

## **IV. ARCHEOLOGICAL INVESTIGATIONS**

### **FIELD METHODS**

Phase I fieldwork included a pedestrian reconnaissance followed by a systematic subsurface survey. The reconnaissance was conducted to confirm or modify preliminary assessments of the project area's archeological sensitivity. It also served to identify surface features or cultural deposits, and to delineate areas that could be excluded from subsurface survey due to excessive slope, poor drainage, or disturbance. Results of the pedestrian reconnaissance were mapped, recorded in field notes, and photo-documented, as appropriate.

Subsurface survey took place in areas containing potentially undisturbed cultural deposits and features and entailed the excavation of shovel test pits (STPs) along transects spaced at 15-meter intervals. Given the severe slope and narrow construction limits along the east side of SR 82, STPs were limited to the western side of the roadway. When archeological materials were encountered, radial STPs were excavated at cardinal points to obtain preliminary information on the horizontal extent and integrity of deposits. GAI excavated STPs at close intervals (5 meters [16 feet]) in proximity to structural features to ensure that any deposits associated with such features were adequately sampled. Transects were assigned alphabetic designations; STPs received numeric designations.

STPs measured roughly 50 centimeters in diameter and were hand excavated, following natural soil stratigraphy. Each STP was excavated at least 10 centimeters into natural subsoil (where encountered), or to depths sufficient to ascertain the condition and archeological content of the natural soil profiles. All excavated soils were passed through 1/4-inch mesh hardware cloth for systematic artifact recovery. When recovered, artifacts were bagged according to their natural soil stratum and labeled with provenience information, date of collection, and the initials of the excavators. A standard GAI Shovel Test Form was completed for each excavated STP, noting soil descriptions, depths of horizons, and the presence of cultural materials. The locations of all shovel test pits were recorded on project plan sheets, provided by DelDOT, along with the locations of modern structures, archeological features, and other relevant data.

### **LABORATORY METHODS**

Laboratory procedures followed guidelines established by the Delaware State Historic Preservation Office (1993). Artifacts collected during fieldwork were transported to GAI's Archeology Laboratory for analysis. Initial processing consisted of checking artifact bags against the Field Specimen (FS) Log to determine that collected samples were present. Specimens were then cleaned with water and a soft brush. Following cleaning, artifacts were placed in bags labeled with provenience information, artifact class, and FS number.

Historic/modern artifacts were sorted into general types and classes by provenience (e.g., whiteware, nail fragment), and were assigned a date, if possible, to characterize the chronology and function of identified archeological contexts. Six artifacts were collected during the survey, including three modern artifacts that were discarded in the field. A list of recovered artifacts is attached as Appendix A.

