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Archeological Survey of the Proposed Double Branch Interceptor Sewer: Lexington County, South Carolina

Description

To assess the potential archeological impact by the proposed Double Branch Interceptor Sewer project for the City of West Columbia, the Institute of Archeology and Anthropology conducted a week long survey of the approximate four mile long sewerline right-of-way. The survey consisted of a pedestrian transect of the corridor to inspect exposed ground surfaces and a limited shovel testing program. Three sites were located adjacent to the right-of-way. If these sites are avoided during the construction phase, they should experience no adverse impacts. An archeological clearance is recommended for the fifty-foot right-of-way.

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ARCHEOLOGICAL SURVEY OF THE PROPOSED DOUBLE
BRANCH INTERCEPTOR SEWER: LEXINGTON COUNTY,
SOUTH CAROLINA

by

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RESEARCH MANUSCRIPT SREIES 180

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July 15, 1980

ABSTRACT

To assess the potential archeological impact by the proposed Double Branch Interceptor Sewer project for the City of West Columbia, the Institute of Archeology and Anthropology conducted a week long survey of the approximate four mile long sewerline right-of-way. The survey consisted of a pedestrian transect of the corridor to inspect exposed ground surfaces and a limited shovel testing program. Three sites were located adjacent to the right-of-way. If these sites are avoided during the construction phase, they should experience no adverse impacts. An archeological clearance is recommended for the fifty-foot right-of-way.

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INTRODUCTION

The city of West Columbia, South Carolina, has proposed the construction of a new sanitary system, the Double Branch Interceptor, in northeastern Lexington County. This new system, designed to meet the increasing needs of a relatively large, established urban area, extends for approximately four miles along the natural drainage of Double Branch Creek and its minor tributaries. A 50-foot wide, right-of-way corridor will be acquired for the proposed construction along this route.

To comply with the guidelines and regulations established in the National Preservation Act of 1966, the National Environmental Policy Act of 1969, and the Archeological and Historic Preservation Act of 1974, the city of West Columbia, through the firm of B. P. Barber and Associates, Incorporated, requested an archeological survey of the corridor to assess the impact of the proposed construction on cultural resources in the area. The Institute of Archeology and Anthropology, University of South Carolina, undertook the archaeological survey, conducted by Jim Sexton between May 19 and May 23, 1980.

The survey revealed the presence of three prehistoric, aboriginal sites in the general vicinity of the project: 38LX265, a light scatter of prehistoric ceramic sherds; 38LX266, a low density prehistoric lithic scatter; and 38LX267, another, somewhat denser, prehistoric lithic scatter. Although each of these sites lies in close proximity to the sewerline corridor, none appear to be threatened by the proposed construction. This report documents the survey procedures and results upon which is based the recommendation to grant an archeological clearance.

ENVIRONMENTAL SETTING

The Double Branch Interceptor Sewer system is located in north-eastern Lexington County near the confluence of the Broad and Saluda Rivers in central South Carolina. The merging of the waters of these two large rivers, forming the Congaree River, marks the juncture of the Piedmont physiographic province with that of the Atlantic Coastal Plain province. This region has been termed the Fall Line and is defined geologically as the point at which the older crystalline rock formations of the Piedmont dip under the loosely consolidated sedimentary deposits of a more recent age in the upper Coastal Plain. This transitional boundary between these two physiographic provinces and their respective ecological communities exhibits qualities characteristic of an ecotone. Previous discussions by Goodyear (1975), Smith (1977) and Wogaman and others (1976) have presented the relevant cultural ecological features of this Fall Line and have generated some implications for human adaptive responses within this area.

The Double Branch Creek drainage, which totals a little over four miles in length, is a very minor one. Water flows in the upper reaches of the stream, near Interstate 26 and Hook Avenue, only periodically throughout the year. Several small springs feed the stream above U. S. Highway 378, enough such that by the time it reaches the highway, the stream runs permanently, eventually emptying into the Saluda River just upstream from its confluence with the Broad River. Despite its small size, the Double Branch Creek intersects discrete areas that can easily be described as either Piedmont or upper Coastal Plain ("sandhills") environment.

