training we do a lot of defensive driver. So we won 2014, we won the award for 2015, and in addition to that I'm proud to say, and humble, they also name-named me the instructor of the year in that category. So we just recently received this; went to California and picked it up.</p> <p>Finally, my last thing to say is, we're here for the project, we support it. I know we will continue to train at the beginning of the project and through the project, through the Pipeline national training fund. They chose us to be the lead on their training, and this is our state, so we're going to make sure everything is done safe, and productive. And that's all I have to say.</p>	Spire acknowledges Michael Borjas's comments on behalf of the Illinois Teamsters Joint Council 25 Apprenticeship and Training Fund comments in support of the Project. Additional information regarding potential employment will be provided in Resource Report 5 of Spire's FERC Application filing in January 2017.	5	5.1	5-1

Appendix 1-K
Spire STL Pipeline Project
Comment Letters and Scoping Comments

Agency and/or Individual	Date	Type	Comment Number	Comment	Response	Location Where Comment is Addressed in January 2017 FERC Application		
						Resource Report	Section	Page
Individual (Randy Harris)	16-Nov	Scoping Comment	21	My name is Randy Harris, R a n d y H a r r i s, and I work for the Midwest Region Laborers- Employers Cooperation and Education Trust. LECET for short. We are a joint labor-management committee. We represent, again, both labor and management, and we are here tonight, I'm here tonight and speaking on behalf of all of the 500,000 members in the Midwest Region, the 50,000 in the State of Illinois and the 30,000 in the State of Missouri in support of this project. We feel that projects such as this, these gas projects, are fantastic boons for communities, particularly when they're built safely and they're built up to the highest standards with the highest quality individuals. We know hundreds and thousands -- in this case hundreds of local residents will work on this project, particularly residents in the counties of Green County, Illinois, Jersey County, Illinois, St. Charles County, Missouri and St. Louis County, Missouri. Our folks have committed to making sure that as many local residents as possible can get to work on this. Spire Gas is also committed to hiring local workers; they've committed to hiring the highest quality contractors possible, and ensuring that the local communities are positioned as best possible to benefit from this project. Going forward, in the future we know that the gas infrastructure in this country is going to be a major, major part of our energy policy, and this project will be a significant component of that. We feel very strongly that this is a great project, needs our support. Natural gas projects just in general in this country, infrastructure work needs to be made a priority, and we need to approve good, high quality projects like this. We're going to put high quality workers, local residents using high quality, responsible contractors to work. And we encourage support and approval of this project.	Spire acknowledges Randy Harris's with the Midwest Region Laborers-Employers Cooperation and Education Trust's comments in support of the Project. Additional information regarding potential employment will be provided in Resource Report 5 of Spire's FERC Application filing in January 2017.	5	5.1	5-1
Individual (Jeff Naville)	16-Nov	Scoping Comment	22	My name is Jeff Naville, N a v i l l e. I'm a Green County resident and work for the Laborers International Union of North America, my day job. So I'm here to support the pipeline. I didn't see, I looked through this document regarding environmental concerns, and I don't have any environmental concerns, necessarily. I know that projects generally -- my experience with some other pipeline projects is that they're done safely and they supply needed natural resources to places where they need them. So I support the project, I support the economic activity that it will bring Green County.	Spire acknowledges Jeff Naville's with the Laborers International Union of North America comments in support of the Project. Additional information regarding potential employment will be provided in Resource Report 5 of Spire's FERC Application filing in January 2017.	5	5.1	5-1
Individual (Peggy Burton)	16-Nov	Scoping Comment	23	My name is Peggy Burton, B u r t o n. And I live at Rural Route 1, Box 124, Whitehall. And I was just curious, the route, it looks like the pipeline right now is headed across my ground, is along the west side of the Belltown Cemetery, and I butt up against that. And I know that, my son is an archaeologist and he has found sites on our ground, and I just wanted to know how that would be handled if something was found or determined, whatever. And also on the ground that drops down and goes against the creek, we farm it one more year and then we'll be trying to put it in a government program, and I wondered if this would affect, how this would affect that. If it would delay, if it would stop, if it would -- whatever. FERC: Which program? MS. BURTON: It's a quail habitat that I'll be putting in, we'll be putting in -- they'll have to farm it one more year and then they will be entering it into a quail habitat on the outer perimeters of that ground. There's probably six or seven acres -- well, there's over seven. Around seven or eight acres. And that's on the south edge of our property, along Apple Creek. I think that's all I have. I didn't use five minutes.	