

Draft Environmental Assessment

Fredonia Substation Project

City of Fredonia

Wilson County, Kansas

FEMA-1711-DR-KS

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FEMA

U.S. Department of Homeland Security
9221 Ward Parkway, Suite 300
Kansas City, MO 64114-337

CITY OF FREDONIA
SUBSTATION
WILSON COUNTY, KANSAS

DRAFT
ENVIRONMENTAL ASSESSMENT

U.S. DEPARTMENT OF HOMELAND SECURITY
9221 WARD PARKWAY, SUITE 300
KANSAS CITY, MO 64114-3372
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Abbreviations and Acronyms

CFR	Code of Federal Regulations
CO	carbon monoxide
EA	Environmental Assessment
EIS	Environmental Impact Statement
ESA	Environmental Site Assessment
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act
KDHE	Kansas Department of Health and Environment
KDWP	Kansas Department of Wildlife and Parks
KSDE	Kansas State Department of Education
NAAQS	National Ambient Air Quality Standards
NFIP	National Flood Insurance Program
NEPA	National Environmental Policy Act of 1969
NHPA	National Historic Preservation Act
NO ₂	nitrogen dioxide
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
O ₃	ozone
PCB	polychlorinated biphenyls
pCi/L	picoCuries per liter
PM ₁₀	particulate matter with a diameter less than or equal to 10 micrometers
RCRA	Resource Conservation and Recovery Act
SHPO	State Historic Preservation Officer
SO ₂	sulfur dioxide
SWP2	Stormwater Pollution Prevention
USACE	U.S. Army Corps of Engineers
USCB	U.S. Census Bureau
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

1.0 INTRODUCTION

As a result of severe storms and flooding in Kansas on June 26, 2007, a major disaster was declared under the Robert T. Stafford Disaster Relief and Emergency Assistance Act, 42 U.S.C. § 5121-5206 (the Stafford Act). The disaster was designated as FEMA-1711-DR. One of the events that occurred during the disaster was flooding in Fredonia, Kansas, including the City of Fredonia's power plant and electrical substation. The electrical substation was situated in the city park, and consequently was inundated with eight feet of water during the event.

As a result of damage sustained from the flooding, the City of Fredonia has applied for funding under the Public Assistance Program administered by the Federal Emergency Management Agency (FEMA). In accordance with the Stafford Act, FEMA is required to review the environmental effects of the proposed action prior to making a funding decision. In accordance with 44 Code of Federal Regulations (CFR) Part 10, FEMA has prepared this environmental assessment to meet the requirements of the National Environmental Policy Act of 1969 (NEPA) and the Council on Environmental Quality's implementing regulations at 40 CFR Parts 1500-1508. The purpose of this environmental assessment is to analyze and assess the potential environmental impacts associated with the proposed action.

2.0 PURPOSE AND NEED

The original substation was substantially damaged by the storms and flooding that began on June 26, 2007. Due to the high cost associated with restoring and elevating the facility out of the 100-year floodplain, the City of Fredonia has decided to apply to FEMA to use the eligible funds for an alternate project. The damaged substation will no longer be used. Currently, the City of Fredonia is served by the existing Westar transmission lines coming into the city from the south. This transmission line is the only line coming into the City of Fredonia; therefore an accident or damage along the transmission line can cause power outages across the entire community. Additionally, the substation associated with this line is in need of replacement. The City of Fredonia intends to decommission this substation once a longer term plan is executed that would provide a new, secondary distribution system to the city.

The purpose of the proposed action is to provide a reliable power source to the residents of Fredonia on a higher quality electric distribution line. The city's ability to provide electrical services would be improved by the increased capacity provided by a new substation on the north side of town.

3.0 ALTERNATIVES

3.1 ALTERNATIVES CONSIDERED AND DISMISSED

One option considered but dismissed was to restore the damaged power plant and substation at its previous location. This option was dismissed because it was not economically feasible to repair and replace the power plant and substation on its current site in the City Park. Another reason for not repairing the existing power plant is its location within the 100-year floodplain of the Fall River. There were several routes for the transmission line and locations for the substation that were considered and dismissed based on poor

accessibility to the site and high costs. The City of Fredonia, along with FEMA, determined that the most cost effective solution was the proposed action which is discussed in detail below.

3.2 NO ACTION

The No Action alternative would not construct a new substation. Under this scenario, the City of Fredonia would continue to provide power to its customers via a single transmission line. Any problems that may arise upstream of the City could cause city-wide power outages. The No Action alternative does not provide a reliable power source to the residents of Fredonia.

3.3 PROPOSED ACTION

The new substation (100 feet x 76 feet) would be constructed in the planned Fredonia Industrial Park on North 15th Street 0.5 miles south of U.S. Highway 400. A 1.9 mile transmission line would be constructed from the substation to an existing 69kV Westar transmission line to the west. From the substation, the new transmission line would follow North 15th Street south for approximately 1,200 feet. From that point, it would turn west along Fillmore Street for approximately 8,800 feet before connecting to the existing Westar line. *Figure 1* includes a plan view of the project on an aerial image. The construction of the new facilities would consist of site preparation (grading and/or excavation) and construction of the substation. The existing utility poles along the route would be removed and replaced with new poles.



4.0 AFFECTED ENVIRONMENT AND IMPACTS

The following table summarizes the potential impacts of the proposed action, and identifies mitigation measures to minimize those impacts, where appropriate. Following the summary table, each environmental resource area is evaluated in greater detail.

