

Final

**Mined Lands Wildlife Area Land Disposal
K-7 Highway Improvements from
US-160/US-69 to US-400
Environmental Assessment**

KDOT Project No. 7-11 KA-1586-01

Cherokee County, Kansas

Prepared by



**US Fish and Wildlife Service
Wildlife and Sport Fish Restoration Program
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TABLE OF CONTENTS

		<u>Page No.</u>
1.0	PURPOSE AND NEED FOR ACTION.....	1-1
1.1	Introduction and Background	1-1
1.2	Purpose and Need	1-2
2.0	ALTERNATIVES	2-1
2.1	Proposed Action.....	2-1
2.2	Alternatives Considered.....	2-1
3.0	AFFECTED ENVIRONMENT.....	3-1
3.1	Location	3-1
3.2	Topography/Geology	3-1
3.3	Soils and Prime/Unique Farmland (Public law 97-98).....	3-1
3.4	Air Quality	3-2
3.5	Water Resources, Water Quality, Wetlands (E.O. 11990) and Floodplain Management (E.O. 11988).....	3-2
3.6	Vegetation	3-2
3.7	Fisheries	3-3
3.8	Wildlife	3-3
3.9	Federally-Listed Endangered, Threatened, or Candidate Species; and State- Listed Species	3-3
3.10	Other Sensitive Habitat	3-5
3.11	Historic, Cultural, and Archeological Resources.....	3-5
3.12	Hazardous Materials Sites.....	3-5
3.13	Aesthetics, Recreation, and Access	3-5
4.0	ENVIRONMENTAL CONSEQUENCES	4-1
4.1	Effects of the Proposed Action	4-1
4.1.1	Soils and Prime/Unique Farmland (Public Law 97-98).....	4-1
4.1.2	Air Quality	4-1
4.1.3	Water Resources, Water Quality, Wetlands (E.O. 11990) and Floodplain Management (E.O. 11988)	4-1
4.1.4	Vegetation	4-1
4.1.5	Fisheries	4-2
4.1.6	Wildlife	4-2
4.1.7	Federally-Listed Endangered, Threatened, or Candidate Species; and State-Listed Species	4-3
4.1.8	Other Sensitive Habitat	4-3
4.1.9	Historic, Cultural, and Archaeological Resources.....	4-3
4.1.10	Hazardous Material Sites	4-3

4.1.11	Aesthetics, Recreation, and Access	4-3
4.1.12	Cumulative Impacts	4-4
4.2	Effects of the No Action Alternative	4-4
4.2.1	Soils and Prime/Unique Farmland (Public law 97-98)	4-4
4.2.2	Water Resources, Water Quality, Wetlands (E.O. 11990) and Floodplain Management (E.O. 11988)	4-4
4.2.3	Vegetation	4-4
4.2.4	Fisheries	4-4
4.2.5	Wildlife	4-5
4.2.6	Federally-Listed Endangered, Threatened, or Candidate Species; and State-Listed Species	4-5
4.2.7	Other Sensitive Habitat	4-5
4.2.8	Historic, Cultural, and Archeological Resources	4-5
4.2.9	Hazardous Material Sites	4-5
4.2.10	Aesthetics, Recreation, and Access	4-5
4.2.11	Cumulative Impacts	4-5
5.0	COORDINATION AND CONSULTATION	5-1
5.1	KDOT Discovery Phase – Public and Agency Coordination	5-1
5.1.1	Public Involvement	5-1
5.1.2	Agency Coordination	5-1
5.2	Property Acquisition – Public and Agency Coordination	5-2
5.2.1	Public Involvement	5-2
5.2.2	Agency Coordination	5-2
6.0	PUBLIC COMMENT	6-1
7.0	LIST OF PREPARERS	7-1
8.0	LITERATURE CITED AND REFERENCES	8-1
APPENDIX A - EXHIBITS		
APPENDIX B - HISTORIC, CULTURAL, AND ARCHEOLOGICAL RESOURCES COORDINATION		
APPENDIX C - KDWPT ACTION PERMIT		

LIST OF TABLES

	<u>Page No.</u>
Table 3-1: State and Federal Listings for Cherokee County (as per the October 2014 USFWS Information, Planning, and Conservation System database)	3-4
Table 4-1: Native Seed Mix.....	4-2

LIST OF FIGURES

	<u>Page No.</u>
Figure 1-1: Project Location Map	1-2

1.0 PURPOSE AND NEED FOR ACTION

1.1 INTRODUCTION AND BACKGROUND

The Kansas Department of Wildlife, Parks, and Tourism (KDWPT) is requesting approval from the US Fish and Wildlife Service (USFWS) to enter into an exchange with the Kansas Department of Transportation (KDOT) for property from the Mined Land Wildlife Area (MLWA), portions of which were acquired with Wildlife and Sport Fish Restoration (WSFR) program grant funds. The MLWA was developed primarily through land donations. The first donation was received in 1926 and the largest acquisition, totaling 8,208 acres, was donated by Pittsburg and Midway Coal Company in 1981.

KDWPT proposes to replace the impacted portions of the MLWA using non-federal funding in compliance with 50 CFR 80.135. KDOT and FHWA propose to purchase three tracts of MLWA land, totaling approximately 2.9 acres, at current fair market value from KDWPT. The funding from this action will be appropriately credited back to the Wildlife Restoration program. Grant W-20-L-3 will be amended to reflect the funding exchange. This purchase would support development of the proposed K-7 highway improvement project (7-11 KA-1586-01).

The K-7 highway improvement project and the MLWA are located in the southeastern portion of Kansas, as shown in **Figure 1-1**. The proposed K-7 improvements span approximately 11.1 miles from US 160/US-69 north to US-400 between the city of Columbus and the city of Cherokee in Cherokee County. With the proposed improvements, this section of K-7 would be widened from a 2-lane rural minor arterial roadway with 11 foot-wide lanes, 2 foot-wide shoulders, and limited clear zones to a 2-lane rural arterial with 12 foot-wide lanes, 10 foot-wide paved shoulders, and improved clear zones. Of the 11.1 miles of K-7 improvements, approximately 1,196 feet would occur on MLWA property.

The K-7 highway improvement project was analyzed in a Categorical Exclusion (CE) in 2011 by KDOT and the Federal Highway Administration (FHWA). This Environmental Assessment (EA) focuses on the three MLWA tracts that would be purchased by KDOT as part of the proposed K-7 highway improvement project.

2.0 ALTERNATIVES

2.1 PROPOSED ACTION

The USFWS under the WSFR Program proposes to approve the transfer of three tracts, totaling approximately 2.9 acres from the MLWA owned by KDWPT, to KDOT to accommodate the widening of K-7 between US 160/US-69 and US-400. The total length of improvements for the proposed K-7 highway improvement project is 58,061 feet and approximately 1,196 feet would be within MLWA properties. The acquisition of MLWA land would accommodate geometric improvements at intersections with existing county roads and address perceived safety concerns along the highway alignment.

In addition to complying with WSFR regulations, the monetary compensation would mitigate the impacts to the overall MLWA resulting from the acquisition of tracts needed to improve K-7. The MLWA is an important wildlife management area, providing habitat for several game and non-game wildlife and aquatic species. The monetary exchange between KDOT and KDWPT would balance the loss of the impacted MLWA property and would support the ongoing management of the habitats that provide substantial and beneficial resource values.

2.2 ALTERNATIVES CONSIDERED

No Action - The No Action Alternative would leave the existing roadway and associated infrastructure as it is today. There would be no geometric or roadway cross-section improvements and it would not provide route continuity between US-160/US-69 and US-400. The No Action Alternative does not satisfy the purpose and need for the Proposed Action.

KDOT evaluated two build alternatives to improve K-7 in the CE completed in 2011. Build Alternative 1 would reconstruct the highway within the existing corridor. Build Alternative 2 would construct the highway on a new alignment.

Preferred Alternative: Build Alternative 1 - Reconstruction of K-7 within the existing corridor could be accomplished by (1) maintaining the existing highway alignment and widening along the existing centerline, or (2) maintaining and widening along the existing alignment where practical but provide sections of offset alignment to avoid areas of concern including strip mines and landfills. The first option would reconstruct the highway along the existing alignment for the length of the project. This option would require mitigation of strip-mined areas and underground mines in areas where new right-of-way would be acquired to provide a modern cross-section. Barrier walls and slurry fill would be needed to support and fill the underground mine voids in areas where the road and shoulders would be widened. The second option would maintain the existing alignment for the majority of the project length, but provide an offset alignment in sections to avoid strip mined areas and landfills. Under both options, through traffic would be routed along a state-route detour during construction.

Build Alternative 2 – K-7 would be reconstructed on a new alignment, significantly offset from the existing alignment in order to avoid strip mined areas and other constraints. A specific corridor was not evaluated for this alternative, but general offset alignments were considered, two to three miles to the east and to the west of the existing highway. The existing highway would carry traffic during construction of the new roadway.

The location study completed by KDOT indicated that Build Alternative 2 was not feasible because strip mines and underground mines could not be avoided. This alternative would also affect local population centers and add significant cost to the project. Build Alternative 2 would also have a greater effect on MLWA because of the right-of-way needed and potential severance of management units crossed by the offset alignment.

3.0 AFFECTED ENVIRONMENT

The following section provides descriptions of the features present within the overall boundary of the MWLA Units and the specific features identified within the target tracts proposed for disposal to support the Proposed Action.

3.1 LOCATION

MLWA - The MLWA is comprised of 46 parcels encompassing approximately 14,500 acres across Cherokee, Crawford, and Labette Counties (**Appendix A, Figure 1**). In addition to supporting a variety of upland and bottomland forests, woody shrub habitats, native grasslands, and marshes, the MLWA contains more than 200 lakes.

Target Tracts - The MLWA units affected by the acquisition of the three tracts are shown on **Figure 3** in Appendix A and include:

- Unit 16 – west of K-7 and south of NW Belleview Road
- Unit 11 – west of K-7 and approximately 0.70 miles north of NE Star Valley Road
- Unit 46 – west of K-7 and north of Belleview Road

3.2 TOPOGRAPHY/GEOLOGY

MLWA - The MLWA is located in the Cherokee Plains Ecoregion where the topography is flat to gently sloping. All but 2,000 acres of the MLWA was surface-mined for coal during the 1920's through 1970's. The MLWA contains several strip mine lakes and steep sided hills created by surface mining activity (**Appendix A, Figure 2**). Past mining activities have created large underground voids, including many extending under the existing K-7 alignment. These voids are approximately 10-12 feet high and are located approximately 8 feet below the highway surface.

Target Tracts - The MLWA tracts subject to the Proposed Action could have undocumented voids that remain as a result of past mining activity.

3.3 SOILS AND PRIME/UNIQUE FARMLAND (PUBLIC LAW 97-98)

MLWA - According to information from the U.S. Department of Agriculture's Natural Resources Conservation Service (NRCS) soil survey for Cherokee County, there are 13 different types of soil with varying slopes within the MLWA. The most common soil type across the MLWA is Kanima silty clay loam found in areas of 15 to 50 percent slopes.

Target Tracts - Four different soil series are identified within the three tracts to be acquired; three of the soils are designated as prime farmland:

- Dennis silt loam, 1 to 3 percent slopes (designated prime farmland soil)
- Parsons silt loam, 0 to 1 percent slopes (designated prime farmland soil)
- Kanima silty clay loam, 15 to 50 percent slopes
- Coalvale silty clay, 1 to 5 percent slopes (designated prime farmland soil)

None of the soils within the MLWA tracts to be acquired are currently farmed.

3.4 AIR QUALITY

MLWA - The Clean Air Act (CAA) protects and enhances the quality of the nation's air by regulating stationary and mobile sources of air emissions. The federal government established the National Ambient Air Quality Standards (NAAQS) to protect public health, safety, and welfare from known or anticipated effects of six criteria pollutants: sulfur dioxide, particulate matter, carbon monoxide, nitrogen dioxide, ozone, and lead. According to the Kansas Department of Health and Environment (KDHE), Cherokee County is currently in attainment for all NAAQS.

Target Tracts – The target tracts are located within an in attainment for all air quality standards.

3.5 WATER RESOURCES, WATER QUALITY, WETLANDS (E.O. 11990) AND FLOODPLAIN MANAGEMENT (E.O. 11988)

MLWA - The MLWA contains numerous water features and wetlands including more than 200 lakes, many created by past mining activities. According to the USFWS National Wetland Inventory (NWI) there are 114 emergent wetlands (PEM), 3 forested\scrub-shrub (PFO)\(PSS) wetlands, 802 unconsolidated bottom wetlands (PUB), and 3 riverine wetlands (R) within the MLWA.

Perennial and intermittent waterways that cross the MLWA include the Spring River and Neosho River along with Cherry Creek, Deer Creek, Lightning Creek, Little Cherry Creek, and Second Cow Creek. Portions of Cherry Creek within the MLWA are listed on the 2014 Section 303(d) List of All Impaired/Potentially Impaired Waters. Due to the strip mining activity within the MLWA, drainages could contain varying levels of sulfuric acid that could affect water quality.

The Federal Emergency Management Agency (FEMA) has designated 100-year floodplains along Cherry Creek, Deer Creek, Lightning Creek, Little Cherry Creek, Second Cow Creek, and several unnamed tributaries within the MLWA.

Target Tracts - There are no NWI wetlands, named creeks, or mapped 100-year floodplains identified within the MLWA tracts subject to the Proposed Action (see Appendix A, Exhibit 3). KDOT will complete wetland delineations for the target tracts prior to initiating construction. If necessary, KDOT will obtain the appropriate permits to provide for the placement of fill materials within jurisdictional waters of the U.S.

3.6 VEGETATION

MLWA - The MLWA contains a wide range of habitats. A large amount of the MLWA is comprised of oak-hickory woodlands including bur oak (*Quercus macrocarpa*), pin oak (*Quercus palustris*), walnut (*Juglans nigra*), hickory (*Carya* spp.), hackberry (*Celtis occidentalis*), dogwood (*Cornus drummondii*), greenbrier (*Smilax* spp.), honeysuckle (*Lonicera* spp.), poison ivy (*Toxicodendron radicans*), and black berry (*Rubus fruticosus*). Other portions of the MLWA are maintained in native grassland, food plots, and farmland.

There are several noxious weeds listed in the Kansas Noxious Weed Law that are known to be in Cherokee County. These species include bull thistle (*Hoffmannseggia glauca*), bur ragweed (*Ambrosia grayi*), Canada thistle (*Cirsium arvense*), field bindweed (*Convolvulus arvensis*), hoary cress (*Cardaria draba*), Johnson grass (*Sorghum halapense*), kudzu (*Pueraria montana*), leafy spurge (*Eurphorbia esula*), muck thistle (*Carduus nutans*), pignut (*Hoffmannseggia*

glauca), quackgrass (*Elymus regens*), Russian knapweed (*Acroptilon repens*), and sericea lespendeza (*Lespedeza cuneata*). These weeds may occur in locations of previous disturbance within the boundary of the MLWA.

Target Tracts – The MLWA tracts subject to the Proposed Action are dominated by wooded habitat. Areas of previous disturbance may contain some of the noxious weed species listed above.

3.7 FISHERIES

MLWA - KDWPT manages many of the lakes and stream habitats within the MLWA to support several fish species including largemouth bass, rainbow trout, walleye, channel catfish, crappie, bluegill, red-ear sunfish, spotted bass, wipers, bullhead, and warmouth.

Target Tracts - There are no surface water features and therefore no fisheries within the MLWA tracts subject to the Proposed Action.

3.8 WILDLIFE

MLWA - KDWPT manages a variety of native grass establishments, timber stand improvements, food plots, and shrub plantings to improve quail and other game habitats. Food plots are also managed specifically to attract doves and support the bison herd managed on Unit 1. Cottontail rabbits, fox squirrels, muskrats, bobcats, beavers, coyotes, mink, and fox are also common residents within the MLWA. Migratory waterfowl, including Canada geese and several duck species, are seasonally common in the open water and wetland habitats.

Due to the proximity of habitat to the existing roadway, wildlife are often hit by passing vehicles. Wildlife are typically more active during the mating and migratory seasons so the number of road kill incidents involving deer and other mammals are higher during the spring and fall seasons. KDOT District 4 Maintenance Crews keep records of dead deer removed from the right-of-way. Along the subject section of K-7, KDOT has removed 17 deer kills from the highway from January through October 2014. KDOT estimates that another 8 to 12 deer will be killed along this stretch of K-7 during November and December. KDOT also estimates that approximately 6 to 8 dead small mammals (e.g., raccoon, opossum, skunk) are removed from this stretch of K-7 each month.

Target Tracts - The MLWA properties subject to the Proposed Action are not managed for any specific species. The forested habitat could support many of the species mentioned above. Like the rest of the MLWA, habitat within the target tracts can be close to the roadway and may contribute to road kills. No specific data is collected regarding the number or species of wildlife that are struck by vehicles along K-7 adjacent to the target tracts.

3.9 FEDERALLY-LISTED ENDANGERED, THREATENED, OR CANDIDATE SPECIES; AND STATE-LISTED SPECIES

MLWA - The list of Federal and state endangered, threatened, and candidate species for Cherokee County is provided in **Table 3-1**. K-7 is the western limit of Designated Critical Habitat (DCH) for the Spring Peeper (state-listed threatened frog) designated by KDWPT. This critical habitat is described as “all temporary and permanent wetlands.”

Target Tracts – All of the tracts are located along the west side of K-7. There is no state listed DCH and no federally designated critical habitat on the target tracts.

Table 3-1: State and Federal Listings for Cherokee County (as per the October 2014 USFWS Information, Planning, and Conservation System database)

Common Name, Scientific Name	State	Federal
Neosho madtom, <i>Noturus placidus</i>	Threatened	Threatened
Many-Ribbed Salamander, <i>Eurycea multiplicata</i>	Endangered	--
Cave salamander, <i>Eurycea lucifuga</i>	Endangered	--
Eastern narrowmouth toad, <i>Gastrophryne carolinensis</i>	Threatened	--
Ouachita kidneyshell mussel, <i>Ptychobranhus occidentalis</i>	Threatened	--
Western fanshell mussel, <i>Cyprogenia aberti</i>	Endangered	--
Grotto salamander, <i>Typhlotriton spelaeus</i>	Endangered	--
Longtail salamander, <i>Eurycea longicauda</i>	Threatened	--
Ellipse mussel, <i>Venustaconcha ellipsiformis</i>	Endangered	--
Arkansas darter, <i>Etheostoma cragini</i>	Threatened	Candidate
Elktoe mussel, <i>Alasmidonta marginata</i>	Endangered	--
Eastern newt, <i>Notophthalmus viridescens louisianensis</i>	Threatened	--
Rabbitsfoot mussel, <i>Quadrula cylindrica</i>	Endangered	Threatened
Gray myotis, <i>Myotis grisescens</i>	Endangered	--
Spring peeper, <i>Pseudacris crucifer</i>	Threatened	--
Green frog, <i>Rana clamitans melanota</i>	Threatened	--
Neosho mucket mussel, <i>Lampsilis rafinesqueana</i>	Endangered	Endangered
Redbelly snake, <i>Storeria occipitomaculata</i>	Threatened	--
Butterfly mussel, <i>Ellipsaria lineolata</i>	Threatened	--
Flutedshell mussel, <i>Lasmigona costata</i>	Threatened	--
Redspot chub, <i>Nocomis asper</i>	Threatened	--
Eskimo curlew, <i>Numenius borealis</i>	Endangered	--
Broadhead skink, <i>Eumeces laticeps</i>	Threatened	--
Flat floater mussel, <i>Anodonta suborbiculata</i>	Endangered	--
Plains minnow, <i>Hybognathus placitus</i>	Threatened	--
Eastern spotted skunk, <i>Spilogale putorius</i>	Threatened	--
Least tern, <i>Sterna antillarum</i>	Endangered	--
Common map turtle, <i>Graptemys geographica</i>	Threatened	--
American burying beetle, <i>Nicrophorus americanus</i>	Endangered	--
Piping plover, <i>Charadrius melodus</i>	Threatened	--

SOURCE: USFWS and KDWPT, 2014

On October 2, 2013, the USFWS published a 12-month finding on a petition to list the Northern long-eared bat (*Myotis septentrionalis*). On June 30, 2014 the USFWS extended the Final Determination for 6 months to April 2, 2015.

3.10 OTHER SENSITIVE HABITAT

MLWA - Migratory birds protected under the Migratory Bird Treaty Act (MBTA) have the potential to occur in the MLWA because of the presence of prairie, woodland, agricultural land, wetland, and riparian habitats. Although the Bald Eagle (*Haliaeetus leucocephalus*) was removed from the Federal list of threatened and endangered species on August 9, 2007, it remains protected under the MBTA as well as the Bald and Golden Eagle Protection Act (BGEPA).

Target Tracts – Suitable habitat to support the Bald Eagle as well as other raptors and migratory bird nests may occur within the MLWA tracts subject to the Proposed Action.

3.11 HISTORIC, CULTURAL, AND ARCHEOLOGICAL RESOURCES

MLWA - Buried archeological and cultural resource sites may exist within the MLWA.

Target Tracts - A cultural resources investigation was completed by KDOT in 2010 for the proposed project (see **Appendix B**). KDOT determined that there were neither archeological resources nor historic architectural resources present within the project area. The State Historic Preservation Officer (SHPO) concurred there were no National Register of Historic Places (NRHP) listed or eligible structures within or adjacent to the right-of-way to be acquired. The Kansas State Historical Society (KHS) completed a Phase II archeological survey of the project for KDOT. On March 27, 2013 the SHPO concurred there were no archaeological sites eligible for listing in the NRHP in the project area.

3.12 HAZARDOUS MATERIALS SITES

MLWA – Because of the previous mining activities within the area, a number of spoil piles and strip or underground mine areas are present within the MLWA.

Target Tracts - A search of the Kansas Department of Health and Environment (KDHE) databases performed by KDOT indicated that no registered landfills or identified/listed hazardous material sites have been identified within the MLWA tracts subject to the Proposed Action. KDOT also performed a search of the National Priorities and CERCLIS (Superfund) databases and no sites were identified within the project area. A field inspection was conducted June 10, 2013 and confirmed there were no potential hazardous material sites within the targeted tracts.

3.13 AESTHETICS, RECREATION, AND ACCESS

MLWA - The MLWA provides aesthetically pleasing views of prairie, woodland, wetland, and riparian environments for public users. Multiple units within the MLWA support a variety of recreational activities including hunting, fishing, canoeing, wildlife viewing and photography, and camping. Cabin, tent, and RV camping areas are located on some of the units.

Target Tracts - The MLWA properties subject to the Proposed Action are not currently used for recreational use nor do they serve as access points into the MLWA management units.

4.0 ENVIRONMENTAL CONSEQUENCES

4.1 EFFECTS OF THE PROPOSED ACTION

The following paragraphs describe the potential effects of the Proposed Action on the target tracts subject to acquisition.

4.1.1 Soils and Prime/Unique Farmland (Public Law 97-98)

Construction activities such as grading and excavation would disturb soils adjacent to K-7. Based on the proposed design of the improvements, 0.69 acres of land designated as prime farmland would be disturbed. These areas are not currently in agricultural production; therefore there would be no loss of production or effect on supporting services.

4.1.2 Air Quality

The proposed K-7 improvements would upgrade the existing roadway to modern design criteria, and improve safety and mobility for the traveling public. Approximately 3,900 vehicles per day travel along this section of K-7. Traffic volumes are forecast to grow to 5,000 vehicles per day by the design year 2034. This increase over the next 20 years would not result in a measureable increase in emissions and therefore would not have an impact on regional air quality.

4.1.3 Water Resources, Water Quality, Wetlands (E.O. 11990) and Floodplain Management (E.O. 11988)

No stream crossings are present within the target tracts. Wetland delineations are not expected to be needed but, if necessary, will be completed by KDOT prior to initiating construction. Permanent impacts to jurisdictional waters of the US and wetlands caused by the proposed widening (including any on the target tracts) will be authorized under a Section 404 permit obtained by KDOT through coordination with the US Army Corps of Engineers (USACE) Kansas City District. If necessary, mitigation will be coordinated between USACE and KDOT.

Depending on the features present on the target tracts, drainage from previously mined areas could contain sulfuric acid, which would need to be neutralized before entering surface waters or roadside ditches. Mitigation would include the placement of ditch linings in all ditch quadrants with strip mine drainage before the water reaches the streams. The Stormwater Pollution Prevent Plan (SWPPP) developed for the project will outline the proposed Best Management Practices (BMPs) to be used in the vicinity of the target tracts to manage surface runoff, as applicable.

No floodplains are located within the MLWA tracts subject to the Proposed Action. Therefore, no impacts to floodplains would occur as a result of the proposed project.

4.1.4 Vegetation

Because of the proposed construction of widened travel lanes and shoulders, and intersection improvements, approximately 1.47 acres of wooded habitat (deciduous trees and shrubs) and approximately 0.50 acres of herbaceous vegetation (predominantly grasses and forbs) would be removed within the MLWA tracts subject to the Proposed Action. Any disturbed areas outside of the clear zones would be seeded with native herbaceous vegetation (**Table 4-1**). Disturbed areas will be stabilized using plantings. Contractors would implement BMPs and follow KDOT construction specifications to reduce erosion during grass establishment and to reduce the

potential for disturbed areas to be populated by noxious or invasive species. The following native seed mixes would be used within areas disturbed by construction, depending on the timing of construction.