### **RESULTS**

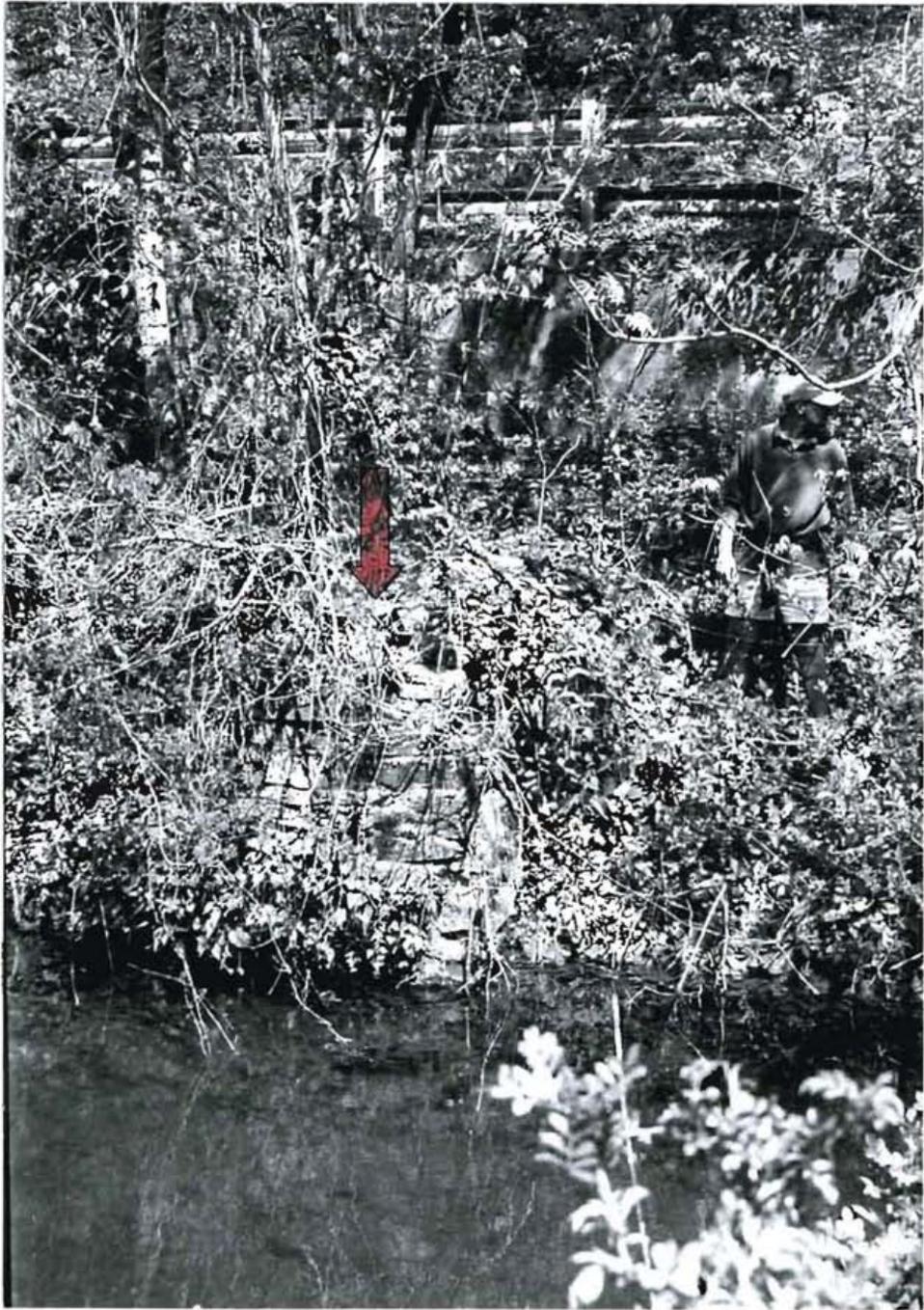
GAI conducted the fieldwork for this archeological survey on April 29, 1998. These investigations included a pedestrian reconnaissance and the excavation of systematic shovel test pits within the project area. As a result of the pedestrian reconnaissance, portions of the survey area were omitted from subsurface investigations. Such areas included the excessively sloped terrain along

the eastern and western margins of SR 82, the latter associated with an artificial road embankment (Photograph 1). On the west side of the ROW, the area between Stations 0+85 and 0+220, in the center of the project area, exhibited comparatively level terrain and GAI conducted subsurface investigations here (Figures 5a and 5b). During the pedestrian reconnaissance, GAI also relocated the millrace and 1910 diversion dam previously identified as elements of the Auburn Mills Historic District (Griffitts 1998). As noted earlier, the millrace extends along the western margin of the limits of construction. The diversion dam lay outside and 7.5 meters (24.6 feet) west of the project right-of-way, at the northern terminus of the study area (Station 0+330) (Figure 5a).

