Chapter 3

ARCHAEOLOGICAL INVESTIGATIONS

Previous Investigations by Legacy Research

The Ashe Ferry site (38YK533) was discovered in 2008 by archaeologists from Legacy Research Associates, Inc., while conducting a Phase I investigation to identify cultural resources that might be affected by South Carolina Department of Transportation's planned replacement of the SC Highway 5 bridge over Catawba River. This investigation consisted, in part, of intensive archaeological survey, involving both surface reconnaissance and systematic shovel testing, within the area of potential effects (APE), and geomorphological deep testing on the first alluvial terrace along the west side of Catawba River (Legacy 2009:iv). The APE was defined as a corridor extending 48 m north of the existing highway and 30 m south of the highway, and running from a point about 1,100 m west of Catawba River (in York County) to a point about 1,000 east of the river (in Lancaster County) (Legacy 2009:32).

Shovel Testing

Initial systematic shovel testing within the project APE consisted of digging 30-cm diameter test pits at 30-m intervals along transects running parallel to the highway. Test pits were excavated to sterile subsoil, where possible, and excavated soil was screened through ¼-inch mesh. According to Legacy's final report, "When archaeological materials were encountered, additional shovel tests were excavated to determine site integrity and artifact density, and to gather preliminary information on the cultural affiliation and age of the site…. Testing was limited to the amount necessary to determine site significance in terms of NRHP-eligibility criteria (Legacy 2009:33)." Testing in this manner led to the discovery and delineation of the Ashe Ferry site (38YK533), the Ayers Town site (38YK534), and a third, highly disturbed site (38LA570) on the east side of Catawba River which was defined by the occurrence of a single utilized flake (Figure 3.1).

According to the Legacy (2009:41) report, the Ashe Ferry site was discovered as a result of 11 positive shovel tests (i.e., test pits containing artifacts) within two transects (transects #18 and #19) along the north side of the highway, adjacent to Catawba River. At least 10 shovel tests appear to have been dug along transect #18, located closest to the edge of the highway; however, only seven (test pits 1, 3–5, 7, and 9–10) of these were mapped. Test pits 1–5 contained pottery or lithic artifacts (Legacy 2009: Appendix A). Likewise, at least eight shovel tests in transect #19, located about 30 m north of transect #18, appear to have been dug, but only four of those (test pits 1, 2, 7, and 8) are mapped. Three (test pits 3, 4, and 5) of the six pits containing artifacts (test pits 1–5 and 8) were not mapped. Two additional shovel tests (transect #17, test pits 99 and 100) also produced artifacts and appear to have contributed to the site's discovery (see Legacy 2009:Appendix A). These were not mapped but presumably were located on the south side of the highway. Two additional positive shovel tests on the north side of the highway are shown on the map; it is unclear when or why these were dug.

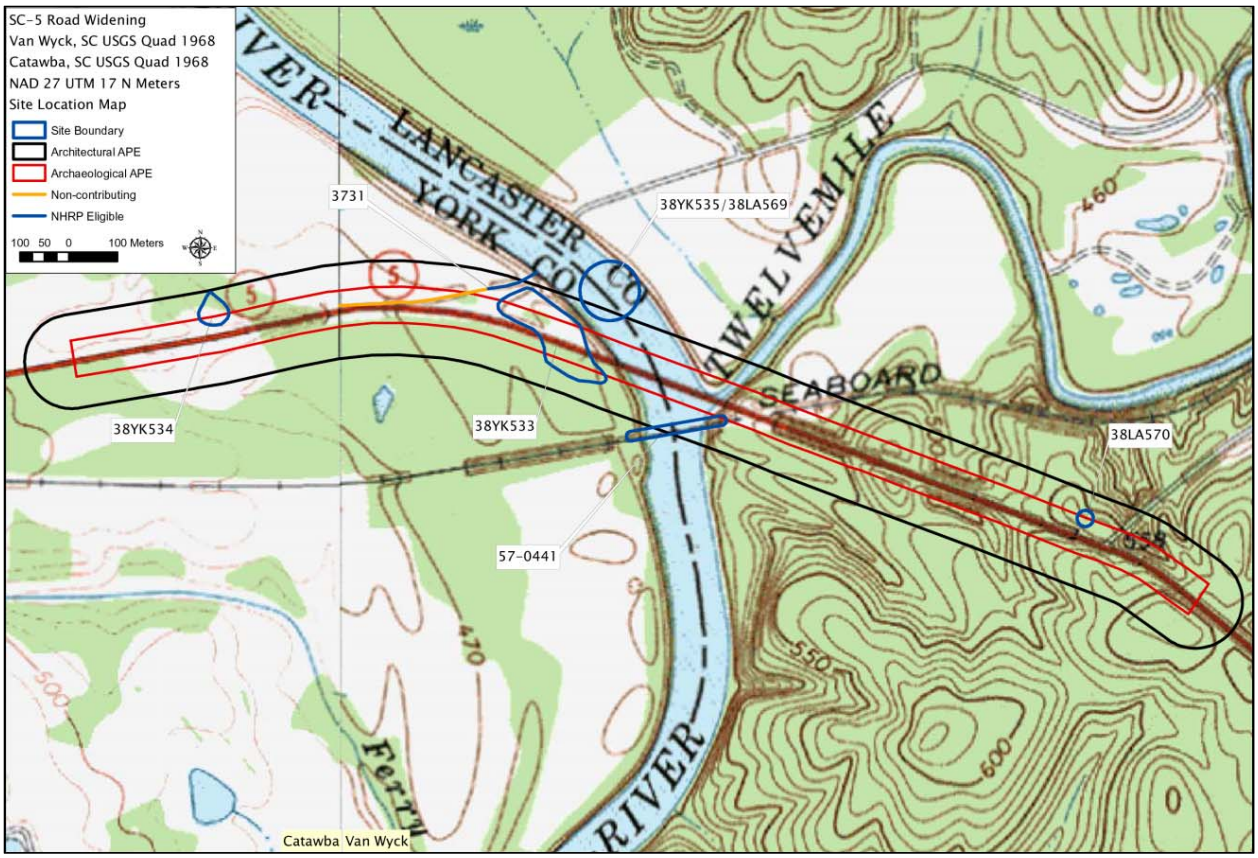

Figure 3.1. Legacy Research Associates project map, showing project boundaries and the locations of sites 38YK533, 38YK534, and 38LA570 (from Legacy 2009:v).

Following site discovery, Legacy archaeologists dug additional shovel tests across the suspected site area at 10-m intervals along transects placed approximately 10 m apart. This permitted the delineation of site boundaries by mapping the distribution of positive shovel tests. According to their report (Legacy 2009:41), 113 additional shovel test pits were dug during this phase of investigation, and 51 test pits "yielded cultural material," mostly lithic artifacts, flakes, fire-cracked rock, and fragments of broken pottery, in soils ranging from 10 cm to 82 cm in depth. Forty-nine of these test pits were mapped, and 50 are listed in the artifact inventory (Legacy 2009:Appendix A). Based on the spatial distribution of positive shovel tests, the site was defined as an approximately 17,800 sq m (17.8 ha) area extending almost 100 m southwest from the front edge of the alluvial terrace, about 100 m north of the highway, and about 60 m south of the highway (see Figure 3.1). This coincides with the area on the terrace with the highest elevation, which is about eight meters above the normal level of the river.

Shovel testing recovered 238 lithic artifacts, consisting mostly of debitage and including no temporally diagnostic artifacts (Legacy 2009:56). Of the 156 potsherds that were found, 54 were identifiable by surface treatment (with most exhibiting plain, cord-marked, or simple-stamped surfaces), and all these were interpreted as "Historic Catawba" ceramics (Legacy 2009:58). These potsherds can now be confidently attributed to the Late Woodland Ashe Ferry phase and Mississippian occupations of the site; none are attributable to a Catawba occupation during the historic period.

