Environmental Permitting Coordination for the Keystone Pipeline Project

Coordination Summary – Cultural Resources and Tribal Consultation

The Keystone Project initiated discussions with State Historic Preservation Offices (SHPO) of the seven states (North Dakota, South Dakota, Nebraska, Kansas, Missouri, Illinois, and Oklahoma) that would be crossed by the project to determine cultural resources survey and reporting requirements specific to each state. The same overall coordination process was used in each state, which consisted of: 1) a search for previously recorded sites within a specified distance of the proposed route; 2) preparation of a research design and protocols for pedestrian surveys, based on the results of records search and preliminary discussions with the SHPO in each state; and 3) documentation of review and approvals by the SHPO for the these two phases. The SHPO coordination is discussed by state, from north to south.

With respect to tribal consultation, Keystone sent consultation letters to selected tribes to provide notice of project activities, and to solicit input from individual tribes potentially affected by the project.

North Dakota (Volume 1)

In January 2006, a research design for the cultural resources field inventory to be conducted along the proposed pipeline corridor in North Dakota was submitted to and approved by the NDSHPO. The ideas and concept underlying the research design were the result of discussions with the Chief Archaeologist of the NDSHPO. The research design was intended only for the cultural resources field inventory phase of the proposed pipeline project. Issues such as open trench monitoring, site evaluative testing, and mitigation/data recovery would be addressed separately following the field inventory. The procedures for monitoring or evaluative testing (if necessary) will be determined following the field inventory in consultation with the NDSHPO.

A sampling strategy comprised of five levels of investigation was proposed for the North Dakota segment. Two of these levels applied to the entire proposed pipeline route through North Dakota, while the remaining three applied only to selected areas. The first level, a literature and file search of an area 1 mile wide centered on the proposed pipeline route, was completed in January 2006. The second level of investigation was a reconnaissance of the proposed pipeline route by a geomorphologist, who identified areas that required closer investigation and conversely areas that were not archaeologically sensitive. The third level was an intensive pedestrian field inventory of selected segments of the proposed pipeline route in areas with high potential to contain archaeological resources. The fourth level was a reconnaissance inventory of approximately 41 miles of the proposed pipeline corridor. The fifth level was no survey, which applied only to areas determined to have essentially no potential for the presence of cultural resources. These areas were determined by the results of the previous four types of investigations.

The geomorphological investigation initially consisted of a study of existing geologic and soil maps and a review of the literature and file search data followed by a reconnaissance drive-by of the entire proposed pipeline route in order to determine areas that had the potential for archaeological sites, in particular, buried sites. At the time of the reconnaissance inventory, specific areas were identified where more detailed investigations (e.g., intensive pedestrian survey, soil coring) were recommended.

Approximately 49.5 miles of the proposed 215-mile pipeline corridor was selected for intensive field inventory. These areas were identified based on the results of the literature and files search and review of the various land forms crossed by or adjacent to the proposed pipeline corridor. The intensive field inventory consisted of close inspection of a 300-foot-wide corridor centered on the proposed pipeline centerline.

Approximately 41 miles of the proposed pipeline route was subject to a reconnaissance drive-by inventory. In forested areas or where the proposed pipeline route is generally over 0.25 mile from the road, the proposed pipeline route was inspected with a single transect (i.e., archaeologist). Specific areas that appear to be sensitive (e.g., locally prominent rises, areas near good sources of potable water) were subject to an intensive field inventory.

South Dakota (Volume 1)

In January 2006, a research design for the cultural resources field inventory to be conducted along the proposed pipeline corridor in South Dakota was submitted to and approved by the South Dakota SHPO. The ideas and concept underlying the research design were the result of informal discussions with the Review and Compliance Officer at the SDSHPO. The research design was intended only for the field inventory phase of the project and any issues such as open trench monitoring, site evaluative testing, and mitigation/data recovery will be addressed after completion of the field inventory in consultation with the SDSHPO.

A sampling strategy comprised of five levels of investigation was proposed for the pipeline corridor in South Dakota. The five levels of investigation were similar to those described for North Dakota with the exception of the number of miles recommended for the intensive pedestrian field survey and reconnaissance drive-by inventory. Approximately 38.5 miles of the proposed 223-mile pipeline corridor in South Dakota were selected for an pedestrian field survey and approximately 52 miles of the proposed pipeline route were subject to a reconnaissance drive-by inventory. These areas were identified based on the results of the literature and files search.

Nebraska (Volume 1)

In February 2006, a research design for the cultural resources field inventory to be conducted along the proposed pipeline corridor in Nebraska was submitted to and approved by the Nebraska SHPO. The ideas and concept underlying the research design were the result of informal discussions with the Historic Preservation Officer at the NSHPO. The review of the files and records maintained by the NSHPO indicated that 1 percent of the Nebraska segment of the proposed pipeline corridor had been previously surveyed; therefore, the NSHPO recommended an intensive pedestrian field inventory of the entire proposed pipeline corridor in Nebraska. The intensive field inventory consisted of close inspection of a 300-foot-wide corridor centered on the proposed pipeline centerline. Issues such as open trench monitoring, site evaluative testing, geomorphological investigations, and mitigation/data recovery will be addressed separately following the field inventory in consultation with the NSHPO.

Kansas (Volume 2)

In January 2006, a research design for the cultural resources field inventory to be conducted along the proposed pipeline corridor in Kansas was submitted to and approved by the Kansas SHPO. The sampling strategy proposed in the research design included a probabilistic survey of a random transect of the proposed pipeline corridor through Kansas. The areas to be surveyed were identified through a literature and files search, an examination of the site distribution patterns documented by previous archaeological research conducted in the region, past geomorphological investigations in the project area, and topographic map review.