Table 1
Affected Environment and Impacts Summary

Affected Environment	Impacts	Mitigation
Geology and Soils	The proposed project would cause some disturbance of the shallow soils and surficial geology as part of the site preparation work. Since the site is relatively flat/gently rolling, the grading needed at the site would be minor. In general, effects to geology and soils would be minor and temporary in nature. The soils on the substation site are classified as prime farmland. The proposed project would convert approximately 0.17 acre of prime farmland soils to a non-agricultural land use.	Exposed soils could be subject to erosion, therefore, silt fence and/or other storm water runoff best management practices would be utilized during construction.
Waters of the U.S. including Wetlands	The proposed project would not impact waters of the U.S., including wetlands, and therefore would not require a Section 404 permit. There are no navigable waters in the area; therefore, Section 10 of the Rivers and Harbors Act of 1899 does not apply.	N/A
Floodplains	The proposed action is not located in a floodplain.	N/A
Water Quality	The proposed action would not disturb more than one acre, therefore would not require a construction stormwater general permit from the KDHE.	N/A
Flora and Fauna	The construction of the proposed action would result in clearing of 0.17 acre of vegetation. The effects to wildlife are expected to be minimal and temporary in nature.	N/A
Threatened and Endangered Species	Both the KDWP and USFWS lists of endangered, threatened, proposed and candidate species for Wilson County were reviewed on March 2, 2009 and a field visit of the project area occurred on March 11, 2009. The proposed action would have no effect on threatened and endangered species.	N/A

Affected Environment	Impacts	Mitigation
Migratory Birds	No adverse impacts are expected to migratory birds.	As practicable, the design engineer and contractor would implement the best management practices describe in the <i>Suggested Practices for Raptor Protection on Power Lines: The State of the Art 2006</i> and <i>Mitigating Bird Collisions with Power Lines: The State of the Art in 1994</i> . If any portions of the of the transmission line cause mortalities, the City of Fredonia would work with the KDWP and USFWS to determine appropriate mitigation.
Cultural Resources	Coordination with the State Historic Preservation Officer concluded that the proposed project “should have no effect on properties listed in the National Register of Historic Places”.	N/A
Socioeconomic Resources	The construction of the proposed project would provide an alternate power source to the residents of Fredonia. In addition, the construction of the proposed project is expected to create jobs in the short term. The construction of the substation would have no adverse affect on the residents of Fredonia.	N/A
E.O. 12898 - Environmental Justice	Benefits of the proposed project would be equally received by all residents of Fredonia. Construction of the proposed project would not have an adverse effect on minority or low-income populations.	N/A
Hazardous Materials	Based on the information obtained for this study, there is no obvious evidence of potential environmental degradation within the project limits.	The contractor will take appropriate measures to prevent, minimize, and control the spill of hazardous materials in the construction staging area.
Noise	The proposed action would result in a slight increase in noise during the construction of the substation and the replacement of the utility poles. The increase in noise is expected to be minor and short term. No permanent changes to noise levels in the area are expected to be associated with the proposed project.	N/A
Air Quality	Pollutant emissions from construction equipment may result in minor, temporary effects to air quality in the area immediately surrounding the construction activity. Vehicular exhaust emissions would be produced by the operation of diesel engines and other construction equipment. These effects would be localized and of short duration.	The contractor will be required to keep all equipment in good working order to minimize air pollution.

Affected Environment	Impacts	Mitigation
Public Health and Safety	The construction of the proposed project is expected to follow all applicable federal, state, and local safety laws and guidelines. No adverse effects to the health and safety of Fredonia residents, employees, and others associated with the project are expected.	N/A
Traffic, Circulation, Volume, and Parking Access	Construction personnel and equipment would require access to the site, which would temporarily increase traffic in the project area. There would be no adverse or long term impacts to the transportation system.	N/A

4.1 GEOLOGY

4.1.1 Geology and Soils

Wilson County is located in the physiographic region known as the Osage Cuestas of south-east Kansas. This region occupies all of eastern Kansas south of the Kansas River. It is characterized by a series of east-facing ridges (or escarpments), between which are flat to gently rolling plains. The Osage Cuestas is underlain by Pennsylvanian-age limestones and shales that dip gently to the west and northwest. Review of the *Map of Surficial Geology of Kansas*, indicates that the bedrock underlying the project area is mapped as the Kansas City Group and the Lansing Group, which consists of seven different shale and limestone formations.

The *Soil Survey of Wilson County, Kansas*, indicates the soils mapped in the project area are within the Dennis and Woodson Soil Association. In general, this association consists of moderately to poorly well-drained soils that occur on nearly level to moderately steep uplands. Specifically, the main soils mapped across the majority of the project area include, Dennis silt loam, 1 to 3 percent slopes, and Woodson silt loam, 0 to 1 percent slopes (NRCS 2008).

The Farmland Protection Policy Act (FPPA) (P.L. 97-98, Sec. 1539-1549; 7 U.S. Code 4201, et seq.) was enacted to minimize the unnecessary conversion of farmland to non-agricultural uses as a result of federal actions. The Natural Resources Conservation Service (NRCS) is responsible for protecting significant agricultural lands from irreversible conversions that result in the loss of an essential food or environmental resource. Prime farmland is characterized as land with the best physical and chemical characteristics for the production of food, feed, forage, fiber, and oilseed crops. This land is either used for food or fiber crops or is available for those crops, but is not urban, built-up land, or water areas. Unique farmland is land other than prime farmland that is used for production of specific high-value food and fiber crops, such as citrus, olives, cranberries, and other fruits and vegetables. It has the special combination of soil quality, location, growing season, and moisture supply needed to economically produce sustained high quality or high yields of specific crops when treated and managed according to acceptable farming methods.

Alternative A – No Action: The No Action alternative would not have any impact on the soils or geology of the area.

Alternative B – Construction of Substation and Related Facilities: Construction of a new substation at the site would cause some disturbance of the shallow soils and surficial geology as part of the site preparation work. Since the site is relatively flat/gently rolling, the grading needed at the site would be minor. Exposed soils could be subject to erosion, therefore, silt fence and/or other storm water runoff best management practices would be utilized during construction. In general, effects to geology and soils would be minor and temporary in nature.

The proposed project does contain prime farmland. The site is mapped as Woodson silt loam complex which is considered prime farmland. The proposed project would convert 0.17 acre of prime farmland into nonagricultural land. FPPA is intended to minimize the unnecessary conversion of farmland to non-agricultural uses as a result of federal actions. This conversion would not reduce the support for farmland remaining in the area. In compliance with FPPA, coordination with the NRCS was initiated and the proposed conversion was scored using the Farmland Conversion Impact Rating Form (AD-1006). The combined rating for this site was less than 160 and therefore does not need any further consideration (see letter in *Appendix A*).