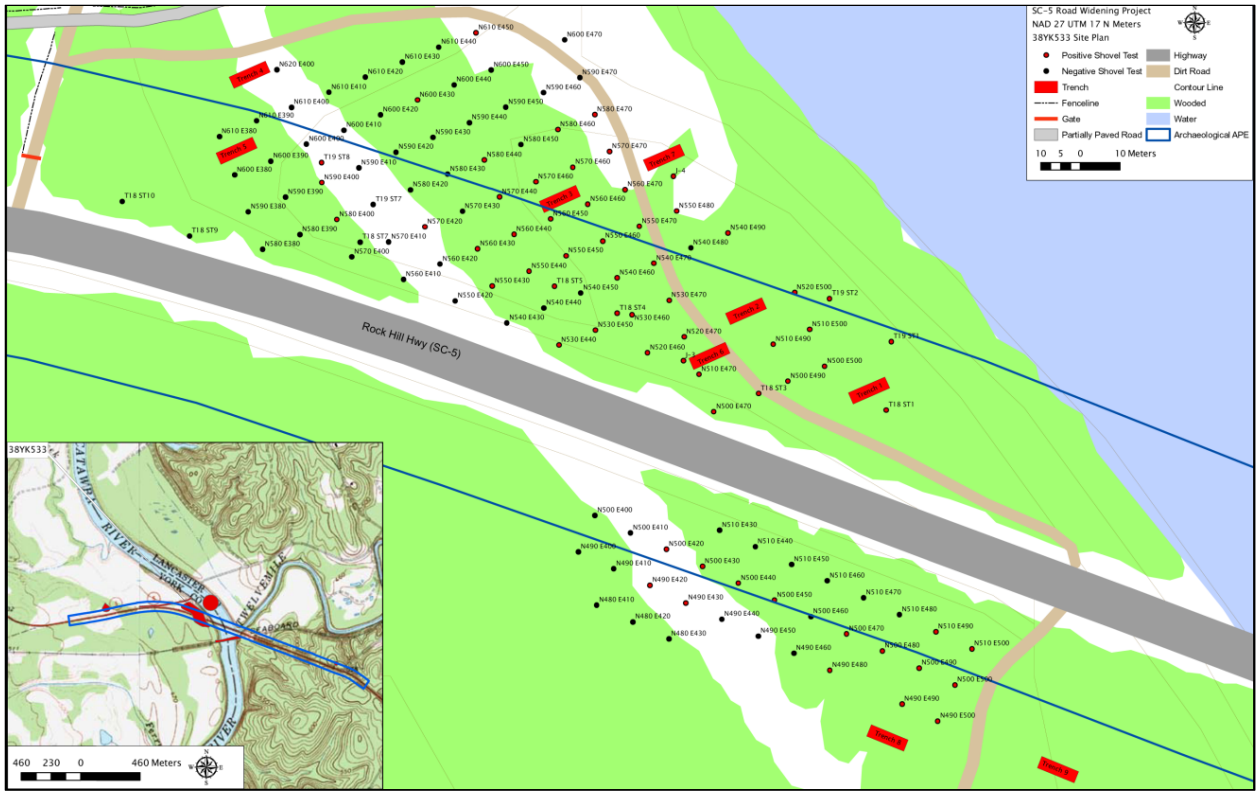

Figure 3.2. Legacy Research Associates map of archaeological testing at the Ashe Ferry site (38YK533) (from Legacy 2009:43).

Trench Excavations

In addition to shovel testing, Legacy archaeologists also employed a backhoe to excavate nine trenches across the site in order to sample deeply buried sediments and provide exposures for gathering geomorphological data about the site (Figure 3.2). Five of these trenches were located near the site center, with Trenches 1, 2, and 7 placed along the proximal side of the T1 terrace levee and Trenches 3 and 6 along the distal side of the levee (Legacy 2009:42).

At a depth of 155 cm bs within Trench 2, archaeologists found a concentration of 596 orthoquartzite flakes, a possible fragment of a Late Archaic Savannah River Stemmed projectile point, and seven other lithic fragments (Legacy 2009:48). This artifact cluster, likely representing the remains of a small pit, was designated Feature 1 and provided evidence for more deeply buried cultural components at the site. Additional evidence for buried, pre-Woodland cultural components was revealed in Trench 7, where a concentration of 15 stone flakes, a possible biface fragment, a piece of fire-cracked rock, and a grinding stone was recorded at a depth of 80–100 cm below surface (Legacy 2009:49). Finally, excavation of Trench 6 was terminated at a depth of about 30 cm due to the appearance of possible archaeological features associated with an unspecified cultural component.

At the northwest edge of the site (as originally defined), Trench 4 was excavated into the distal side of the T1 levee while Trench 5 was excavated into T1 sediments just west of the levee and within a broad erosional channel. No artifacts were reported from the excavation and cleaning of these trenches.

The final two trenches were dug into the distal (west) side of the T1 levee at the site's southern edge. One of these (Trench 8) encountered "a shallow cultural horizon" with "fill

material [that] extended from the ground surface to a depth of 28 cm bs" (Legacy 2009:42). This artifact and charcoal-laden deposit was actually the uppermost fill zone of a large storage pit, designated Feature 28, which had been subsequently truncated by agricultural plowing and backhoe trenching to a depth of about 28 cm below surface. Excavation of Trench 8 terminated at the top of this deposit but extended to a depth of about 2 m immediately to the east, clipping the feature's lower fill zones. Within these zones, which are transected by percolation lines, or lamella, Legacy archaeologists encountered what they mistakenly regarded as "a buried cultural horizon…between two lamella layers at approximately 1.3 m (4.3 ft) bs" and reported that "an early 1700s Catawba cord-marked sherd was recovered…at about 1 m (3.3 ft) bs within the buried cultural horizon" (Legacy 2009:49).

Trench 9, located on a highly disturbed and eroded land surface between Trench 8 and the river, also revealed artifacts within a deeply buried stratum. Beneath two zones totaling 60 cm in thickness, which the excavators interpreted as a "post-1916 red clay fill" underlain by "ca. 1916 flood-deposited sand," was a 15-cm thick band of darker soil—designated a "buried cultural horizon"—that purported contained 11 potsherds, a utilized flake, and four pieces of fire-cracked rock (Legacy 2009:52–54). This trench was re-exposed by UNC archaeologists and two 1x1-meter units were excavated adjacent to it in order to investigate the potential for deeply buried, ceramic-bearing deposits at this location. These investigations are treated more fully under *Field Evaluation of Shovel Tests and Backhoe Trenches* (see below).

In summary, trench excavations at the Ashe Ferry site indicated the potential for culturally-derived deposits beneath the base of plowed soil within the levee that built up along the front edge of the T1 terrace; similar deposits were not encountered along the west, or distal, side of the levee. Trenches 2 and 7 provided unambiguous evidence for buried deposits likely attributable to the Archaic period, while Trenches 8 and 9 contained purported evidence of deeply buried "Historic and possibly unidentified Woodland period occupations" (Legacy 2009:58). Artifact-bearing deposits and possible archaeological features of unspecified cultural association also were reported at the base of plowed soil in Trenches 6 and 8.

Initial Site Interpretation and Recommendation

Based upon the results of their site investigations, Legacy Research Associates (2009:64) hypothesized that the Ashe Ferry site contained the following four distinct archaeological components:

1. an "unidentified prehistoric ceramic and lithic scatter" identified through shovel testing and covering "an area that is approximately 120 m (393.7 ft) north–south and 135 m (442.9 ft) northwest–southeast";
2. a "Historic Catawba occupation" also identified through shovel testing and of similar extent to the previous component;
3. a "buried Archaic period component identified in Backhoe Trench 2 between 80 and 210 cm (2.6 to 6.9 ft) bs" and of unknown areal extent; and
4. a "buried Catawba component identified in Trench 9 between 60 and 75 cm (2 to 2.5 ft) bs and in Trench 8 at 140 cm bs."

Given this interpretation, it was argued that the site was significant, and therefore eligible for the National Register of Historic Places under Criterion D for its information potential, "primarily because of the buried Archaic period component and the ca. 1700 Catawba component" (Legacy 2009:64). It was argued further that the "Catawba component" was significant "primarily because of its rarity" (Legacy 2009:65). With these findings, a scope of work was drawn up by

the South Carolina Department of Transportation to conduct additional archaeological testing at the site to clarify both site extent and composition, and to undertake broader investigations to mitigate the site's loss due to the bridge replacement project (SC DOT 2009).

Investigations by the University of North Carolina

In response to SC DOT's scope of work and request for proposal, the Research Laboratories of Archaeology, University of North Carolina, Chapel Hill, submitted a proposed data recovery plan to Mulkey Engineers and Consultants for archaeological investigations at 38YK533 (Ashe Ferry site) and 38YK534 (Ayers Town). The plan for the Ashe Ferry site was based on the likelihood that the archaeological manifestation initially interpreted as "Historic Catawba" actually dated to the Late Woodland period (ca. A.D. 1000–1200). This plan noted:

> …the simple stamped and cordmarked ceramic wares recovered from 38YK533 more closely resemble sherds from nearby site 38LA125, a probable Late Woodland period component (now destroyed) formerly located immediately across the Catawba River. Similarly, the spatial coincidence of fine-grained rhyolite lithic debris and small projectile point fragments with ceramic sherds at 38YK533 resembles the configuration of the 38LA125 component. Therefore, we propose that *investigations at 38YK533 might be more correctly framed as exploration and clarification of a heretofore undefined Late Woodland period material complex* [emphasis added].
>
> Accordingly, investigations at 38YK533 should first attempt to define coherent material patterns and to temporally situate these patterns as a starting point from which to interrogate the record of Late Woodland period occupation in the lower Catawba River Valley. Investigations at 38YK533 will aim to:
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> (1) refine definition of the horizontal and vertical extent of the component within site sediments;
>
> (2) expose and identify a representative sample of intact discrete deposits (e.g., pit features, architectural post patterns) and intact continuous deposits (i.e., middens, buried surfaces) in an attempt to characterize the span and functions of the Late Woodland period occupation; and
>
> (3) recover a representative sample of material assemblages from discrete contexts, providing a basis for functional and temporal characterization of the ceramic bearing component. Acquisition of these data will facilitate both synchronic and diachronic comparative analyses to illuminate this poorly documented and poorly understood segment of South Carolina's prehistory, a need underscored by Anderson et al. (1996).
>
> … to address these objectives, the RLA proposes a stepwise and differential approach to accommodate the progressive definition of varied site conditions and discovery of evidence. …to establish the horizontal and vertical extent of the ceramic-bearing component, the RLA will excavate a series (approximately 33) of one-meter square units arrayed on 20-meter centers across the site area as defined by the 2008 Legacy survey, to achieve an approximate .25% sample of the site deposits. Additional 1x3-m units will be excavated adjacent to Legacy trenches 8 and 9, which encountered ceramic artifacts associated with buried surfaces. These excavation units will be hand dug, and all sediments removed will be passed through ¼"-mesh screen for recovery of artifacts. Plowzone … will be removed as a single stratigraphic unit; other deposits will be removed under arbitrary 10-cm level controls with provisions for clear stratigraphic transitions. These units will serve to define spatial variation in the vertical distributions of materials associated with the presumed Late Woodland period component and will provide a gross-scale measure of variations in material density across horizontal space. ….
>
> Stratigraphic information from the one-meter square units will guide subsequent machine excavation of three-meter-wide trenches arrayed at 20-meter intervals across the site area to assay for the presence and density of intact discrete and continuous deposits associated with the presumed Late Woodland period site component. These machine-excavated transects will remove historic-era plow-homogenized sediments to access surfaces within which such intact deposits might survive, and will achieve an evenly distributed exposure of 15% of intact surfaces within the defined area of the ceramic-bearing component. …

> Intact discrete and continuous cultural deposits exposed by the three-meter wide trenches will be mapped (using a total station) with reference to the internal site grid and control points established by the SCDOT, and documented with digital photography from vertical perspective (including mapped control points); then, they will be hand excavated with respect to internal stratigraphy, with photodocumentation and mapping of profile sections and completed surfaces and outlines. Recovered soils from these discrete contexts will be water-screened through window mesh for recovery of associated materials, and measured sediment samples from each stratigraphic unit will be processed by flotation to recover botanical materials. Exceptions to this standard recovery protocol will be made in the instance of human burials and probable human interments. Upon discovery of contexts evincing formal and matrix characteristics consistent with human graves, the surfaces of such contexts will be mapped and photodocumented, and SCDOT will be notified of their presence, character, and location. Nor further investigation of these contexts will be undertaken pending consultation of the lead agency (SCDOT) with interested parties and the development (through consultation) of a formal treatment plan for such grave contexts. The RLA will then proceed as directed under the terms of the formal treatment plan ….
>
> … the incidence and distribution of intact discrete and continuous deposits exposed by the three-meter-wide trenches will guide selection of areas for more extensive excavation to achieve a sample suited to definition of site structure and, if feasible, community pattern.
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> These mechanically-stripped exposures may total as much as 6,500m² (1.6 ac) within the APE, with no more than 4,000 m² (.99 ac) exposed at one time. Intact discrete and continuous cultural deposits revealed by these large contiguous exposures will be treated with the same protocols as those exposed by the three-meter-wide test trenches. [RLA 2009]

The University of North Carolina's archaeological investigations at Ashes Ferry began on March 10, 2010 with the establishment of the site grid and concluded on November 19, 2010 with the removal and re-interment of four graves found at the site. Most work at the site, however, was undertaken over a 12-week period between March 15 and June 7, 2010, and was facilitated by the use of a trackhoe to expose selected surfaces for archaeological mapping and excavation. Investigations were accomplished by a crew of 6–8 archaeologists and for the last four weeks of the project also included students and staff of the university's summer archaeological field school.

At the time of investigation, the site was planted in mature pines with interspersed hardwood trees and patches of river cane and dense undergrowth. These conditions factored into the placement of excavations, and in some instances test units had to be moved a meter or two in order to avoid trees. An unimproved access road also ran through the site, and it was avoided during excavation, as was a large gully that cut into the northeast site edge (Figure 3.3). Finally, the SC Highway 5 embankment and right-of-way created a 35-m wide corridor across the center of the site that was inaccessible for field study.

Investigations were undertaken in the following eight phases: (1) establishment of a site grid; (2) field evaluation of Legacy shovel tests and exploratory backhoe trenches; (3) systematic test excavations; (4) selective mechanized stripping of plowed soil and overlying flood-deposited sand; (5) excavation of additional test units and block excavations within stripped areas; (6) additional mechanized stripping of the site; (7) mapping and excavation of archaeological features; and (8) removal and re-interment of identified graves.

Establishing the Grid

The first task before beginning work at the Ashe Ferry site was to establish an excavation grid. Because we also planned to work simultaneously at nearby Ayers Town, we established a single grid for both sites. This grid was tied into the South Carolina State Plane reference points

Figure 3.3. View of the Ashe Ferry site looking southeast along the access road. The Catawba River is to the left and the SC Highway 5 bridge approach is to the right.

that had been placed in the vicinities of both sites by surveyors working for Mulkey Engineering and Consultants. The initial grid datum point was established at Mulkey's iron reference point marked CP13, located near the center of the site area north of the highway. This point, RLA Station #1, was assigned a coordinate of 860.000 m east and 860.000 m north, and an elevation of 100.000 m (144.06m/472.64ft AMSL). With a total station set up atop this pin, a north–south baseline was established using a compass, and a steel spike was driven into the base of a pine tree along the line north of the pin. With the north–south axis of the grid established, a second Mulkey reference point, marked CP12 and located approximately 75 m southeast of CP13, was located with the total station as having a coordinate of 928.865 m east and 826.492 m north. (The standard nomenclature used for grid coordinates throughout this report is 826.492R928.865, with the first value representing the north or "y" value, "R" indicating right of the zero north–south baseline, and the second value representing the east or "x" value.) Once the grid had been established in this manner, additional reference points were set across the site as needed.

Field Evaluation of Shovel Tests and Backhoe Trenches

The map produced by Legacy Research Associates to depict their areas of investigation is a stylized representation of their shovel testing transects and backhoe trenches, and was not suitable for accurately relocating those excavations in the field, since they were not tied into extant reference points (see Figure 3.2). For the same reasons, their overall map of the site and its boundaries provided only an approximation of those boundaries (see Figure 3.1). One of our first tasks, then, was to relocate the backhoe trenches and enough of the shovel test pits in order

to place them accurately relative to the established site grid and to determine site boundaries. Fortunately, several of these excavations were still clearly visible, and may of the shovel test locations still had surveyor's flagging tape marked with shovel test pit numbers or coordinates.

After a thorough search of the site area, all of the backhoe trenches were relocated except for Trenches 1 and 4. Ninety-seven shovel test pits were relocated. Seventy of these are depicted on Legacy's map (Figure 3.2). The other 27 shovel test pits were identified in the field, based on the occurrence of marked flagging tape. These include three test pits listed in Legacy's artifact inventory as having produced artifacts. It is presumed that the other 24 test pits were marked in the field for excavation but for some reason were never dug. Fifty-nine other test pits, including four containing artifacts but not shown on the Legacy map, could not be relocated.

These results indicate that a total of 132 shovel tests, and not 124 as reported (Legacy 2009:41), were excavated by Legacy archaeologists, assuming that all test pits shown on the Legacy map and all test pits not shown on the map but listed in the inventory as containing artifacts were excavated. Sixty-five of these test pits yielded potsherds or lithic artifacts (Appendix A). Even though numerous shovel test pits could not be verified in the field, a sufficient number were identified to permit the approximate relocation of the remainder. These are shown in Figure 3.4 along with the locations of the seven identified backhoe trenches and the site boundary as estimated by Legacy archaeologists. One area of confusion was due to Legacy archaeologists having duplicated the shovel testing grids on the north and south sides of the highway. As a consequence, six pairs of corresponding shovel tests were combined in the artifact inventory (see shovel test pits 500N470E, 500N490E, 500N500E, 510N470E, 510N490E, and 510N500E in Legacy 2009:Appendix A). For the purpose of mapping artifact density, these were tentatively separated based upon test pit depth and artifact content.

Once the Legacy shovel test pits were located relative to the site grid, a map of potsherd densities from those units was generated (Figure 3.5). The resulting map, which incorporates fine-scale topographic information, indicates that most evidence for later (i.e., post-Archaic) occupations was concentrated near the center of the defined site area and nearly absent along the northern, southeastern, and eastern edges. The inclusion of these peripheral areas within the site appears to be based largely on where shovel test pits were dug and not on where shovel test pits containing artifacts were found. This pottery distribution, based on the occurrence of positive shovel tests, is coterminous with an elevated and nearly level landform on the T1 terrace, a pattern that was not apparent on earlier site maps. Mapping of lithic artifacts recovered from shovel test pits shows a similar pattern. In sum, there is little artifactual basis for defining the limits of the site as they were originally defined.