Table 4-1: Native Seed Mix

Cool Season	Warm Season
February 15 to April 20 and August 15 to Sept. 30	November 15 to June 1
Species	Species
Bluegrasses	Big Bluestem
Bromegrasses	Blue Grama
Canada Wildrye	Buffalograss
Fescues	Eastern Gamagrass
Prairie Junegrass	Little Bluestem
Reed Canarygrass	Sand Bluestem
Ryegrasses	Sand Dropseed
Sterile Wheatgrass	Sand Lovegrass
Tall Dropseed	Side Oats Grama
Western Wheatgrass	Switchgrass
	Wildflower Mixes

4.1.5 Fisheries

Because there are no fisheries habitats within the target tracts, construction of the proposed improvements would have no impact on fish species.

4.1.6 Wildlife

Approximately 1.97 acres of potential wildlife habitat would be cleared within the MLWA tracts to accommodate the proposed roadway widening and intersection improvements. During construction, wildlife would likely avoid the project area because of habitat disturbance, noise, and equipment traffic. The proposed geometric improvements would expand the right-of-way and roadway clear zones and provide paved shoulders that would remove vegetation away from the pavement edge. This would improve sight distance allowing vehicle operators to have more opportunity to see deer approaching the roadway and allow deer to better detect oncoming vehicles. The improvements would allow additional space for both the driver and the deer to alter their respective course in an attempt to avoid or evasively react to a potential collision.

Migratory bird nests may be present within the project area. Nesting bird surveys would be completed prior to clearing trees and other suitable nesting habitat. If active nests are present at the time of the surveys, clearing of the vegetation would be prohibited and the nests will be monitored until the birds have fledged and left the nests, and at that time construction activities will be allowed to resume.

4.1.7 Federally-Listed Endangered, Threatened, or Candidate Species; and State-Listed Species

Although the targeted tracts contain no DCH, the KDWPT has established DCH for the threatened Spring Peeper east of the K-7 improvement project area. An Action Permit has been approved by KDWPT for the Spring Peeper to meet the requirements of the Kansas Nongame and Endangered Species Conservation Act of 1975 (see **Appendix C**). A mitigation plan has been developed to avoid, minimize, and provide compensatory mitigation for the critical habitats for the Spring Peeper. The Proposed Action will comply with the general and special conditions listed in the Action Permit. No other impacts to currently listed Federal or state species are anticipated to result from the Proposed Action.

With the pending listing of the Northern long-eared bat by the USFWS, KDOT may be required to adhere to seasonal tree clearing restrictions or complete presence/absence surveys for the bat within the tracts to be acquired prior to initiating construction. In addition there may be restrictions on work around underground caves or mines during the winter months if the bat is using these features as winter hibernacula. If the bat or suitable habitat for the bat is identified within the project area, tree clearing may be restricted from March through October to avoid effects on bat populations during the active season.

4.1.8 Other Sensitive Habitat

As mentioned above, up to approximately 1.97 acres of potential wildlife habitat could be cleared to accommodate the improvements proposed within the target tracts. If migratory bird nests are encountered during the primary breeding and nesting season, construction activities in the vicinity of the nests will be avoided. The nests will be monitored until the birds have fledged and left the nests, and at that time construction activities will be allowed to resume.

4.1.9 Historic, Cultural, and Archaeological Resources

There are no historic or archeological sites listed or eligible for listing in the NRHP within the MLWA tracts subject to the Proposed Action. Therefore, no impacts to historic, cultural, or archaeological resources are anticipated. However, if archeological deposits are encountered during construction; construction activities in the area should cease, the deposits should be left in place, and the KHS should be contacted immediately.

4.1.10 Hazardous Material Sites

There are no recorded hazardous material sites within the MLWA tracts subject to the Proposed Action. Therefore, no impacts to or from hazardous material sites are anticipated.

4.1.11 Aesthetics, Recreation, and Access

Improvements to K-7 would result in minor impacts to some of the aesthetically pleasing environments adjacent to the highway. Although there would be a wider expanse of paved roadway adjacent to the MLWA units close to K-7, the remaining MLWA land would continue to provide users and travelers with aesthetically pleasing views of prairie, woodland, wetland, and riparian environments. The MLWA tracts subject to the Proposed Action are not used for recreational or access purposes. Therefore, no impacts to recreation or access to MLWA lands are anticipated.

4.1.12 Cumulative Impacts

A cumulative impact is defined in 40 CFR §1508.7 *as 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. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.*

With the removal of a narrow band of land from the MLWA (totaling approximately 2.9 acres and spanning approximately 1,196 feet along K-7), cumulative impacts are expected to be low. A minimal amount of vegetation is expected to be lost due to the proposed construction activity. Wildlife populations are not anticipated to significantly decrease, since adequate suitable habitat is available adjacent to the MWLA target tracts. Potential impacts to soils include soil erosion, soil compaction, and rutting during construction; however these impacts would be short-term in nature and minimized to the extent possible through implementation of appropriate BMPs.

Improvements to K-7 would improve public safety and traffic flow along the highway for users of the MLWA, local residents, and commercial carriers. Traffic volume along this section of K-7 is forecast to increase by approximately 2,900 vehicles per day over the next 20 years and would not result in a discernable increase in air emissions. The proposed improvements would not result in an overall increase in the number of collisions with wildlife. The K-7 improvements would also improve connectivity within Cherokee County, thereby improving access to the recreational opportunities provided by the MLWA. If future roadway improvements were to occur beyond the limits of the Proposed Action, additional impacts to MLWA property would require additional study and appropriate compensation by KDOT to KDWPT.

4.2 EFFECTS OF THE NO ACTION ALTERNATIVE

The following is a discussion of impacts to each environmental resource as a result of the No Action Alternative, under which KDOT would perform no geometric improvements to the roadway or associated infrastructure.

4.2.1 Soils and Prime/Unique Farmland (Public law 97-98)

The MLWA tracts would likely remain undisturbed and no impacts to soils would occur.

4.2.2 Water Resources, Water Quality, Wetlands (E.O. 11990) and Floodplain Management (E.O. 11988)

The MLWA tracts would likely remain undisturbed and no impacts to potential wetlands would occur.

4.2.3 Vegetation

The MLWA tracts would likely remain undisturbed and no vegetation would be cleared.

4.2.4 Fisheries

The No Action Alternative would have no impacts on fisheries.

4.2.5 Wildlife

The MLWA tracts would likely remain undisturbed and no direct impacts would occur to wildlife.

4.2.6 Federally-Listed Endangered, Threatened, or Candidate Species; and State-Listed Species

The MLWA tracts would likely remain undisturbed and no direct impacts would occur to Federal or state-listed species.

4.2.7 Other Sensitive Habitat

The MLWA tracts would likely remain undisturbed and habitats would not be affected.

4.2.8 Historic, Cultural, and Archeological Resources

The No Action Alternative would have no impacts on historic, cultural, or archaeological resources.

4.2.9 Hazardous Material Sites

The No Action Alternative would have no impacts on hazardous material sites.

4.2.10 Aesthetics, Recreation, and Access

The MLWA tracts would likely remain undisturbed with no effects on the aesthetics of the corridor. The No Action Alternative would have no effect on existing recreation facilities within or access to the MLWA.

4.2.11 Cumulative Impacts

The MLWA tracts would likely remain undisturbed and the vegetation would continue to develop and evolve as woodland, wetland, or prairie communities. In turn, the wildlife habitat on the tracts would continue to support resident populations.

5.0 COORDINATION AND CONSULTATION

5.1 KDOT DISCOVERY PHASE – PUBLIC AND AGENCY COORDINATION

5.1.1 Public Involvement

Public Official’s Meeting on August 17, 2009 – A public meeting was held to gain input from local public officials on the preferred alignment including concerns regarding proposed detours. A summary of the meeting was posted as a blog on the Kansas Transportation Online Community website. Public input expressed during the meeting was nearly unanimous in support of reconstructing this section of K-7. Concerns were expressed about the safety of the existing highway.

Meeting with Emergency Responders, School Districts in the Area, the City of Columbus Public Works and the Mid-American Pipe Company on February 18, 2010 – Meetings were held with local emergency responders and school officials, city of Columbus officials, and a representative from Mid-American Pipe Company to gain input regarding the proposed construction sequence of the project. The project was anticipated to be constructed over two construction seasons with half of K-7 closed during each season. The attendees agreed that the traffic sequencing presented would work as long as they were kept up to date on road closures occurring during construction.

Public Meeting on February 25, 2010 – A second public meeting was held to gain public input on the proposed construction sequencing and detour plans, as well as any concerns with the proposed survey corridor. The finalized roadway alignment would be identified following completion of a topographic survey. The general consensus was approval of the proposed construction sequencing. Several comments were received regarding consideration of an overpass over the south railroad crossing near the switchyard west of K-7 and Bethlehem Road.

Kitchen Table Meetings (July 17-19, 2012) and Public Meetings for Public Officials and General Public (July 19, 2012) – A series of “kitchen table” format meetings were held with property owners whose residences were identified as having substantial impacts resulting from the project. These properties were identified by KDOT as potential tracts for early acquisition due to the challenge brought forth with relocating residences that were to be acquired with the proposed right-of-way for the construction of the highway. On July 19, 2012, a presentation was made to local public officials on the current plan for traffic management during construction. A subsequent open-house was then held for the general public to view the current plans which were approximately 50% complete at that time. KDOT recorded any final comments on the alignment or the construction sequencing from the public. The comments were largely in favor of the proposed design and construction schedule and sequencing.

5.1.2 Agency Coordination

KDOT Environmental Services Section (ESS) coordinated with various state and Federal agencies in development of the CE prepared to support selection of the Preferred Alternative that is currently under design. Agencies include: USFWS, KDWPT, KDHE, U.S. Army Corps of Engineers, and Kansas Historical Society.

5.2 PROPERTY ACQUISITION – PUBLIC AND AGENCY COORDINATION

5.2.1 Public Involvement

KDOT will continue to work with affected property owners in developing private acquisition agreements as part of the right-of-way acquisition process that is anticipated to be completed in January 2015. KDOT also will continue to coordinate with cities and Cherokee County as design plans are completed and during construction.

5.2.2 Agency Coordination

KDOT will continue coordination with the appropriate local, state, and federal agencies to obtain applicable permits and approvals for the project during right-of-way acquisition and prior to initiating construction.

6.0 PUBLIC COMMENT

A press release announced the comment period was open for 15 days in November. During that period of time, no comments were received pertaining to any portion of the Environmental Assessment.

7.0 LIST OF PREPARERS

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785-296-3726

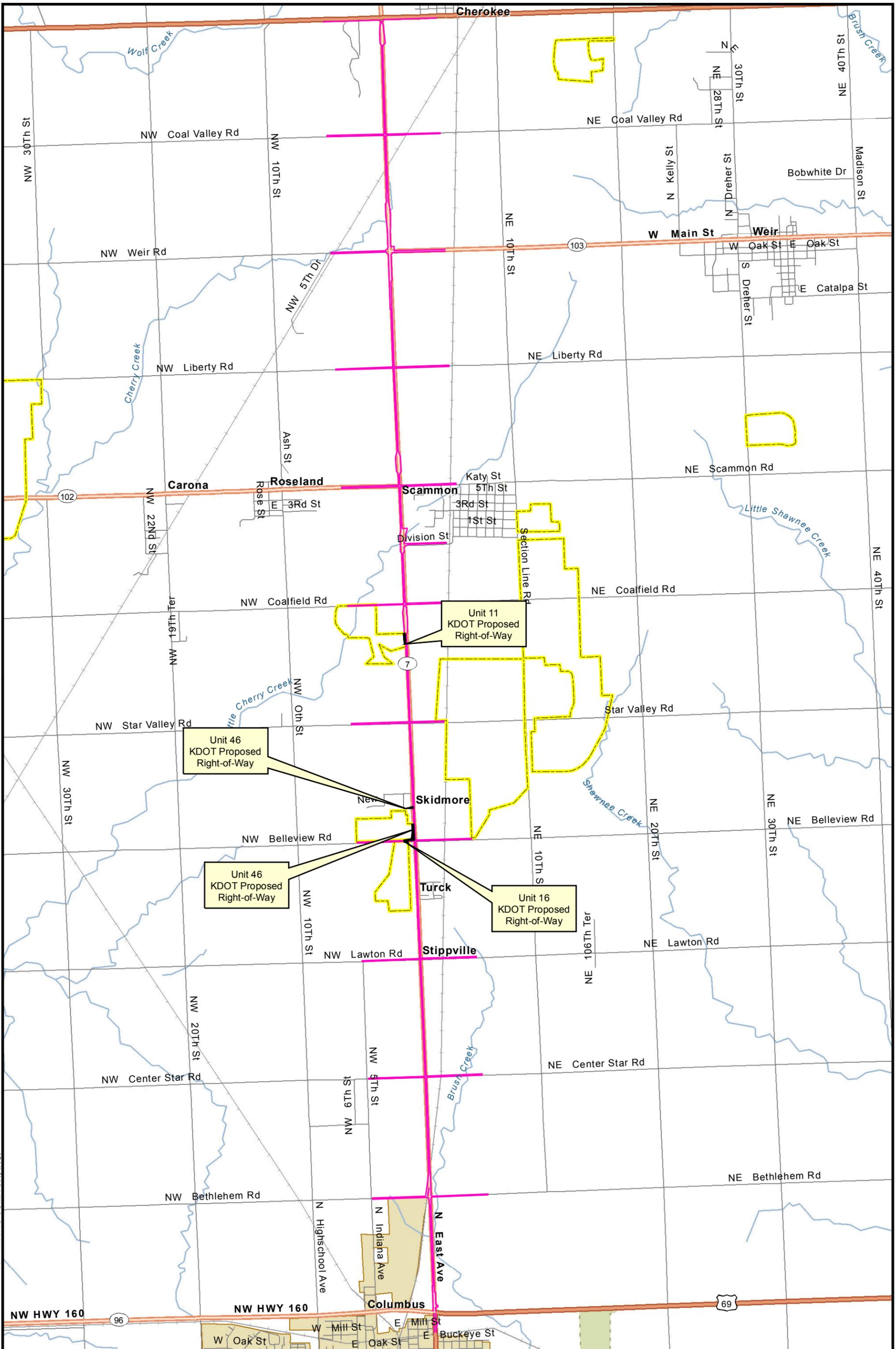
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785-296-3890

8.0 LITERATURE CITED AND REFERENCES

- Chapman, Shannen S., Omernik, James M., Freeouf, Jerry A., Huggins, Donald G., McCauley, James R., Freeman, Craig C., Steinauer, Gerry, Angelo, Robert T., and Schleppe, Richard L., 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).
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- U.S. Fish and Wildlife Service (USFWS). 2014. Species by County Report, Cherokee County. Available at
http://ecos.fws.gov/tess_public/countySearch!speciesByCountyReport.action?fips=20021. Accessed August 18, 2014.

APPENDIX A - EXHIBITS

Path: T:\ESPKDOT\GIS\DataFiles\ArcDocs\Exhibit1_ProjectMap.mxd barker 10/6/2014
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-  K-7 Highway ROW
-  KDOT Proposed Right-of-Way
-  Mined Land Wildlife Areas

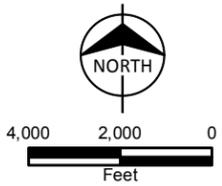
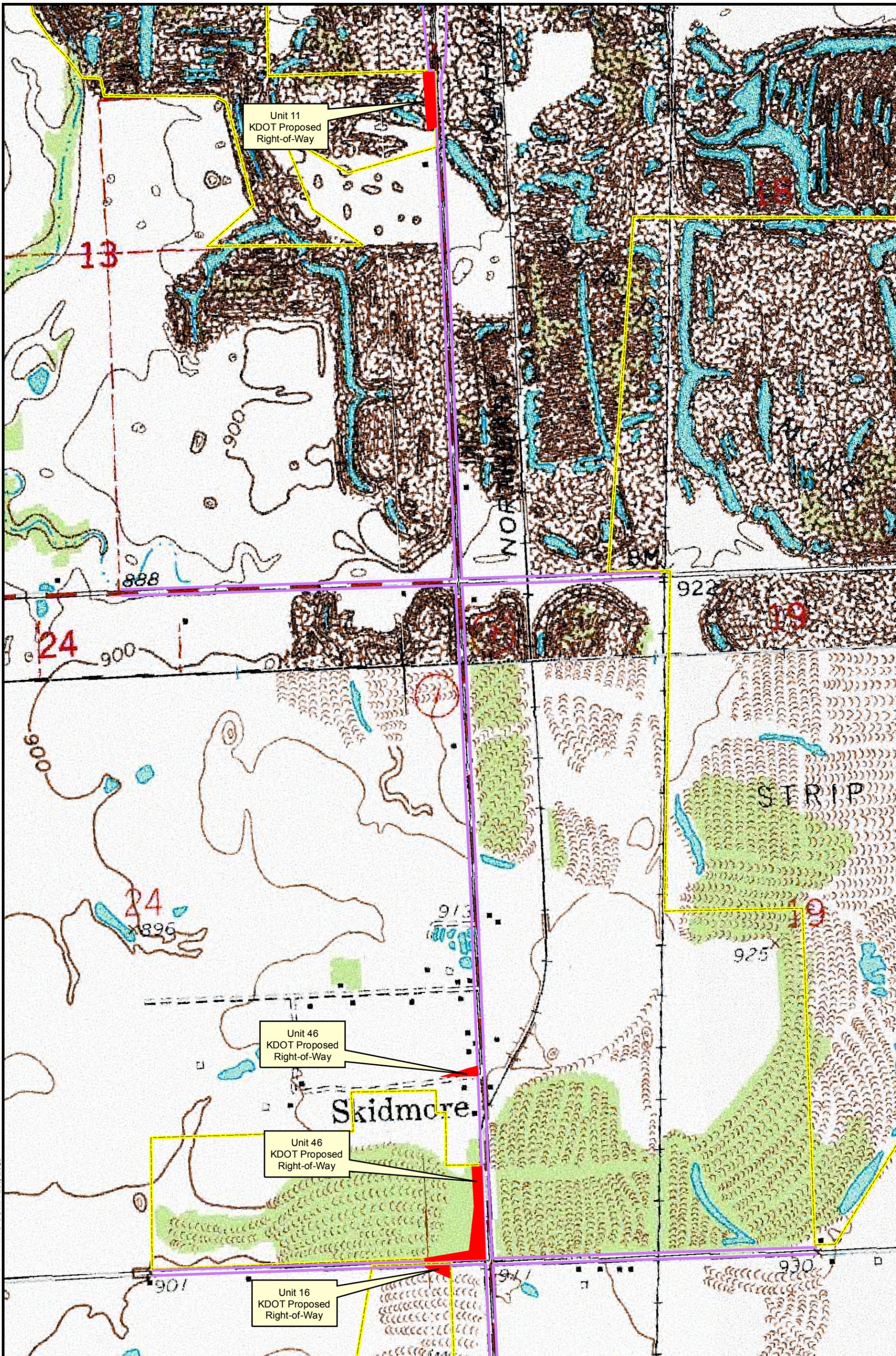


Exhibit 1
K7 Highway Improvement
Project Map
KDOT
Cherokee County, KS

Source:

Issued: 10/6/2014

Path: T:\ESP\KDOT\GIS\DataFiles\ArcDocs\Exhibit2_USGSMap.mxd b.parker 10/6/2014
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-  K-7 Highway ROW
-  KDOT Proposed Right-of-Way
-  Mined Land Wildlife Areas

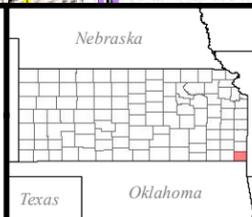
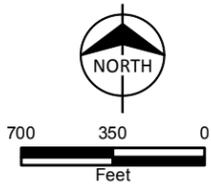


Exhibit 2
K7 Highway Improvement
USGS Map
KDOT
Cherokee County, KS

Source:

Issued: 10/6/2014

Path: T:\ESPKDOT\GIS\DataFiles\ArcDocs\Exhibit3_MLWA_LandAcquisition.mxd barker 10/6/2014
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- NHD Streams
- NWI Wetlands
- Mined Land Wildlife Areas
- K-7 Highway ROW
- KDOT Proposed Right-of-Way

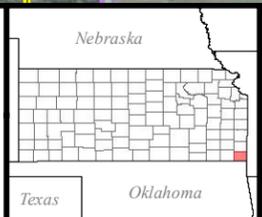
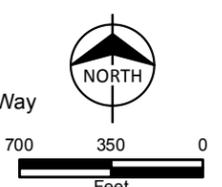


Exhibit 3
K7 Highway Improvement
Mined Lands Wildlife Area
Land Acquisition
KDOT
Cherokee County, KS

Source:

Issued: 10/6/2014

APPENDIX B - HISTORIC, CULTURAL, AND ARCHEOLOGICAL RESOURCES COORDINATION

September 3, 2010

Patrick Zollner, Director
Cultural Resources Division
Kansas State Historical Society
6425 South West Sixth Avenue
Topeka, KS 66615-1099

Dear Mr. Zollner:

Subject: 7-11 KA-1586-01
State Funds
Cherokee County

The Kansas Department of Transportation requests the Kansas State Historical Society to proceed with Activity I review of the above referenced improvement. The project is defined on the attached project description and maps dated August 31, 2010. Photographs were taken by ESS staff on August 19, 2010. All other structures were recorded as newer. The photographic survey did not extend to the south end of the study area within the city of Columbus as shown on the attached maps. The Road Design Team has indicated they do not expect any proposed construction beyond the photographic survey limits. The photographs were posted to the Kansas HRI website on September 2, 2010. The original size photographs are included on the attached CD.

A general description of the project is as follows: Preliminary Engineering for the reconstruction of K-7 from the K-7/US-160 Junction at Columbus, north to the Cherokee/Crawford County line.

We hope to complete all necessary activities and processes related to the agreement in 60 days. Should your study find that subsequent activities of the agreement will need to be initiated, please submit your request to our office. If further information is required, please advise.