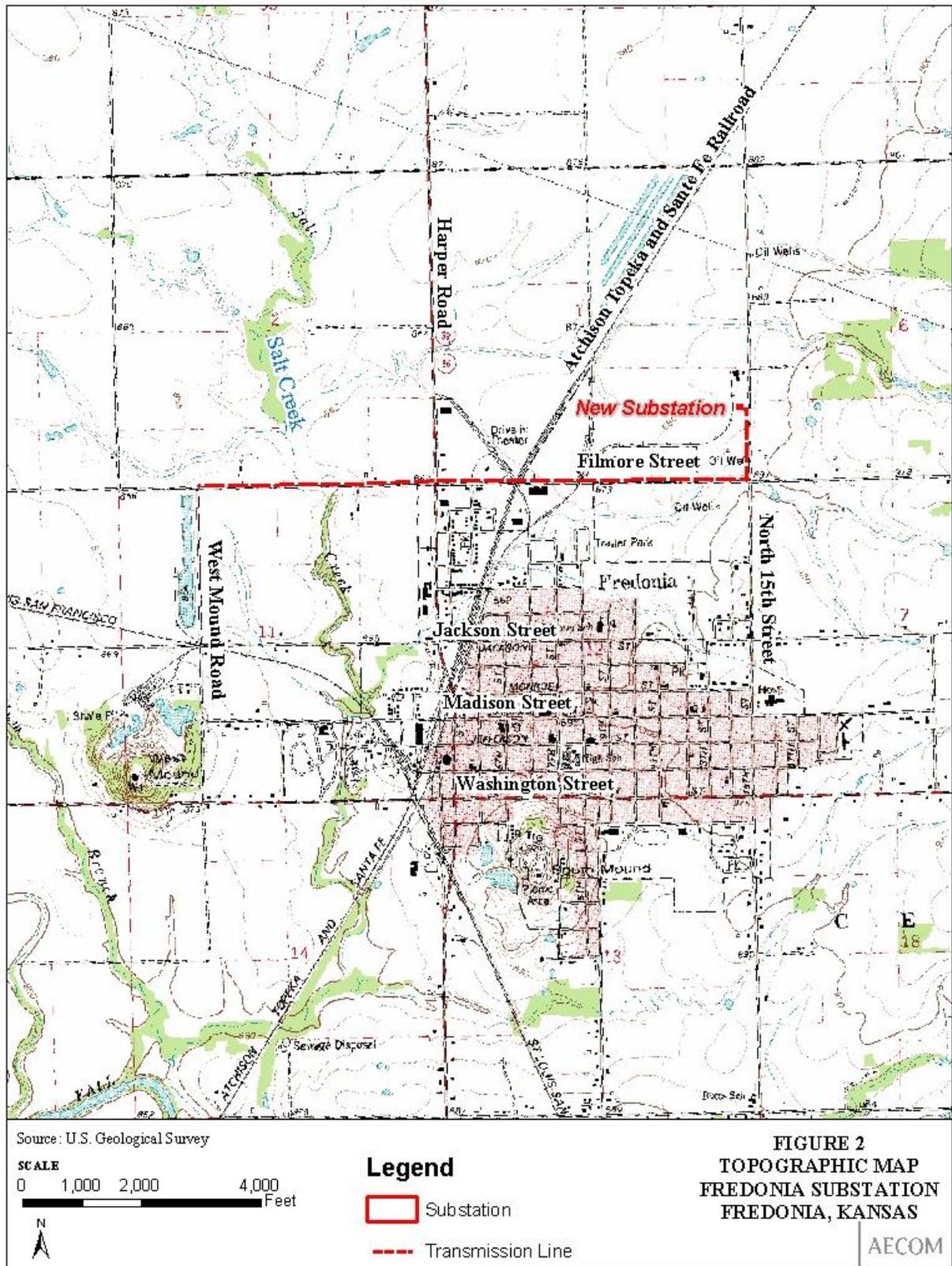
4.2 WATER RESOURCES

4.2.1 Waters of the United States Including Wetlands

The U.S. Army Corps of Engineers (USACE) regulates the discharge of dredged or fill material into waters of the U.S., including wetlands, pursuant to Section 404 of the Clean Water Act. Wetlands are identified as those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. In addition, Executive Order 11990 (Protection of Wetlands) directs federal agencies to take actions to minimize the destruction, loss, or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands on federal property. A site visit was performed by a qualified wetland specialist to identify potential waters of the U.S., including wetlands, on or adjacent to the proposed project site.

Alternative A – No Action: The No Action alternative would have no effect on wetlands or other waters of the U.S. and would not require a Section 404 permit.

Alternative B – Construction of Substation and Related Facilities: An onsite review of the project location did not find any potential areas meeting the definition of waters of the U.S., including wetlands. According to the USGS Topographic Map the proposed transmission line would cross a tributary of the Fall River (*Figure 2*). The transmission line would replace the existing distribution line and would span this tributary. The proposed project would not impact waters of the U.S., including wetlands and therefore would not



require a Section 404 permit. There are no navigable waters in the area; therefore, Section 10 of the Rivers and Harbors Act of 1899 does not apply.

4.2.2 Floodplains

Floodplains generally refer to 100-year floodplains as set by FEMA and are delineated on Flood Insurance Rate Maps (FIRM) or Flood Hazard Boundary Maps for all communities that are members of the National Flood Insurance Program (NFIP). The City of Fredonia and Wilson County are participants in the NFIP.

Executive Order 11988 (Floodplain Management) requires federal agencies to avoid or minimize development in the floodplain except when there are no practicable alternatives. According to the NFIP Flood Insurance Rate Map for Wilson County Incorporated and Unincorporated Areas (Map Number 2006170003B), the proposed project site is not located within a 100 or 500 year floodplain.

Alternative A – No Action: The No Action alternative would not result in impacts to the 100 or 500 year floodplain.

Alternative B – Construction of Substation and Related Facilities: Since the proposed project site is not located within a designated floodplain, construction of the proposed substation would have no impact on the floodplain and does not require a review under Executive Order 11988.

4.2.3 Water Quality

The Kansas Department of Health and Environment (KDHE) is responsible for administering the state's stormwater management program. The Kansas stormwater program is closely modeled after the federal National Pollutant Discharge Elimination System (NPDES) program, which requires stormwater be treated to the maximum extent practicable. Owners or operators of any project or combination of projects who engage in construction activities which will disturb one or more acres must have authorization to discharge stormwater runoff under the construction stormwater general permit S-MCST-0701-1.