The drainage basin begins in a typical sandhills environment characterized by relatively poor sandy soil and vegetational species adapted to more xeric environs, for example, longleaf pine, scrub oaks, three awn grass, and huckleberry (Langley and Marter 1973:105). Within the very narrow headwater depressions, the "soil floods during heavy rains several times a year and water remains on the surface for long periods..." supporting "Water tolerant hardwoods" (Lawrence 1976:24).

As the drainage basin nears U. S. Highway 378, the environmental situation begins to change drastically. Geomorphologically, the area assumes a typical Piedmont look with very high ridges sloping toward the stream, narrow stream depressions, and large granitic boulders exposed on the surface. Deep sandy soils quickly change to shallow sandy soil with red clay subsoils, and large oaks, hickories, and other hardwoods begin to dominate the vegetational pattern. There appears to be little siltation of the stream valley from U. S. Highway 378 onward, a situation

similar to that described by Ferguson (1976) for the Crane Creek valley. In fact, with the exception of some moderate erosion of the valley slopes and the development of higher ground adjacent to the stream depression, the Double Branch drainage basin appears little altered during Historic times, unlike that described for other Piedmont drainages (compare Trimble 1972).

The location of the Double Branch Creek in the transitional Fall Line in close proximity to the ecologically discrete biotic communities of the Piedmont and Coastal Plain offered many potential advantages to prehistoric peoples. The rich and highly diverse resources of this ecotone were attractive to human populations who no doubt exploited them extensively, as evidenced by the sheer output of archeological remains in the Fall Line zone. The Double Branch Creek drainage, despite its small size, can be expected, therefore, to produce archeological remains comparable to others within this Fall Line zone.

ARCHEOLOGICAL BACKGROUND

Evidence recovered from archeological sites located in the vicinity of the Saluda and Broad rivers at the Fall Line indicates that this region of central South Carolina has been occupied on a continual basis for at least the last 12,000 years (Harmon 1980, Ferguson 1976, Smith 1977, Wogaman et al. 1976, Michie 1971). The diverse biotic and abiotic resources of this riverine setting combined with the equally diverse and rich environs of the transitional Fall Line zone have attracted people from the earliest Paleo-Indian hunters and gatherers of the early Holocene to the 18th and 19th century Euro-American colonists (Table 1). Culture historical sequences drawn largely from neighboring areas, such as Georgia (Wauchope 1966) and North Carolina (Coe 1964), have monitored this evolutionary development through local archeological manifestations. The area, as a general rule, has witnessed extensive utilization by prehistoric peoples in the past and consequently is rich in archeological resources.

Due primarily to recent public and commercial developments related to the Columbia metropolitan area, this portion of central South Carolina has come under recent archeological investigation. Beginning in the 1960s and continuing through the 1970s, first James L. Michie (1971) and later Sammy Lee, Robert Parler, Dr. Albert C. Goodyear, and other members of the Archeological Society of South Carolina have conducted systematic, intensive archeological excavations at the Taylor site (38LX1) and the Manning site (38LX50). With the passage of critical environmental legislation in the late 1960s and early 1970s, many cultural resource assessment studies have been undertaken. The Institute of Archeology and Anthropology has provided archeological services for a number of federally funded construction projects, such as sewerlines (Harmon 1980), transmission lines (Smith 1977), and highways (Wogaman et al. 1976, Goodyear 1975). Each of these projects has revealed a large number and wide diversity of archeological sites, demonstrating that this area of the Fall Line was heavily utilized by aboriginal peoples throughout prehistory.