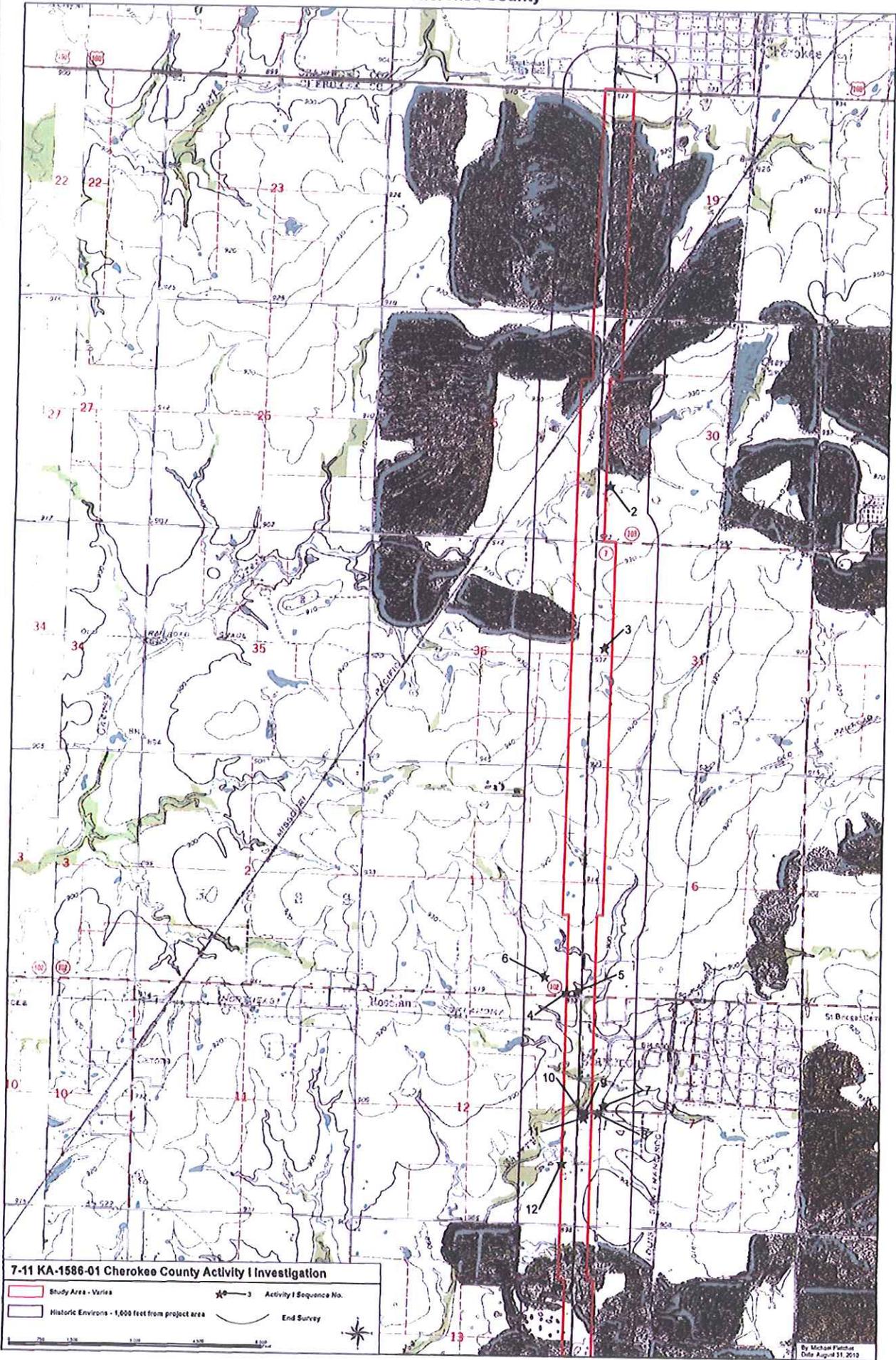
Sincerely,
Jim L. Kowach, P.E.
Chief, Bureau of Design



u Scott P. Vogel, Chief
Environmental Services Section

Encl

7-11 KA-1586-01
Cherokee County



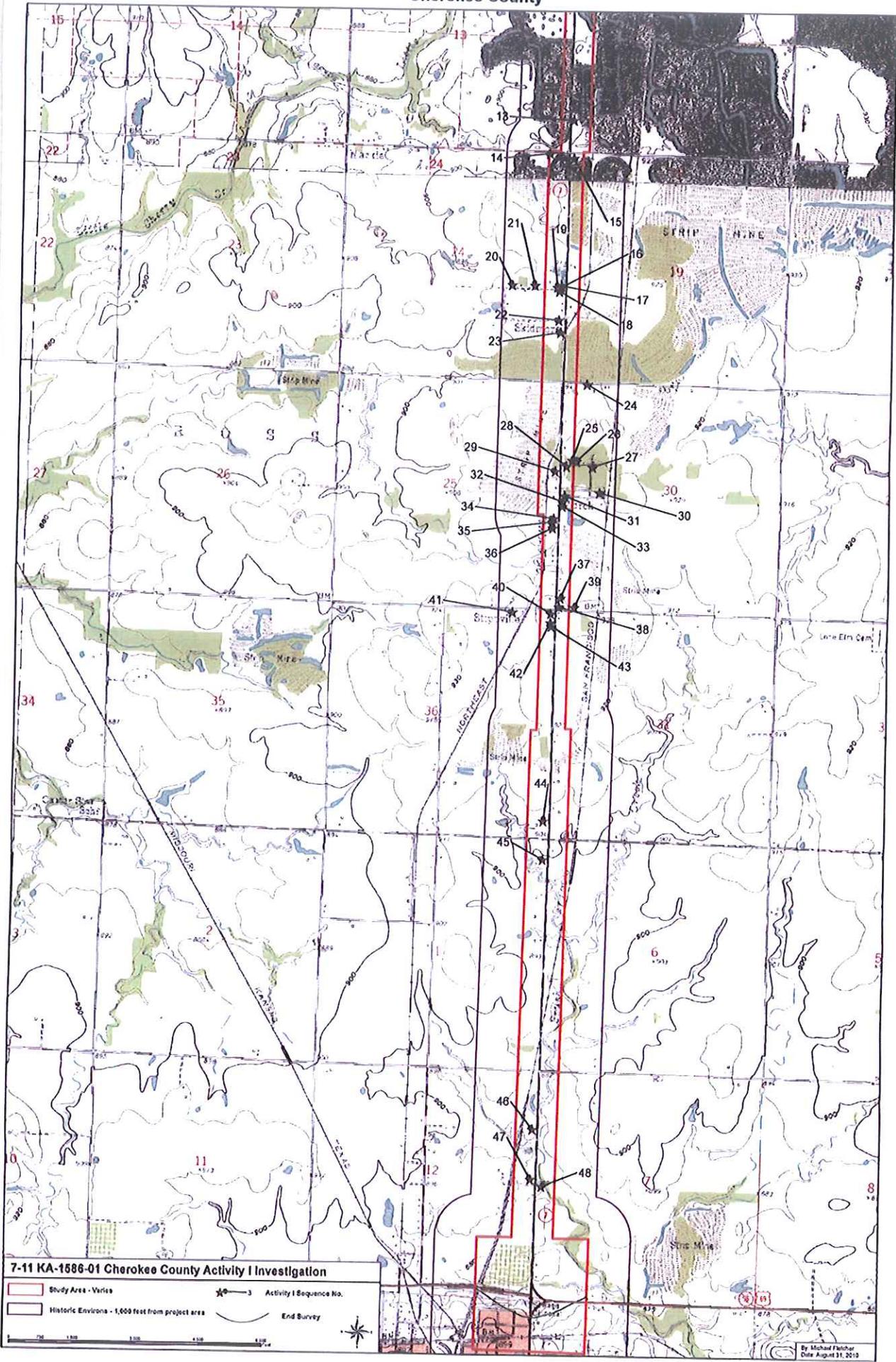
7-11 KA-1586-01 Cherokee County Activity I Investigation

Study Area - Varies * 3 Activity I Sequence No.

Historic Environs - 1,000 feet from project area End Survey

By Michael Patten
Date August 31, 2019

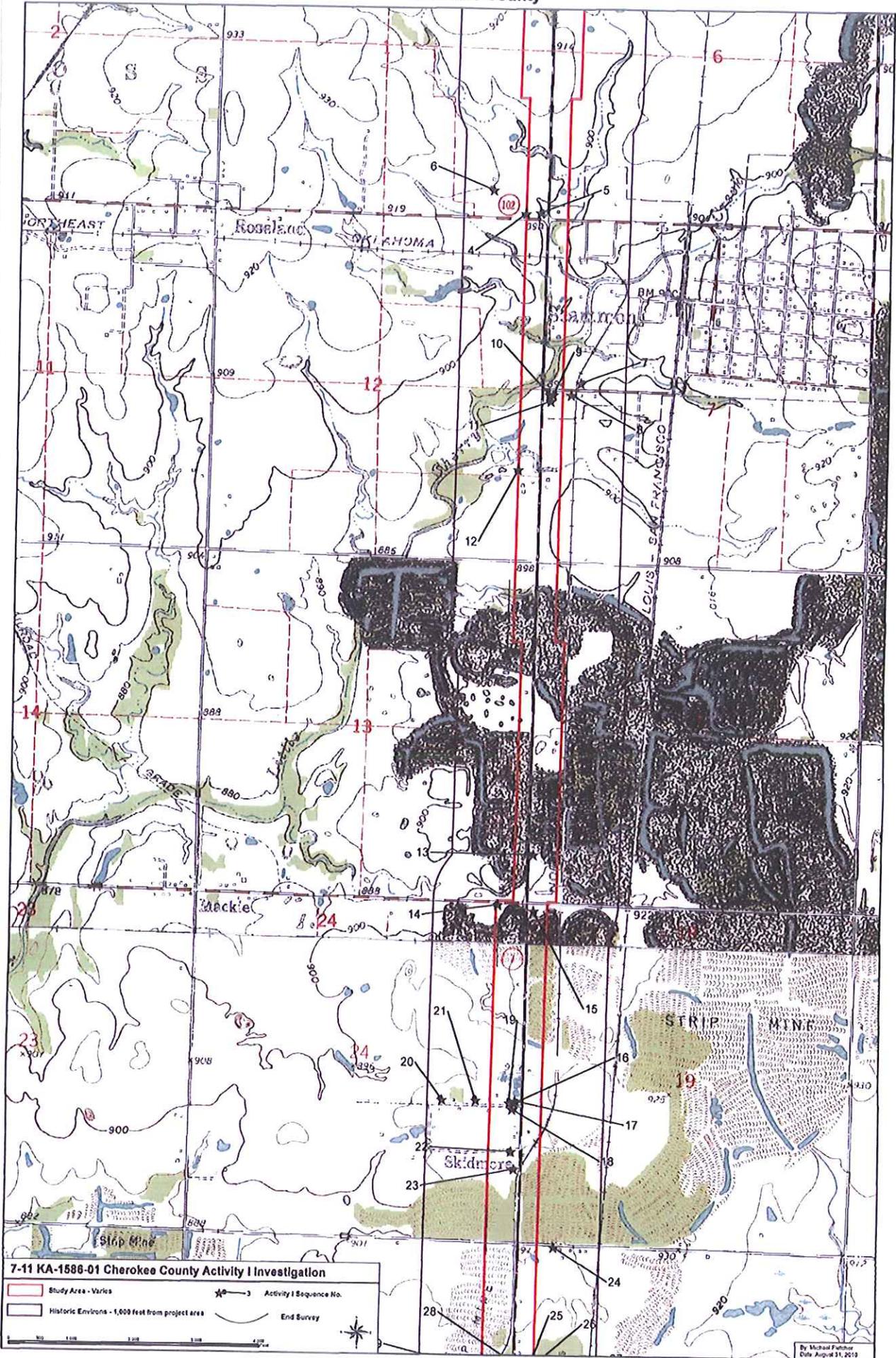
7-11 KA-1586-01
Cherokee County



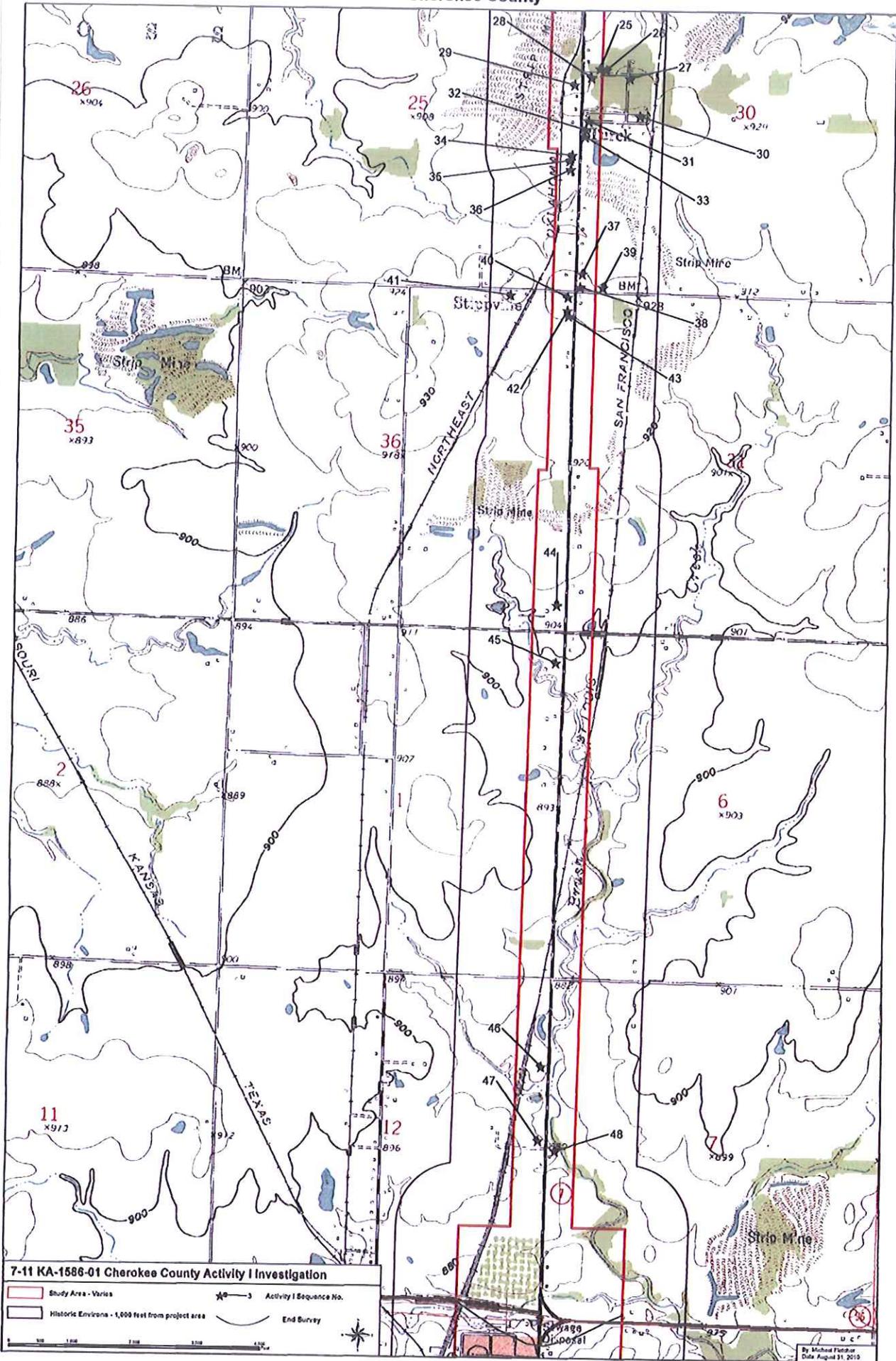
7-11 KA-1586-01 Cherokee County Activity I Investigation

- Study Area - Varies
- Historic Environs - 1,000 feet from project area
- End Survey
- Activity I Sequence No.

7-11 KA-1586-01
Cherokee County



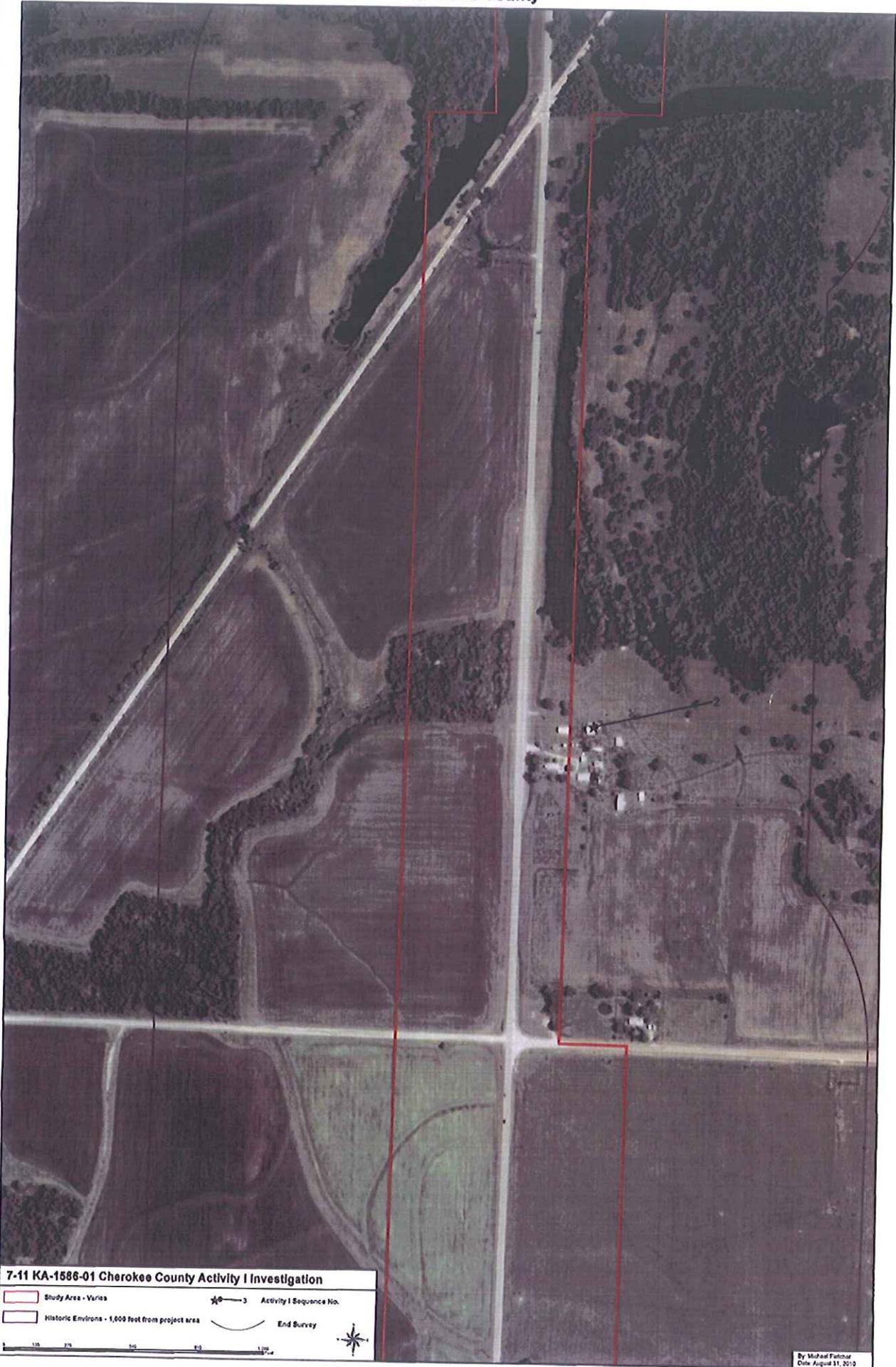
7-11 KA-1586-01
Cherokee County



7-11 KA-1586-01
Cherokee County



7-11 KA-1586-01
Cherokee County



7-11 KA-1586-01 Cherokee County Activity I Investigation

Study Area - Varies

Historic Environs - 1,000 feet from project area

Activity I Sequence No.

End Survey

0 100 200 300 400 500

By: Michael Felton
Date: August 31, 2010

7-11 KA-1586-01
Cherokee County



7-11 KA-1586-01 Cherokee County Activity 1 Investigation

Study Area - Varies Activity 1 Sequence No. 3

Historic Environs - 1,000 feet from project area End Survey

0 100 200 300 400 500

By Michael Fletcher
Date August 31, 2010

7-11 KA-1586-01
Cherokee County



7-11 KA-1586-01
Cherokee County



7-11 KA-1586-01 Cherokee County Activity I Investigation

Legend:

- Study Area - Varis
- Historic Environs - 1,000 feet from project area
- Activity I Sequence No.
- End Survey

Scale: 0 100 200 300 400 500 feet

North Arrow

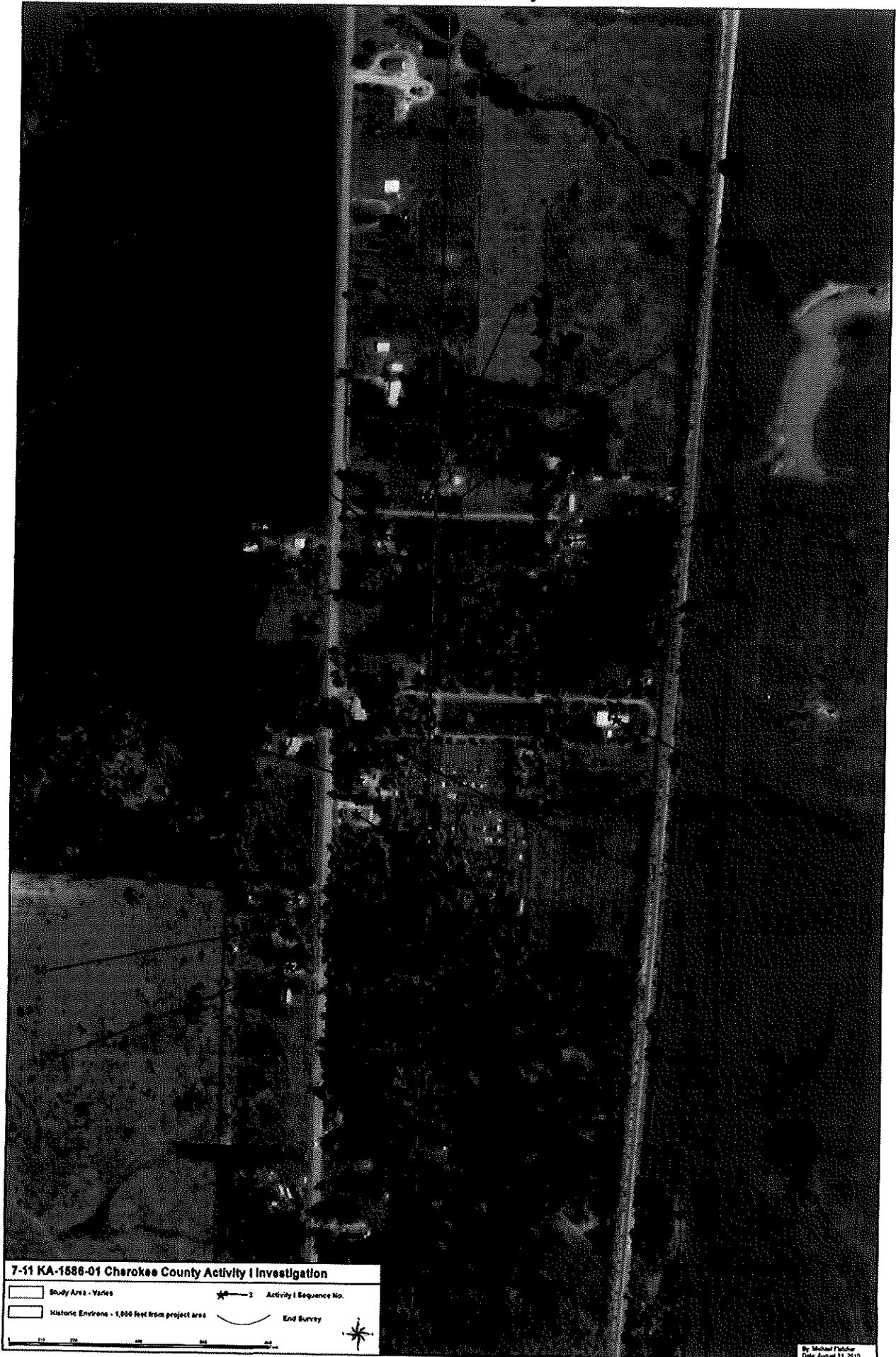
7-11 KA-1586-01
Cherokee County



7-11 KA-1586-01
Cherokee County



7-11 KA-1586-01
Cherokee County



7-11 KA-1586-01
Cherokee County



7-11 KA-1586-01 Cherokee County Activity I Investigation

 Study Area - Varies

 Activity I Sequence No.

 Historic Environs - 1,000 feet from project area

 End Survey

0 50 100 150 200 250 300 350 400

By Moham Fakhur
Date August 31, 2010

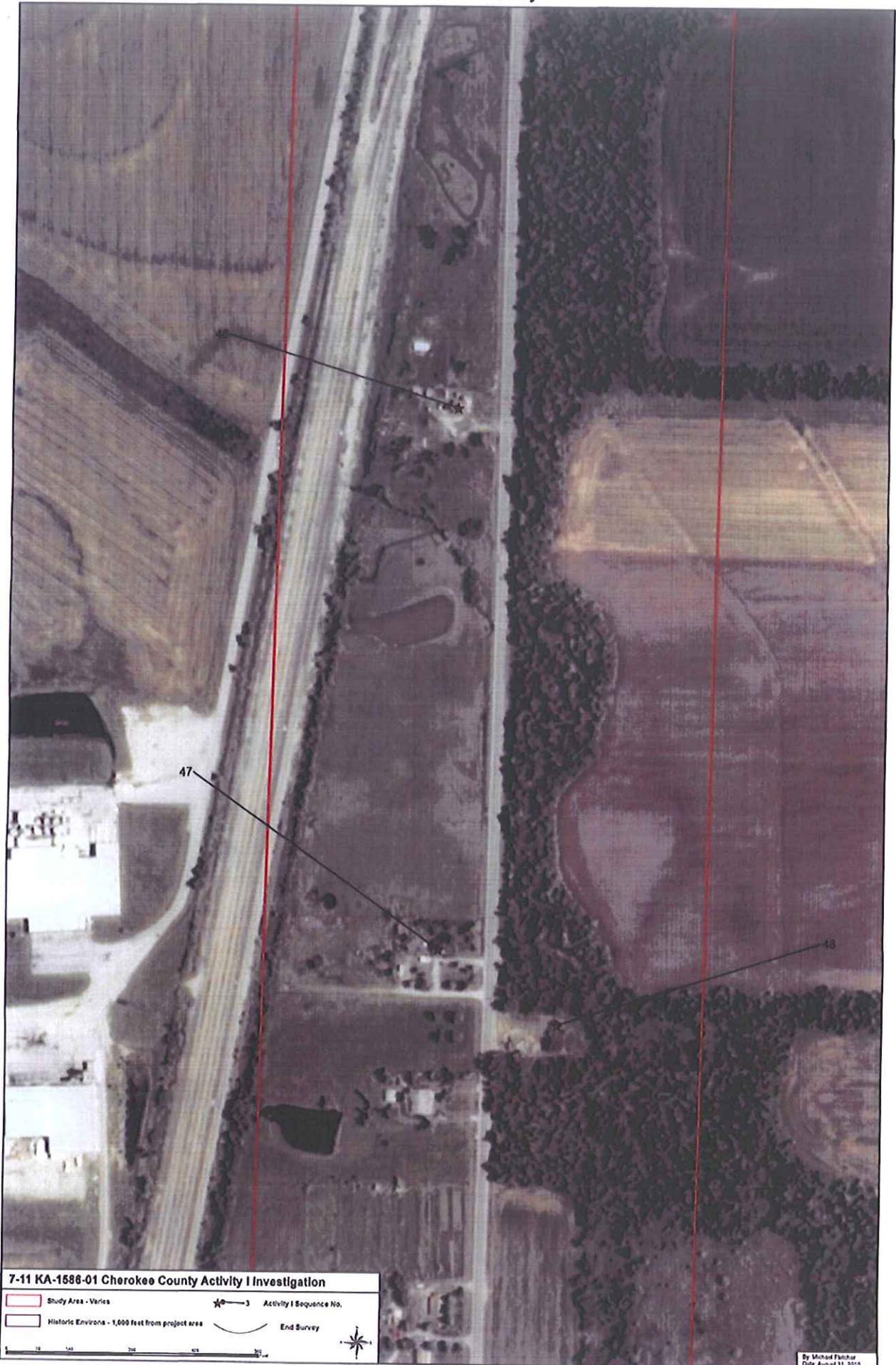
7-11 KA-1586-01
Cherokee County



7-11 KA-1586-01 Cherokee County Activity I Investigation

Study Area - Varies
Historic Environs - 1,000 feet from project area
Activity I Sequence No.
End Survey