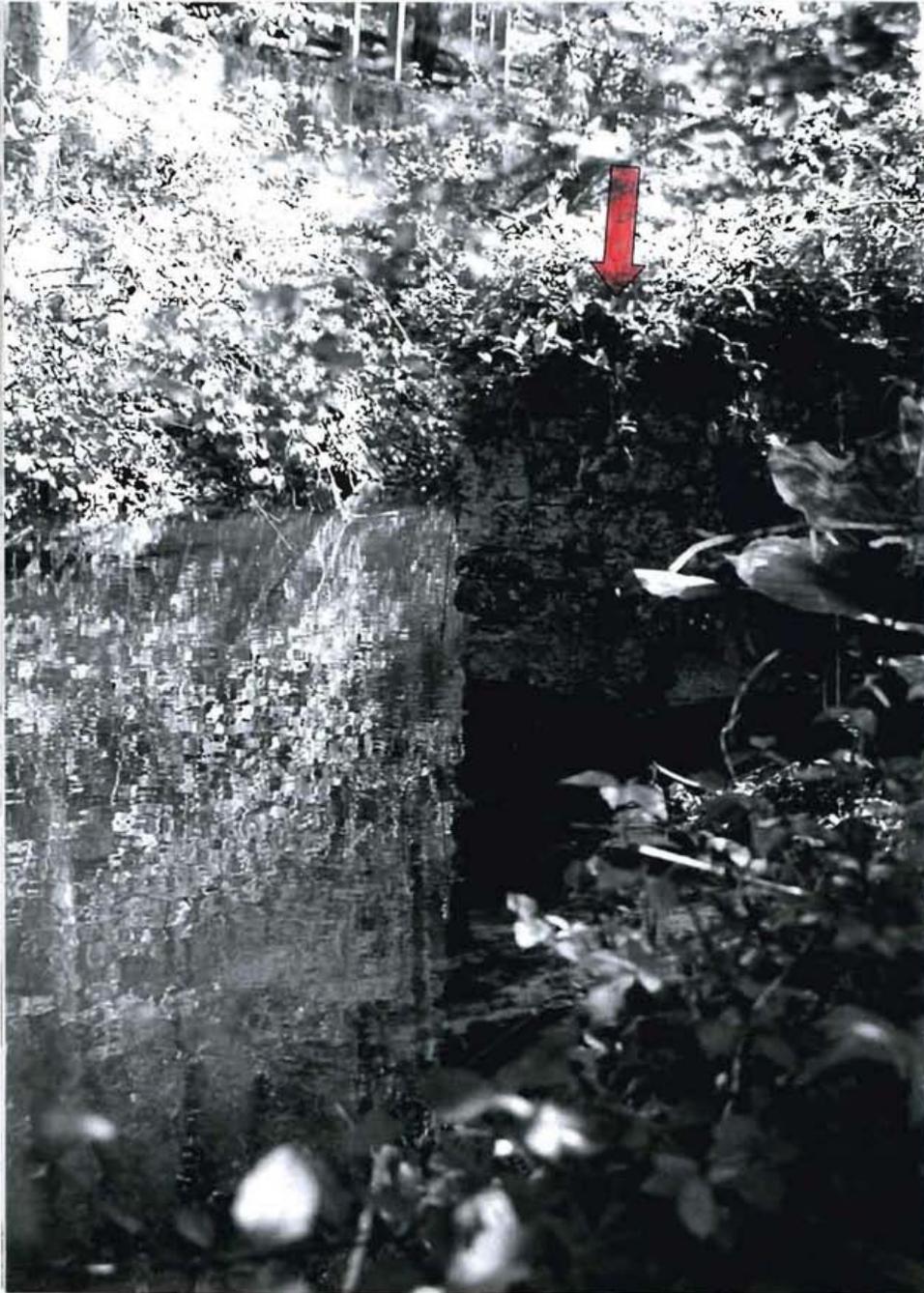


**Photograph 1. Excessive slopes on either side of SR 82. Looking south.**

A second group of features, consisting of five dry-laid fieldstone piers, was identified in association with the extant millrace. These features lay at the foot of the road embankment five meters west of the pavement edge of SR 82 (Station 0+285 to Station 0+295) (Figure 5a) (Photographs 2 and 3). They consist of two sets of stone piers arranged in parallel rows opposite one another on either side of the millrace. A group of three piers lay on the east side of the millrace within the existing ROW for SR 82 but just outside the limits of construction for the proposed project. The two piers on the west side of the millrace lay outside the ROW and the APE. The piers, spaced at distances of approximately 2 meters (6.6 feet), were constructed of



**Photograph 2.** Masonry pier on the east side of the millrace. The cement retaining wall for SR 82 (visible in the background) is modern. Looking east.