SURVEY METHODOLOGY

The archeological survey took five person days to complete and involved three phases of work: 1) background research; 2) initial field reconnaissance; and 3) full field survey. The background research was to serve as an archeological preview, detailing the prehistoric and historic human occupational history of the region. Initially, a records check was made of the Statewide Archeological Inventory files, maintained at the Institute of Archeology and Anthropology, in order to determine if any previously recorded sites occurred in the project area. The records search showed no sites located in the proposed construction area. Reference to the National Register of Historic Places revealed that no such properties existed in the project area. An examination of Robert Mill's 1825 Atlas of South Carolina again showed no historic landmarks (for example, homes, mills, taverns, stores, etc.) in the Double Branch Creek area.

A brief review of the currently available literature concerning previous archeological research for the general region was also conducted (for example, Goodyear and Harmon 1979, Harmon 1980, Smith 1977, Ferguson 1976). This review provided a generalized culture historical frame of reference, a relative idea of human settlement patterns, and identified a number of specific archeological sites from the region which might be used for comparative purposes.

Several sites adjacent to the connector route have been reported by local collectors and professional archeologists. Two Early to Late Archaic sites have been recorded north of the Senn Branch on high ground overlooking the Saluda River in Lexington County. Three more archeological sites are recorded about one-half mile east of Double Branch on the Lexington side of the Saluda. Along the opposite side of the River, in Richland County, ten sites have been recorded by a number of individuals including Mr. Sullivan, an amateur archeologist, and Mr. Ryan, who conducted an archeological survey of the Columbia Zoological Park in 1972. One unrecorded site bordering on the southwest fork of the connector route, north of U. S. Highway 378 and west of Hummingbird Drive, contains a very early Archaic assemblage (James L. Michie, personal communication).

Although the background search failed to identify any sites within the proposed corridor, the number of sites located by other surveyors in these adjacent areas would seem to indicate that the absence of sites can be attributed to the lack of a systematic, intensive archeological survey rather than to any "archeological void" in the project area.

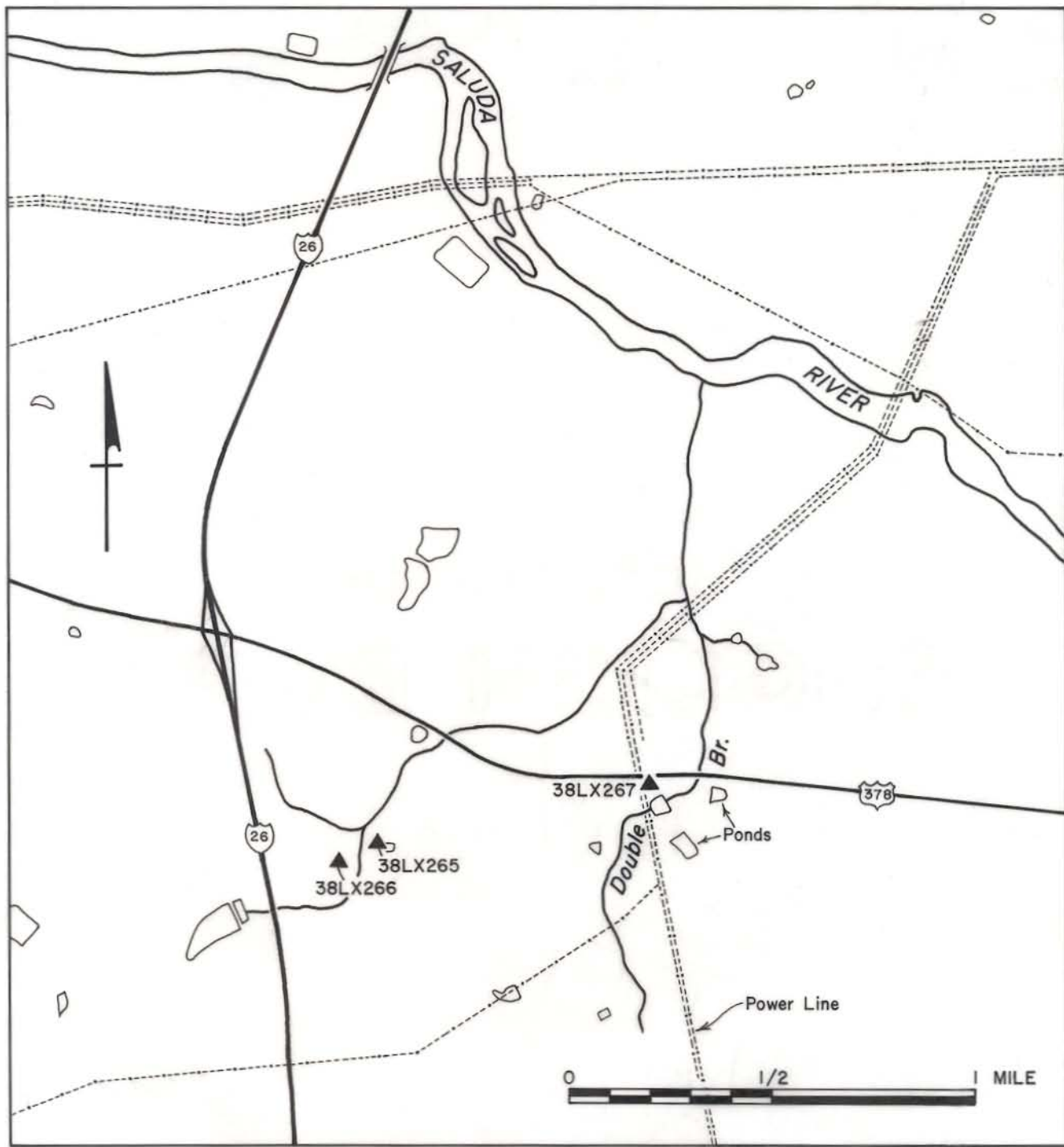
A short field reconnaissance was carried out on May 19, 1980, in order to become familiar with the sewerline route, current land use, vegetational cover, and overall accessibility to the project area. Ground surface visibility proved almost negligible for most of the project corridor due to the dense vegetation along the creek bottom. The sewerline route intersects or runs adjacent to a number of both commercial and residential properties through which access was sometimes limited and occasionally denied.