7-11 KA-1586-01
Cherokee County



ARCHEOLGY & HISTORICAL PHOTOLOG

Project No. 7-11 KA-1586-01

County: Cherokee

Date: 8/19/2010

Page 1 of 3

Point	Street Address	Use	Stories	Structure	Siding	Remarks	Looking
1-1	SW SW SW Sec. 18-31s-24e Photo #1	F	2	WF	Wood		NE
1-2	Same site Photo #2	F	2	WF	Wood		NW
2-1	NW SW SW Sec. 30-31s-24e Photo #3	F	1	WF	Metal		N
2-2	Same site Photo #4	F	2	WF	Metal		N
2-3	Same site Photo #5	F	1	CB	CB		NW
3-1	SW SW NW Sec. 31-31s-24e Photo #6	F	1	WF	M		NE
3-2	Same site Photo #7	F	2	WF	M		N
4-1	SE SE SE Sec. 1-32s-23e Photo #8	H	1	WF	V		NE
4-2	Same site Photo #9	H	1	WF	V		N
5-1	SE SE SE Sec. 1-32s-23e Photo #10	H	1	WF	W		N
6-1	SW SE SE Sec. 1-32s-23e Photo #11	F	1	WF	A		NW
7-1	SW SW NW Sec. 7-32s-24e Photo #12	H	1	WF	C		N
7-2	Same site Photo #13	Gar	1	WF	W		N
8-1	NW NW SW Sec. 7-32s-24e Photo #14	H	1	WF	C		SW
9-1	NW NW SW Sec. 7-32s-24e Photo #15	H	1	WF	A		SW
10-1	NW NW SW Sec. 7-32s-24e Photo #16	B	1	WF	A	Liquor Store	SE
11-1	NW NW SW Sec. 7-32s-24e Photo #17	H	1	WF	C		SE
12-1	SE NE SE Sec. 12-32s-23e Photo #18	F	1	Brick	Brick	Silo and wood frame farm bldg.	NW
13-1	SW SW SW Sec. 18-32s-24e Photo #19	H	1	WF	A		S
14-1	NE NE NE Sec. 24-32s-23e Photo #20	H	1	WF	C		S
15-1	NW NW NW Sec. 19-32s-24e Photo #21	H	1	WF	Wood		SE
16-1	NE NE SE Sec. 24-32s-23e Photo #22	B	1	Brick	Brick		NW
17-1	NE NE SE Sec. 24-32s-23e Photo #23	H	1	WF	Wood		NW
18-1	NE NE SE Sec. 24-32s-23e Photo #24	H	1	WF	C		SW
19-1	NE NE SE Sec. 24-32s-23e Photo #25	F	1	WF	Wood		N

H/B = House/Building

Ho House
 Bus Business
 Ch Church
 F Farmstead/Farm Bldgs.
 Fnd Foundation

Structure = Type of Frame

CB Concrete Block
 ST Stone
 STL Steel
 WF Wood Frame

Siding = Type of Siding

A Asbestos
 AL Aluminum
 B Brick
 C Composite (Masonite)
 M Metal
 S Stucco
 SH Shingle
 SV Stone Veneer
 T Tin
 TP Tar Paper
 V Vinyl

ARCHEOLGY & HISTORICAL PHOTOLOG

Project No. 7-11 KA-1586-01

County: Cherokee

Date: 8/19/2010

Page 2 of 3

Point	Street Address	Use	Stories	Structure	Siding	Remarks	Looking
20-1	NW NE SE Sec. 24-32s-23e Photo #26	H	1	WF	A		NE
21-1	NE NE SE Sec. 24-32s-23e Photo #27	H	1	WF	A		NE
22-1	NE SE SE Sec. 24-32s-23e Photo #28	H	1	WF	A		SW
23-1	NE SE SE Sec. 24-32s-23e Photo #29	B	1	CB	CB	Vacant Restaurant	S
23-2	Same site Photo #30	B	1	CB	CB	Same restaurant	NW
24-1	NW NW NW Sec. 30-32s-24e Photo #31	B	1	WF	M		SW
25-1	NW SW NW Sec. 30-32s-24e Photo #32	H	1	WF	Wood		NE
26-1	NW SW NW Sec. 30-32s-24e Photo #33	H	1	WF	Tarpaper		NE
27-1	SE SW NW Sec. 30-32s-24e Photo #34	H	2	WF	Wood		SE
28-1	SW SW NW Sec. 30-32s-24e Photo #35	H	1	WF	C		E
29-1	SE SE NE Sec. 25-32s-23e Photo #36	H	1	WF	C		NW
30-1	SE SW NW Sec. 30-32s-24e Photo #37	H	2	WF	C		NE
31-1	SW SW NW Sec. 30-32s-24e Photo #38	H	1	WF	C		SE
32-1	NW NW SW Sec. 30-32s-24e Photo #39	H	1	WF	A		SE
33-1	NW NW SW Sec. 30-32s-24e Photo #40	Ch	1	WF	Wood		SE
34-1	NE NE SE Sec. 25-32s-23e Photo #41	H	2	WF	A		SW
35-1	NE NE SE Sec. 25-32s-23e Photo #42	H	1	WF	A		SW
36-1	SE NE SE Sec. 36-32s-23e Photo #43	H	1	WF	A		N
37-1	SW SW SW Sec. 30-32s-24e Photo #44	H	1	WF	A		E
38-1	SW SW SW Sec. 30-32s-24e Photo #45	B	1	WF	Wood		NW
39-1	SW SW SW Sec. 30-32s-24e Photo #46	H	1	WF	C		NE
40-1	NE NE NE Sec. 36-32s-23e Photo #47	Sch	1	CB	CB	Abandoned school	SW
40-2	Same site Photo #48	Sch	1	CB	CB	Same school, rear	SE
41-1	NW NE NE Sec. 36-32s-23e Photo #49	H	1	WF	V		SW

H/B = House/Building

Ho House
 Bus Business
 Ch Church
 F Farmstead/Farm Bldgs.
 Fnd Foundation

Structure = Type of Frame

CB Concrete Block
 ST Stone
 STL Steel
 WF Wood Frame

Siding =

A Asbestos
 AL Aluminum
 B Brick
 C Composite (Masonite)
 M Metal

Type of Siding

S Stucco
 SH Shingle
 SV Stone Veneer
 T Tin
 TP Tar Paper

ARCHEOLGY & HISTORICAL PHOTOLOG

Project No. 7-11 KA-1586-01

County: Cherokee

Date: 8/19/2010

Page 3 of 3

Point	Street Address	Use	Stories	Structure	Siding	Remarks	Looking
42-1	NE NE NE Sec. 36-32s-23e Photo #50	H	1	WF	C		SE
43-1	NE NE NE Sec. 36-32s-23e Photo #51	H	1	WF	A		W
44-1	SE SE SE Sec. 36-32s-23e Photo #52	H	2	WF	Wood?		SW
44-1	SE SE SE Sec. 36-32s-24e Photo #53	F	2	WF	Wood		N
45-1	NE NE NE Sec. 1-33s-23e Photo #54	H	1	WF	C		SW
46-1	NE SE NE Sec. 12-33s-23e Photo #55	H	1	CB	CB		NW
47-1	SE SE NE Sec. 12-33s-23e Photo #56	H	1	WF	C		NW
48-1	NW NW SW Sec. 7-33s-24e Photo #57	F	1	WF	Wood	Barn	E

Terry Blackwell

From: Kim Gant [kgant@kshs.org]
Sent: Monday, October 08, 2012 1:29 PM
To: Terry Blackwell
Subject: RE: 7-11 KA-1586-01 Cherokee County

Clearance stands as long as the construction plans are within the study area.

From: Terry Blackwell [mailto:Blackwell@ksdot.org]
Sent: Monday, October 08, 2012 1:03 PM
To: Kim Norton Gant
Cc: Michael Fletcher
Subject: 7-11 KA-1586-01 Cherokee County

Kim,
Attached is a set of field check plans. This project was previously cleared in a letter dated September 9, 2010 (KSR&C 10-09-050). The Study Area for this project and the Field Check Plans appear to be similar. Does the previous clearance stand?

Terry D. Blackwell
Environmental Services Section
Historic Preservation and Highway Noise Analysis
Ph. (785) 296-8414
Email: blackwell@ksdot.org

December 16, 2009

Tricia Waggoner
Kansas State Historical Society
6425 South West Sixth Avenue
Topeka, KS 66615-1099

Dear Ms. Waggoner:

Subject: 7-11 KA-1586-01
State Funds
Cherokee County

In accordance with the Cooperative Agreement for Highway Archeological Salvage, the Kansas Department of Transportation requests the Kansas State Historical Society to proceed with Phase I of the agreement for the referenced improvement. The project is defined on the attached project description and maps dated December 15, 2009.

A general description of the project is as follows: Preliminary Engineering for the reconstruction of K-7 from the K-7/US-160 Junction at Columbus, north to the Cherokee/Crawford County line.

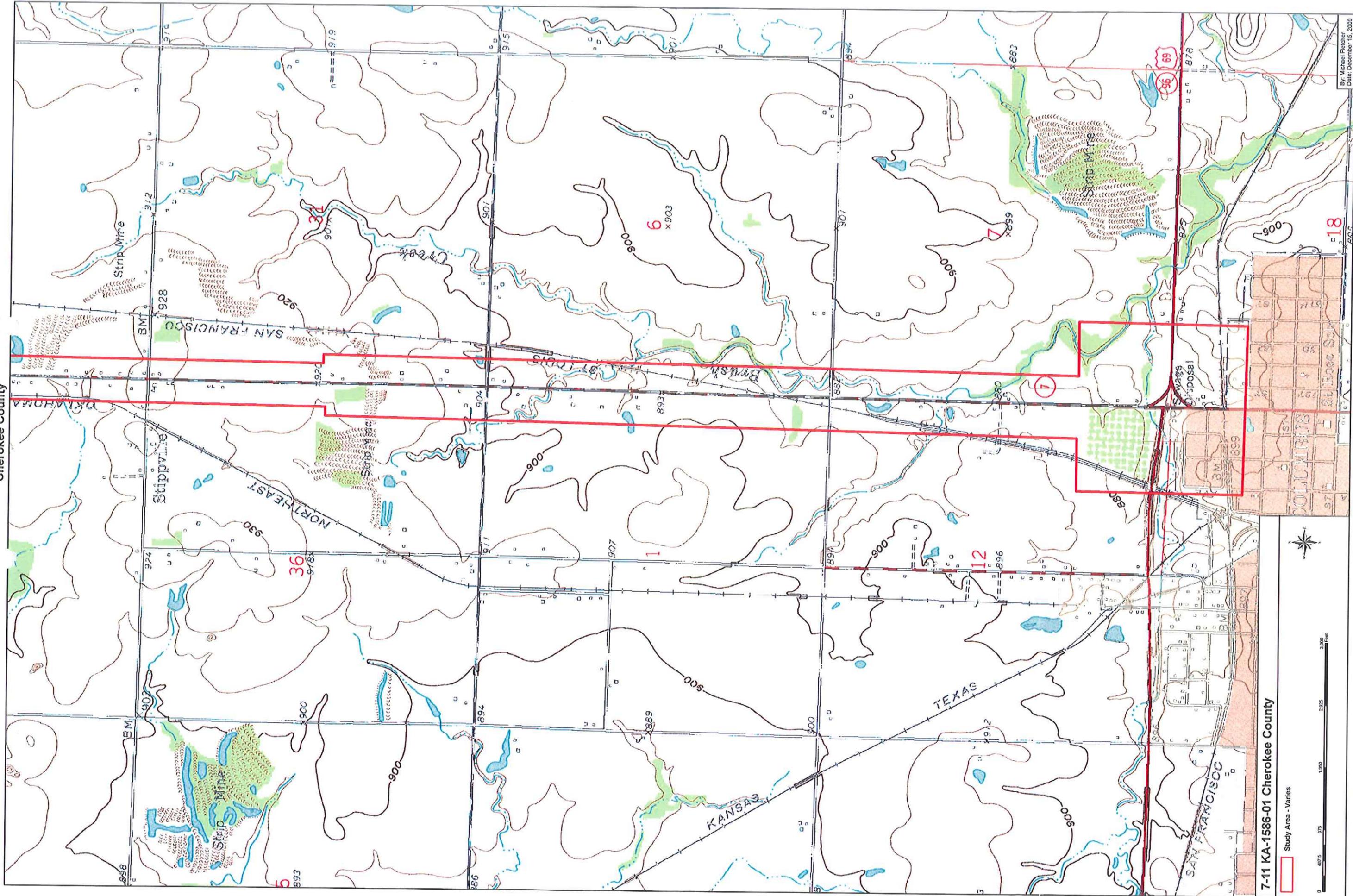
The Phase I investigation should be completed, and our office notified of the results, as soon as possible. Should your study find that Phase II investigation is needed, please inform our office by phone or e-mail and proceed with the Phase II fieldwork. The Phase II investigation is needed to evaluate avoidance measures prior to completion of the design recommendations. We recognize the need for additional time in view of the larger area of review. We would like to target completion of the Phase II by June 1, 2010. If further information is required, please advise.

Sincerely,
Jim L. Kowach, P.E.
Chief, Bureau of Design



in Marsha K. King
Archeologist II
Environmental Services Section

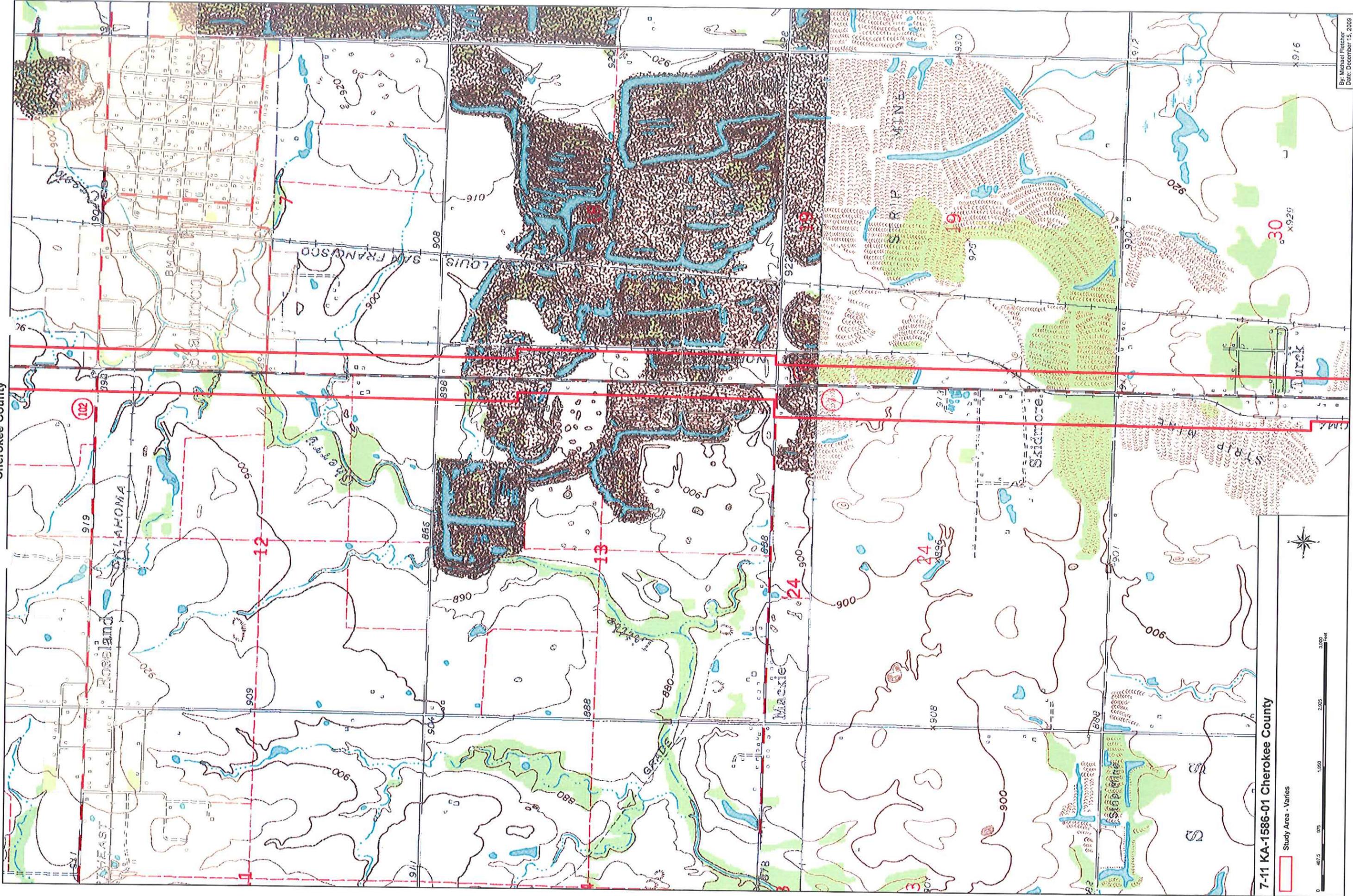
Encl



7-11 KA-1586-01 Cherokee County

Study Area - Varies

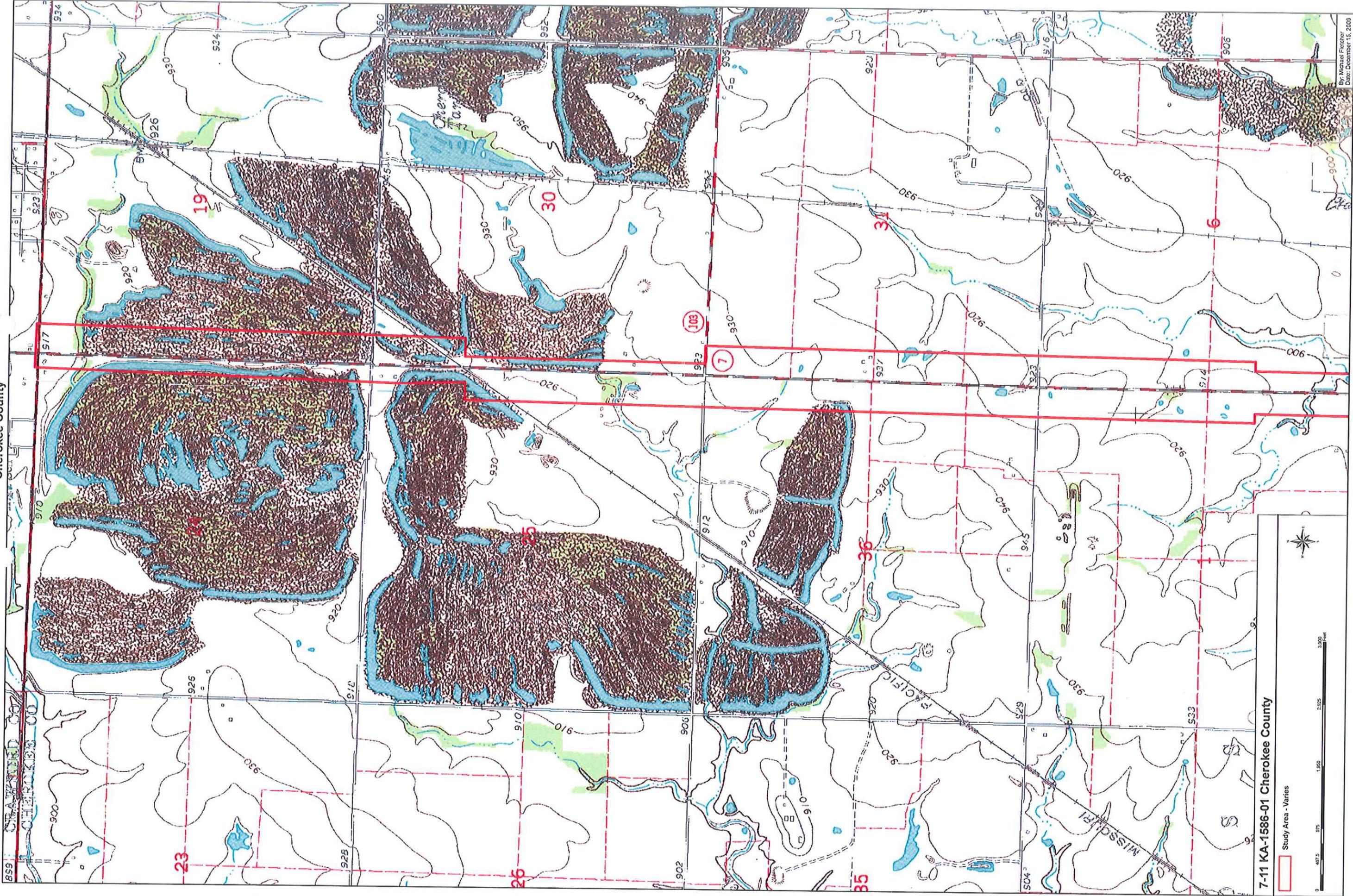




7-11 KA-1586-01 Cherokee County

Study Area - Varies





7-11 KA-1586-01 Cherokee County

Study Area - Varies



KANSAS

Kansas Historical Society
Cultural Resources Division

MARK PARKINSON, GOVERNOR

Scott Vogel, Chief
Environmental Services Section
Kansas Department of Transportation
Eisenhower State Office Building
Topeka KS 66612

September 17, 2010

RE: 7-11 KA-1586-01
Cherokee County

Subject: Phase I/Discovery Phase Investigation

Dear Mr. Vogel:

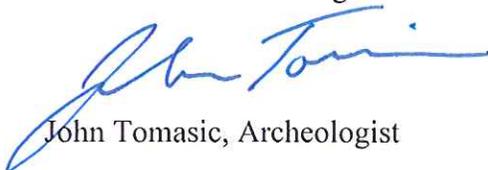
In accordance with the goals and procedures of the Memorandum of Agreement between the Kansas State Historical Society and the Kansas Department of Transportation effective July 1, 2006, the KSHS Contract Archeology Program (CAP) has completed a Phase I/Discovery Phase Investigation of the above referenced road project.

In brief, no significant National Register listed or recorded archeological sites were found in the study area. However, in consultation with SHPO archeologist Timothy Weston, areas with high probability of having significant cultural resources have been identified and are shown on Figures 1-4 in the appendix of this report. As noted in the figure legends, the areas highlighted in yellow have a high potential for including archeological sites. If the areas designated as having a high probability of containing significant cultural resources will be impacted by the project, those areas will need Phase II investigations. The rest of the study area is considered to have a low probability of containing significant cultural resources and will need little or no Phase II investigations.

Thank you for your cooperation in helping to preserve the State's archeological resources.

Sincerely,

For the State Archeologist:



John Tomasic, Archeologist

RECEIVED

SEP 22 2010

BUREAU OF DESIGN
ADMINISTRATION

Dist Engr	Const Sst
Road	Env Sst
Bridge	Landscape
Contract	Dist Ed
	Fin

APPENDIX I.

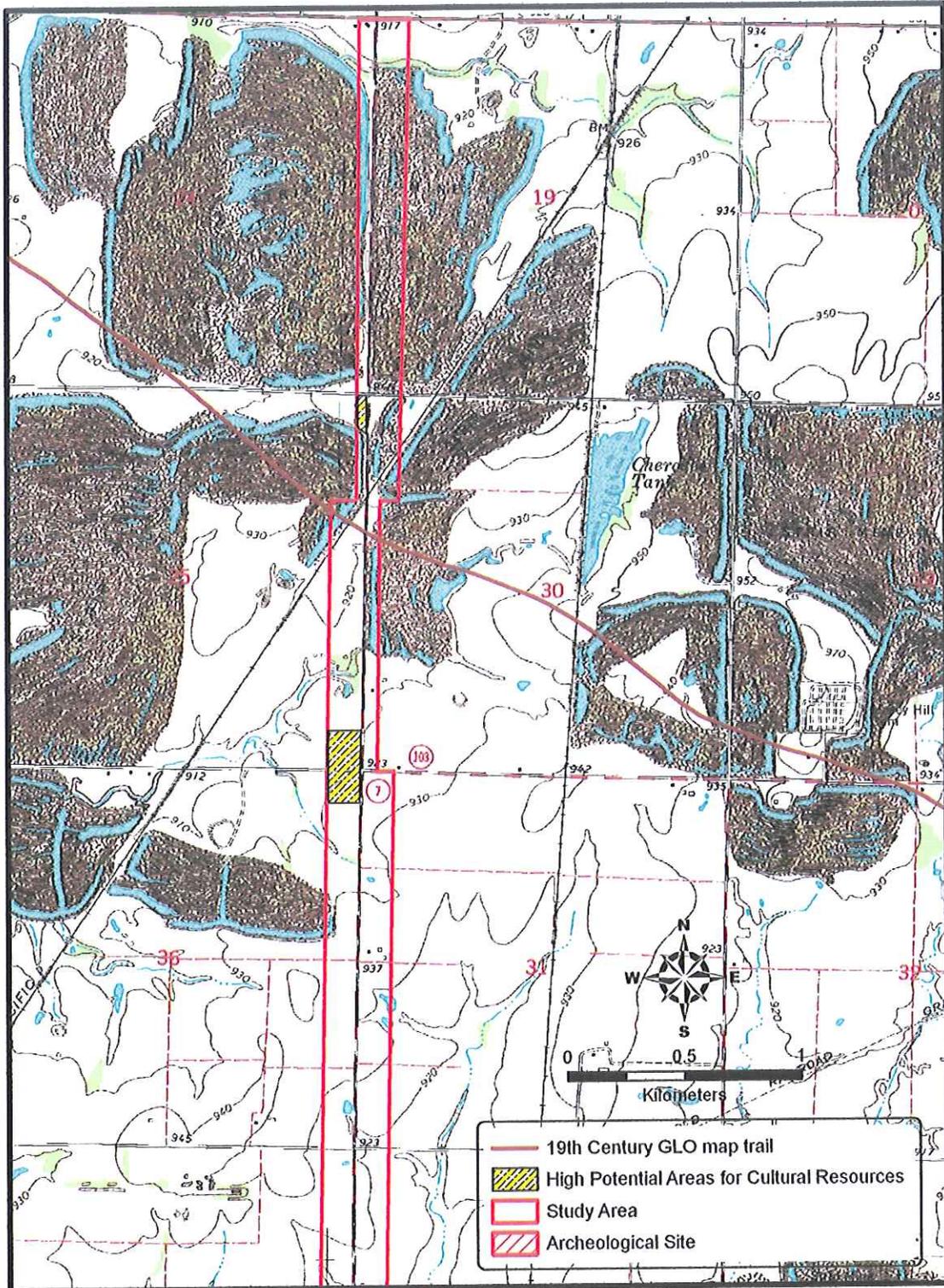


Figure 1. North portion of the study area, with sections of U.S.G.S. topographic maps showing the location and general extent of the study area, and areas with high potential for containing significant cultural resources highlighted in yellow. These areas would need Phase II investigations if threatened by the proposed project.