Spire initiated archaeological surveys in November 2016. Surveys were conducted at proposed Project locations where landowner permission was granted. Results of the archaeological surveys will be filed with FERC and the applicable state agencies in January 2017. Any artifacts found on private property belong to the landowner and will be returned as such. Upon the completion of construction, land uses will be returned to pre-construction condition and it is not anticipated to have an affect on future enrollment in government programs. Additionally, Spire has developed an Unanticipated Discovery Plan for Illinois and Missouri should unknown cultural sites or human remains be discovered during construction. This Plan was provided as part of Resource Report 4 in Spire's October 2016 FERC filing. Updates to this Plan will be supplemented as necessary in Spire's FERC Application filing in January 2017.	4	4.1	4-1
Individual (Marvin Yoder)	16-Nov	Scoping Comment	24	My name is Marvin Yoder, M a r v i n Y o d e r. And I live in the Roodouse Community in North Greene County of Illinois. And as far as a proposed gas pipeline, I'd like to say that the company has been very congenial in their contacts with us, very respectful; we appreciate that. And the main concern that I have is that these things are put down deep enough for safety reasons so that we don't hit them in the farming operations of putting in tile or other things like that. Six or seven feet of cover would be good, but you won't get them too deep, in my way of thinking. Thank you.	Spire will build and operate the pipelines in accordance with applicable regulations under the Department of Transportation's Pipeline and Hazardous Materials Safety Administration's guidelines. Additionally, in accordance with Spire's AIMA with the IDOA, the pipeline will be buried with a minimum depth of cover of 5 feet in agricultural areas.	1	1.3.1.1	1-24
Individual (unknown)	11/16/2016	Scoping Comment	25	Rural water will be crossing the pipeline in 2 places near White Hall (west of). In process of getting easements now.	Spire will coordinate with other utilities that are being proposed in the area of the Project. Utilities crossed by the Project will be identified in Resource Report 1 of Spire's FERC Application filing in January 2017.	1	1.3.1.2	1-32
Individual (John B Meek and Larry and Michael Gourley)	11/16/2016	Scoping Comment	26	Questions and concerns for FERC on the Spire pipeline project 1. Will our top soil be kept separate from the sub soil during construction and put back in the correct order. Will Spire put back fertilizer on the disturbed land and address compaction issues? 2. There is a concern about our field drainage tile being damaged during the construction phase. Will Spire alter the route a small amount to avoid a tile line we know about? We have numerous plastic and clay tiles some of which we know the location of and others we do not. What happens if we have a tile/drainage issue develop a few years after construction? 3. Another concern is blocking access to parts of farm during the construction phase. This problem could arise during planting, harvest, or fall tillage. We would hate to be land locked during one of these short windows. 4. What happens if we would want install more farm drainage tile in the future? Will it be allowed to tile above or below the pipeline? We are also concerned about weed control during construction. If we have a 120 feet wide by 1 mile long strip of weeds go to seed, we will have weed problems for years to come. 6. The Meek Farm borders the edge of Carrollton. If Carrollton ever sprawls out, perhaps when the new interstate goes through, the pipeline will devalue the Meek Farm land for possible development. 7. Has Spire been in contact with IDOT in regards that the pipeline with not interfere with the freeway plans in the future? 8. Do we need an attorney during negotiations with Spire? 9. After a few years the pipeline trench will begin to settle. Who will be responsible to regrade the surface to its original natural state? 10. What will be the depth of the pipe? Will that depth be measured from the top or bottom of the pipe? 11. We also have a concern for crop yield loss. This could occur during construction and will occur the years following. Yield will be lower in the areas disturbed for many years following the project. 12. Will a pumping station be placed on the Meek Farm? 13. What is the timeline when the final route of the pipeline will be determined? 14. What is the date to have land negotiations finished?	1. Spire does intend on topsoil segregation in agricultural areas during construction. 2. As part of its AIMA, Spire will repair damaged drain tiles that result from construction. 3. As part of its AIMA, Spire will work with landowners to accommodate farm access during construction. 4. Spire requests that the landowner coordinate with Spire on future installation of drain tiles. 5. Weed control measures are discussed in Resource Report 3 of Spire's October 2016 FERC filing. Updates to this information will be supplemented as necessary in Spire's FERC Application filing. 