Based on this brief reconnaissance, the survey techniques were designed around how best to assess the proposed sewerline corridor. It was decided, given the potential constraints imposed by access and current land use, that the fieldwork should include an intensive pedestrian survey to inspect all exposed ground surface areas. In the all too probable likelihood that surface exposures would be severely limited, an extensive subsurface testing program would be adopted to search for buried archeological deposits and to complement the surface inspection program.

When an archeological site was encountered on the survey, site information was to be recorded on standard Institute of Archeology and Anthropology site inventory forms. In addition to information about site size, collection methods, and artifact assemblages, such management information as current owner, land use, vegetational cover, and condition of the site was included. Sites were photographed and mapped. When artifact collections were made, all specimens were returned to the Institute to be cleaned, catalogued, analyzed, and curated.

The full intensive archeological survey of the Double Branch Creek sewerline was conducted by Jim Sexton from May 19 through May 23, 1980. A twenty-meter wide (10 m either side of the sewer centerline) was examined for the entire distance of the proposed corridor (Figure 1). The dense vegetation in the drainage hampered a thorough inspection of the area. Quite often the only surface exposures available to the surveyor were those caused by overturned trees, ditch banks, washes, trails, and the creek bed proper. The only areas that exhibited any surface exposure of a reasonable size were those areas adjacent to the corridor, such as garden plots, driveways, access roads, etc., which were located on the first terrace. These "highly visible" surfaces, those considered to have 30% ground surface visibility or better, were inspected only if they were contiguous to the proposed right-of-way and/or if they had to be crossed in order to enter or exit the sewerline corridor. Only three sites were found on the survey, and all three of them were located in areas of high visibility, on higher ground adjacent to the corridor.