Alternative A – No Action: The No Action alternative would have no effect water quality.

Alternative B – Construction of Substation and Related Facilities: The proposed action would have no adverse impacts to ground or surface water quality. The proposed action would not disturb more than one acre, therefore would not require a construction stormwater general permit from the KDHE.

4.3 BIOLOGICAL RESOURCES

4.3.1 Flora and Fauna

According to the Ecoregions of Nebraska and Kansas, the project area is located in the Osage Cuestas region Central Irregular Plains ecoregion (Chapman 2001). This region is a gently undulating cuesta plain. Natural vegetation ranges from a mosaic of mostly tall grass prairie in the west to a mixture of tall grass prairie and oak-hickory forest in the east, with floodplain forests along streams. The moist, silty clay loams are formed in material weathered from limestone and shale, and support a composite land use made up of woodlands and grassland/rangeland.

The proposed project area is located on former agricultural land currently not in use by the City of Fredonia. The vegetation consists primarily of upland grasses. The herbaceous community is dominated by little bluestem (*Schizachyrium scoparium*) and other prairie grasses.

Wildlife occurring in the project area is expected to be typical of the location and geologic make-up of south-central Kansas. According to the KDWP, several wildlife species are abundant in Kansas including white-tailed deer, wild turkey, coyotes, bobwhite quail, ring-necked pheasant and prairie chickens. Migratory birds common to Kansas are doves, rails, snipe, ducks, crows, teal, sandhill crane, geese and woodcock.

The Fish and Wildlife Coordination Act was enacted to protect fish and wildlife when federal actions result in control or modification of a natural stream or body of water. No streams or other water bodies would be controlled or modified as a result of the proposed action; therefore, the Fish and Wildlife Coordination Act is not applicable.

Alternative A – No Action: The No Action alternative would have no effect on the flora and fauna.

Alternative B – Construct Substation and Related Facilities: The construction of the proposed action would result in clearing of 0.17 acre of vegetation. The effects to wildlife are expected to be minimal and temporary in nature.

4.3.2 Threatened and Endangered Species

The Endangered Species Act of 1973 provides for the protection of all listed threatened and endangered species from take defined as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct." Harm is further defined by U.S. Fish and Wildlife Service (USFWS) to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, or sheltering. Harass is defined by the USFWS as actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding, or sheltering.

Rare species protection was implemented within the State of Kansas by the Kansas Nongame and Endangered Species Act of 1975. This act provided the state authority to define and list endangered and threatened species. Endangered species are any species of wildlife whose continued existence as a viable component of the state's wild fauna is determined to be in jeopardy. Threatened species are any species of wildlife that appear likely, within the foreseeable future, to become an endangered species. These designations protect the animal from commercial or personal possession. The law also gives authority to the Kansas Department of Wildlife and Parks to review projects requiring a state or federal permit or those funded by tax revenues. This process is designed to safeguard listed wildlife.

The USFWS lists one species as endangered in Wilson County, the American Burying Beetle (*Nicrophorus americanus*) and one candidate species, the Neosho Mucket Mussel (*Lampsilis rafinesqueana*) (USFWS 2008). The KDWP lists the following seven species as endangered in Wilson County: American Burying Beetle, Eskimo Curlew (*Numenius borealis*), Eastern Spotted Skunk (*Spilogale putorius*), Least Tern (*Sterna antillarum*), Neosho Mucket Mussel, Peregrine Falcon (*Falco peregrinus*), Rabbitfoot Mussel (*Quadrula cylindrica*), Western Fanshell Mussel (*Cyprogenia aberti*); and the following eight species as threatened in Wilson County: Bald Eagle (*Haliaeetus leucocephalus*), Butterfly Mussel (*Ellipsaria lineolata*), Common Map Turtle (*Graptemys geographica*), Flutedshell Mussel (*Lasmigonia costata*), Ouachita Kidneyshell

Mussel (*Ptychobranchnus occidentalis*), Piping Plover (*Charadrius melodus*), and the Snowy Plover (*Charadrius alexandrinus*) (KDWP 2009).

**Table 2
Federal and State Listed Threatened/Endangered Species in Wilson County, KS**

Common Name	USFWS Status	KDWP Status	Comments
American Burying Beetle	Endangered	Endangered	State Designated Critical Habitat; however, the project area does not contain potential habitat for this species
Bald Eagle	–	Threatened	Migratory/ Transient Species
Butterfly Mussel	–	Threatened	State Designated Critical Habitat in Wilson County, however only on the main stem of the Verdigris River
Common Map Turtle	–	Threatened	Known historic range; habitat includes creeks, rivers, oxbows and lakes' the project area does not contain any bodies of water
Eastern Spotted Skunk	–	Threatened	State Designated Critical Habitat; the project area does not contain potential habitat for this species
Eskimo Curlew	–	Endangered	Migratory/ Transient Species
Flutedshell Mussel	–	Threatened	Probable Historic Range; the project area does not contain any bodies of water
Least Tern	–	Endangered	Migratory/ Transient Species
Neosho Mucket Mussel	Candidate	Endangered	State Designated Critical Habitat within the Fall River which does not run through the project area
Ouachita Kidneyshell Mussel	–	Threatened	State Designated Critical Habitat in Wilson County, however only on the main stem of the Verdigris River
Peregrine Falcon	–	Endangered	Migratory/ Transient Species
Piping Plover	–	Threatened	Migratory/ Transient Species
Rabbitfoot Mussel	–	Endangered	State Designated Critical Habitat in Wilson County, however only on the main stem of the Verdigris River
Snowy Plover	–	Threatened	Migratory/ Transient Species
Western Fanshell Mussel	–	Endangered	State Designated Critical Habitat within the Fall River which does not run through the project area

Sources: USFWS 2008, KDWP 2009a, KDWP 2009b

Alternative A – No Action: The No Action alternative would have no effect on threatened or endangered species.

Alternative B – Construction of Substation and Related Facilities: Both the KDWP and USFWS lists of endangered, threatened, proposed and candidate species for Wilson County were reviewed on March 2, 2009 and a field visit of the project area occurred on March 11, 2009. If any of the avian species defined above as migratory/ transient were to occur in the project area they would likely be transitory, due to the lack of the

vegetation or landscapes typically used for resting or feeding present in the project area. The proposed action would have no effect on threatened and endangered species.