6. In 2016, INGAA released a study, conducted by IRR of selected FERC-jurisdictional natural gas transmission pipelines throughout the county and their impact on property values (IRR, 2016). Based on IRR's analysis, there is no measurable impact on the sales price of properties located along or in proximity to a natural gas pipeline versus properties which are not located along or in proximity to the same pipeline. 7. Spire has been in contact with IDOT regarding the future expansion of Highway 67 and has routed the pipeline to avoid the expansion plans based on the information that was provided by IDOT. 8. Every stakeholder has the option to engage legal representation at their will. 9. Spire will restore areas disturbed by construction to pre-existing conditions to the extent practicable and in accordance with Project-specific construction plans. 10. In accordance with Spire's AIMA with the IDOA, the pipeline will be buried with a minimum depth of cover of 5 feet in agricultural areas. In non-agricultural areas, the pipeline will be buried a minimum depth of 3 feet in accordance with the USDOT regulations. This depth is measured from the top of the pipeline. 11. Spire will compensate landowners for damages and crop loss and will work with landowners throughout the easement negotiation process to determine the appropriate payments. 12. No compressor stations are proposed as part of this Project. No aboveground facilities associated with the Project area proposed on the Meek Farm. 13. FERC is the lead federal agency with the final approval authorizing the Certificate of Public Convenience and Necessity for the Project facilities. If the Project is authorized under FERC's regulations, Spire anticipates a Certificate in 4th quarter of 2017. 14. Landowner easement negotiations are scheduled to be initiated in January 2017 and are anticipated to be completed prior the start of construction.	1,5,7,	5.1	5-1

Appendix 1-K
Spire STL Pipeline Project
Comment Letters and Scoping Comments

Agency and/or Individual	Date	Type	Comment Number	Comment	Response	Location Where Comment is Addressed in January 2017 FERC Application		
						Resource Report	Section	Page
Individual (Eugene N. Weidner)	16-Nov	Scoping Comment	27	<p>May 23, 2008 Appeal to Metropolitan St Louis Sewer District I am appealing the monthly bill I received from MSD because I have no sewers or drainage of storm water that MSD claims responsibility for. I request that someone from MSD come out and view my property and the surrounding properties. Supporting information consists of maps, photos and explanation. I estimate that there is a water shed of approximately 90 acres that drain thru my property. See attached map. All this storm water goes into a 12 inch diameter drain tile. This underground tile goes North, from my property, for approximately 1/2 mile. It exits into a creek that drains thru Central Stone Quarry to the Missouri River. In the past, I have tried to find out who is responsible for maintaining the underground drain tile. There are 2 instances where the drain tiles ability to carry water has been compromised. LaClede Gas has cut thru the tile with a high pressure gas line at their yellow post marked with number T103. Also a cell tower was constructed on top of where the tile runs underground. One time, after the cell tower was built, we had a 7 inch rain over a weekend and I had a lake (shown on map) where the water was 6 feet deep and did not drain out for 21 days. On June 20, 2002, I contacted a Mr. Wolf at MSD ph 768-6260. He said MSD had no responsibility for that drain tile. At that time, I also contacted St Louis County Public Works ph 615-2559. I contacted St Louis County Highway Dept ph 615-8511. I contacted St Louis Public Health ph 615-8538. All parties that I contacted said the problem was not their responsibility. Since no one claims responsibility for maintaining this underground tile, I feel that I have No responsibility to have to pay for any storm water drainage. I have enclosed some pictures of the flooding that lasted for 21 days. The water was just inches away from covering New Jamestown Rd at Krenski lane. I personally have been keeping the tile open so that storm water from the 90 acre water shed can seep out slowly. I will gladly pay the assessed monthly fee if MSD will put it in writing that they are responsible for maintaining the tile. I feel the bottom line is that if the tile becomes completely blocked, a lake will form and possible get deep enough to cover New Jamestown Rd at Krenski lane. Thank you for your consideration, Eugene N. Weidner Ph: 314-741-0591 15625 New Jamestown Rd</p>	This comment filed on the Spire STL Pipeline Project does not appear to be applicable to this Project. However, Spire has prepared and submitted mitigative measures and BMPs that will be implemented during and after construction to minimize for potential impacts to the surrounding environment. The BMPs will be used to minimize erosion of disturbed soils and prevent the transportation of sediment outside the construction right-of-way. These BMPs incorporate the FERC Plan and Procedures.	NA	NA	NA