Based on these results, a revised map of the site's boundary was drawn that corresponds with the area of uniform pottery distribution and also the highest potsherd density; this area coincides with the area of highest elevation on the T1 terrace and levee, and constitutes the area subject to the 2010 testing program (see Figure 3.7). The original site boundary encompassed an area of about 1.8 ha; the revised boundary encompasses 0.975 ha, or about 55% of the original site area. Excluded from the revised site area are the eroded southeastern and eastern edges of the T1 terrace and an old erosional channel that cuts across the northern quarter of the originally defined site. With the exception of two shovel tests along the eastern, eroded terrace flank, these areas yielded only a few isolated artifact finds. The two test pits (T19ST1 and T19ST2) along the eastern flank yielded only quartz and quartzite debitage, and appear to have sampled deeper deposits attributable to the Archaic occupation of the site (Legacy 2009:Appendix A).

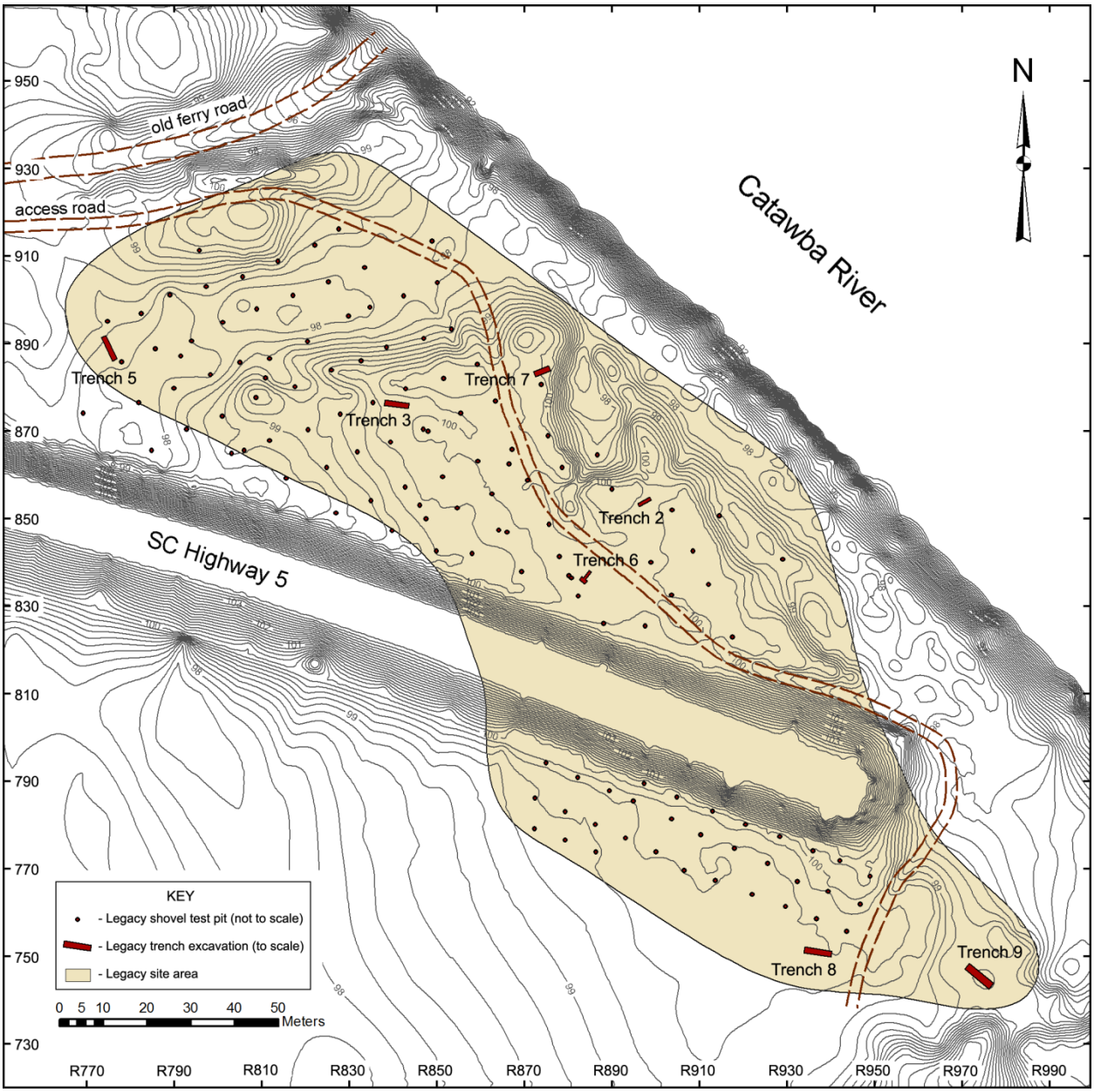

Figure 3.4. Map of the Ashe Ferry site showing the placement of Legacy excavations, as re-located in the field, and the site's estimated limits based on those excavations. Contour interval is 20 cm. The site topography shown on this and subsequent maps in the report is based on a combination of elevation data collected by Mulkey Engineering and systematic, fine-scale mapping by UNC archaeologists.

As previously noted, Legacy archaeologists reported possible evidence for deeply buried "Historic and possibly unidentified Woodland period occupations" in Trenches 8 and 9, both located at the south edge of the site (Legacy 2009:58). Upon closer inspection, the artifact-bearing deposits in Trench 8 were determined to be associated with the lower fill zones of Feature 28, a large, refuse-filled storage pit originating at the base of plow zone and dating to the Ashe Ferry phase.

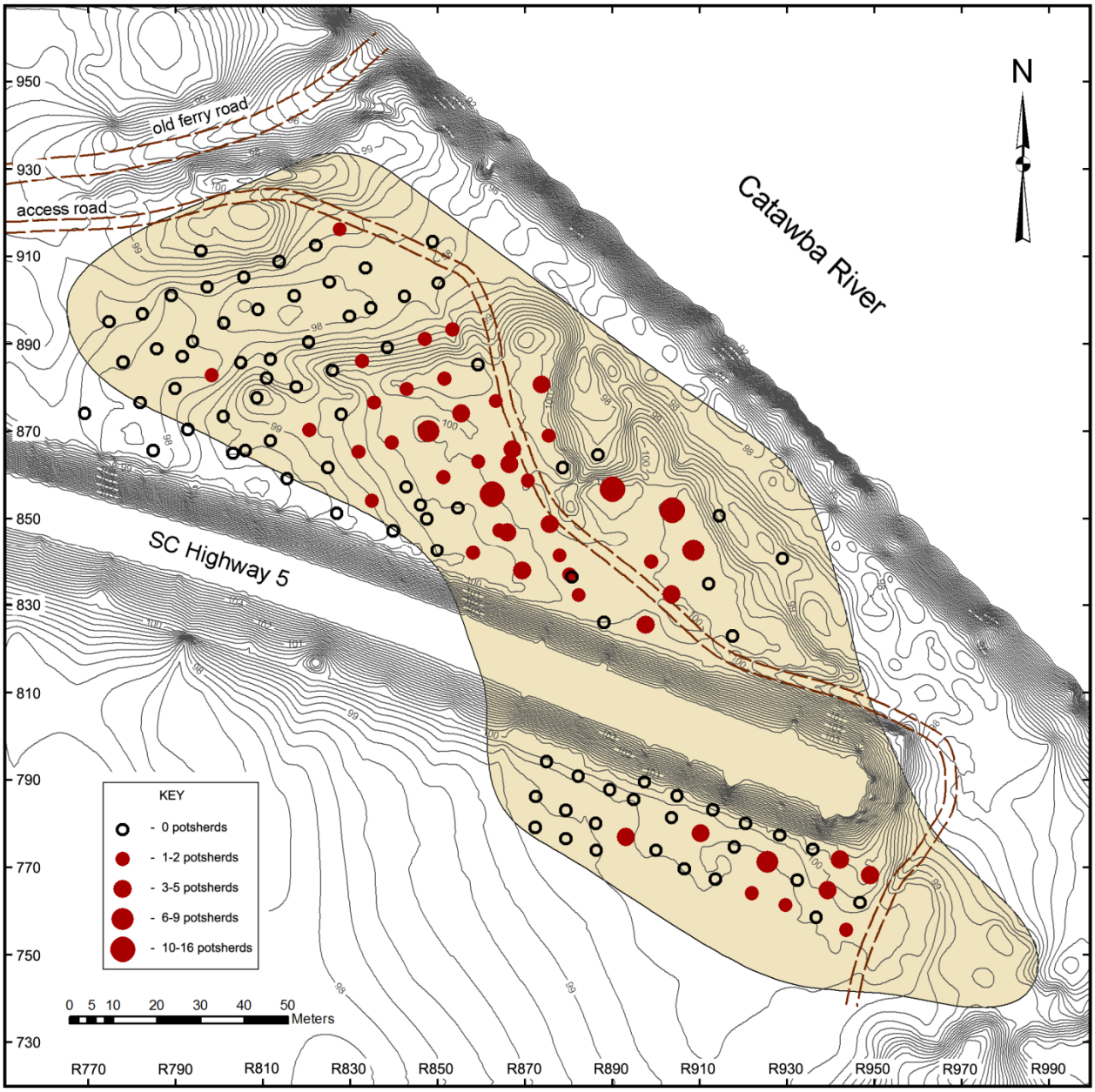

Figure 3.5. Map of potsherd density at the Ashe Ferry site based on artifact samples recovered from shovel test pits by Legacy archaeologists. The limited spatial distribution of higher-density samples indicates a site area somewhat smaller than the initial estimated site area.