4.3.3 Migratory Birds

The Migratory Bird Treaty Act provides that it is unlawful for anyone to kill, capture, collect, possess, buy, sell, trade, ship, import or export, any migratory bird, or part, or nest or egg thereof, unless they first obtain an appropriate Federal Permit, issued pursuant to the Migratory Bird Treaty Act regulations, authorizing such activity.

Utility poles can benefit migratory birds by providing perching and/or nesting structures in areas where few natural perches or nest sites exist, such as grasslands, agricultural fields, and pastures. However, utility structures can also pose a threat to migratory birds through electrocutions and collisions. These deaths can cause power outages that inconvenience customers, spark grass fires, and result in lost revenue. Many of these threats can be avoided or minimized by using the best management practices described in *Suggested Practices for Raptor Protection on Power Lines: The State of the Art 2006* and *Mitigating Bird Collisions with Power Lines: The State of the Art in 1994* (Avian Power Line Interaction Committee [APLIC] 2006 and APLIC 1994).

Alternative A – No Action: The No Action alternative would have no effect on migratory birds. There would be no change to the existing Westar distribution line in the project area.

Alternative B – Construction of Substation and Related Facilities: The proposed project would construct new utility poles and transmission lines from the new substation to tie into existing circuits. The existing Westar transmission line in the project area provides some immediate protection as local, resident birds would already be conditioned to avoid the area. As practicable, the design engineer and contractor would implement the best management practices described above. If any portions of the transmission line cause mortalities, the City of Fredonia would work with the KDWP and USFWS to determine appropriate mitigation. As a result, no adverse impacts are expected to migratory birds.

4.4 CULTURAL RESOURCES

In addition to review under NEPA, consideration of impacts to cultural resources is mandated under Section 106 of the National Historic Preservation Act, as amended and as implemented by 36 CFR Part 800. Requirements include the need to identify significant historic properties that may be impacted by the proposed action or alternatives within the project's area of potential effect. Historic properties are defined as archeological sites, standing structures, or other historic resources listed in or determined eligible for listing in the National Register of Historic Places. If adverse effects on historic, archeological, or cultural properties are identified, then agencies must consider effects of their activities and attempt to avoid, minimize, or mitigate the impacts to these resources.

Alternative A – No Action: The No Action alternative would have no effect on cultural resources in the area.

Alternative B – Construction of Substation and Related Facilities: Coordination with the State Historic Preservation Officer (SHPO) concluded that the proposed project “should have no effect on properties listed in the National Register of Historic Places” (see letter in *Appendix A*). However, if artifacts or other potential historic materials are discovered during construction, work would be suspended and the applicant would contact the Kansas State Historic Preservation Officer and the FEMA Regional Environmental Officer.

4.5 SOCIOECONOMIC RESOURCES

The City of Fredonia, population 2,593 and per capita income of \$14,593, is located in Wilson County (USCB 2000). According to the U.S. Census Bureau, Wilson County has a population of 10,332 and a per capita income of \$29,747. The primary industries in Wilson County are related to agriculture.

According to *Census 2000*, 96 percent of the population in the City of Fredonia is white; 1 percent is Hispanic or Latino; less than 1 percent black or African American; less than 1 percent Asian; 2 percent is two or more races; and less than 1 percent is some other race. In Wilson County 98.9 percent of the population is white; 1.1 percent is Hispanic or Latino; 1 percent is two or more races; less than 1 percent is black or African American; less than 1 percent is Asian; and less than 1 percent is some other race (USCB 2000).

Alternative A – No Action: The No Action alternative would have no effect on socioeconomic resources in the area.

Alternative B – Construction of Substation and Related Facilities: Currently the City of Fredonia is providing power to its residents via a single transmission line, which has caused city wide power outages due to problems occurring during flooding events. The construction of the proposed project would provide an alternate, reliable source of power to the residents of Fredonia. In addition, the construction of the proposed project is expected to create jobs in the short term.

4.5.1 Executive Order 12898, Environmental Justice

On February 11, 1994, President Clinton signed Executive Order 12898, entitled “Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations”. The Executive Order directs federal agencies to focus attention on human health and environmental conditions in minority and/or low-income communities. The Executive Order’s goals are to achieve environmental justice, fostering non-discrimination in federal programs that substantially affect human health or the environment. It also requires that agencies identify and address, as appropriate, disproportionately high and adverse human health or environmental effects on its programs, policies, and activities on minority populations and low-income populations in the United States.

Alternative A – No Action: The No Action alternative would not have disproportionate impacts on minority or low-income populations in the City of Fredonia or in Wilson County.

Alternative B – Construction of Substation and Related Facilities: Benefits of the new substation would be equally received by all residents of the City of Fredonia. Construction of the proposed project would not have an adverse effect on minority or low-income populations.

4.6 HAZARDOUS MATERIALS

Hazardous wastes, as defined by the Resource Conservation and Recovery Act (RCRA), are defined as “a solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may; (1) cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible or incapacitating reversible illness or; (2) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported or disposed of or otherwise managed.” Hazardous materials and wastes are regulated in Kansas by a combination of federal laws and state laws. Federal regulations governing the assessment and disposal of hazardous wastes

include RCRA, the RCRA Hazardous and Solid Waste Amendments, Comprehensive Environmental Response, Compensation and Liability Act, Solid Waste Act, and Toxic Substances Control Act.

A review of selected regulatory environmental databases published by federal and state agencies was conducted via the internet to determine the potential for environmental degradation in the project area. In addition, a windshield survey of the project limits was conducted to confirm the location of listed regulatory facilities, and to observe the general environmental conditions at any listed sites within the project area.

The environmental databases provide information on regulated facilities that are listed as having a past or present record of actual or potential environmental impact. The listings are limited and include only those sites that are known to the regulatory agencies at the time of publication to be contaminated or in the process of evaluation for potential contamination. The following is a list of the federal and state databases that were reviewed;

- Environmental Protection Agency (EPA) Envirofacts Multisystem
- EPA National Priorities List (NPL)
- KDHE Solid Waste Facilities Database
- KDHE Petroleum Storage Tank (PST) List
- KDHE Leaking Petroleum Storage Tank (LPST) List; and
- KDHE Identified Sites List (ISL).