Teamsters Pipeline Training Fund (Richard Stern)	16-Nov	Scoping Comment	28	<p>PROJECT DOCKET NUMBER (PF16-9-000) Comments by the Teamsters National Pipeline Training Fund (TNPTF) before the Federal Energy Regulatory Commission (FERC) on the Environmental Impact for the Spire STL Pipeline Project (herein referred to as "Spire") The Teamster National Pipeline Training Fund (TNPTF) representing over 70 Union Pipeline Contractors affiliated with the Pipeline Contractors Association and the International Brotherhood of Teamsters with over 1.2 million members affirms our support for the Spire STL Pipeline Project. The Spire Pipeline Project will provide Pipeline Teamsters who belong to the following local unions having jurisdiction along the Spire's route with high wages and health insurance and pension benefits ---all who pay taxes in Illinois and Missouri: Local 525 Alton, IL Local 682 St. Louis, MO The TNPTF is committed to building this project with well- trained and qualified Teamster workers most who reside in the states of Illinois and Missouri and some who may reside along the route of the Spire Pipeline Project. Therefore, they have a vested interest in building this project in an environmentally safe manner since their own families could be affected by this project. By utilizing union contractors to build the Spire Project it guarantees that at least 50% of the workers will be from the areas in Illinois and Missouri where the work is taking place. The collective bargaining agreement between the Teamsters and Pipeline Contractors Association (PLCA) states: "The words "regular employee" shall mean those who are regularly and customarily employed by the Individual Employer and because of their special knowledge and experience in pipeline construction work, are considered key men. It is anticipated that the number of regular employees shall not be more than a majority of the total number required but there shall be no limitation on the classification of such regular employees, with the understanding that these classifications will be distributed as evenly as possible." (See Exhibit A) Therefore, when a pipeline project such as the Spire is built using local union labor, the majority of pipeline construction workers are from the areas where the workers care about building the job in an environmentally safe manner because they live here too. On our pipeline projects we receive Steward Reports listing information on the Teamster workers including home local union such as the following: Old Oak Environmental Restoration showing 2 out of 3 Teamsters are from Local 179 in Joliet Precision Pipeline showing 5 out of 5 Teamsters are from Local 179 in Joliet and Local 673 in West Chicago Price Gregory showing 8 out of 10 Teamsters are from Local 179 in Joliet (See Exhibit B) Furthermore, we have pipeline contractors who specialize in Horizontal Directional Drilling (HDD) type of work. HDD is used for the installation of pipelines beneath rivers, highways, and other environmentally sensitive areas requiring technology and equipment that can install pipelines without any disturbance to natural habitats. Some of our specialized signatory contractors and a more detailed explanation of the work they perform in areas of great environmental concern are included in this submission. (See Exhibit C) Under pages 6 and 7 in the collective bargaining agreement workers must have certain qualifications prior to working on the project. (See Exhibit D) Under pages 16 and 17 is the language on "Drug and Alcohol Testing" to ensure a drug free work environment and our "Training/DOT Rules" to maintain high quality work standards and qualifications. (See Exhibit E) Furthermore, the TNPTF supports our Illinois and Missouri Teamster Pipeline Veterans who will be working on the Spire Pipeline Project, if the Spire Project is awarded to a Union Contractor. They will receive high wage rates of pay and health insurance and pension credits. A Brochure of the Teamsters Military Assistance Program (TMAP) is provided at the end of this submission for greater detail on its activities on behalf of our Veterans. In closing, we support the building of the Spire Pipeline Project based upon this written submission and its supporting Exhibits. We believe it can be built in a safe and environmentally friendly manner based upon our worker training programs and our union contractors who specialize in performing pipeline construction especially in areas where wetlands, rivers and streams exist.</p>	Spire acknowledges the Teamsters National Pipeline Training Fund comments in support of the Project. Additional information regarding potential employment will be provided in Resource Report 5 of Spire's FERC Application filing in January 2017.	5	5.1	5-1

Appendix 1-K
Spire STL Pipeline Project
Comment Letters and Scoping Comments

Agency and/or Individual	Date	Type	Comment Number	Comment	Response	Location Where Comment is Addressed in January 2017 FERC Application		
						Resource Report	Section	Page