To evaluate the evidence from Trench 9, the eastern edge of the backfilled trench was re-exposed and adjacent deposits were carefully excavated and screened to identify the purported artifact-bearing deposit and sample it for artifacts. It should be noted that the ground surface where this trench was dug is 40–50 cm lower than the rest of the site and a large depression immediately to the southeast of it is interpreted as a likely borrow pit created when the current CSX trestle and approach were built in 1916. The cleaned trench profile revealed 12 stratigraphic units (Strata A through L) to a depth of 1.85 m (Figure 3.6). About two-thirds of the uppermost stratum (Stratum A) was removed by the backhoe and is not recorded in Legacy's stratigraphic

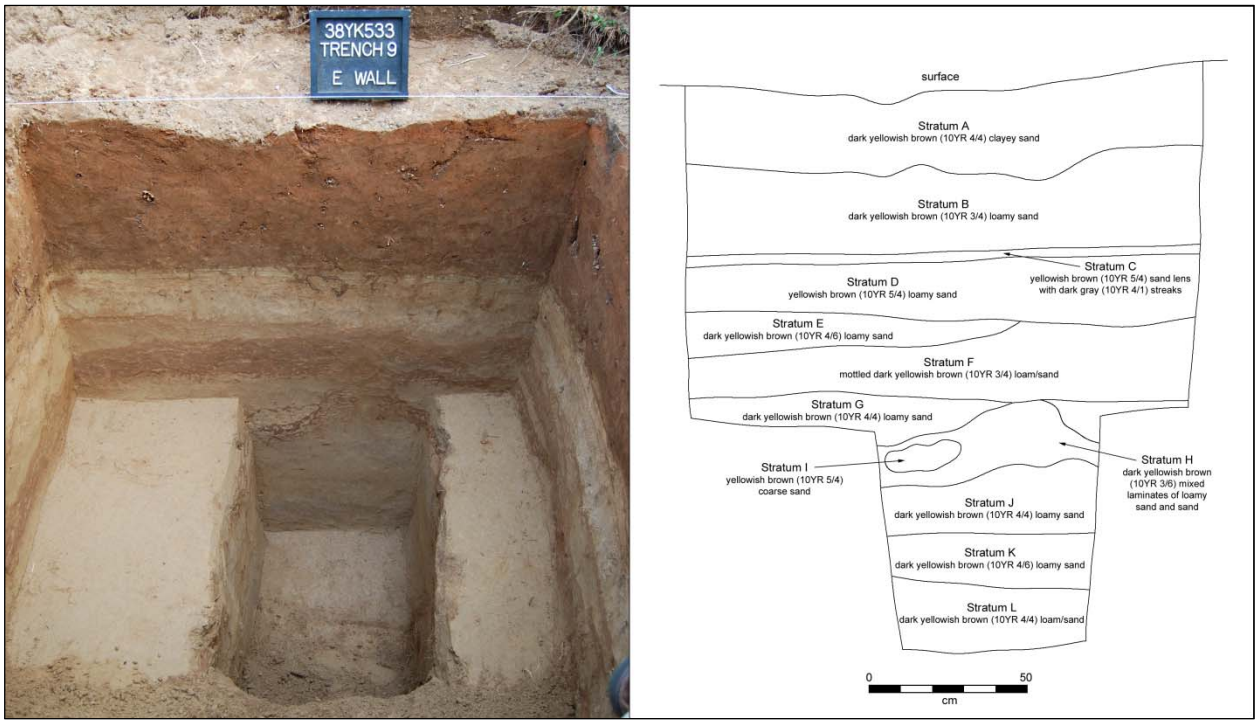

Figure 3.6. Re-excavation of Legacy Trench 9, showing the cleaned east profile and descriptions of strata.

profile (Legacy 2009:54). The bottom third of Stratum A and Stratum B appear to comprise Legacy's 30-cm thick "post-1916 red clay fill" while Strata C, D, and E comprise Legacy's 30-cm thick "ca. 1916 flood-deposited sand." The distinct interface between Strata B and C indicates that Stratum C was truncated before Stratum B was deposited. Whether Strata C, D, and E can be attributed to the 1916 flood is uncertain, but an older age for these sand deposits is suggested by the development of lamellae within them. Stratum F appears to be the stratigraphic unit interpreted by Legacy archaeologists as a "buried cultural horizon" (Legacy 2009:54). It varies between 15 cm and 25 cm in thickness and has a darker color than the strata immediately above and below it. Examination of this stratum in profile indicates that it represents a thick band of multiple lamellae and thus developed through natural processes rather than as a result of cultural activity. Cleaning of the profile surface and additional excavation of Stratum F at the margins of the original backhoe trench failed to turn up any artifacts. Additional strata of sand and loamy sand containing lamellae were encountered beneath Stratum F. Both thin and thick lamellae within deeply buried sand deposits also were reported from Trenches 1, 2, and 7 which were dug along the proximal side of the T1 terrace levee (Legacy 2009:60).

Two 1x1-m test units were dug adjacent to Trench 9 in order to further evaluate the potential for deeply buried cultural deposits in this area of the site. These excavations are described more fully below under *741R973–974 Block Excavation*.

Systematic Test Excavations

At the time of investigation, the site was covered by a stand of mature pine trees. Because the disposition of those trees was still in negotiation between SC DOT and the landowner, it was necessary to work around, rather than, remove them. This affected the placement of some excavation units and also slowed the later mechanical stripping of the site.

Initial systematic excavations by UNC archaeologists consisted of digging 1x1-meter test units at 20-meter intervals across the site. Twenty-three units were excavated in this manner, providing uniform coverage of the revised site area and also sampling the area north of the revised site boundary. Placement of a few units had to be adjusted a meter from their intended location because of vegetation. Fifteen of these were located north of the highway, and eight were located south of it. The goals for digging these initial units were: (1) to assess site stratigraphy across the site and ascertain the potential depth of deposits containing Woodland and Mississippian cultural materials; (2) to obtain artifact samples from discrete stratigraphic contexts; and (3) to evaluate the density and distribution of post-Archaic period artifacts across the site.

Twelve additional 1x1-meter test units also were dug during this phase of investigation. Two of these were dug adjacent to Trench 9; a block of four units was dug to investigate the possible archaeological features encountered by Legacy archaeologists during the excavation of Trench 6; five additional units were dug adjacent to test unit 830R910, which encountered the top of Feature 47, a rock-filled hearth; and one unit was excavated on an elevated landform at the northernmost edge of the originally-defined site as an additional assessment of the revised site boundary. Three of the original 23 test units also were located beyond the revised northern site boundary. Figure 3.7 shows the revised site boundary and the placement of the 35 test units excavated during this phase of investigation.

The method for excavating these and the additional 181 1x1-m units that were dug at the site was as follows. First, unit corners were established with a total station, with the unit being designated by the coordinate of its southeast corner (i.e., Sq. 750R950 designated a unit with corners at 750R950, 750R940, 760R950, and 760R940). Galvanized pins were placed at each corner, and string was pulled between the corners to define the unit edges. After removing leaf litter from the top of the unit, the unit was carefully excavated by natural strata, beginning with the layer of humus at the top of the unit and concluding with the basal sediments resting upon sterile subsoil. In some instances, a cut was made into the top of subsoil. All units were hand excavated with shovels and trowels. Excavated soil was dry-screened through 1/4" hardware mesh, and objects caught in the screen were placed in a paper bag and returned to the lab for cleaning. Units near the center and eastern edge of the site (i.e., along the most elevated area of the T1 terrace) usually contained the thickest and most stratigraphically complex deposits. Once an excavation level was completed, its depth at each corner was measured with a tape or folding ruler from a unit corner whose absolute elevation was obtained with a total station. Soil texture, soil color, and artifact content also were noted, and this information was placed on a separate form for each unit excavation level (Figure 3.8). All units were photographed upon completion, and any archaeological features or other disturbances observed at the base of an excavation unit were drawn by hand and also mapped with a total station.