Based on review of USGS topographic maps of the proposed pipeline corridor, 16 stream valley locations on 16 different drainages were evaluated as having the potential for containing buried cultural features; therefore, they were selected for geomorphological investigations. Three of the selected drainages are rivers: Big Blue River, South Fork Big Nemaha River, and Delaware River. Twelve of the remaining drainages are perennial streams and one is an intermittent creek. The geomorphological investigations entailed visiting the identified locations and testing the soil with a sampling tube. For those areas that

produce evidence of buried cultural deposits, the location will be further evaluated using backhoe trenching.

Approximately 39.56 miles of the proposed 98.4-mile pipeline corridor in Kansas were selected for intensive field inventory. These areas were identified based on the results of the literature and files search conducted through the Kansas State Historical Society's website and review of historic maps, atlases, and GLO plats. The intensive field inventory will consist of close inspection of a 200-foot-wide corridor centered on the proposed pipeline centerline. The inventory will include areas recognized to be archaeologically sensitive, including stream valleys and adjacent uplands and areas with previously documented sites.

Missouri (Volume 2)

In January 2006, a research design for the cultural resources field inventory to be conducted along the proposed pipeline corridor in Missouri was submitted to and approved by the Missouri SHPO. The sampling strategy proposed in the research design is the same as described above for the proposed pipeline corridor in Kansas with the exception of the number of miles selected for an intensive pedestrian field survey. Approximately 153.8 miles of the 273-mile proposed pipeline corridor in Missouri were selected for intensive field survey.

Based on review of USGS topographic maps of the proposed pipeline corridor, 52 stream valley locations on 49 different drainages were evaluated as having the potential for containing buried cultural features; therefore, they were selected for geomorphological investigations. Eleven of the selected drainages are rivers: Missouri River, Platte River, Little Platte River, Grand River, Mussel Fork River, Chariton River, Middle Fork Little Chariton River, East Fork Little Chariton River, South Fork Salt River, West Fork Cuivre River, and Mississippi River. All of the remaining drainages are perennial streams. The geomorphological investigations entailed visiting the identified locations and testing the soil with a sampling tube. For those areas that produced evidence of buried cultural deposits, the location will be further evaluated using backhoe trenching.

Illinois (Volume 2)

In January 2006, a research design for the cultural resources field inventory to be conducted along the proposed pipeline corridor in Illinois was submitted to and approved by the Illinois SHPO. The survey strategy proposed in the research design included an intensive field inventory and geomorphological investigations of the entire 56 miles of proposed pipeline corridor in Illinois. The intensive field inventory consisted of close inspection of a 200-foot-wide corridor centered on the proposed pipeline centerline.

Based on review of USGS topographic maps of the proposed pipeline corridor, 18 stream valley locations were evaluated as having the potential for containing buried cultural features; therefore, they were selected for geomorphological investigations. Two of the selected stream valleys are rivers: Mississippi River and Kaskaskia River. Thirteen of the remaining drainages are perennial streams and three are intermittent tributaries. The geomorphological investigations entailed visiting the identified locations and testing the soil with a sampling tube. For those areas that produced evidence of buried cultural deposits, the location will be further evaluated using backhoe trenching.

CUSHING EXTENSION

Nebraska (Volume 1)

The survey protocol for the Nebraska segment of the Cushing Extension would be the same as described above for the proposed pipeline corridor through Nebraska.

Kansas (Volume 2)

The inventory and geomorphological investigations protocols are the same as those described above for the proposed pipeline corridor through Kansas with the exception of the number of miles recommended for intensive pedestrian field survey and number of stream valley locations identified for geomorphological investigations. Approximately 85.3 miles of the proposed 209.2-mile pipeline extension in Kansas have been selected for the field survey and 39 stream valley locations have been selected for geomorphological investigations.

Oklahoma (Volume 2)

In February 2006, a research design for the cultural resources inventory and geomorphological investigations to be conducted along the Oklahoma segment of the proposed Cushing Extension was prepared and submitted to the Oklahoma SHPO. Preparation of the research design involved the identification of previously recorded sites and previously conducted inventories in the vicinity of the proposed pipeline corridor, a geomorphological reconnaissance along the proposed pipeline corridor, construction of a GIS layer including topographic features, and probability modeling.

A geomorphological windshield reconnaissance was conducted along the proposed pipeline route for the purposes of assessing the potential for buried cultural resources. As a result of the geomorphological reconnaissance, 15 areas were identified as having “good” potential for buried archaeological sites, 14 were identified as having “good to fair” potential, 25 were identified as having “fair” potential, and 20 areas along the proposed pipeline corridor were identified as having “poor” potential for buried archaeological sites.

Thirteen of the 15 areas identified during the geomorphological reconnaissance as having “good” potential for buried archaeological sites are recommended for backhoe trenching. These areas correspond with the floodplains of Bois d’ Arc Creek, the Salt Fork River, Red Rock Creek, Black Bear Creek, Long Branch Creek, and Cimarron River. The total number of miles recommended for backhoe trenching is approximately 9.4 miles of the proposed extension in Oklahoma.

Based on the results of the literature and files search and geomorphological reconnaissance, an intensive cultural resources field inventory is recommended for the entire 128.2 miles of the proposed Cushing Extension in Oklahoma. The intensive field inventory will consist of close inspection of a 300-foot-wide corridor centered on the proposed pipeline centerline. Shovel testing is recommended along moderate probability segments (approximately 16.5 miles) of the proposed pipeline corridor (see attached maps). Moderate probability segments are defined as those areas that are within 650 feet of a previously identified site and/or 1,312 feet of a secondary tributary crossing.

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CULTURAL COORDINATION PACKET 082506

Note: maps and milepost information based on March, 2006 centerline