Illinois Teamsters Joint Council No. 25 and Employers Apprenticeship & Training Fund	29-Nov	Comment Letter to FERC	29	On behalf of the Illinois Teamsters Joint Council No. 25 and Employers Apprenticeship & Training Fund (ITTF) we want to affirm our support for the issuance of permits for the watercourse, floodway or body of water, including wetland and other related work on the Spire Pipeline Project. The Illinois Teamsters Training Fund has made a full commitment to conduct and provide certified training in Safety, Health, Skills and Employment not only to our members and non-members who will be assigned to work on the Project. The Illinois Teamsters Training Fund will continue to provide the necessary training prior to the start of the Project and will also commit our resources and training expertise during the entire project. The Illinois Teamsters Training Fund has been training since 2002 and is a U.S. Department of Labor approved Apprenticeship for Construction Driver. (See Exhibit A) The Illinois Teamsters Training Fund is approved by the Illinois Department of Veterans Affairs. (See Exhibit B) The Illinois Teamsters Training Fund provides training in over 30 different courses and in the last 6 years has trained over 9100 students. (See Exhibit C) The Illinois Teamsters Training Fund is an approved Third Party Certification Program License by the Office of the Illinois Secretary of State. (See Exhibit D) The Illinois Teamsters Training Fund has provided for your review the IBT Safety and Health Division's Training Brochure and both Illinois Teamsters Training Brochure and Program Catalog. (See Exhibit E) The Illinois Teamsters Training Fund has been awarded several awards for training by the National Safety Council including the 2015 Instructor of the Year. (See Exhibit F)	Spire acknowledges the Illinois Teamsters Joint Council No. 25 comments in support of the Project. Additional information regarding potential employment will be provided in Resource Report 5 of Spire's FERC Application filing in January 2017.	5	5.1	5-1
Individual (Juli Viel)	1-Dec	Comment Letter to FERC	30	I have a house along the proposed pipeline route at 885 Prigge Rd. St. Louis MO 63138. This proposed pipeline is to expand gas use for St. Louis residents and industries. This natural gas expansion is not in the best interest of people anywhere, including people around Saint Louis and also near the pipeline. We are at a point in time where the use and expansion of natural gas is threatening us all. The mining, transportation and burning of natural gas have contributed to an accumulation of greenhouse gases in our atmosphere. Gas is not a green energy. As I see it proclaimed on Laclede Gas's trucks around town. (Spire Inc. is a new name for known as Laclede Gas.) The increase of greenhouse gases, primarily CO2 and methane, contribute to a dangerous warming that our planet is currently experiencing. I have read the National Climate Assessment on Globalchange.gov. Listened to valuable advocates like Katharine Hayhoe and Bill Mckibbin. Read Wikipedia articles on global warming, greenhouse gases and climate change that explain the pickle that we are in. You can also look at the website nasa.climate.gov. We have experienced record warm temperatures. Summer Arctic sea ice is at a record low. For the past 10,000 years the Earth's temperature and sea levels have been relatively stable during human civilization. Now that has changed. Greenhouse gases have increased tremendously over the last century. And we have yet to feel to full warming potential of those gases. Currently we are up a degree or so on average compared to just 60 years ago. We are expected to be a 3 to 10 degrees up by 2099. A 3 degree increase is expected if make changes qe ickly. 6 to 10 degrees if we continue business as usual.	Spire has provided a discussion of greenhouse gas emissions as part of Resource Report 9 of its October 2016 FERC filing. Updates to this information will be supplemented as necessary in Spire's FERC Application filing in January 2017.	9	9.1.1	9-1
Individual (Juli Viel)				What I am trying to say is that we are at a point in history where we choose: do we emit more warming greenhouse gases or do we our try really hard to reduce greenhouse gas emissions keep this planet habitable? And I am especially concerned how my children and grandchildren will cope with sea level rise, record temperatures, droughts, deluges and stronger storms. I doubt that all of humanity will just up and move in their UHauls to the last habitable place in Canada! No, people are already suffering from this era's climate change which is directly linked to fossil fuel emissions as a greenhouse gas. And I wonder what kind of suffering each of my beloved children and grandchildren (and their children) will endure before our climate is stabilized and greenhouse gas levels are safe. There is a push by the gas industry to convert electrical energy production from coal burning plants to natural gas fired plants. That makes no sense. More greenhouse gases for another 30 years are not safe. Additionally, the water that is polluted from gas extraction and storage are considerable. Even if st. Louis is not being fracked on, we here in St. Louis want clean water for all communities. Please follow biologist Sandra Steingraber and the movie Gasland and Gasland II. Also, the International Energy Agency (iea.org) has issued several reports that indicate that yes there are more hydrocarbon molecules available on this Earth to continue to burn, but it warns that climate and water are severely impacted as we continue with the fossil fuel paradigm. Also see the ConcernedHealthNY.org. New York has a ban on gas fracking due to health concerns. We should all be concerned about these health concerns. And if this pipeline leaks or blows up it will not be pretty for anyone near it. Renewable energy such as solar, and wind are abundant and local. We certainly need the infrastructure to harness this much, much cleaner and safer energy. Why is Spire Inc. even spending money on gas expansion? When from a parent's point of view, we need to shut down this dangerous form of energy. We need investment dollars in clean renewable energy. We need to achieve economies of scale in wind and solar. We need to stop going to war over fossil fuels. We need infrastructure that works for people not corporate polluters. We need to protect and empower ourselves now.	Spire has provided a discussion of greenhouse gas emissions as part of Resource Report 9 of its October 2016 FERC filing. Updates to this information will be supplemented as necessary in Spire's FERC Application filing in January 2017.	9	9.1.1	9-1