Systematic Testing South of Highway. Eight units were dug at 20-m intervals south of the highway. They ranged from 39–71cm in maximum depth to top of subsoil, which corresponded with the base of plowed soil. Average depth was 52 cm. A generalized stratigraphic profile for these units is as follows. The uppermost layer consisted of humus, modern debris, and clay wash along the edge of the highway embankment which had an average thickness of 13 cm (range = 6–28 cm). Beneath this layer was a zone of flood-deposited sand (attributed to the 1916 flood event; Keith Seramur, personal communication 2010) and modern plowed soil that averaged 25 cm in thickness (range = 6–40 cm). In six of the eight units, this was underlain by a much thinner zone of old plow-disturbed soil that averaged 13 cm in thickness (range = 8–20 cm). The

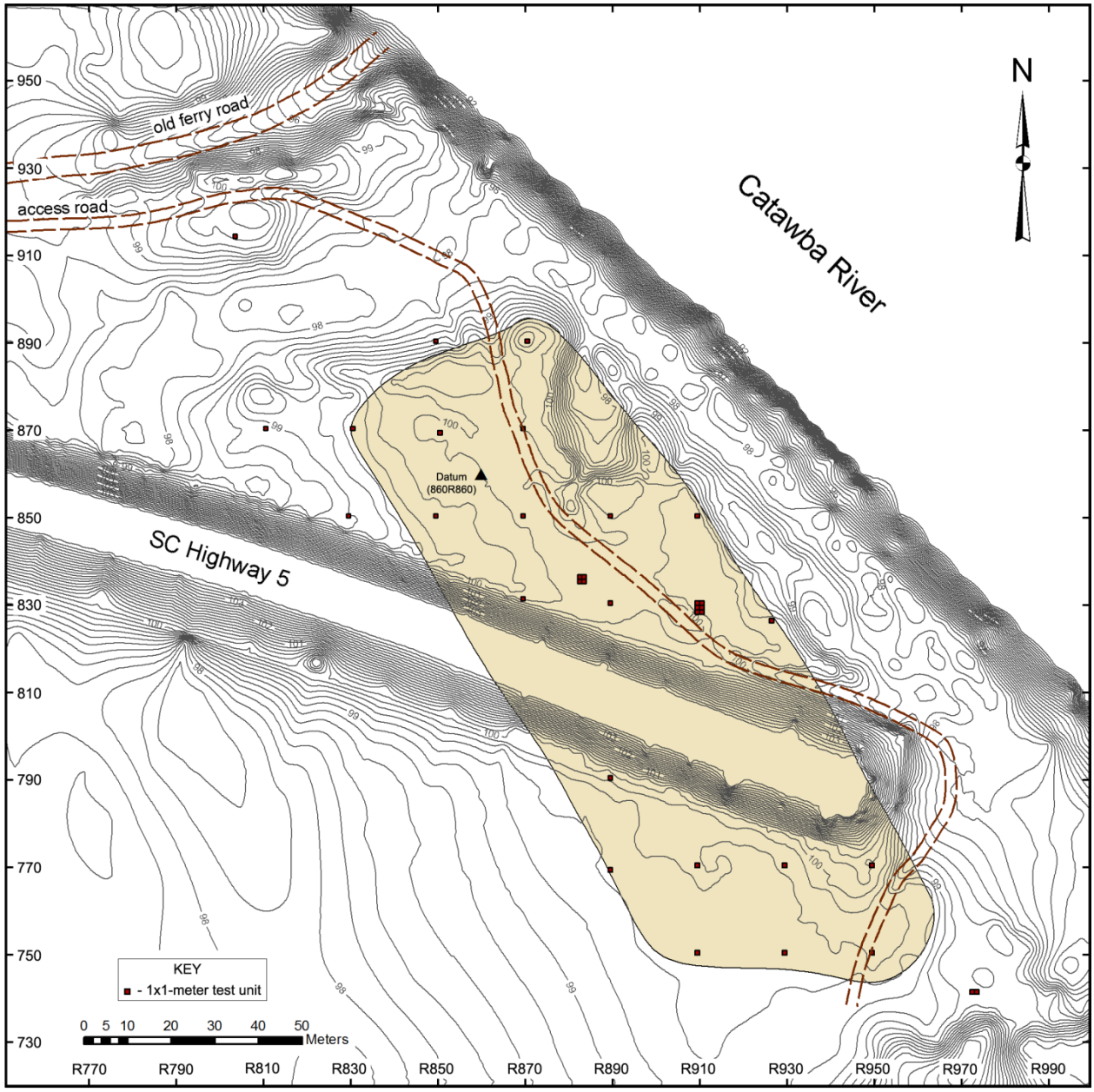

Figure 3.7. Map of the Ashe Ferry site showing the site boundary, as revised following an analysis of Legacy shovel testing data, and the placement of initial unit excavations.

two units at the southwestern edge of the site (i.e., Squares 750R910 and 750R920) did not contain evidence of an old plow zone. The modern and old plow zones were distinguished primarily by their color and texture, owing to the incorporation of flood sands into the modern plowed soil. Modern plowed soil was slightly lighter in color (10YR 4/4, dark yellowish brown) than the underlying old plowed soil (10YR 3/4, dark yellowish brown), and both graded in texture from sandy loam along the east side of the site to sandy clay loam at the western edge (Figure 3.9). Pottery, lithic artifacts, and fire-cracked rock were recovered from both plowzones; 276 potsherds came from the modern plow zone and 125 potsherds came from the old plow zone. Eighteen sherds came from other contexts (Table 3.1). Square 750R950, the easternmost unit excavated, was also the deepest and contained a few artifacts (i.e., 10 potsherds, two calcined bone, two flakes, and two fire-cracked rock) within the layer of sandy loam immediately

Figure 3.8. Excavating and dry-screening fill from Square 870R850 during systematic testing. The embankment for SC Highway 5 can be seen in the background.

Figure 3.9. Soil profile for Square 770R910, located south of the highway, showing a thick humus layer underlain by zones of flood sand, modern plowed soil, old plowed soil, and subsoil sand (at base of unit).

Figure 3.10. Soil profile for Square 750R950 at the southeast edge of the site, showing sequential zones of humus, flood sand, modern plowed soil, old plowed soil, and subsoil sand (at base of unit).

Table 3.1. Summary of Artifacts Recovered from Initial Test Excavations.

Test Excavation Units	Potsherds	Lithic Flakes	Other Lithic Artifacts	Fire-Cracked Rocks	Other	Total
Initial Testing South of Road						
Sq. 750R910	18	5	3	9	0	35
Sq. 750R930	53	10	2	22	0	87
Sq. 750R950	69	42	1	33	3	148
Sq. 769R890	50	25	1	16	0	92
Sq. 770R910	40	29	0	16	0	85
Sq. 770R930	84	57	1	44	5	191
Sq. 770R950	40	40	2	8	12	102
Sq. 790R890	65	51	3	44	0	163
Sub-total	419	259	13	192	20	903
Initial Testing North of Road						
Sq. 826R927	8	87	2	65	1	163
Sq. 830R890	36	36	5	51	1	129
Sq. 830R910	36	56	1	74	2	169
Sq. 831R870	76	96	2	121	1	296
Sq. 850R830	39	51	4	17	0	111
Sq. 850R850	90	153	3	13	1	260
Sq. 850R870	59	80	1	34	2	176
Sq. 850R890	62	111	3	185	8	369
Sq. 850R910	49	99	5	60	9	222

Table 3.1 (continued).

Test Excavation Units	Potsherds	Lithic Flakes	Other Lithic Artifacts	Fire-Cracked Rocks	Other	Total
Sq. 869R851	32	58	0	6	1	97
Sq. 870R811	4	4	0	6	1	15
Sq. 870R831	17	20	0	8	0	45
Sq. 870R870	97	111	0	79	2	289
Sq. 890R850	11	6	0	1	0	18
Sq. 890R871	50	84	1	19	0	154
Sub-total	666	1,052	27	739	29	2,513
Other Test Units						
Sq. 741R973	4	0	0	4	0	8
Sq. 741R974	5	4	0	4	0	13
Sq. 828R910	25	30	3	16	3	77
Sq. 828R911	24	57	0	92	2	175
Sq. 829R910	43	96	2	94	5	240
Sq. 829R911	38	43	3	26	0	110
Sq. 830R911	46	79	2	65	2	194
Sq. 835R883	46	41	2	51	0	140
Sq. 835R884	26	20	0	25	0	71
Sq. 836R883	47	23	1	28	0	99
Sq. 836R884	9	6	0	9	1	25
Sq. 914R804	12	8	1	9	3	33
Sub-total	325	407	14	423	16	1,185
Total	1,410	1,718	54	1,354	65	4,601

below the base of the old plow zone (Figure 3.10). Following the initial phase of mechanized site stripping, an L-shaped trench comprised of 15 1x1-m units was excavated adjacent to this unit in order to sample these more deeply buried deposits.

Systematic Testing North of Highway. Fifteen units were dug at 20-m intervals north of the highway. They ranged from 20 cm to 1.67 m in maximum depth, with an average depth of 54 cm. Because these units were dug before those located south of the highway, many were excavated 10–20 cm below the base of plowed soil in order to determine the potential for deeper cultural deposits. Sq. 850R870, one of the first units dug, extended 1.67 m below surface, or about a meter below the base of plowed zone. Only two flakes were found within this meter-thick zone of loamy sand, and very few artifacts were found in other sub-plow zone contexts, indicating that artifact-bearing deposits associated with the post-Archaic occupations of the site were confined to the modern plow zone, the old plow zone, soils immediately beneath the old plow zone, and pit features intruding the subsoil from those levels. While no test units on the south side of the highway encountered archaeological features, three units on the north side of the road—Squares 830R910, 850R850, and 890R871—intruded the tops of Features 47, 76, and 16, respectively.