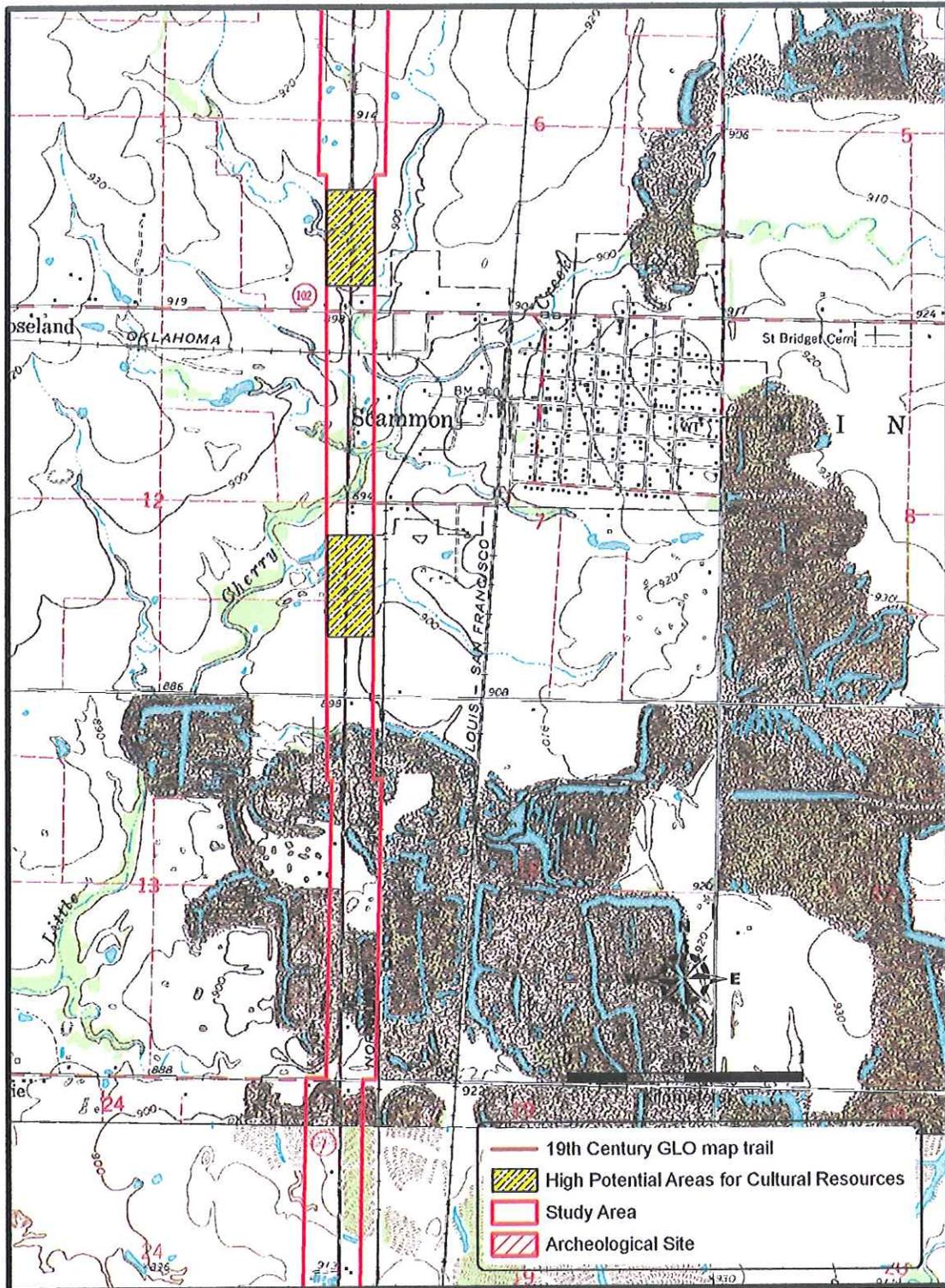


Figure 2. North Central portion of the study area, with sections of U.S.G.S. topographic maps showing the location and general extent of the study area, and areas with high potential for containing significant cultural resources highlighted in yellow. These areas would need Phase II investigations if threatened by the proposed project.

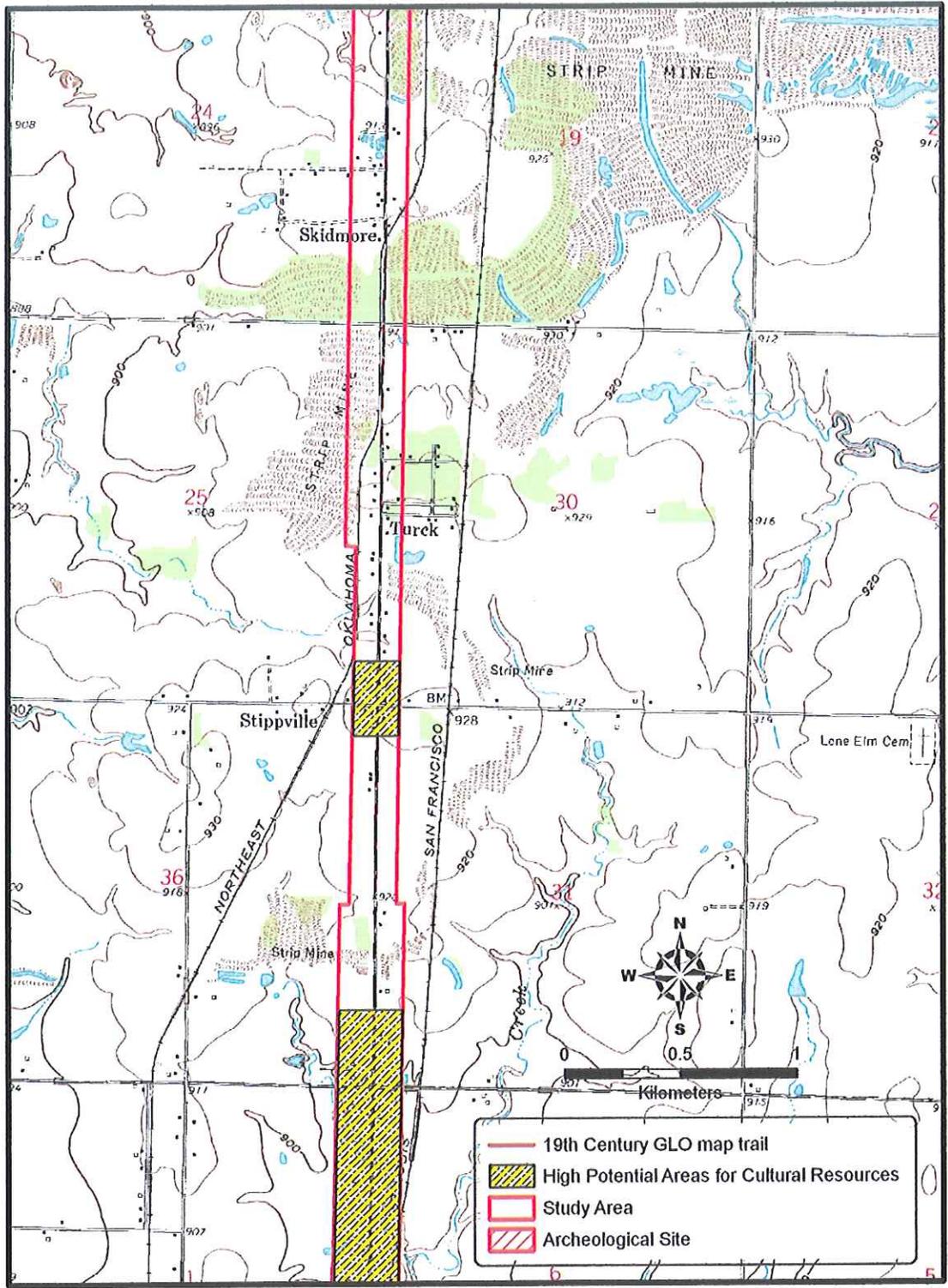


Figure 3. South Central portion of the study area, with sections of U.S.G.S. topographic maps showing the location and general extent of the study area, and areas with high potential for containing significant cultural resources highlighted in yellow. These areas would need Phase II investigations if threatened by the proposed project.

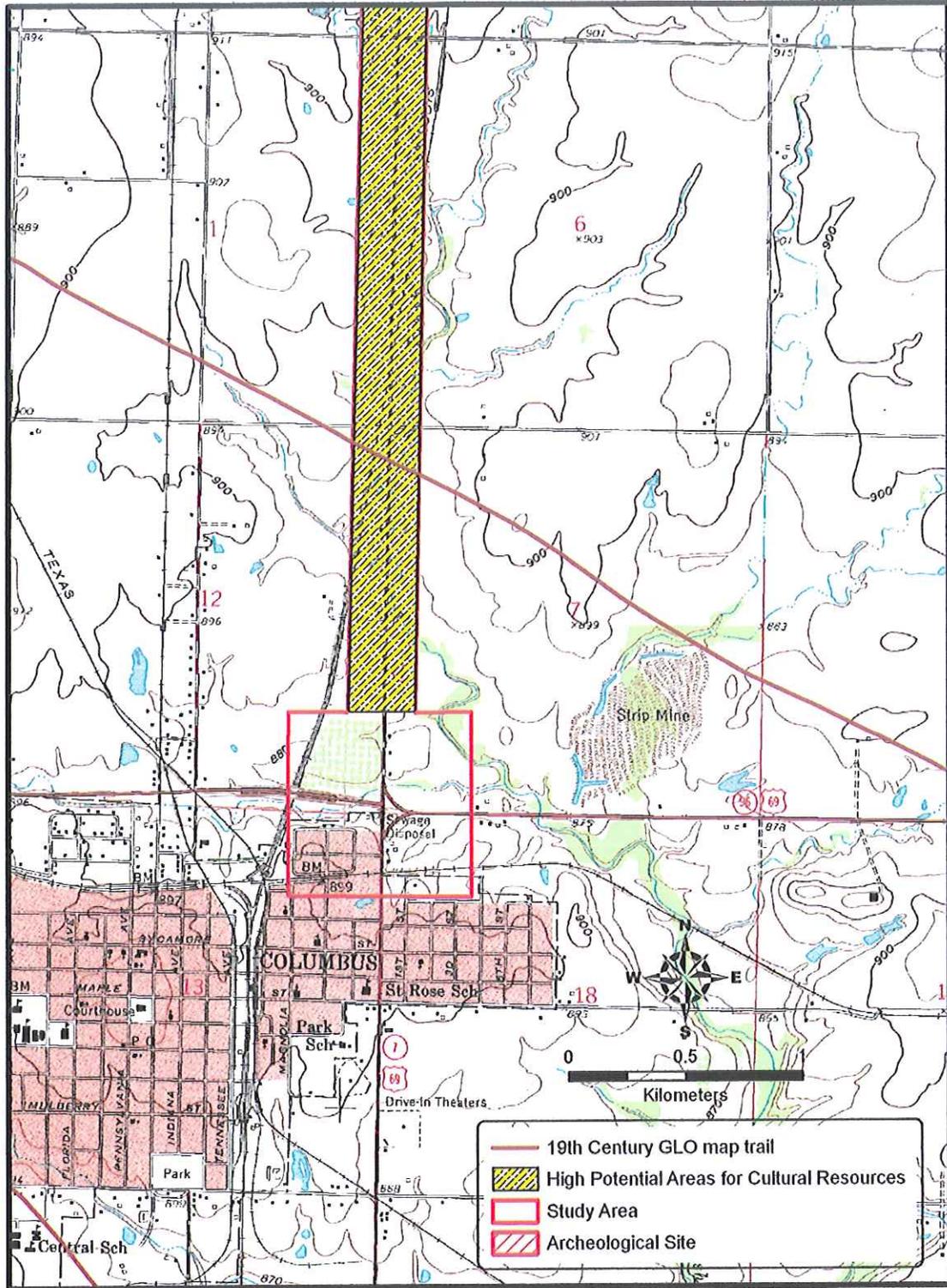


Figure 4. South portion of the study area, with sections of U.S.G.S. topographic maps showing the location and general extent of the study area, and areas with high potential for containing significant cultural resources highlighted in yellow. These areas would need Phase II investigations if threatened by the proposed project.

KSR&C No. 13-03-181

6425 SW 6th Avenue
Topeka, KS 66615



phone: 785-272-8681
fax: 785-272-8682
cultural_resources@kshs.org

Kansas Historical Society

Sam Brownback, Governor
Jennie Chinn, Executive Director

March 27, 2013

Scott Vogel, Chief
Environmental Services Section
Kansas Department of Transportation
Eisenhower State Office Building
700 S.W. Harrison Street
Topeka, KS 66603-3754

RE: 7-11 KA-1586-01
Phase II Archeological Survey
Highway K-7 Improvements between Cherokee and Columbus
Cherokee County

Dear Mr. Vogel:

In accordance with 36 CFR 800, staff review of a report entitled *Phase II Archeological Survey of KDOT Project 7-11 KA-1586-01, Highway 7 Between Cherokee and Columbus, Cherokee County, Kansas*, by Gina S. Powell has been completed. Our office finds the report to be acceptable. We concur with its recommendation that historic archeological sites 14CH1305, 14CH1306, 14CH1307, 14CH1308, 14CH1309 and 14CH1310 are not eligible for listing in the National Register of Historic Places and will not require further investigation. Our office has no objection to implementation of the project.

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 at 785-272-8681 (ext. 214) or Kim Gant at 785-272-8681 (ext. 225).

Sincerely,

Jennie Chinn, Executive Director and
State Historic Preservation Officer

A handwritten signature in blue ink that reads "Timothy Weston". Below the signature, the letters "for" are written in a smaller, cursive hand.

Patrick Zollner
Deputy SHPO

6425 SW 6th Avenue
Topeka, KS 66615



phone: 785-272-8681
fax: 785-272-8682
gpowell@kshs.org

Kansas Historical Society

Sam Brownback, Governor
Jennie Chinn, Executive Director

March 22, 2013

Scott Vogel, Chief
Environmental Services Section
Kansas Department of Transportation
Eisenhower State Office Building
Topeka KS 66612

RE: 7-11 KA-1586-01
Highway 7 Improvements
Cherokee County

Subject: Phase II completed: project clearance recommended

Dear Mr. Vogel:

In accordance with the goals and procedures of the Memorandum of Agreement between the Kansas Historical Society and the Kansas Department of Transportation effective July 1, 2011, the KSHS Contract Archeology Program (CAP) has completed a Phase II field survey investigation of the above referenced road project. Contract Archeologist Gina S. Powell conducted the fieldwork on February 4-8 and February 12-14, 2013, with assistance from Kale Yoder, Andrea Egger, and Mark Darrow. A report of that investigation is enclosed.

In brief, no significant archeological sites were found in the specified project area. We therefore recommend that the project proceed as planned with no further archeological investigations. A copy of the enclosed report, containing this recommendation, has been sent to the State Historic Preservation Officer for review.

It is always possible that buried cultural deposits could be encountered during the course of the project. If that occurs the remains should be left in place and the State Archeologist contacted immediately so that the appropriate measures can be carried out as soon as possible.

Thank you for your cooperation in helping to preserve the State's archeological resources.

Sincerely,

Gina S. Powell
Contract Archeologist, Kansas

**PHASE II ARCHEOLOGICAL SURVEY OF KDOT PROJECT 7-11 KA-1586-01,
HIGHWAY 7 BETWEEN CHEROKEE AND COLUMBUS,
CHEROKEE COUNTY, KANSAS**

by Gina S. Powell
Contract Archeology Program, Cultural Resources Division
Kansas Historical Society
March 22, 2013

In accordance with the goals and procedures of the Memorandum of Agreement (MOA) between the Kansas Historical Society and the Kansas Department of Transportation (KDOT), effective July 1, 2011, and as requested by the KDOT, the Contract Archeology Program (CAP) of the Kansas Historical Society recently performed a Phase II archeological field survey investigation of KDOT project number 7-11 KA-1586-01, consisting of a pedestrian survey along portions of Kansas Highway 7 between the cities of Cherokee and Columbus in Cherokee County. The purpose of the investigation was to determine whether any significant archeological resources would be affected by the proposed project. Specifically, the investigation was conducted to ensure compliance with laws governing the treatment of cultural resources, particularly Section 106 of the National Historic Preservation Act and its implementing regulations, 36 CFR 800.

As required by the terms of the MOA, a Phase II survey must result in a report submitted to KDOT and the State Historic Preservation Officer (SHPO). The report must describe the investigation and provide recommendations for clearance or for further work to be done. This report was prepared to comply with that requirement.

The project area is located between the cities of Cherokee and Columbus in Cherokee County, Kansas (Figure 1) along the east edges of Sections 24, 25, 30, and 36 in T31S R23E; Sections 1, 12, 13, 24, 25, and 36 in T32S R23E; and Sections 1 and 12 in T33S R23E. Because the highway runs along the eastern boundaries of the townships, additional sections and townships to the east are involved. As currently planned, the project will consist of improvements along Kansas Highway 7, most of which occur just outside the current right-of-way (ROW). One exception is the re-channeling of Brush Creek within an approximately 400 ft-wide swath east of Highway 7, south of Bethlehem Road.

The Phase II investigation was initiated by correspondence between KSHS and KDOT relating to the potential impact of the project on cultural resources. A Phase I investigation (archival research) was requested by KDOT on January 15, 2010. A Discovery Phase investigation report was submitted to KDOT on September 17, 2010 recommending pedestrian survey only in selected sections of the project area that had high probabilities for cultural remains, which total around 3 miles of the 11-mile project area (Figures 2-5, left). After reviewing the available documentation and consulting SHPO archeologist Tim Weston, KSHS recommended to KDOT that a Phase II field survey investigation be performed. KSHS archeologist Gina Powell carried out the recommended fieldwork on February 4-8, 2013 with assistance from Mark Darrow, Andrea Egger, and Kale Yoder, and on February 12-14, 2013 with assistance from Kale Yoder.

Because of ground conditions, issues contacting landowners, and on-the-ground decisions based on findings, the areas that were actually surveyed differed slightly from the planned high probability survey areas (Figure 2-5, right). These changes were approved by Tim Weston on the Monday between the two fieldwork sessions.

Environmental Setting

The project area lies within the Cherokee Lowland division of the Osage Plains section of the Central Lowland province of the Interior Plains division of North America (Schoewe 1949:280-281). The Cherokee Lowland is an erosional plain with a gently undulating, slightly westward sloping surface. The major streams and rivers of the region flow to the south or southeast, passing through wide, shallow, flat bottomed valleys. A few broad, flat topped, mesa-like erosional remnants or "mounds" are also present. Bedrock consists of the weak shales and sandstones of the Cherokee shale formation, the lowermost of the Pennsylvanian-aged rock strata in the state. The Pennsylvanian bedrock in this area is Kansas' largest deposit of coal, which was the impetus for much of the historic activity in the project area.

The prehistoric vegetation of the Cherokee Lowland was apparently one of open prairie penetrated by thin ribbons of riverine forest. Kuchler (1974) includes the area as part of the tall grass prairie, describing most of extreme eastern Kansas as an area with extensive interspersions of forest and prairie. Soil survey data and early historical accounts indicate that the forested areas were confined to the sheltered hill tops of the "mounds" and to the floodplains and valley edges of the major stream courses and their tributaries. Forestation was apparently not pervasive even in those locations, since many of the common stream course soils are regarded as developing under a native vegetation of both tall grasses and hardwood trees. In their original state, the forest belts and nearby prairies of the Osage Plains section provided shelter and food for an abundant mammalian fauna, and the streams yielded an abundance of edible fish and shellfish (Wedel 1959:14).

Cultural-Historical Setting

Archeological research in this region of Kansas has yielded evidence of prehistoric human occupation dating from more than 11,000 years ago up to the modern era, and has the potential for yielding more evidence. Sites in the region include historic period and prehistoric habitation areas, work areas, and burials, as well as other types of sites. While the full extent of the area's archeological resources has yet to be determined, the region contains materials from all of the major cultural periods thus far identified in Kansas. The cultural sequence for Kansas is shown in Table 1.

Table 1. Cultural sequence of Kansas by region. Adapted from Hoard and Banks 2006.

Cultural Period		Dates	Area of Kansas and Physiographic Provinces				Subsistence
			Northeast Glyburated Peggon	Southwest Osage-Centras Champanqua Hills, Cherokee-Lowlands	Central Smoky Hill and Bluffs, West Lawn, Arkansas Prairie Lowlands	West High Plains, Smoky Hill, Arkansas River, and Bluffs	
Holocene	Historic	Present	Americans, including Indian Nations, and immigrants of many cultures				Service economy, light industry, mineral & petroleum exploitation, farming, ranching
		1900 CE	Industrialization, Mechanized Agriculture				
	Prehistoric	1870 CE	Kansa, Iowa, Sac & Fox, Kickapoo, Potawatomi, Delaware, Wyandotte, Shawnee	Kansa, Shawnee, Ottawa, Peoria & Kaskaskia, Wea & Piankeshaw, Chippewa, Miami, Quapaw	Pawnee, Osage, Kansa	Comanche, Cheyenne, Arapahoe, Kiowa, Kiowa-Apache, Sioux, Pawnee	Reservations, Equestrian Bison Hunting; Maize-based Horticulture East; Equestrian Nomads West
		1800 CE	Immigrant Tribes				Equestrian Bison Hunting; Equestrian Nomadism; Maize-based Horticulture & Trapping East
Pre-Columbian	Middle-Columbian	1700 CE	Late Prehistoric Oneota		Pawnee, Kansa, Wichita, Comanche, Kiowa, Kiowa-Apache	Comanche, Cheyenne, Arapahoe, Kiowa, Kiowa-Apache, Pawnee	
		1400 CE	White Rock phase	Neosho focus, Great Bend aspect	Great Bend aspect	Great Bend aspect	Hunting, Gathering; Maize Horticulture East; Some Supplemental Horticulture West
		1000 CE	Pomona variant, Nebraska & Steed Kisker phases	Pomona variant	Smoky Hill & Solomon River phases, Pratt & Bluff Creek complexes	Upper Republican & Odessa phases	
		1 CE	Grasshopper Falls phase, Kansas City Hopewell	Grasshopper Falls & Cuesta phases	Grasshopper Falls & Greenwood phases, Valley variant,	Keith phase	Hunting, Gathering; Cultivation & Domestication of Native Plants East
	Archaic	1400 BCE	Nebo Hill phase	Nebo Hill & El Dorado phases	Walnut & El Dorado phases	Unclassified Archaic Cultural Manifestations	Hunting, Gathering; Incipient Cultivation of Native Plants East
		3000 BCE			Chelsea phase		
		4000 BCE			Munkers Creek phase	McKean complex	
		7000 BCE	Logan Creek phase	Stigenwalt complex	Logan Creek phase	Logan Creek phase	
	10,000 BCE	Dalton, Cody Complex, Allen, Frederick				Hunting, Gathering	
	11,500 BCE	Clovis, Folsom, Plainview					

These are general categories, and there is some temporal overlap between periods. Summaries of Kansas archeology include Brown and Simmons 1987, Hoard and Banks 2006, Lees 1989, Thies 1987, and Wedel 1959.

Previous Research

There is only one previous professional survey within one mile of the project area and it was for a cell tower (Thompson 2006). A Phase II survey for an electric transmission line was performed several miles south and east of the project area (Sturdevant 2009) and several prehistoric and historic sites were found (14CH117-120), but none were deemed eligible for the National Register of Historic Places (NRHP). There are no recorded sites within a mile of the project area. Local informants indicated that prehistoric artifacts are found in the area, but very few of the sites have been recorded. One NRHP site, the Columbus Public Carnegie Library, is located within the city of Columbus, but it will not be affected by the current project.

Coal Mining

Coal mining has been the most important driver for economic and social development in the Cherokee and Crawford County areas, described by Powell (1970) in his dissertation. The first type of mining in the area was called pioneer mining and it was popular from the 1850s to the 1870s. It was the exploitation of the coal that was at or near the surface of the ground along the outcrop line (Figures 6 and 7) using skiffs and horses to remove the small amount of overburden and scoop up the coal. The coal was mainly used locally for domestic use.