The EPA Envirofacts Multisystem database is composed of the Permit Compliance System; Toxics Release Inventory (TRI) System; Resource Conservation and Recovery Act (RCRA) Information; Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS); and the Aerometric Information Retrieval System (AIRS). The above databases and lists were searched by county, city, zip code, and/or street name. Based on the regulatory database review and windshield survey of the project area, two regulated facilities were identified in the project area. Information regarding these facilities is summarized below in *Table 3*.

Table 3
Summary of Hazardous Material Sites

Facility Name	Facility Address	Status/Comments
KDHE – Identified Sites List (ISL)		
Fredonia PCB Dump	103 West Jefferson Fredonia, Kansas	Site status listed as Active.
Fredonia PCB/City Shop	1115 North 6 th Street Fredonia, Kansas	Site status listed as Active

Additional information regarding these two sites was obtained from the KDHE to determine the potential for environmental degradation in the project area. Mr. Randy Brown, Project Manager with the KDHE, Bureau of Environmental Remediation, was interviewed regarding the two listed facilities. Mr. Brown indicated that both sites were listed due to complaints of polychlorinated biphenyl (PCB) dumping from transformers and that neither site indicated any significant releases of metals, PCBs, or total petroleum hydrocarbons.

Alternative A – No Action: The No Action alternative would not disturb any hazardous materials nor create any potential hazard to human health.

Alternative B – Construction of Substation and Related Facilities: The proposed project would cause some disturbance of shallow soils during the excavation and construction activities required for the project. Based on the information obtained for this study, there is no obvious evidence of potential environmental degradation within the project limits. If, however, hazardous constituents are unexpectedly encountered during the proposed construction operations, appropriate measures for the proper assessment, remediation and management of the contamination would be initiated in accordance with applicable federal, state, and local regulations. The contractor would take appropriate measures to prevent, minimize, and control the spill of hazardous materials in the construction staging area.

4.7 NOISE

Noise is generally defined as an unwanted sound. The closest noise receivers to the proposed project site would be a single rural resident located southeast of the site along North 15th Street. Noise levels within and adjacent to the project would increase during the proposed construction activities as a result of construction and earth-moving equipment. The noise levels generated would be limited to workday daylight hours for the duration of the work.

Alternative A – No Action: The No Action alternative would not result in impacts to noise receivers in the area.

Alternative B – Construction of Substation and Related Facilities: The proposed action would result in a slight increase in noise during the construction of the facility. The increase in noise is expected to be minor and short term. No permanent changes to noise levels in the area are expected to be associated with the proposed project.

4.8 AIR QUALITY

The Clean Air Act, which was last amended in 1990, requires USEPA to set National Ambient Air Quality Standards (40 CFR part 50) for pollutants considered harmful to public health and the environment. The Clean Air Act established two types of national air quality standards. Primary standards set limits to protect public health, including the health of "sensitive" populations such as asthmatics, children, and the elderly. Secondary standards set limits to protect public welfare, including protection against decreased visibility, damage to animals, crops, vegetation, and buildings.

The USEPA has established National Ambient Air Quality Standards (NAAQS) for six principal pollutants called criteria pollutants. These pollutants include sulfur dioxide (SO₂), particulate matter with a diameter less than or equal to 10 micrometers (PM₁₀), carbon monoxide (CO), nitrogen dioxide (NO₂), ozone (O₃), and lead.

The USEPA has designated specific areas as NAAQS attainment or non-attainment areas. Attainment areas are any areas that meet ambient air quality standards. Non-attainment areas are any areas that do not meet (or that contribute to ambient air quality in a nearby area that does not meet) the quality standard for a pollutant. According to the USEPA, the entire State of Kansas is currently designated as an "attainment" area for all NAAQS (USEPA 2008).

Alternative A – No Action: The No Action Alternative would have no effect on air quality.

Alternative B – Construction of Substation and Related Facilities: Pollutant emissions from construction equipment may result in minor, temporary effects to air quality in the area immediately surrounding the construction activity. Vehicular exhaust emissions would be produced by the operation of diesel engines and other construction equipment. These effects would be localized and of short duration. The contractor would be required to keep all equipment in good working order to minimize air pollution.

4.9 PUBLIC HEALTH AND SAFETY

Safety and security issues that were considered in this environmental assessment include the health and safety of area residents, the public at-large, and the protection of personnel involved in activities related to the implementation of the proposed project.

Electric and magnetic fields (EMF) are found everywhere electricity is used, including hair dryers, computers, televisions and power lines. Some concerns have been raised in the past about potential health effects of EMF. Although there has been extensive scientific research, no direct link has been established between exposure to power lines and adverse health effects. Neither the state government nor the federal government has established any health standards relating to EMF (Lower Colorado River Authority [LCRA] 2008).

Alternative A – No Action: The No Action alternative would not likely have an adverse effect on health and safety.

Alternative B – Construction of Substation and Related Facilities: The construction of the proposed project is expected to follow all applicable federal, state, and local safety laws and guidelines. No adverse effects to the health and safety of Fredonia residents, employees, and others associated with the project are expected.

4.10 TRAFFIC CIRCULATION, VOLUME, AND PARKING ACCESS

The proposed project is located near the intersection of Fillmore Street and North 15th Street just north of the Fredonia city limits. The project is bounded by US Highway 400 on the north, Fillmore Street on the south, North 2nd Street on the west and North 15th Street on the east.

Alternative A – No Action: The No Action alternative would have no effect on transportation in the area.

Alternative B – Construction of Substation and Related Facilities: Access to the proposed substation would be provided from the east via North 15th Street and from the south via Fillmore Street. The traffic in the project area is not expected to increase. Construction personnel and equipment would require access to the site, which would temporarily increase traffic in the project area.

5.0 CUMULATIVE IMPACTS

Cumulative impacts are those effects on the environment that result from the incremental effect of an action when added to past, present, and reasonably foreseeable future actions, regardless of what agency (federal or nonfederal) or person undertakes such other actions. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time.