Individual (Janet Hampton)	26-Nov	Comment Letter to FERC	31	Please take into account that this project is on a National Scenic Byway. Any maring of the natural aesthetics of the area (un-mared) would be deplorable. Advocate that this pipeline project (Docket No. PF16-9-000) be located @ first choice Principia/Chautauqua. An existing ammonia line is already	Spire is crossing State Route 100 as part of its horizontal directional drill of the Mississippi River. A discussion related to this crossing will be provided in Resource Report 8 of Spire's FERC Application filing in January 2017.	8	8.3.2	8-29
Individual (Janet and John Hampton)	26-Nov	Comment Letter to FERC	32	Please do not forget that this proposed project is along a National Scenic Byway! We advocate that this project (Docket No. PF16-9-000) be located at the first choice, along Principia/Chautauqua. An existing "Line" has already marred the aesthetics of this area. We request that the second choice (option) not be pursued. To have a beautiful wooded terrain "torn" apart would not be fitting to this area - a detriment for the area to be visualized along the Scenic Byway!	Spire is crossing State Route 100 as part of its horizontal directional drill of the Mississippi River. A discussion related to this crossing will be provided in Resource Report 8 of Spire's FERC Application filing in January 2017.	8	8.3.2	8-29
LIUNA (John F. Penn)	1-Dec	Comment Letter to FERC	33	I am writing to urge approval of the Spire STL Pipeline Project, which will not only create good jobs and bring affordable domestic energy to Missouri and Illinois' residents but will also improve and expand on existing infrastructure. As the LIUNA Vice President and Midwest Regional Manager, I am proud to represent LIUNA members in the construction industry throughout Missouri and Illinois. Our workers are trained and ready to build this pipeline, and as members of LIUNA, belong to an organization with more than a century of experience safely building pipelines in virtually every state and province of the U.S. and Canada. In just the last year, members across the nation worked 15 million hours safely building pipelines. LIUNA workers, many of whom live in communities along the route, build to the highest standards, including ensuring property is returned to its original state, if not better. The Spire STL Pipeline will also benefit Illinois and Missouri residents by creating good jobs, sparking economic activity in towns along the route and adding to public coffers through increased tax revenue. I urge you to consider the thousands of hard-working Americans who will have access to lower energy costs and quality careers because of the	Spire acknowledges Jon Penn's comments with LIUNA in support of the Project. Additional information regarding potential employment will be provided in Resource Report 5 of Spire's FERC Application filing in January 2017.	5	5.1	5-1
Southern and Central Illinois Laborers' District Council (Clint Taylor)	4-Jan	Comment Letter to FERC	34	I am writing to urge approval of the Spire STL Pipeline Project, which will not only create good jobs and bring affordable domestic energy to Missouri and Illinois' residents but will also improve and expand on existing infrastructure. As the Business Manager of the Southern & Central Illinois Laborers' District Council (SCILDC), I am proud to represent LIUNA members in the construction industry throughout 46 counties in the State of Illinois including Scott County. Our workers are trained and ready to build this pipeline and as members of LIUNA belong to an organization with more than a century of experience safely building pipelines in virtually every state and province of the U.S. and Canada. In just the last year, members across the nation worked 15 million hours safely building pipelines. LIUNA workers, many of whom live in communities along the route, build to the highest standards, including making sure property is returned to its original state, if not better. The Spire Pipeline will also benefit Illinois and Missouri residents by creating good jobs, sparking economic activity in towns along the route and adding to public coffers through increased tax revenue.	Spire acknowledges Clint Taylor's comments with SCILDC in support of the Project. Additional information regarding potential employment will be provided in Resource Report 5 of Spire's FERC Application filing in January 2017.	5	5.1	5-1
Yellow highlighting indicates scoping comments that were received after Spire filed its responses to scoping comments on December 9, 2016.								