Depth from the ground surface to the base of plowed soil ranged from 20–63 cm and averaged 43 cm. The generalized stratigraphic profile for the units north of the highway was similar to that observed on the south side of the road (Figures 3.11 and 3.12). The uppermost zone consisted of humus and flood sands; it ranged from 6 cm to 36 cm in thickness with an average thickness of 15 cm. Thicker deposits of capping flood sands occurred on the highest

elevations closest to the river (i.e., on the T1 terrace levee), while clay wash from the adjacent road embankment capped those units nearest the highway. Beneath these uppermost deposits was a modern plow zone comprised of brown (10YR 5/3) to dark yellowish brown (10YR 3/4) sandy loam that ranged from 10–25 cm in thickness (average thickness = 18 cm). Remnants of an older plow zone were observed in nine of the 15 test units; those units not containing an old plow zone were mostly situated at the northern and eastern edges of the site. Where present, the old plow zone ranged from 11–20 cm in thickness (average thickness = 16 cm). This zone was a sandy loam and varied from grayish brown (10YR 5/2) to dark yellowish brown (10YR 3/4) in color.

Artifacts attributable to the Woodland and Mississippian cultural components at the site were recovered from both plow zones. Artifacts from the old plow zone generally were larger and in better condition than those from overlying deposits, owing to a more limited impact upon them from plowing. The 15 test units on the north side of the highway produced 390 potsherds from the modern plow zone and 268 potsherds from the old plow zone. Eight sherds came from other contexts (Table 3.2).

741R973–974 Block Excavation. Two contiguous 1x1-m units—Squares 741R973 and 741R974—were excavated approximately two meters southwest of Trench 9 in order to examine further the potential for buried post-Archaic cultural deposits at this locality. Both units were dug to a depth of 70 cm below surface, which corresponded with the base of plow-disturbed soil. These plow-zone excavations yielded nine potsherds, a flake, and six pieces of fire-cracked rock. Square 741R974 was then dug to a depth of one meter. The coarse sands from this lower level produced only three small flakes and two fire-cracked rock fragments. Thin bands of lamella

Figure 3.11. Soil profile for Square 830R890, located north of the highway, showing a humus layer underlain by zones of flood sands, modern plowed soil, old plowed soil, and subsoil sand.

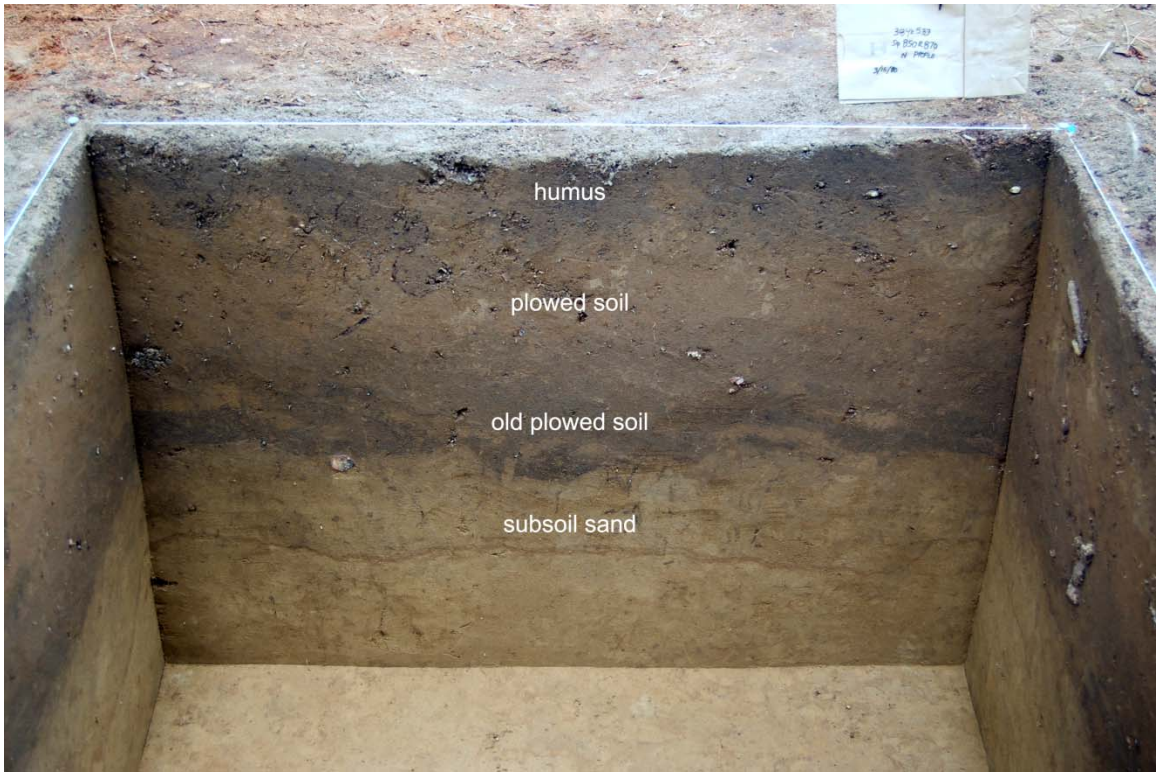

Figure 3.12. Soil profile for Square 850R870, located north of the highway, showing a humus layer underlain by zones of modern plowed soil, old plowed soil, and subsoil sand.

Figure 3.13. View of the 828–830R910–911 excavation block following removal of plowed soil, showing Feature 47 on the soil pedestal at top left and the top of Feature 49 near the center of the excavation. View to north.

were observed in profile between 70 cm and 100 cm below surface, but the thick band of lamella observed below the base of plow zone in the nearby trench was absent. In sum, this excavation did not produce any evidence to support the existence of deeply buried cultural deposits beneath the base of plowed soils.

828–830R910–911 Block Excavation. Five additional 1x1-m units were dug adjacent to Square 830R910, one of the initial test units, in order to fully expose and define the limits of Feature 47, a fire-cracked rock cluster encountered 29 cm below surface at the base of plow zone. These units formed a 2x3-m block and exposed an additional feature—Feature 49, a shallow, oval pit (Figure 3.13). Both features are attributed to the Late Woodland Ashe Ferry phase.

835–836R883–884 Block Excavation. Four contiguous 1x1-m units were excavated at the southwestern end of Trench 6 in order to assess the presence of archaeological features as reported by Legacy archaeologists. These units contained a 19-cm thick zone of sandy loam plow zone and flood-deposited sand which was underlain by an older plow zone approximately 10 cm in thickness The old plow zone was a dark brown (7.5YR 3/4) sandy loam that contained a much higher density of potsherds, flakes, and fire-cracked rock than the overlying modern plow zone. This older zone appears to represent the plow-disturbed remains of a continuous midden layer or a discrete, shallow pit feature, but no intact culturally derived deposits were observed.

Square 914R804. The limits of the site, as originally defined by Legacy archaeologists, included an elevated T1 terrace remnant at the northern edge of the site. This landform is separated from the revised site area by a broad erosional channel. In order to verify that the site occupation did not extend onto this terrace remnant, a single 1x1-m test unit—Square 914R804—was dug here. The excavation extended 1.05 m below surface and revealed a stratigraphic sequence (from top to bottom) consisting of a humus (6 cm thick), a modern silty sand plow zone (52 cm thick), a sandy silt loam plow zone (13 cm thick), a possible buried humus zone (2 cm thick), a sandy loam plow zone (19 cm thick), and sterile sand. Plow scars were observed at the top of the sterile sand, and only a few small, eroded potsherds, flakes, and pieces of fire-cracked rock were recovered from the overlying plowed soils. These findings indicate that the soils on this landform are highly disturbed and contain only minimal evidence of prehistoric activity.

Distribution of Pottery in Test Units. Once the initial phase of systematic test excavation was completed, the distribution and density of pottery from those units was mapped in order to evaluate the site boundary revisions made using the Legacy shovel-testing data and to identify areas of the site where more expansive excavations should be undertaken to sample the site's Woodland and Mississippian cultural components. The resulting map (Figure 3.14) based on these ceramic sherd distributions indicates a refined site boundary coextensive with the arbitrary 99.5m contour (143.6m/471ft, AMSL) within the tested area (i.e., the project APE) and extrapolated to include a small area immediately south of the project area. This boundary indicates an original site area of approximately 1.1ha (11,207m²), of which 305.5m² is outside the project area, 3,136m² is obstructed (or obliterated) by the SC Highway 5 causeway, and 550m² appears to have been destroyed by soil borrowing. Units north and west of this revised boundary produced relatively few potsherds, and these derived from probable redeposited soils. Several units within the revised site boundary also produced low-to-moderate sherd counts, interspersed between units that produced large sherd samples, a pattern indicating that the