There are several projects planned within the City of Fredonia. These include:

- Fredonia Industrial Park
- Upgrade of the City of Fredonia Water Treatment Plant
- Radiant Electrical Cooperative new substation and distribution system

These repair, reconstruction and new construction activities would be expected to cause temporary inconveniences resulting from construction traffic, detours, noise and dust. In addition, these projects would be expected to create jobs in the short term. On a cumulative basis, these impacts would be short-term and localized until the reconstruction process has been completed.

6.0 PUBLIC INVOLVEMENT

The public was invited to comment on the proposed action and the Draft Environmental Assessment. A legal notice was posted in the Wilson County Citizen on June 15, 2009, and on FEMA's website (<http://www.fema.gov/plan/ehp/envdocuments/index.shtm>). Additionally, the Draft Environmental Assessment was made available for review for a period of 30 days at the Fredonia Library located at 807 Jefferson Street, Fredonia, Kansas. A copy of the notice is attached in *Appendix B*.

7.0 COORDINATION AND PERMITS

The following agencies and organizations were contacted and asked to comment on the proposed project. Agency correspondence is located in *Appendix A*.

- Kansas State Historic Preservation Office
- Natural Resources Conservation Service

In accordance with applicable local, state, and federal requirements, the applicant is responsible for obtaining any necessary permits or approvals prior to commencing construction at the proposed project site.

8.0 CONCLUSION

The findings of this Environmental Assessment conclude that the proposed project would result in no significant environmental impacts to the human or natural environment; therefore, the proposed action meets the requirements of a Finding of No Significant Impact (FONSI) under NEPA and the preparation of an Environmental Impact Statement will not be required.

9.0 REFERENCES

- Avian Power Line Interaction Committee (APLIC). 2006. Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 2006. Edison Electric Institute/Raptor Research Foundation.
- Chapman, S., et. al. 2001. Ecoregions of Nebraska and Kansas (color poster with map, descriptive text, summary tables, and photographs). Reston Virginia, U.S. Geological Survey (map scale 1:1,950,000).
- Kansas Department of Wildlife and Parks (KDWP). 2009a. Wilson County – Threatened and Endangered Species. Available at <http://www.kdwp.state.ks.us/news/Other-Services/Threatened-and-Endangered-Species/Threatened-and-Endangered-Species/County-Lists/Wilson-County> (viewed on March 2, 2009).
- Kansas Department of Wildlife and Parks (KDWP). 2009b. Species Information. Available at <http://www.kdwp.state.ks.us/news/Other-Services/Threatened-and-Endangered-Species/Threatened-and-Endangered-Species/Species-Information> (viewed on March 2, 2009).
- Kansas Geological Survey. 1999. Geofacts Osage Cuestas: Rocks and Minerals. April 1999.
- Lower Colorado River Authority (LCRA). 2008. Electric and Magnetic Fields and You. Updated February 8, 2008. (viewed on April 6, 2009).
- U.S. Census Bureau (USCB). 2000. U.S. Census Bureau – American Fact Finder – Census 2000 Demographic Profile Highlights. Available at <http://factfinder.census.gov>. (viewed on March 26, 2009).
- U.S. Department of Agriculture. 1989. Soil Conservation Service. Soil Survey of Wilson County.
- U.S. Department of Agriculture. 2009. Natural Resource Conservation Service (NRCS), Soil Survey of Wilson County, Kansas. Web Soil Survey 2.1, <http://websoilsurvey.nrcs.usda.gov/app/> (viewed on March 16, 2009).
- U.S. Environmental Protection Agency (USEPA). 2008. Currently Designated Nonattainment Areas for All Criteria Pollutants. Available at <http://www.epa.gov/air/oaqps/greenbk/anc13.html> (viewed on March 16, 2009).
- U.S. Fish and Wildlife Service (USFWS). 2008. Endangered, Threatened, Proposed and Candidate Species – Kansas Counties. USFWS Ecological Services Kansas Field Office. December 2008.

10.0 LIST OF PREPARERS

Carlos Swonke, P.G., Senior Project Manager, AECOM, Austin Texas

Tricia Bruck, Environmental Scientist, AECOM, Austin Texas

Kate Turner, Environmental Scientist, AECOM, Austin Texas

APPENDIX A
Agency Coordination



Kansas State Historical Society
Cultural Resources Division

KATHLEEN SEBELIUS, GOVERNOR

April 17, 2009

Bill Feleciano
Public Assistance Coordinator
Kansas Division of Emergency Management
2800 SW Topeka Boulevard
Topeka KS 66611-1287

RE: New Substation
City of Fredonia
Wilson County

Dear Mr. Feleciano:

The Kansas State Historic Preservation Office has reviewed its cultural resources files for the area of the above referenced project in accordance with 36 CFR 800. The project as proposed should have no effect on properties listed in the National Register of Historic Places or otherwise identified in our files. This office has no objection to implementation of the project.

Any changes to the project area that include additional ground disturbing activities will need to be reviewed by this office prior to beginning construction. If construction work uncovers buried archaeological materials, work should cease in the area of the discovery and this office should be notified immediately.

This information is provided at your request to assist you in identifying historic properties, as specified in 36 CFR 800 for Section 106 consultation procedures. If you have questions or need additional information regarding these comments, please contact Tim Weston 785-272-8681 (ex. 214). Please refer to the Kansas Review & Compliance number (KSR&C#) above on all future correspondence relating to this project.

Sincerely,

Jennie Chlan
State Historic Preservation Officer

Timothy Weston
Patrick Zollner
Deputy State Historic Preservation Officer



Natural Resources Conservation Service
3020 West 18th, Suite B
Emporia, Kansas 66801-6191

Phone: 620-343-7276
FAX: 620-343-7871
www.ks.nrcs.usda.gov

May 20, 2009

Kate Turner
Environmental Scientist
AECOM
400 West 15th Street, Suite 500
Austin, Texas 78701

Re: Fredonia Substation Project, Wilson County, Kansas

Dear Ms. Turner:

The Farmland Protection Policy Act (FPPA) applies to projects where federal technical or financial assistance is being requested. FPPA provides a process for determining an impact rating when important farmlands are being considered for conversion to non-agricultural uses.

Enclosed is Form AD-1006, Farmland Conversion Impact Rating, with the Natural Resources Conservation Service's (NRCS) parts completed. The originator should complete Parts VI and VII and return a completed copy to this office at the above address.