Eventually, coal found a larger market and the second phase of coal mining, using shaft mining, started in the middle 1870s and dominated coal production in the area until the early 1930s. This improved coal extraction method necessitated and fueled railroads built to service the area. The first shaft mine in the coal field was in 1874 near Scammon (Powell 1972), which is adjacent to the project area. There were around 290 larger shaft mines in the coal field along with smaller temporary mines, called “dinkies.” The larger mines used tibble towers that raised and lowered cables and created tailing piles, which are still visible in the area. The average depth of a shaft was about 150 feet, although some went much deeper. The cross-entry room-and-pillar system was employed underground (Young and Allen 1925:63), in which each man would work the coal seam in his own “room” across from his partner; rooms were separated by support pillars. Locations of the mines and mining camps can be seen on maps and in publications by Allison (1904), Casaletto (2002; Figure 6), Powell (1970), and Young and Allen (1925; Figure 7).

Mining Camps and Mining Families

The larger shaft mines required housing and services for the miners (Figure 8) to be located nearby. Powell (1972) enumerates the reasons for the rise of coal camps near the larger mines that were in operation for several years: quick and urgent need for housing, degree of semi-permanence of the mine, lack of good transportation, and desire to direct and control the miners. These mining camps were often located near section line roads (like Highway 7) and contained housing for the miners and other workers. The little wood frame houses were often put onto wagons and moved to a new mining town when the mine was exhausted. Some of the mining camps were larger, containing a wider variety of service and retail outlets including company stores, churches, schools, saloons, and community buildings (Powell 1972).

In 1923, Ira Clemens compiled a series of photographs and short descriptions of the mining towns in the area, including some of the public and private buildings along Highway 7. A digitized version is viewable online at the Axe Library website (<http://library.pittstate.edu/spcoll/ndxclemens.html>). These photos remain a vital resource for the history of Cherokee County.

People who spoke the same language often formed social groups within the mining camps, which contained a variety of native-born whites and blacks, and immigrants from many countries. Most of the miners for the shaft mines immigrated from Eastern states and from countries that were experiencing political and economic troubles. The peak of foreign-born immigrants in Cherokee County was recorded in the 1910 census when they comprised 11.6% of the population. Immigrants are listed in 1910 as coming from Italy, Austria, Germany, Britain, France, Yugoslavia, and Belgium (in descending order), forming the basis for the nickname the “Kansas Balkans” for southeast Kansas. It was estimated that immigrants comprised nearly half of the underground miners (Powell 1975). In fact, miners were recruited from current miner’s friends and family back in the “old country.”

Life in a mining camp was challenging. The wooden houses were drafty and strewn with coal dust. The demand for coal declined in the summer so work was not steady. Side jobs and subsistence farming commonly covered the short falls. The manufacture and sale of alcohol in the Kansas Balkans, generically called “Deep Shaft,” was a popular way to make money and to socialize. Kansas voted itself dry in 1880 two decades before national prohibition, but southeast Kansas always remained quite wet despite the laws. The presence of a diversity of ethnic groups, for whom alcohol was not seen as a moral shortcoming but as an enjoyable part of life, probably led to this island of wet in a sea of dry (O’Brien and Peak 1991).

Conditions in the mines were dangerous and many men were maimed or killed by falling rock, machinery, or explosions. Dangerous conditions in and out of the mines spurred labor movements in southeast Kansas as it had in other coal mine locations around the turn of the twentieth century. One of the more famous actions was in 1921 when a group of several thousand women gathered in December 1921 and marched from camp to camp to protest the hiring of scabs by the state to work at the mines during a strike that had begun two years earlier (<http://www.amazonarmy.com/>). They were called the “Amazon Army” by the New York Times.

Powell (1972) was interested in the locations and then-current conditions of the mining towns, sought them out, and described them. Some mining camps that developed into towns at the turn of the 20th century are still around today, such as Cherokee and Scammon. Others remain only as groups of houses clustered along Highway 7 or side roads, such as Skidmore, Turk, and Stippville. However, most camps and towns associated with the mines, such as Stilson, have been disassembled and grown over. For some, such as Humble Camp and Newcastle, the

primary evidence remains only on old maps because they were obliterated by subsequent earthmoving activities. Results of surveys in these locations are described below. Local historians have written books on the histories of other mining towns in the area, namely Weir (Tolson 1997), West Mineral (Curtis 2004), Melrose (Fry 1983).

Readers are encouraged to visit the website created by the Lawrence Journal-World and News for audio and visual vignettes on the coal, lead, and zinc mining industries in southeast Kansas and the rest of the Tri-State mining area (<http://www2.ljworld.com/news/mining/>).

Geophysical work (Archaeo-Physics 2010) and archeological testing (Lopinot et al. 2010) at the mining camp Cambria (14CW352) in Crawford County uncovered the presence of several features at the site. The site, documented as a result of a KDOT compliance project (Waggoner 2009), was occupied from 1898 to 1908 and abandoned when the mine was closed. The site remained relatively undisturbed since that time allowing fieldwork to reveal the company store, other structures, a water distribution system, and two possible privies. Excavations were recommended at Cambria, which would reveal details of the lives of miners and their families (native and foreign-born whites and native born blacks) during the short and intense occupation.

Decline of Coal Mining

Underground mining peaked in 1922 with high demand during WWI, but decreased rapidly between 1940 and 1945 (Powell 1970:100). Advances in mechanical coal removal technology lead to the rise of strip mining in the 1930s. The intensity of strip mining in the area peaked in the 1960s with the introduction of Big Brutus, the 11 million pound excavator (<http://www.bigbrutus.org/>), and declined through the 1970s.

Survey Methods

The Phase II investigation made use of several methods. Landowners were interviewed about the survey areas, the standing architecture, and recollections of any other possible significant cultural materials, which generally were related to mining directly or indirectly. Intensive pedestrian survey was performed in the project at 15-m intervals where the ground surface offered visibility of 40% or more (plowed fields and winter wheat fields). Shovel probes were excavated at 15-m intervals in pasture areas and in wooded areas where the surface was not visible. Photographs were taken of unique standing buildings, some of which are presented below.

Results

Results of the archeological survey are presented by sections A-F, from north to south. Sections A through D occur on the Cherokee topographic quadrangle map (1964) and Sections E and F occur on the Columbus topographic quadrangle map (1958).

Section A

Section A is located southwest of the Highway 7 and Coal Valley Road intersection (Figure 2). It is a relatively flat area surrounded by strip mines. The area was in grass and the landowners and the setting indicated that it might have operated as an RV park sometime in the past. Shovel probes were placed along two transects placed 15 m apart parallel to the highway. The soils in the area were highly disturbed and no intact cultural deposits or artifacts were located.

Section B

Section B encompasses areas north and south of Weir Road, west of Highway 7 (Figure 2). The two fields had just recently been sold and after much inquiry, we gained access to the southern field but not the northern one. We surveyed for one-half mile south of Weir Road to compensate. The fields had been plowed and offered about 95% visibility. One moderately dense trash scatter (Trash Scatter 1) and one dense trash scatter and driveway (14CH1305) were found.

Trash Scatter 1 (TS 1) occurred south of Weir Road and north of an intermittent drainage. We found two ceramic bottle stoppers (common between 1875-1910): one says "AR RUMENAKER/512 W 166th ST NY;" the other has words but was unreadable. Other artifacts include one badly chipped glass marble with light red interior, one sherd of pink glass similar to Depression glass with opaque pink paint on interior, and one whiteware fragment with powder blue exterior. Sun-purple glass (SPG) fragments include a possible goblet base and two bottle neck and lips. One bottle neck looks like crown top, with a seam to the lip; one looks like an applied lip, with no seams visible. The remaining artifacts are brick fragments, undecorated whiteware, melted glass, colorless flat glass, stoneware crock fragments, blue transfer print fragments, and aqua glass bottle fragments with a crown finish. The artifacts indicate that they came from a site that dated to the late nineteenth and early twentieth century and might have come from the house at 14CH1305.

Site 14CH1305 is located south of the intermittent drainage on a small rise and is the location of a former house place on the 1902 plat map (Missouri Publishing Co 1902; Figures 9 and 10). The artifacts were discretely clustered near a detectable driveway graveled with crushed chat, a common material near the coal mines. Artifacts include fragments of a brown glazed ceramic insulator, two fragments of a thick, colorless glass insulator, one painted foot of ceramic doll, one SPG bottle base with a partial mark on it (unreadable), two SPG fragments with decoration—one with starburst and one with "columns" on the inside that might represent a sauce bottle—one thick aqua glass bottle base with the words "CONTEN..." and a mostly unreadable number on the base starting with "2", melted glass, whiteware, brick, brown bottle glass, milk glass, flat glass, blue decorated whiteware, and stoneware (Bristol glaze). These artifacts also indicate an occupation dating to the late nineteenth and early twentieth century, which corresponds with the house on the 1902 plat map. The driveway connects to a road that extends west onto some tailing piles and past an old wooden boxcar brought here for an unknown function.

We also stopped and looked at the empty lot at the northeast corner of Weir and Hwy 7 to look for the remains of the school house that stood in this spot as indicated by the 1902 plat map. The graveled area has a concrete pad that might be associated with the school, but there was nothing visible on the surface that indicated that there were any intact deposits.

Section C

Area C is location on both sides of Highway 7 north of Roseland Road (Figure 3). Areas immediately north of Roseland Road were not surveyed because of the gas station/convenience store on the east and a house on the west side of Highway 7. The house at the northwest corner of the intersection was reported by a local informant to be (or be near) the former location of the Cashero grocery store. Most of the surveyed area was in winter wheat or was plowed. Surface survey was employed everywhere the landforms looked undisturbed by earthmoving for drainage or pond-building purposes.

Site 14CH1306 is the former location of a house found in a plowed field near the location of an old driveway, which is still visible on Google Earth. The landowners stopped and confirmed this assumption. A house is not indicated on the 1902 plat map nor on the 1964 topographic map, so must have been built and razed during the intervening time frame. The artifacts are diagnostic of an occupation dating to the early-to-middle twentieth century. Artifacts include fragments of a stoneware crock button handle or knob that holds a wire for closure, a very dark green glass bottle, a jadeite-colored glass fragment with cross-hatch design, two SPG bottle lip and necks (both seem to have tooled finishes), two small colorless bottle neck and lips (one has a seam to the lip, one has a seam to the top of the neck), whiteware, brown and aqua glass, flat glass, brick, stoneware crockery, milk glass lid liners, blue transfer print (willow pattern), and coal. We also found at least five chert flakes of questionable origin. Since they were only associated with the historic site, it is presumed that they represent flakes made by machinery during historic times.

A mining camp called "Blue Goose Camp" was located in the southwest quadrant of the intersection by Casaletto (2002; Figure 6) on his map of mines and mining camps. It looks like it was between Roseland Road on the north and a railroad spur that ran between Scammon and Roseland on the south. This railroad bed still appears to be extant in a tree line at this location. We were denied access by this landowner. Powell (1972) calls this camp "nonexistent" in his article, although archeological remains might be present. However, given the condition of every other former mining camp in the survey area, described below, the chances of this are low.

Section D

Area D (Figure 3) is located one mile south of Area C on both sides of the highway north of Coalfield Road. TS 2 is a diffuse trash scatter located in a winter wheat field in the southwest part of Area D. Artifacts include fragments of whiteware, brick, aqua glass, SPG, milk glass, and

stoneware. TS 3 is located in a winter wheat field directly across the road from TS 2 and contains basically the same types and quantities of material, such as fragments of brick, colorless glass, undecorated whiteware, a modern-looking glass marble with blue swirl, and milk glass. One brick fragment was embossed with “BRYAN//SUPY//KAN. CIT...” This trash dates to the late nineteenth and early twentieth century and might have originated from residents in the town of Stilson (below) or from the residents in the house that dates to 1902 or earlier that is present north of TS 2.

The mining town of Stilson, also known as Coalfield, is marked on the 1871 map of Cherokee Neutral Lands (Shober 1871; Figure 11), Casaletto’s map (Figure 6), and the 1883 plat map (Figure 12) in the southeast quadrant of the intersection of Highway 7 and Coalfield Road. The post office at Stilson closed in 1886 (information from the Cherokee County Genealogical and Historical Society) but before this Stilson was comprised of “30 dwellings houses, a store, post office, school house, and depot” (Columbus Courier 1886). The landowner who lives in this location said that her house is comprised of two old mining houses and that she has three well heads on her property, which probably mark the locations of old lots or house places in Stilson. No systematic survey was undertaken in this landowner’s yard since much of the ROW near this house had already been widened in the past, destroying any potentially intact cultural materials.

In the wooded northeastern part of Section D we found the remains of a burned house in the location of a house and outbuildings visible on the 1964 topographic quadrangle. The foundations were made of poured concrete and cinder blocks and are an estimated 8 x 16 m, possibly representing a ranch-type house. There is no house indicated on the 1902 plat map in this location, although the one across the street was standing at that time and still stands. The now-burned house was still standing in 2002, according to the Google Earth time machine function. The location has been used as a dumping ground during the middle twentieth century. Remains of outbuildings were also found but are largely outside of the project corridor. North of the burned house and also in the woods was another foundation found near a driveway and fence. It is also the location of an extensive middle-twentieth-century trash dump. The entire expanse of middle twentieth century foundations and trash dumps was called 14CH1307.

Section E

Section E (Figure 4) is located in all four quadrants around the intersection of Highway 7 and Lawton Road. No subsurface survey was undertaken on the west side of the road since it is mostly house yards. The pasture at the northwest corner had high visibility so was surveyed from outside the fence; nothing was found. Much of the east side of the road is yard as well, but the wooded areas were shovel probed or surface surveyed. Section E is the location of a clump of mining-era communities, namely the Skidmore (north of Section E), Turk (or Turck), the Columbus Coal Company camp, and Stippville. All of these small villages can be seen platted on historic highway maps at the KDOT website

(<http://www.ksdot.org/burtransplan/maps/pastpublishedcounty.asp>).

Skidmore

Skidmore is located on the west side of Highway 7 about one half mile north of Belleview Road. Clemens (1923) describes Skidmore as “a small mining community, about seven miles north of Columbus, the miners in this community generally owning their own homes. Skidmore has a population of 310; one school, one church, and electric lights.” The school referred to in this statement might still stand at the southeast corner of Highway 7 and Star Valley Road (Figure 13). The building might have been moved there from the west side of the road, where a school is shown on the 1902 plat map. The Skidmore School is shown in its present location on the 1943 Columbus topographic quadrangle.

People still live in Skidmore along the side roads and Highway 7. One large brick building stands there near the highway, which was the Skidmore grocery store, according to the landowner’s son. It was built in the 1930s to replace an earlier wooden version.

Turk

Turk is located one half mile north of Lawton Road and was platted in 1889. According to Clemens (1923) “Turk, Kansas, is a small mining community, about six miles north of Columbus; the miners in this community generally owning their own homes. Turk has a population of 115.” Like Skidmore, people still live in Turk; some in old mining houses and some in newer, mid- twentieth century homes. During the survey, we visited Turk to search for intact mining town-age deposits within the project corridor. We noted signs of earthmoving near the highway in an empty lot, which a local neighbor noted was evidence for dinky mining or old orchards. In other places, old fruit trees were seen growing in some of the town lots, like the ones seen in Figure 14, which shows a typical mining house in Turk.

Columbus Coal Company Camp

Site 14CH1308, parts A and B, covers much of the area formerly occupied by Columbus Coal Company camp (as shown on the 1902 plat map [Figure 9] and at #179 on Figure 7), which is the same area that morphed into Stippville and Turk. The northern area in the woods (Part A) has been compromised by earthmoving activities and dumping activities. The area south of the woods (Part B) holds a little more promise because of the older artifacts lacking in Area A. The yards of the house and former business north of the intersection were not shovel probed, but a brick-lined cistern was noticed beside the former business that lies at a 45-degree angle at the northeast corner of the intersection. This business is a recent arrival according to the historic highway maps; a house stood in this location as recently as 1981.

14CH1308A was located in the woods in the northeast quadrant of the intersection. The ground was very uneven and it is presumed to be the location of backyard mining or “dinkies.”

Furthermore it was covered with a thin veneer of surface and subsurface trash consisting of a cylindrical magnet, melted and cracked balls of clear glass, very thick aqua flat glass, an amber glass fragment, whiteware rim with gold edge and floral embossing, cinder blocks, iron pipe, coal, barrel band, colorless glass, a burned gravel area, aluminum beer cans, milk glass, bricks,

asbestos shingles, all kinds of glass, many parts of a DeSoto automobile, and a poured concrete foundation. This area might have been used for housing and then grazing in the recent past as indicated by Google Earth time machine, but has since grown over.

14CH1308B is in the open area south of Part A and seems to have older materials associated with it, including fragments of a thick aqua soda bottle with “[illegible name]//KANSAS...”, SPG bottle that possibly says “whiskey,” a whiteware rim with brown transfer print and scalloped edge, a whiteware rim with scalloped edge and pink paint along the rim, coal, and bricks.

Stippville

Stippville was platted in the northeast corner of Section 31 (Figure 9) but during the survey much of the observed evidence of occupation was along Lawton Road on both sides of Highway 7. The town dates to between 1883 and 1902 as indicated by those two plat maps. Several railroad spurs served the mines in the area. Clemens (1923) describes Stippville as “... a small mining community, about four miles north of Columbus, the miners in this community generally owning their own homes, most of them located on small tracts of land, from one to ten acres. Stippville has a population of 260; one church, one school and one theatre.”

In the wooded southeast quadrant of Section E, just southeast of the intersection, the remains of two buildings were found, documented as 14CH1309 (Figure 15). These buildings are not present on the 1902 plat map but are present on the 1918 Columbus 7.5' topographic quadrangle, are still standing on the 1958 topographic quadrangle, and shown as standing but “not in use” on the 1981 KDOT highway map. The northern building measured 5 x 12 m and had cinderblock foundations with a partial concrete slab. Other construction materials included a linoleum floor in the front. The second set of foundations is located 30 m to the south and is a more complicated set of foundations composed of poured concrete and cinder blocks and measuring approximately 10 x 10 m. Behind those foundations is a cellar made of poured concrete with an entrance to the north. Behind the cellar is a raised concrete pad next to a brick-lined cistern. There is a second depression lined with a steel barrel with an unknown function. The entire wooded area is covered with mid-twentieth century trash and recently dumped materials.

The landowner said that the northern building at 14CH1309 used to be the Stippville grocery store (Figure 16), as pictured in Clemens (1923). The houses shown to the right (south) of the grocery store appear to be a good match for the southern set of foundations because the observed “complicated” foundations actually held a set of twin houses. The addition to the southern wall of the store was not detected archaeologically so it might have been set on a less permanent foundation.

Across Highway 7 from the grocery store was the public school, also photographed by Clemens (1923). It was replaced with a concrete structure (Figure 17) by the WPA in the 1930s. This structure should be documented and added to the Kansas Historic Resources Inventory.

Section F

Section F (Figures 4 and 5) was the longest survey area, encompassing both sides of 2.2 miles of Highway 7 north of Columbus. Section F is outside the Weir-Pittsburg coal field and holds little potential for sites directly related to mining. We were not able to obtain permission to survey every part of Section F during the first week of the survey. After conferring with the SHPO's office, it was determined that we had surveyed the most important parts of Section F along Brush Creek and it was not necessary to survey the rest.

The only prehistoric chert flake was found in Section F adjacent to site 14CH1310. It was found at the edge of a drainage ditch between Brush Creek and the highway. Local informants spoke of a prehistoric site with "arrowheads" somewhere along Brush Creek but indicated it was far outside the current project area. The exposed banks of Brush Creek were examined and shovel probes were excavated in low-visibility areas in the woods, but no additional evidence for prehistoric occupation was recovered.

14CH1310 is located in the widest portion of the survey area, where KDOT proposes to re-channel Brush Creek east of the highway to keep it from impacting the road. The site, measuring around 30 x 60 m, is located in a plowed field. Artifacts within this dense scatter include a white ceramic furniture knob, fragments of colorless glass bottle panel embossed with "...&.../...ISK..." whiskey bottle, a milk glass bottle, "...R.../...MENT" liniment jar, many fragments of thick porcelain (toilet or sink), SPG, brick, aqua bottle glass, sewer tile, and plumbing pipe. No structure is shown in this location on the 1902 plat map, the 1918 or 1958 topographic maps, or any of the historic KDOT highway maps, so it likely represents trash dumped in this location by occupants of a nearby house. In addition, two small concrete platforms were found in the woods along the creek in the vicinity of the site. Another trash scatter (TS 4), much less dense than 14CH1310, is located in the southern edge of the plowed field. Artifacts from TS 4 include a ceramic object with "...CO"., which represents a standard 3-wire porcelain cleat dating to the 1920s, milk glass, aqua glass, porcelain, whiteware, SPG, and red glass. Artifacts in both scatters seem to date to the first three decades of the 20th century.

Summary and Recommendations

Section A was too disturbed by mining activities to hold intact cultural remains.

Site 14CH1305 was found in Section B, and represents a razed house that was occupied at the turn of the 20th century. Trash Scatter 1 is probably associated with 14CH1305. No remains of

the school house present on the 1902 plat map were detected at the northwest corner of Highway 7 and Weir Road. No further archeological work is recommended for Sections A and B.

Section C contained the remains of a razed house (14CH1306) that dated after 1902 and before 1964, which is supported by the artifact assemblage. No further archeological work is recommended.

Two diffuse trash scatters on either side of the road were located in Section D, and are called Trash Scatters 2 and 3. Artifacts from both scatters date to the turn of the twentieth century. This trash might have come from inhabitants in the small mining town of Stilson (also known as Coalfield) at the intersection of Highway 7 and Coalfield Road seen on 1871 and 1883 maps. The ROW has already been widened south of this intersection, which would have destroyed any intact cultural remains had they been present. Site 14CH1307 is the remains of a burned mid-twentieth century house, scattered concrete foundations, and a middle-twentieth century trash dump. No further archeological work is recommended.

Section E is the former location of a small mining town complex, which included, from north to south, Skidmore, Turk, the Columbus Coal Mining camp, and Stippville. There does not seem to be much in Turk that is intact within the project ROW. The northern, wooded portion of the former location of the Columbus Coal Mining camp is recorded as site 14CH1308. It has been heavily disturbed by mining and middle- twentieth century dumping. The open, southern part of the site retains earlier artifacts but has been disturbed by more recent occupation. A brick-lined cistern was found beside the property at the northeast corner of Highway 7 and Lawton Road. No further archeological work is recommended.

Also in Section E is site 14CH1309, the remains of the Stippville grocery store and nearby house. No further archeological work is recommended there. Across the highway to the west is the 1930s-era Stippville School.

Section F was the longest survey section but also the only one outside the coalfield. One site, 14CH1310, represents a dense trash scatter of early-to-middle- twentieth century artifacts. Nearby Trash Scatter 4 is similar in composition. No further archeological work is recommended.

In addition, several isolated finds of turn of the twentieth -century material and one convincing fragment of prehistoric flaking debris were found and recorded with a handheld GPS unit.

Recommendations

None of the archaeological sites warrant further work. The amount of disturbance directly caused by mining through strip mines, chat piles, and dinky digging is high. While it was a major goal

of this survey to identify intact mining-era houses, camps, or towns dating from the 1870s to the 1930s, most of these have also been indirectly disturbed by post-mining town occupations, road and house construction, farming, and earthmoving.

Despite the intensity of the survey and the presumed potential of the area to contain intact cultural remains, no significant cultural resources were found within the project area. Therefore, it is our opinion that, in terms of 36 CFR 800.4, the investigation produced a finding of “no historic properties affected.” We therefore recommend that the project proceed as planned, with no additional archeological investigations unless archeological discoveries are made during the course of the project. We request the concurrence of the SHPO with these recommendations.

Due to the nature of archeological manifestations, it is always possible that buried cultural deposits could be encountered that were not detected during the Phase II investigation. If that occurs, the remains should be left in place and the State Archeologist contacted immediately so that appropriate mitigative actions can be carried out as soon as possible.

Acknowledgements

The author would like to thank the landowners along Highway 7 for their kind help during the completion of this survey. Staff at the Columbus Public Library and the Cherokee County Kansas Genealogical-Historical Society also deserve thanks for help tracking down local history items. Randy Roberts, Curator of Special Collections at Axe Library at Pittsburg State University, was very helpful in helping sort out some of the mining town history. I also appreciate the tour of an old mining house by Jerry Lamshek in Chicopee. Larry Spahn, Emergency Program Inspector at the Surface Mining Section of the Kansas Department of Health and Environment in Frontenac, shared many interesting stories about the coal mining and bootlegging history of the area in addition to the problems that collapses of mine shafts can have in the area today.

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APPENDIX I.