A very round estimate of the amount of highly visible surface area relative to the total project area surveyed would be something less than 10%. Well over 95% of this highly visible ground surface was in those areas adjacent to the corridor. By these estimates, only one half of one percent of the total survey corridor contained surface exposures of such a size as to be considered highly visible. With the surface inspection



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FIGURE 1. Double Branch Interceptor Sewer route showing archeological sites.

confined to such a small portion of the total area surveyed, it was decided early on to concentrate more heavily on the subsurface testing program in order to increase the probability of locating archeological sites within the corridor.

Some 58 shovel tests were excavated within the corridor. For the most part, these subsurface test units were evenly spaced (roughly one unit every 100 m) throughout the survey area. However, vegetation, topography, and current land use did not always allow such an even distribution. Additionally, areas implicitly considered to be of high site probability were shovel tested regardless of the spacing of the previous test units. Each shovel test was approximately 30 cm square and was excavated as deep as physically possible while still maintaining some reasonable level of vertical control. Most often, although varying slightly in some of the sandier soils, a typical test unit was excavated to a depth of 50 cm below the surface. Each unit was removed in arbitrary 10 cm levels and was screened through 1/4 inch wire mesh accordingly.

The subsurface testing program failed to locate a single site in the project corridor. Despite this, basic information about soil conditions, water table, depth to bedrock, etc. was recorded for 38 of the 58 test units excavated. Often conditions between two or more shovel tests were so similar, that in the absence of any archeological material, it was decided to record information only on selected units.

The combined pedestrian surface survey and subsurface testing program yielded only three archeological sites in the immediate vicinity of the Double Branch drainage (Figure 1). Other surveys from the general area have reported a higher incidence of archeological sites from comparable areas (compare Harmon 1980, Smith 1977, Ferguson 1976). This discrepancy may be indicative of less intensive utilization of the drainage by aboriginal peoples or may be attributed to differential survey visibility. Given the extensive coverage by surface inspection and subsurface testing, the latter explanation seems to have less merit, especially considering the narrow impact zone. The most plausible explanation of these differences must take into account the narrow topography of the drainage basin and also the development of nearly all of the adjoining higher ground (where sites might be expected to occur) into commercial or residential properties which obscure and in many cases destroy archeological deposits. The lack of information, for whatever sampling reasons, concerning the archeological manifestations of the larger drainage area precludes any resolution of the issue of occupational intensity. Regardless, the immediate impact zone of the Double Branch sewerline construction appears to be clear of archeological sites.

SITE DESCRIPTIONS

A brief discussion of each of the three sites located on the Double Branch Interceptor Sewer survey is presented below. Each site description includes a short identification of the culture historical components, assemblages and their inventories, site condition, and other general information. A more detailed description of each site has been completed and included with the Statewide Archeological Inventory records and is available at the Institute of Archeology and Anthropology, University of South Carolina, Columbia.

38LX265

This site is a low density, unidentified prehistoric, ceramic scatter located east of Double Branch Creek. It is represented largely by a handful of plain ware ceramic sherds.

4 plain sand tempered ceramic fragments
1 quartz flake

The site, which is bisected by Klapman Road, sits adjacent to a spring-fed pond situated in the front yard of a newly constructed house. The site appears to have suffered some damage due to the recent construction on its southern periphery. Because of this disturbance, site size was difficult to determine. An approximate estimate is 225 square meters.

The site was initially identified on the surface by the small number of sherds eroding from the deposit. All visible artifacts were collected. One 30 cm square shovel test on the north side of Klapman Road was excavated to a depth of 45 cm. Screening of the Johnston soils failed to produce any further cultural materials.

Based on the meager surface materials, the site can only be placed in a broad culture historical association pertaining to the Woodland/Mississippian periods. An historic component, containing late 19th century domestic artifacts, was located about 10 m west of the prehistoric area. This component is contained in a red clay which was brought into the front yard of the new house as fill material, according to a local informant. This assemblage is out of context and for this reason, is not discussed further.

While it seems unlikely that any form of impact by the proposed project will affect this site because of its distance from the corridor, the site should be avoided during any construction-related activities.