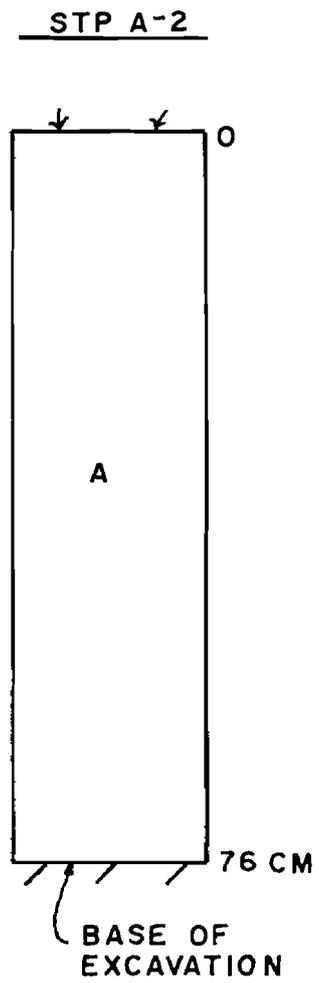


**Photograph 3. Masonry pier on west side of the millrace. Looking southeast.**

unmodified fieldstone and were anchored to the millrace bank. The piers measured roughly 2 x 1 meters (6.6 x 3.3 feet) (N-5003.15) and reached a height of approximately 2 meters (6.6 feet) above the bottom of the millrace. The arrangement of these features suggests that they formed the foundation for a structure that spanned the millrace such as a bridge (Appendix B).

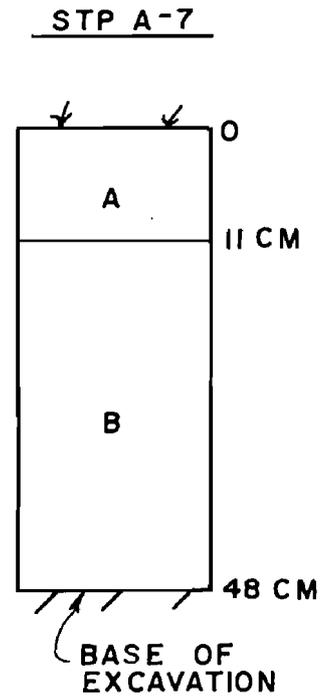
Subsurface testing initially included the placement of 21 shovel test pits at 15-meter intervals within the project area, west of SR 82 (Figures 5a and 5b). Due to steep terrain, 12 of these STPs were not excavated. Eight of the remaining nine shovel test pits (STPs A-7 through A-12, A-15 and A-16), placed along relatively level areas within the central portion of the project area, encountered disturbed soil profiles. Examples of these profiles included a plowzone (Ap horizon) measuring 10 to 16 centimeters in depth overlying a brown to dark yellowish-brown truncated subsoil (C horizon) (Figure 6: STP A-7). None of these STPs yielded any archeological materials.

In addition to the above, two radial shovel test pits were placed on either side of STP A-2 located directly east of the above mentioned masonry piers (Figure 5a). STP A-2 revealed deposits of dark grayish-brown silty loam interpreted as roadbed fill deposits (Figure 6). Three historic artifacts were recovered from this excavation, including one whiteware sherd (circa 1815-present), an unidentifiable nail fragment, and one glass cosmetic jar (post-1924) along with modern debris (Appendix A). These materials are interpreted as secondary deposits of indeterminate origin associated with the existing road embankment; as such, they do not provide information concerning the age or function of the masonry features. Excavation of radial shovel test pits (STPs A2N and A2S) were negative, revealing soil profiles comparable to those observed to the south; i.e., Ap horizon overlying subsoil. Thus, no clear evidence of a distinct soil stratum or associated cultural deposits was observed in relation to the fieldstone piers.



KEY

A - 10YR 4/2 DARK GRAYISH BROWN SILTY LOAM (FILL)



KEY

A - 10YR 3/2 VERY DARK GRAYISH BROWN SANDY LOAM (A<sub>p</sub> HORIZON)

B - 10YR 4/4 DARK YELLOWISH BROWN SAND (C HORIZON)

**FIGURE 6**

SR82 SLOPE STABILIZATION, REPRESENTATIVE STP PROFILES