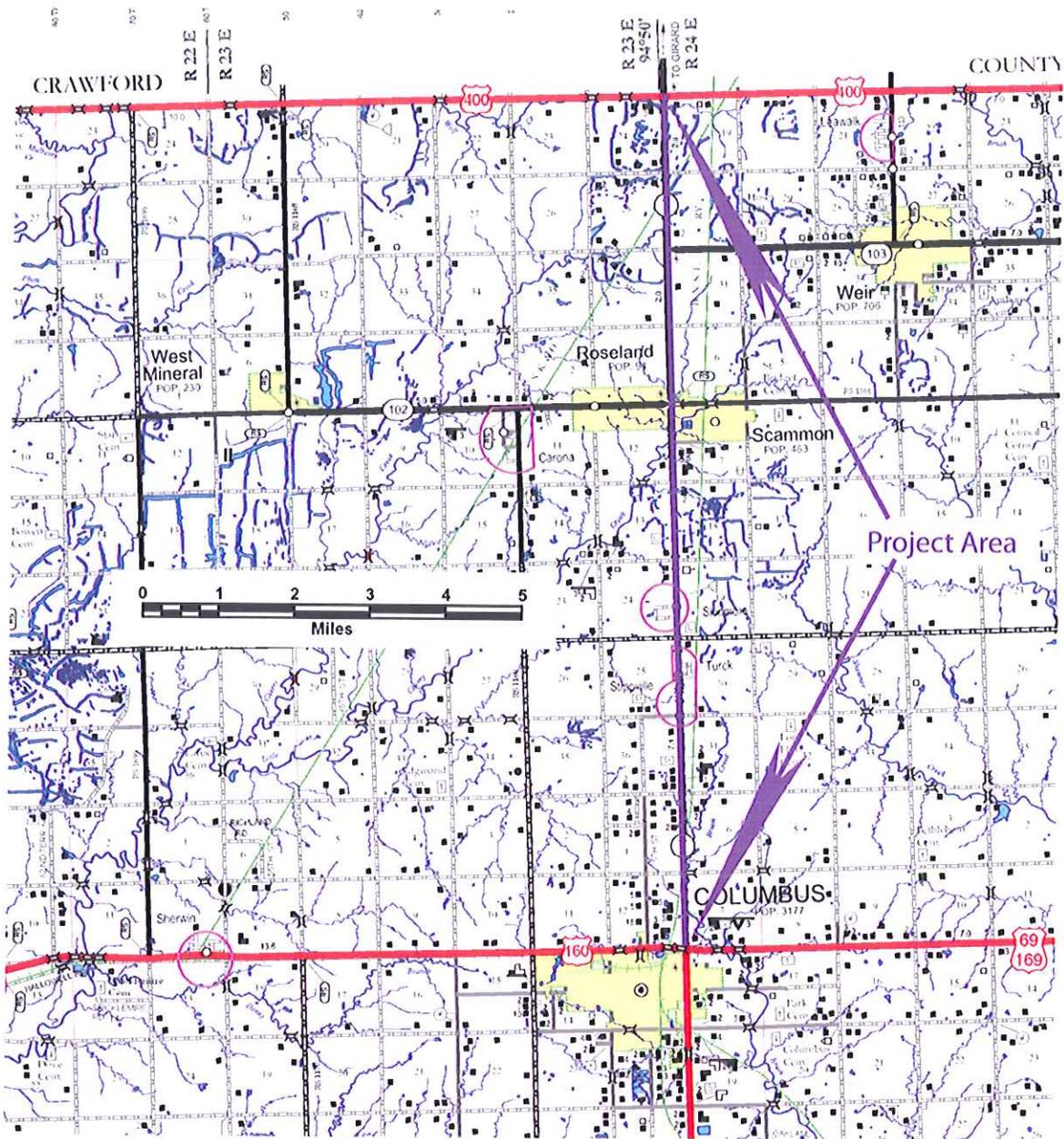


Figure 1. Section of KDOT Cherokee County highway map (2010), with purple arrows indicating the two ends of the project area.

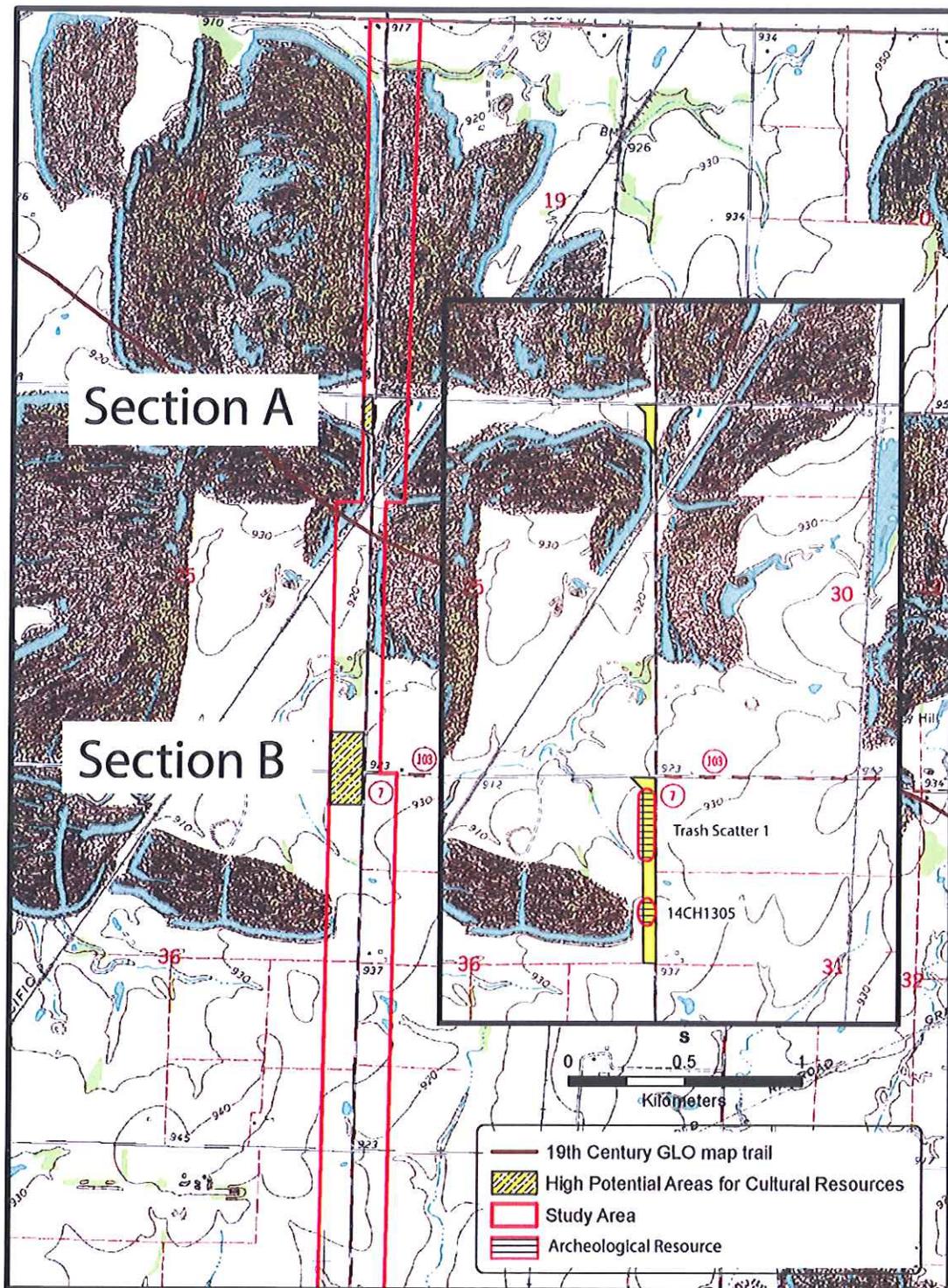


Figure 2. High probability portions of the Project Area, Sections A and B (left). Inset (right) shows the area actually surveyed and sites found.

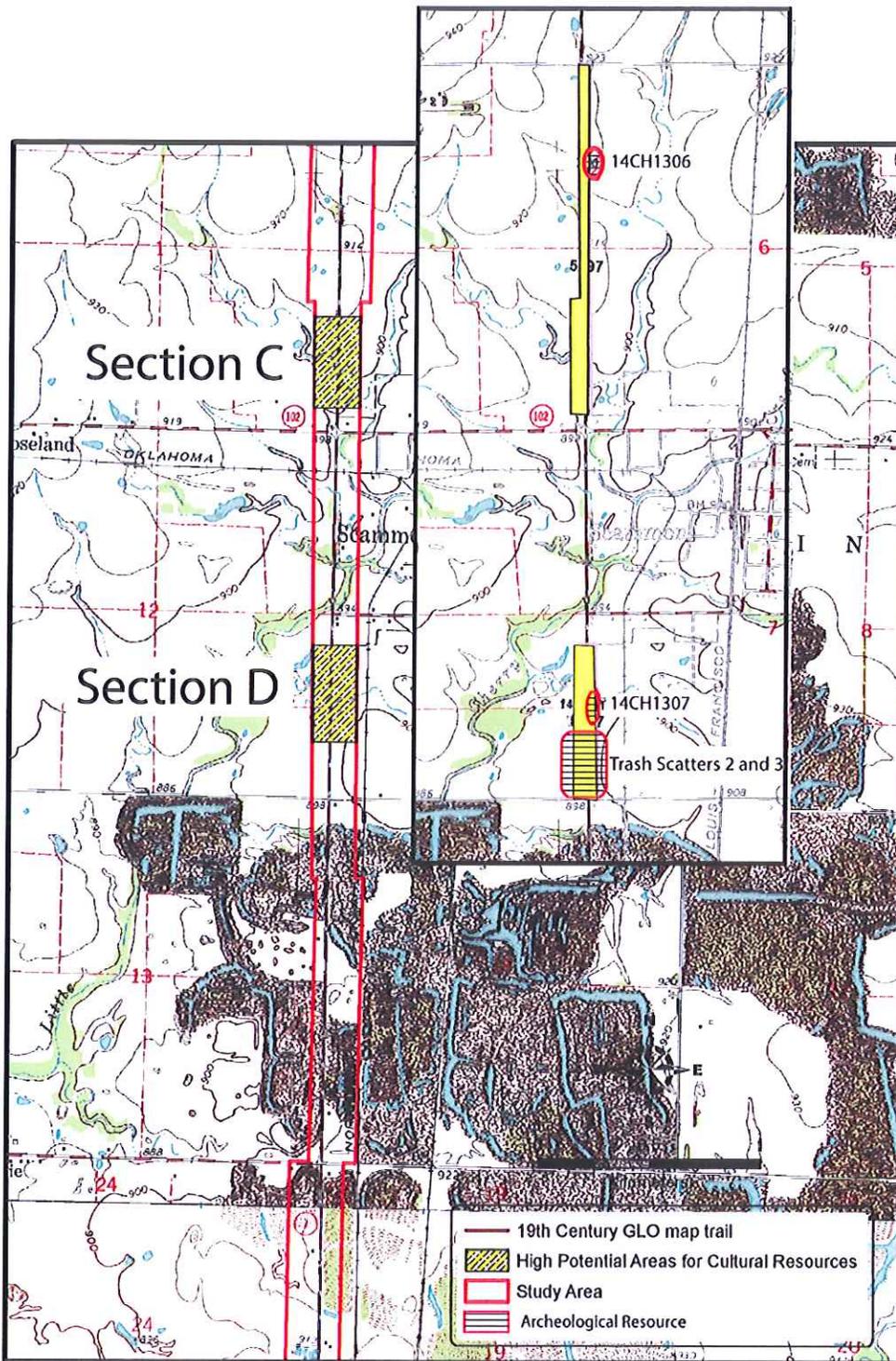


Figure 3. High probability portions of the Project Area, Sections C and D (left). Inset (right) shows the area actually surveyed and sites found.

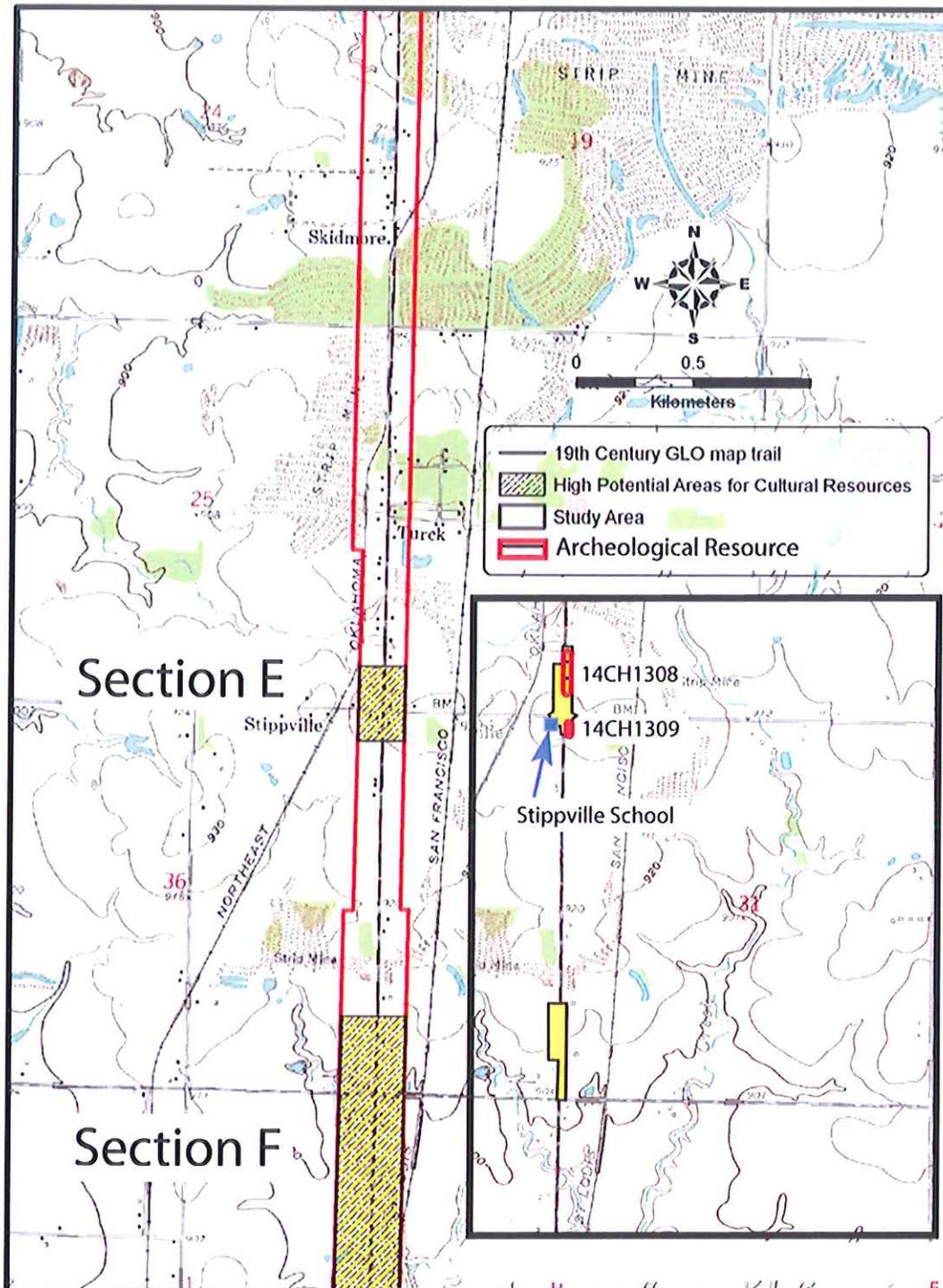


Figure 4. High probability portions of the Project Area, Sections E and north part of F (left). Inset (right) shows the area actually surveyed and sites found.

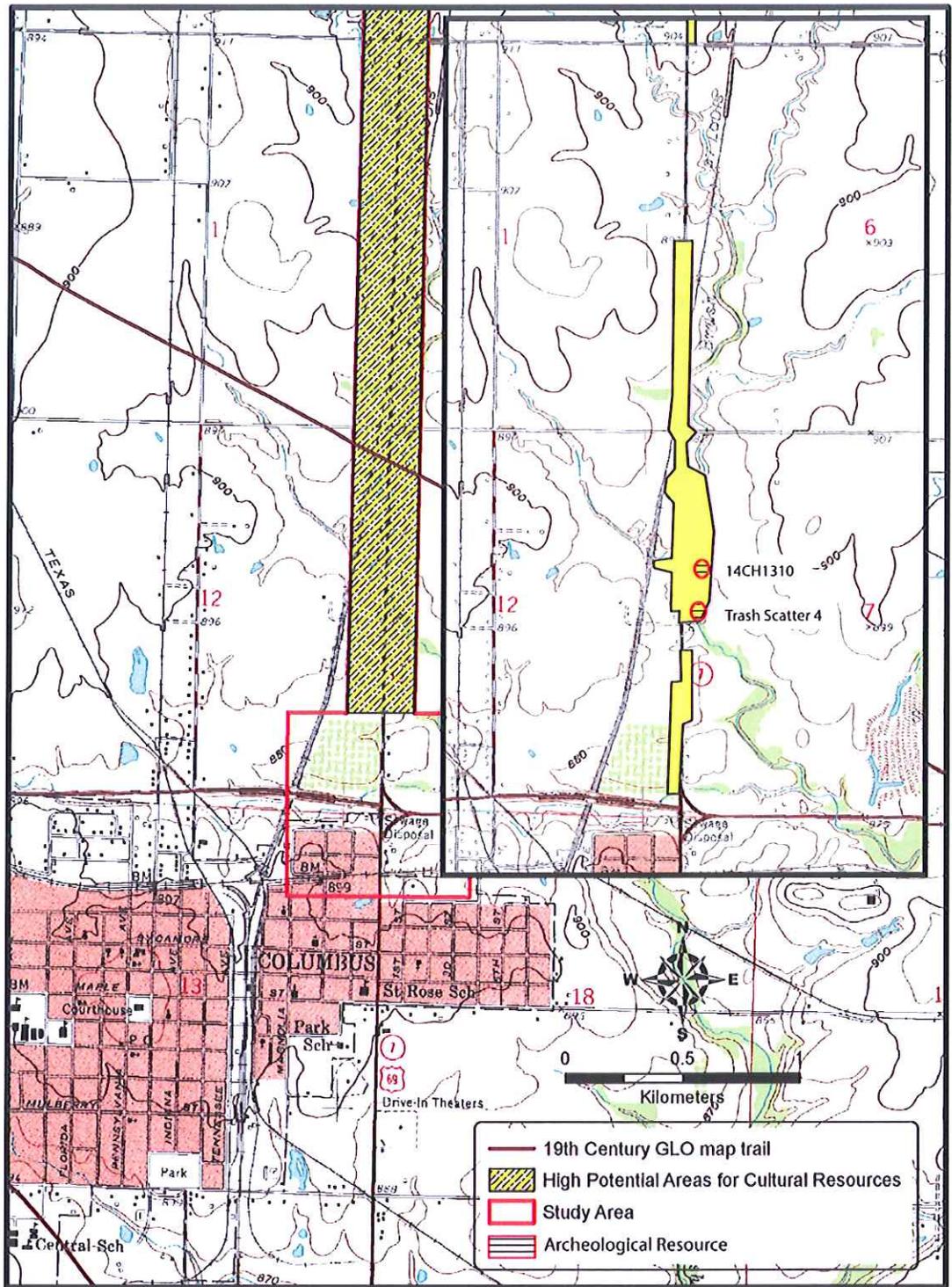


Figure 5. High probability portions of the Project Area, south part of F (left). Inset (right) shows the area actually surveyed and sites found.

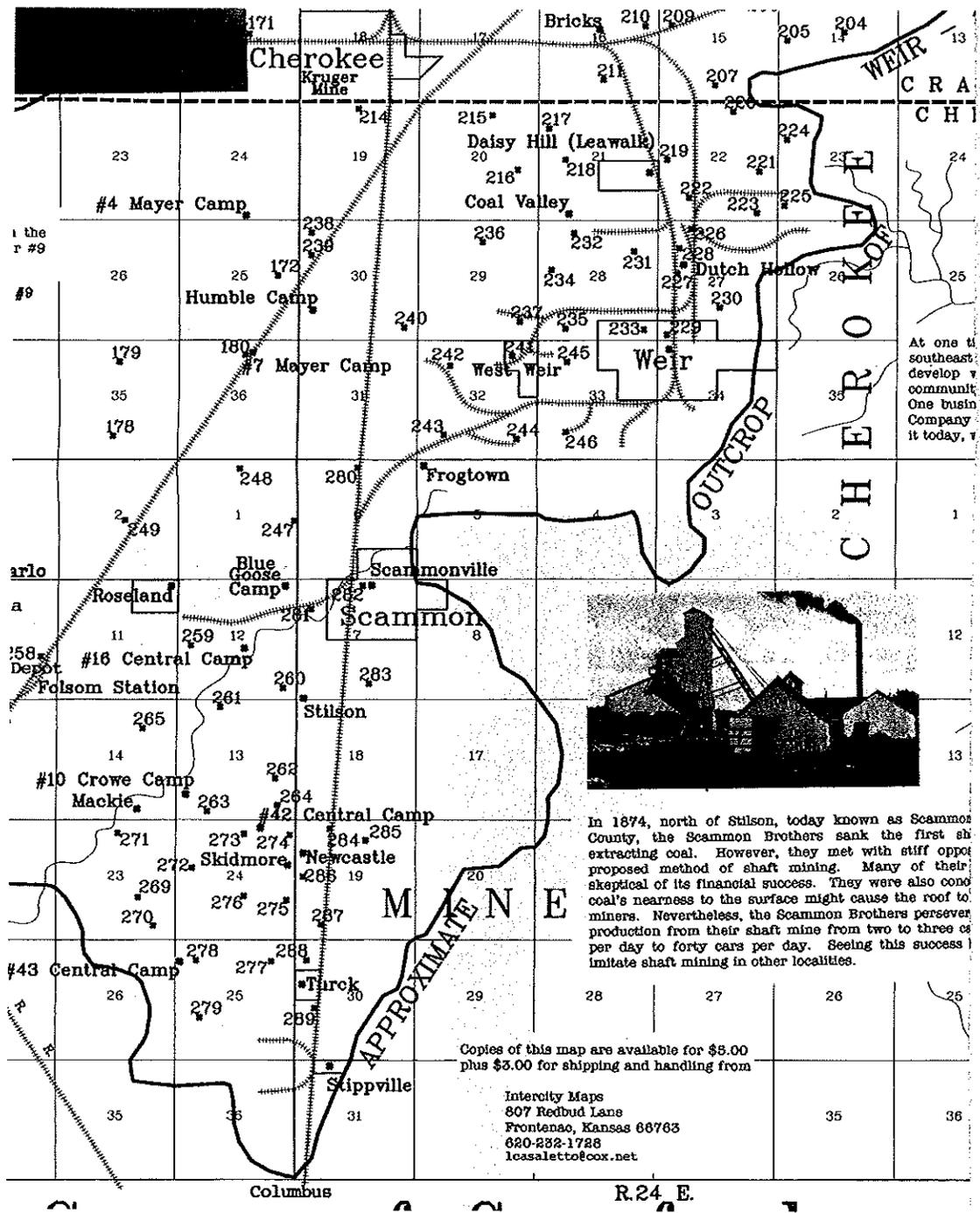


Figure 6. Map of mines and mining camps (Casaletto 2002), showing outcrop boundary, mines, mining camps, and railroad lines and spurs.

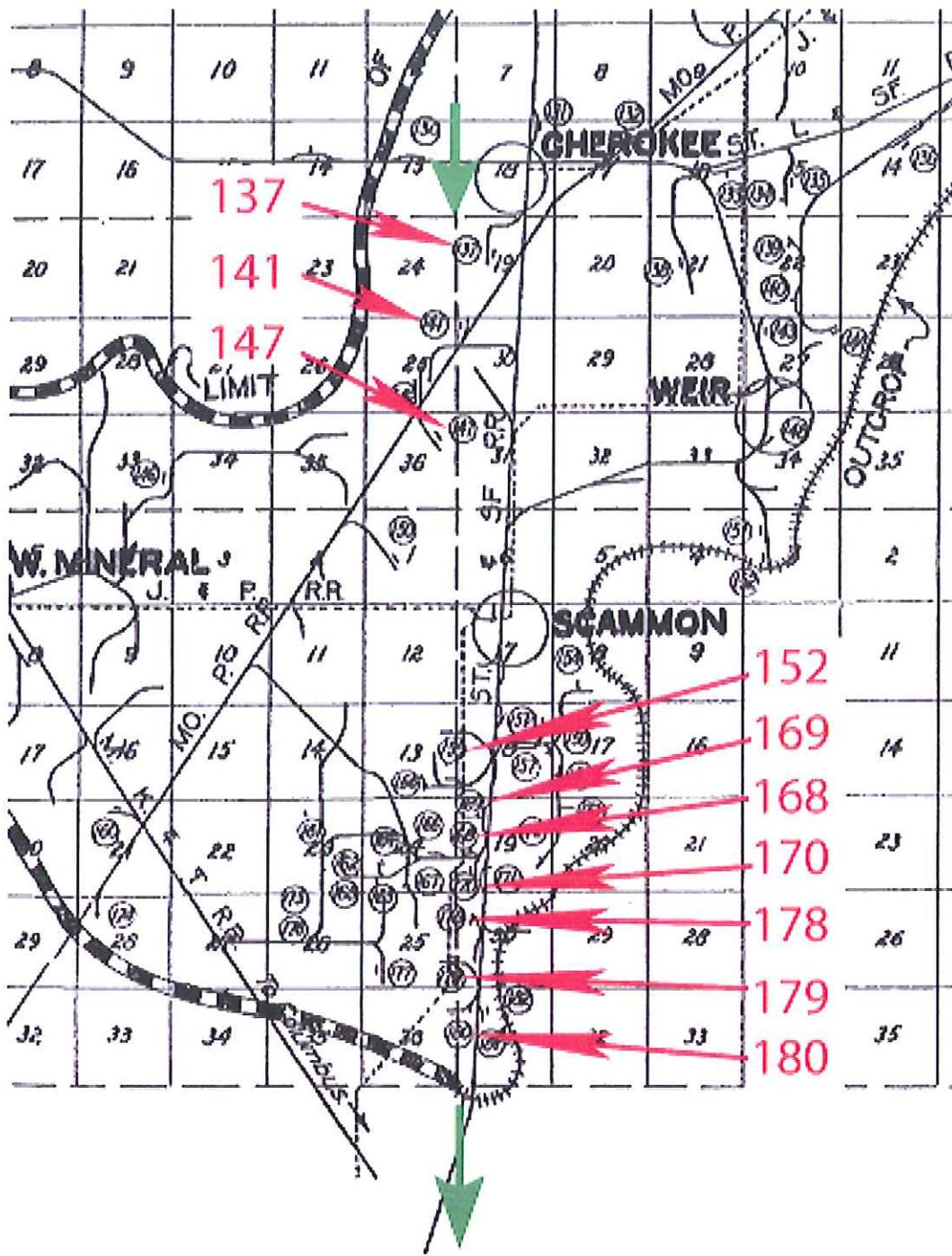


Figure 7. Map of coal fields, shipping mines, and railroad lines and spurs. Green arrows indicate the project area. Red arrows point to individual mines.