Sincerely,

A handwritten signature in blue ink that reads "William M. Gilliam".

WILLIAM M. GILLIAM
Assistance State Conservationist

Enclosure(s)

cc:

Lynn E. Thurlow, Soil Conservationist, NRCS, Salina, Kansas
Jeffrey K. Schmidt, District Conservationist, NRCS, Fredonia, Kansas
Alan R. Boerger, Resource Conservationist, NRCS, Manhattan, Kansas

FARMLAND CONVERSION IMPACT RATING

PART I (To be completed by Federal Agency)		Date Of Land Evaluation Request	
Name Of Project	Fredonia Substation	Federal Agency Involved	FEMA
Proposed Land Use	Substation, Transmission Line	County And State	Wilson County, KS

PART II (To be completed by NRCS)		Date Request Received By NRCS	
Does the site contain prime, unique, statewide or local important farmland? (If no, the FPPA does not apply -- do not complete additional parts of this form).		Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Acres Irrigated	7,400	Average Farm Size	557 Ac.
Major Crop(s)	Corn / Soybeans	Farmable Land In Govt. Jurisdiction	Acres: 168,788 % 46
Name Of Land Evaluation System Used	LESA	Name Of Local Site Assessment System	
		Amount Of Farmland As Defined In FPPA	Acres: 218,400 % 59
		Date Land Evaluation Returned By NRCS	5/20/2009

PART III (To be completed by Federal Agency)	Alternative Site Rating			
	Site A	Site B	Site C	Site D
A. Total Acres To Be Converted Directly	0.2			
B. Total Acres To Be Converted Indirectly				
C. Total Acres In Site	0.2	0.0	0.0	0.0

PART IV (To be completed by NRCS) Land Evaluation Information				
A. Total Acres Prime And Unique Farmland	0.2			
B. Total Acres Statewide And Local Important Farmland	0.2			
C. Percentage Of Farmland In County Or Local Govt. Unit To Be Converted	21			
D. Percentage Of Farmland In Govt. Jurisdiction With Same Or Higher Relative Value	17			

PART V (To be completed by NRCS) Land Evaluation Criterion				
Relative Value Of Farmland To Be Converted (Scale of 0 to 100 Points)	0.78	0	0	0

PART VI (To be completed by Federal Agency)	Maximum Points				
Site Assessment Criteria (These criteria are explained in 7 CFR 658.5(b))					
1. Area In Nonurban Use	8				
2. Perimeter In Nonurban Use	6				
3. Percent Of Site Being Farmed	9				
4. Protection Provided By State And Local Government	2				
5. Distance From Urban Buildup Area	4				
6. Distance To Urban Support Services	3				
7. Size Of Present Farm Unit Compared To Average	2				
8. Creation Of Nonfarmable Farmland	6				
9. Availability Of Farm Support Services	4				
10. On-Farm Investments	5				
11. Effects Of Conversion On Farm Support Services	3				
12. Compatibility With Existing Agricultural Use	5				
TOTAL SITE ASSESSMENT POINTS	160	57	0	0	0

PART VII (To be completed by Federal Agency)					
Relative Value Of Farmland (From Part V)	100	0	0	0	0
Total Site Assessment (From Part VI above or a local site assessment)	160	57	0	0	0
TOTAL POINTS (Total of above 2 lines)	260	57	0	0	0

Site Selected:	Date Of Selection:	Was A Local Site Assessment Used?
		Yes <input type="checkbox"/> No <input type="checkbox"/>

Reason For Selection:

APPENDIX B
Public Notice

U.S. Department of Homeland Security
9221 Ward Parkway, Suite 300
Kansas City, Missouri, 64114-3372



FEMA

PUBLIC NOTICE OF AVAILABILITY
FREDONIA SUBSTATION PROJECT
ENVIRONMENTAL ASSESSMENT
FREDONIA, WILSON COUNTY, KANSAS
FEMA-1711-DR-KS

Interested parties are hereby notified that the Federal Emergency Management Agency (FEMA) has prepared a Draft Environmental Assessment (DEA) for the construction of a substation and related facilities. The original substation was substantially damaged by the storms and flooding that began on June 26, 2007. Due to the high cost associated with restoring and elevating the facility out of the 100-year floodplain, the City of Fredonia has decided to apply to FEMA to use the eligible funds for an alternate project. FEMA was authorized under a Presidential disaster declaration (FEMA-1711-DR-KS) to provide Federal disaster assistance to the City of Fredonia in Wilson County, Kansas as a result of damages incurred during the storms beginning on June 26, 2007 (Section 408 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, 42 USC 5121-5206, as amended (Stafford Act, Public Law 93-288)).

A new substation (100 feet x 76 feet) would be constructed in the planned Fredonia Industrial Park on North 15th Street 0.5 miles south of U.S. Highway 400. A 1.9 mile transmission line would be constructed from the substation to an existing 69kV Westar transmission line to the west. From the substation, the new transmission line would follow North 15th Street south for approximately 1,200 feet. From that point, it would turn west along Fillmore Street for approximately 8,800 feet before connecting to the existing Westar line. The construction of the new facilities would consist of site preparation (grading and/or excavation) and construction of the substation. The existing utility poles along the route would be removed and replaced with new poles.

In compliance with the National Environmental Policy Act (42 U.S.C. 4371 *et seq.*), and associated environmental statutes, a DEA has been prepared to evaluate the proposed action's potential impacts on the human and natural environment. The DEA summarizes the purpose and need, site selection process, affected environment, and potential environmental consequences associated with the proposed action. The DEA is available for review between June 15, 2009 to July 14, 2009 at the Fredonia Library located at 807 Jefferson Street, Fredonia, Kansas. The DEA can also be viewed and downloaded from FEMA's website at <http://www.fema.gov/plan/ehp/envdocuments/index.shtm>. Written comments on the DEA can be faxed to FEMA's Regional Office in Kansas City, Missouri at (816) 283-7018. Comments should be received no later than 5:00pm on July 14, 2009. If no substantive comments are received, the DEA will become final and this initial Public Notice will also serve as the final Public Notice. The DEA will then be moved to the archives page at http://www.fema.gov/plan/ehp/envdocuments/archives_index.shtm.