38LX266

Site 38LX266 is a low density, prehistoric lithic scatter located in a garden plot, west of Double Branch Creek and south of Klapman Road. As with 38LX265, site elevation is at 270 feet above sea level, and the soils comprising the site are of the Johnston association. The site dimensions measure approximately 50 m by 30 m or about 1500 sq m. Site visibility is estimated at greater than 75% of the surface. No subsurface testing was implemented. A ten minute selective grab sample of artifacts, in addition to several bifaces exhibited by the owner of the property, Mr. Robert Senn, produced the following inventory:

- 2 Coastal Plain chert Palmer bifaces
- 1 quartz Palmer biface
- 1 quartz Morrow Mountain biface
- 1 quartz Savannah River biface
- 1 quartz unidentified "preform"
- 4 quartz flakes
- 1 quartz chunk

The artifact assemblage indicates an Early to Late Archaic association for the site. Although the collection technique was a selective grab sample with only a small number of debitage classes represented in the inventory, there, in fact, was very little debitage to collect from the site's surface. Most of the artifacts collected from the site can be classified as formal tool types which is not a typical example of the tool to debitage ratio for this general area (compare Harmon 1980).

As with 38LX265, this site does not appear to be threatened by the proposed sewerline construction. However, care should be taken by the construction contractors to avoid this area when entering or exiting from the construction corridor.

38LX267

This site is located in a dirt parking lot and garden plot south of U. S. Highway 378. A powerline transects the site which is situated on Dothan-Urban soils at 255 feet above sea level. The site can be described as an upland lithic scatter, so typical of the Piedmont region. It is composed entirely of prehistoric lithic artifacts lying on a ridge nose that extends downward to Double Branch Creek. Artifacts have a low to moderate density, being evenly distributed over the exposed surface. The site is heavily eroded, and the topsoil is being displaced through sheet erosion rather than gullying which leaves the larger, heavier artifacts sitting on the underlying clay horizon. Surface visibility varies considerably, averaging about 50%. No subsurface testing was conducted given the eroded condition of the site. An intensive grab sample of representative artifact types yielded the following assemblage inventory:

1 quartz Morrow Mountain biface
1 quartz triangular biface (Yadkin?)
5 quartz unidentified biface fragments
2 rhyolite unidentified biface fragments
6 quartz flakes
2 quartz flake cores
2 quartz chunks
1 Coastal Plain chert FBR
2 rhyolite flakes
1 rhyolite FBR

Culturally, the site can be placed in a time span from the Middle Archaic to as Late as the Woodland period. Many of the unidentified biface fragments appear to be Archaic, but because of their fragmentary nature cannot be assigned to a specific temporal period.

This site, along with the previous two, is located on property adjoining the proposed corridor and is not located in the directly impacted right-of-way. Despite the damage already incurred from other destructive sources, extreme care should be taken by the construction contractors to avoid 38LX267 completely.

RESULTS AND RECOMMENDATIONS

An archeological survey was conducted for the proposed Double Branch Interceptor Sewer system during the week of May 19 through May 23, 1980. The survey consisted of a pedestrian surface inspection of all exposed ground in the corridor combined with an extensive sub-surface shovel testing program. Fifty-eight, 30 cm square shovel tests were excavated in the proposed corridor, all of which failed to produce any archeological materials. Surface inspection of exposed ground also failed to locate any archeological sites in the proposed right-of-way. Three archeological sites were located in areas immediately adjacent to the construction corridor. None of these sites (38LX265, 38LX266, 38LX267) should be affected by the sewerline construction since they appear to be far enough from the right-of-way to ensure their protection. However, it is recommended that care be taken by construction contractors, surveyors, and others affiliated with the project to avoid disturbing these sites in any direct or indirect manner, for example, parking, operation of heavy machinery, storing of equipment or tools, or the loading and unloading of pipe. If the sewerline follows the proposed route and construction is confined to the corridor, archeological clearance is recommended for the fifty-foot right-of-way. In the event that any archeological materials are encountered during construction, a professional archeologist should be contacted.

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