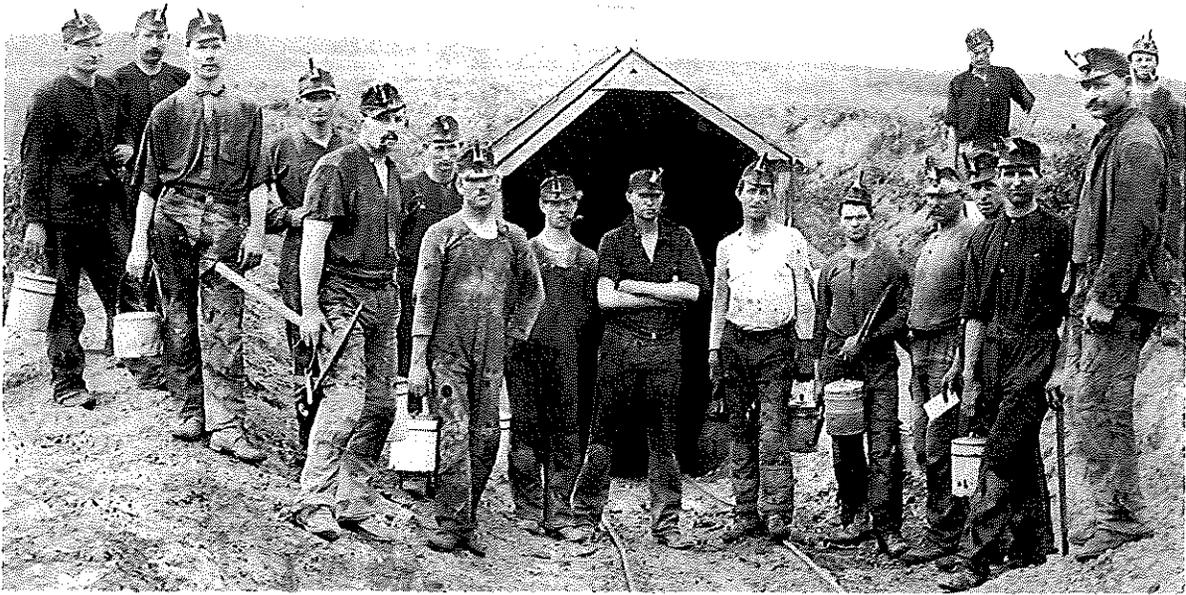


Figure 8. Photograph of group of miners at unidentified mine, circa 1890, showing typical dress and personal equipment. Photograph courtesy of Miner's Hall Museum, Franklin, Kansas.

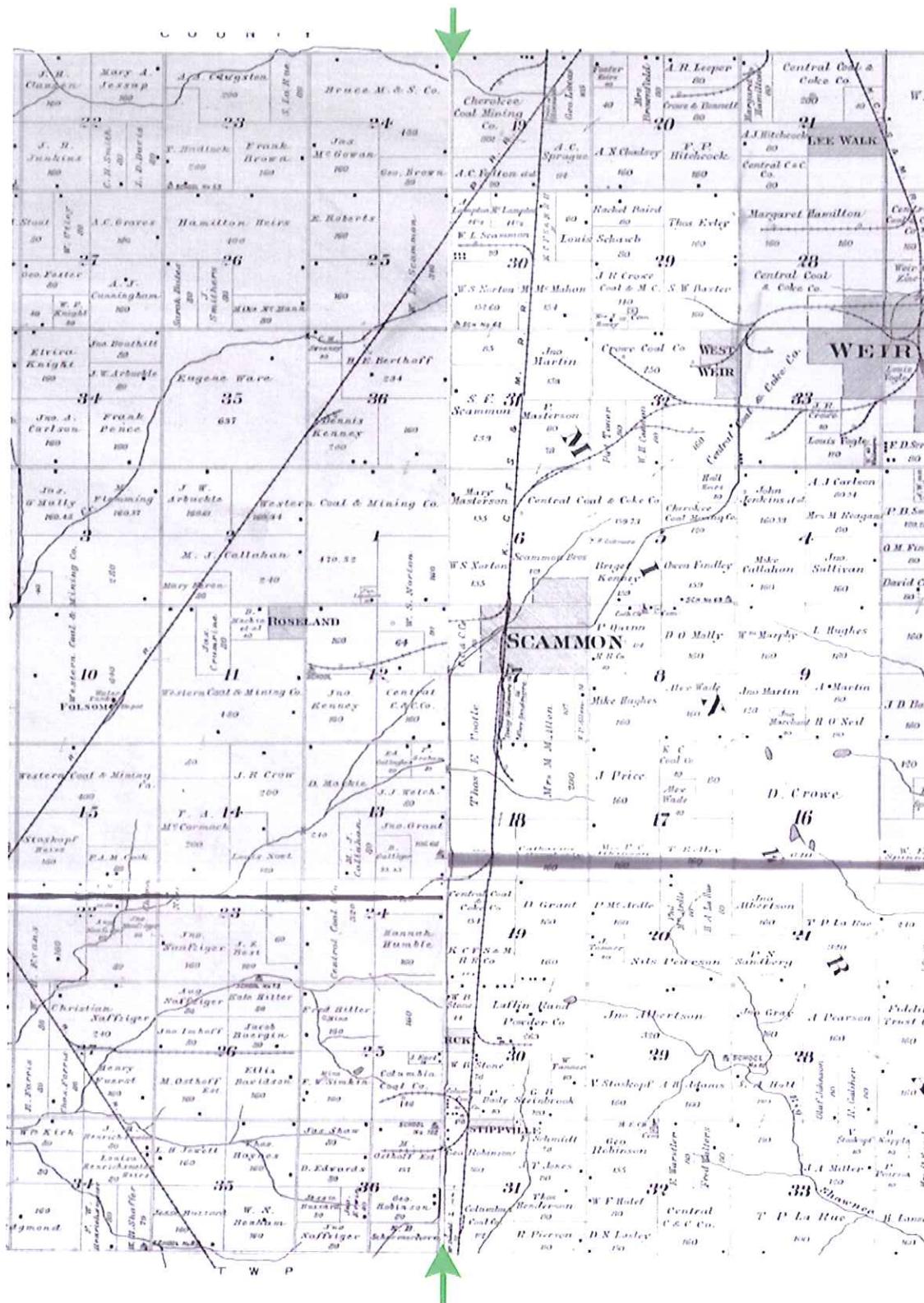


Figure 9.1902 plat map of a portion of Cherokee County with arrows indicating route of Highway 7.

Range 23 East.

of the 6th Principal Meridian

Scale 2 Inches to the Mile.

Township 33 S

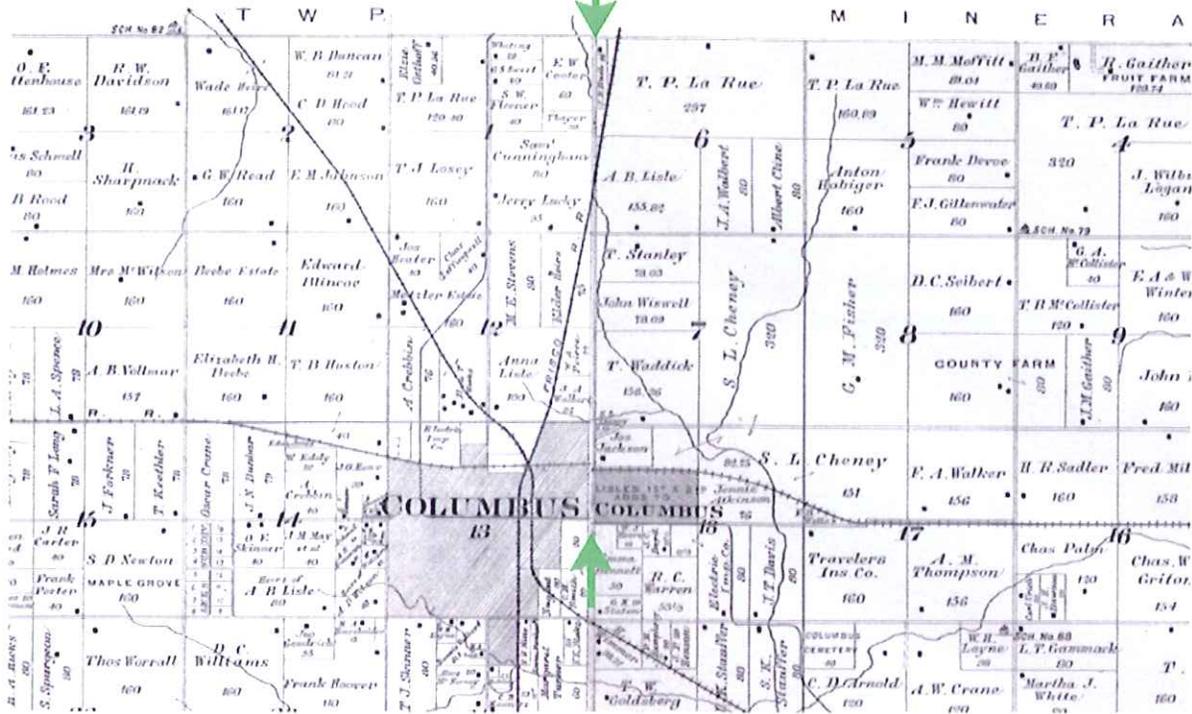


Figure 10. 1902 plat map of a portion of Cherokee County with arrows indicating route of Highway 7.

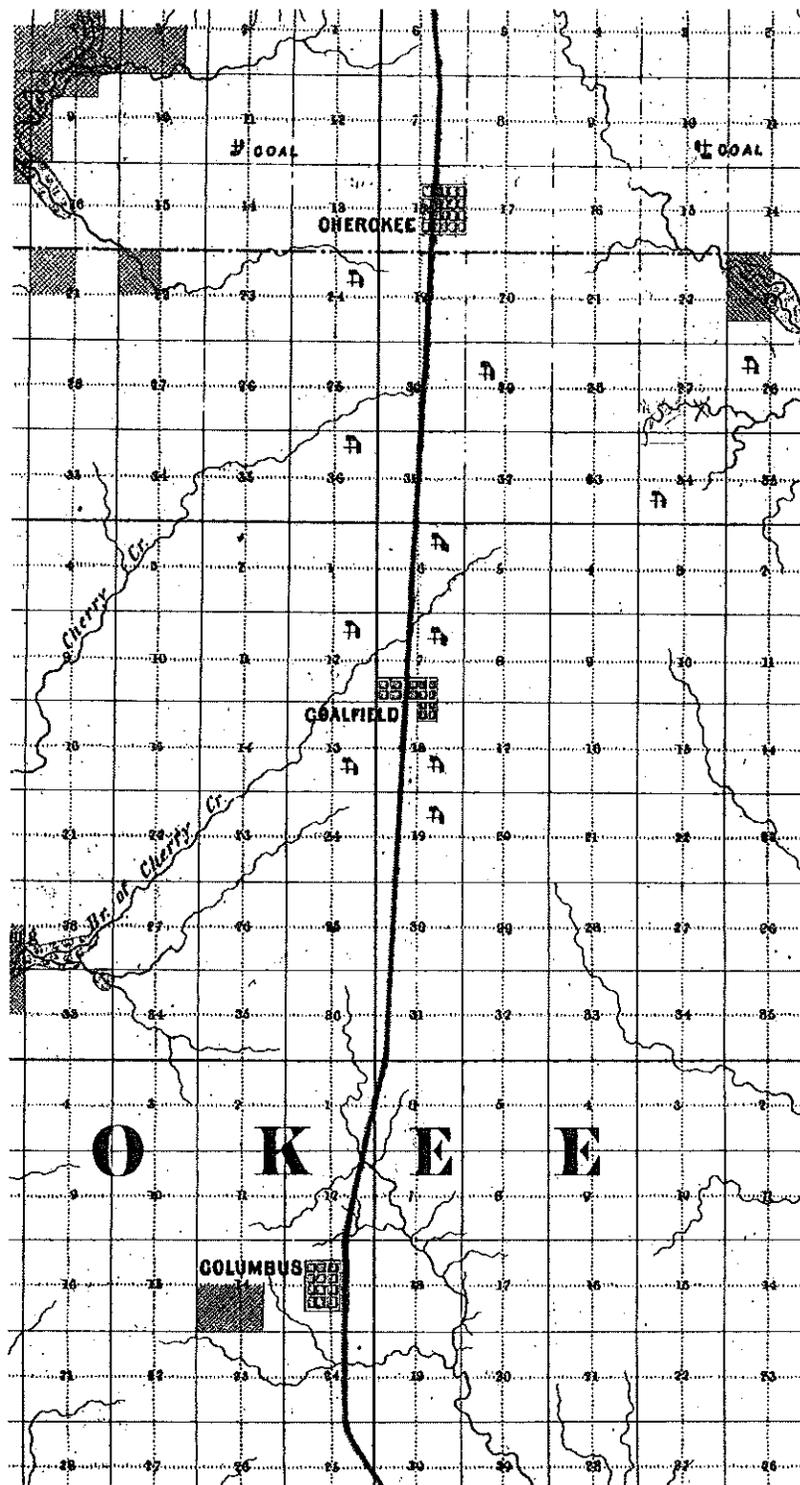


Figure 11. Portion of Map of Cherokee Neutral Lands, Kansas (1871).

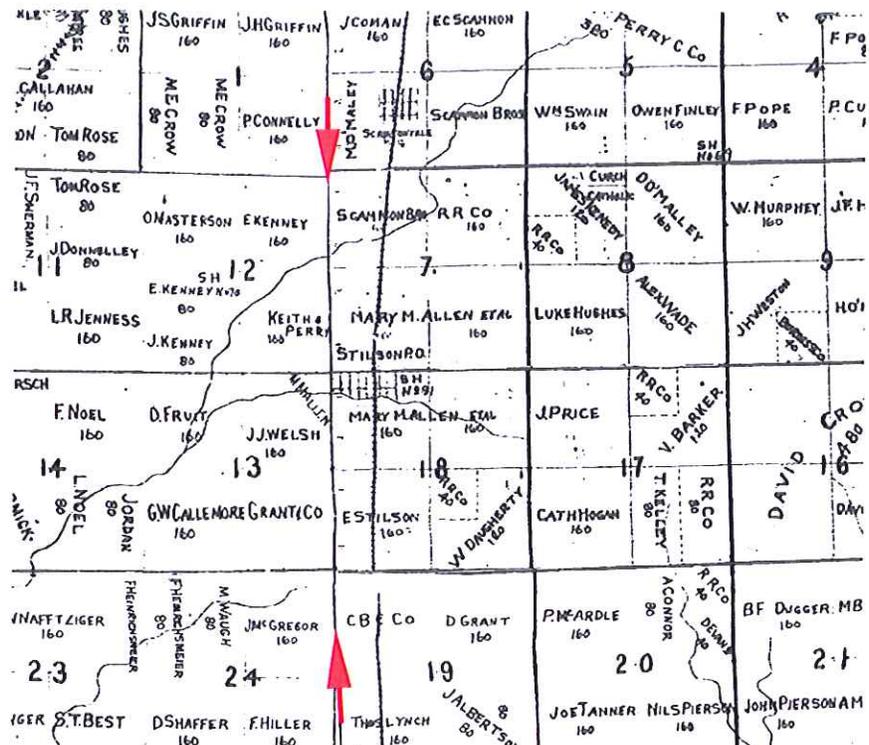


Figure 12. Excerpt from 1883 plat map showing Stilson; arrows show route of Highway 7.



Figure 13. Possible Skidmore school. From intersection looking southeast.



Figure 14. Typical mine town house with fruit trees in front (Clemens 1923).

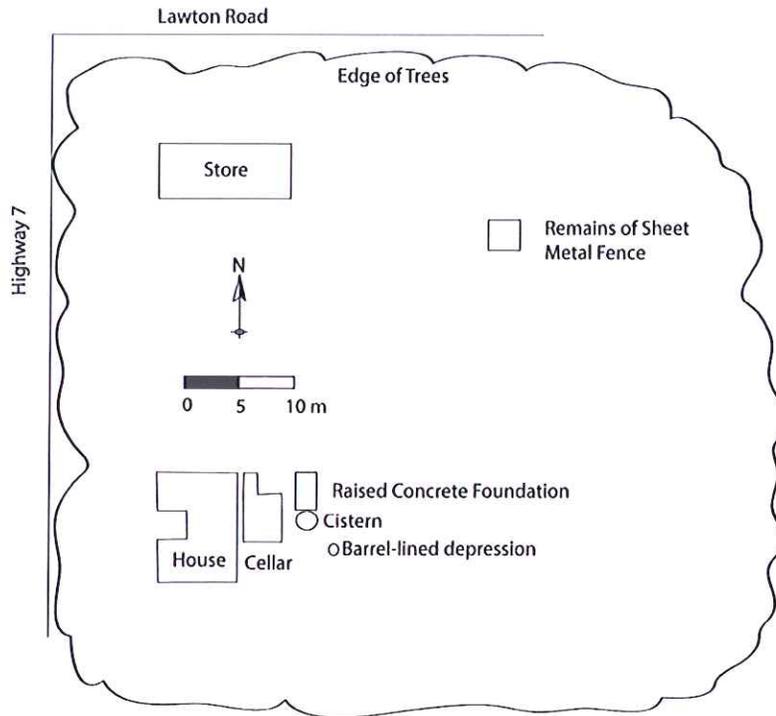


Figure 15. Sketch map of 14CH1309 showing foundations and associated features.



Figure 16. Photograph of Stippville store and house next door (Clemens 1923).



Figure 17. Stippville School, built by the WPA in the 1930s. View to the northwest.

APPENDIX C - KDWPT ACTION PERMIT



Operations Office
512 SE 25th Ave.
Pratt, KS 67124-8174

Phone: (620) 672-5911
Fax: 620-672-6020
www.kdwp.state.ks.us

Robin Jennison, Secretary

Sam Brownback, Governor

13 June 2014

Michael Fletcher
KDOT – ESS
700 SW Harrison St.
Topeka, Kansas 66603-3745

Ref: E1.0203
Cherokee
Sec07, T33S, R24E
KDOT: 7-11 KA-1586-01
Track: 19990419-8
Permit: 2014-21

Mr. Fletcher:

We have received your application for an Action Permit regarding roadway reconstruction with shoulders and channel changes in Cherokee County, Kansas in **Section 07, Township 33 South, Range 24 East**. The project will occur in Designated Critical Habitat for the Spring Peeper (*Pseudacris crucifer*).

This letter and its attachments will serve as **Action Permit No. 2014-21** as required by K.S.A. 32-961 and K.A.R. 115-15-3 to meet the requirements of the *Kansas Nongame and Endangered Species Conservation Act* of 1975, K.S.A. 32-957 to 963, 32-1009 to 1012, and 32-1033, to carry out this proposed action. The permit holder will be required to sign and return the enclosed *Compliance Agreement* upon receipt of the permit and *Compliance Certification* upon completion of the authorized actions. This permit is valid from our receipt of the *Compliance Agreement* until the expiration date, if applicable, indicated on the permit.

It is the Permit Holder's (or an agent for the Permit Holder) responsibility to ensure that the permitted action complies with the attached general and special conditions of **Action Permit No. 2014-21**. If you have any questions concerning this permit, its conditions, or its enforcement, feel free to contact the department's Ecological Services Section.

Sincerely,

Jason S. Luginbill, Chief
Ecological Services Section

Xc: Cliff Ehrlich, KDOT

Pratt Operations Office
512 SE 25th Ave., Pratt, KS 67124-8174
Phone 620-672-5911 Fax 620-672-6020
www.kdwp.state.ks.us

BCB

KANSAS DEPARTMENT OF WILDLIFE, PARKS AND TOURISM ACTION PERMIT

Permit Holder: **Michael Fletcher, KDOT**
 Action Permit No.: **2014-21**
 Date: **13 June 2014**
 Permit Issuer: Kansas Department of Wildlife, Parks and Tourism
 Permit Expires: Upon Project Completion and Post Inspection per KDWPT officials

General Conditions

1. All activities covered by this permit will be consistent with the listed terms and conditions. Any activity not specifically listed that might affect the listed species involved is a violation of the listed terms and conditions and will invalidate this permit.
2. That in issuing this permit, the Department of Wildlife, Parks and Tourism relied on information and data that the Permit Holder provided with the application. If the Permit Holder requires action plan changes after permit issuance, the departments Ecological Services Section will evaluate how those changes might affect the listed species before modifying permit terms and conditions.
3. The Permit Holder will keep this permit on file and make it available for inspection by authorized department representatives until the action is completed.
4. The Permit Holder will allow department representatives to make periodic inspections anytime deemed necessary to assure compliance with the permit terms and conditions.
5. The Permit Holder will allow, for the permit duration, access to the permitted property by holders of valid federal / state collecting permits to verify permit compliance or conduct specific monitoring of project effects.
6. This permit does not authorize violation of existing federal, state, or local laws and regulations and does not preclude requirements to obtain other permits or authorizations required by such laws or regulations.
7. This permit is valid from the date of issuance until the post construction compliance checks are performed. **THE PERMIT HOLDER MUST NOTIFY THE DEPARTMENT'S ECOLOGICAL SERVICES SECTION WHEN THE PERMITTED ACTION STARTS AND WHEN IT IS COMPLETED (SEE COMPLIANCE FORM ATTACHED) FAX: 620-672-2972, EMAIL: ess@ksoutdoors.com or brian.bartels@ksoutdoors.com.**
8. The Permit Holder may not transfer this permit to a third party without prior written notice, accompanied by the transferees written agreement to comply with all listed terms and conditions, to the departments Ecological Services Section.
9. If changes occur to sale, lease, easement, principal operators of lands covered by this permit, or any other legal method of land transfer, the Permit Holder must notify the departments Ecological Services Section. The Permit Holder must notify new operators that obligations listed in the attached Special Conditions, and amendments to these conditions, remain in effect.
10. That in issuing this permit, the Department relied on legal authority and knowledge of life history and habitat requirements, available at the time, of Kansas listed threatened and endangered species. If the permitted action has not started within one year of this permits issue date, the Permit Holder must notify the department's Ecological Services Section so that personnel can reevaluate the permit regarding listed species status because the department continually collects current biological information.

- 11. The Permit Holder must inform all contractors of the listed permit conditions and assure compliance with these conditions throughout the construction period.**
- 12.** The department reserves the right to modify, suspend, or revoke this permit anytime if the Permit Holder fails to comply with any of the conditions listed in this permit.
- 13.** The Permit Holder will ensure that all petroleum products, chemicals, and other fuels are stored by methods that prevent spills from entering any nearby streams within or near the project area. Spills that occur within 500 yards of protected streams will be cleaned up within 24 hours to prevent pollution from runoff. The Permit Holder or contractors must notify the following agencies upon discovering a spill to possibly undertake efforts to rescue protected species within the affected area: KDWPT, Ecological Services Section (telephone number 620-672-5911); United States Department of the Interior, Fish and Wildlife Service (telephone number 785-539-3474); and Kansas Department of Health and Environment (telephone number 785-296-1679).

Special Conditions

- 1. A mitigation plan (on file with KDWPT in the form of detailed construction plan sheets) has been developed by the permit holder to avoid, minimize, and provide compensatory mitigation of critical habitats for the Spring Peeper (*Pseudacris crucifer*). The permit holder will uphold all measures for mitigation detailed within the plan sheets.**

COMPLIANCE AGREEMENT

Your signature below as Permit Holder indicates that you accept and agree to comply with the terms and conditions of this permit (Action Permit **2014-21**) including any required mitigation measures. This must be signed and returned to the department before authorized action(s) can commence.

Michael Fletcher, KDOT

Permit Holder (or Agent)

Date

This permit becomes effective when the department official, designated to act for the Secretary of the Department of Wildlife, Parks and Tourism has signed below and we receive this signed agreement.

Jason S. Luginbill, Chief
Ecological Services Section

Date

**COMPLIANCE CERTIFICATION FOR KANSAS DEPARTMENT OF WILDLIFE, PARKS AND
TOURISM ACTION PERMIT**

Your signature below as Permit Holder indicated that you have completed the authorized action(s) and complied with all the terms and conditions of this permit (Action Permit **2014-21**) including any required mitigation.

Michael Fletcher, KDOT

Permit Holder (or Agent)

Date

Date Action(s) Completed