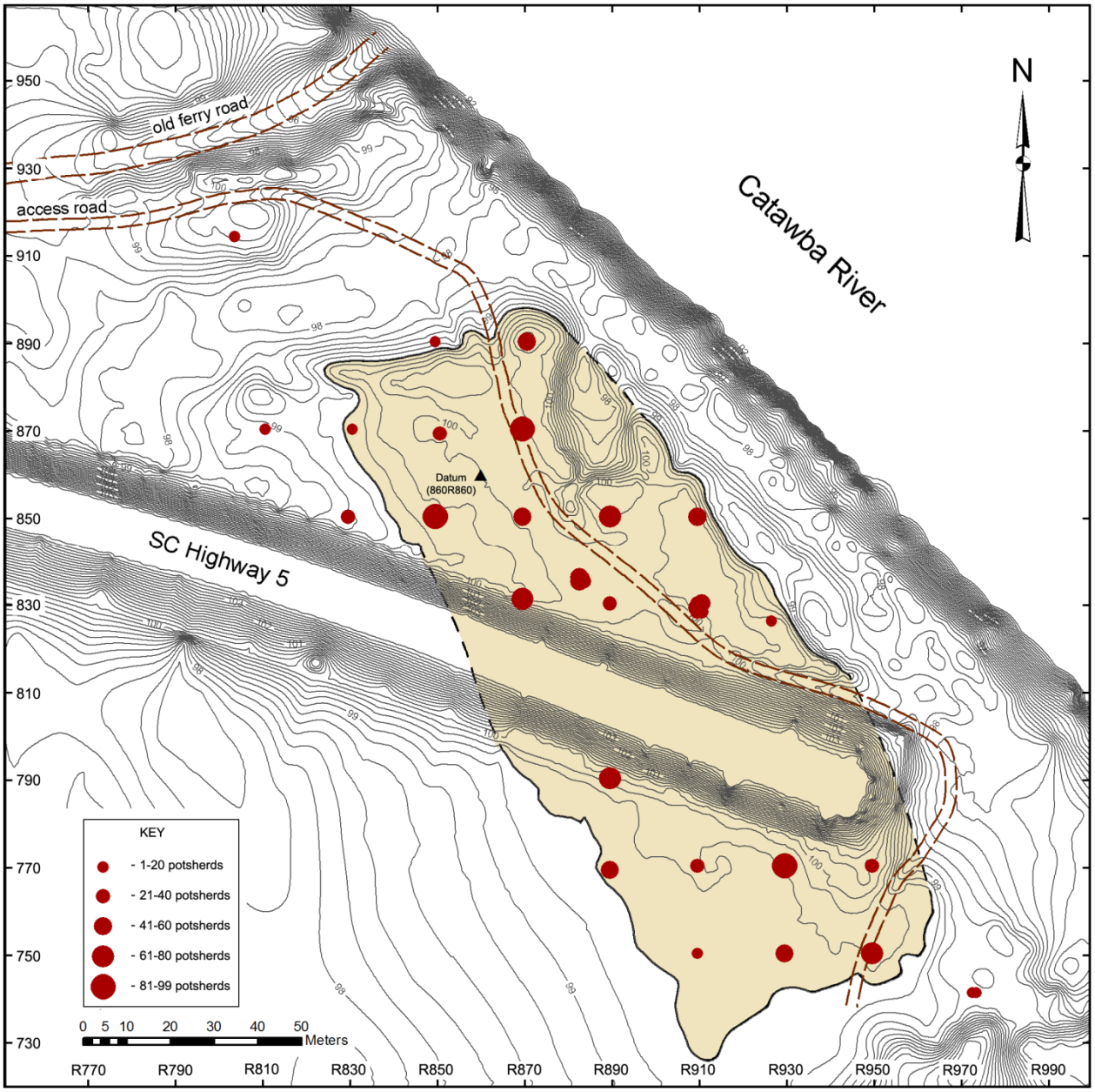

Figure 3.14. Map of potsherd density at Ashe Ferry based on artifact samples recovered from systematic test excavations. The shading represents the revised site area. Potsherd incidences outside the revised boundary appear to reflect redeposited soils.

evidence for Late Woodland and Mississippian occupation of the site is not continuously distributed. Instead, the distributional data indicate discrete areas of intense cultural activity and peripheral areas where activities were less intense. This uneven spatial pattern of potsherd density corresponds to the uneven distribution of archaeological features that were identified following mechanized stripping of the site.

Phase I Stripping of Plowed Soil

After completion of the initial phase of test unit excavations, a trackhoe with a toothless bucket was used to remove the overlying flood deposits and modern plowed soil from portions of

Figure 3.15. Removing flood sands and modern plowed soil with a trackhoe during phase I stripping at the Ashe Ferry site.

Figure 3.16. Flatshoveling the base of an excavated trench during phase I stripping to identify archaeological features and retrieve artifacts.

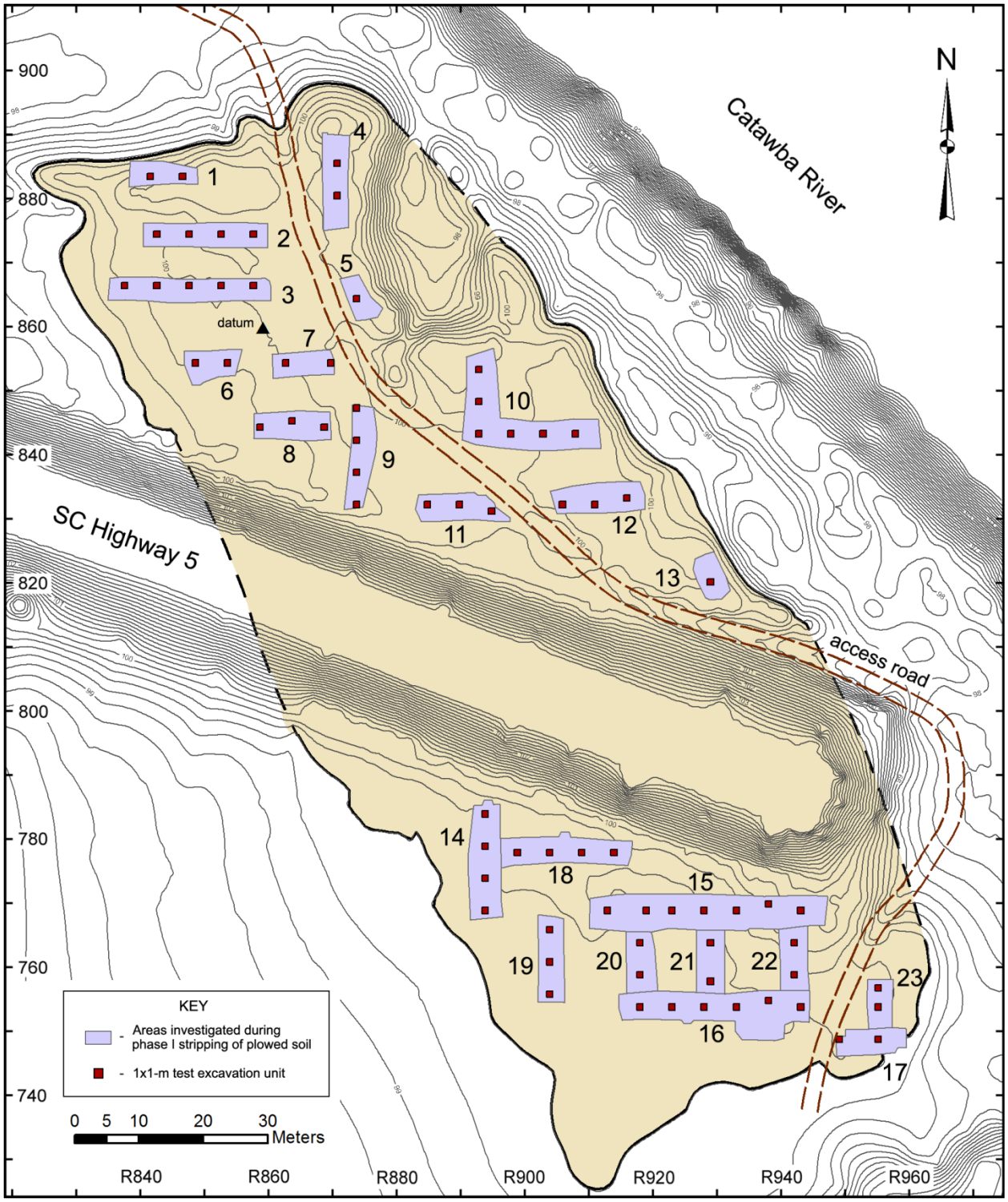

Figure 3.17. Map of the Ashe Ferry site showing the 23 trenches opened during phase I stripping of plowed soil and the 72 test units excavated within those trenches.

the site in order to create large exposed surfaces for identifying archeological features, areas of undisturbed midden, and dense concentrations of artifacts. In all, 23 trenches ranging from 3.5–5.6 m in width (average = 4.3 m) and 6.9–36.9 m in length (average = 15.4 m) were excavated. The depths of these trenches ranged from 12 cm in areas that had been previously disturbed to 36 cm in areas with deep deposits of flood sand and modern plowed soil, and they provided uniform coverage across the site. Trenches were aligned either north–south or east–west, with 5–6-m wide gaps between trenches for placement of backdirt (Figures 3.15–3.17; Table 3.2).

Phase I stripping exposed approximately 1,524 m^2, or 21%, of the effective site area. Effective site area was defined as the portion of the site that was actually available for archaeological investigation. Although the revised site boundary (within the project APE) encompassed about 11,200 m^2, a significant part of that area was either inaccessible or had been previously destroyed. Almost 29% of the total site area lay beneath the causeway for SC highway 5, and an additional 8.8% of the site was taken up by the access road or removed by an old borrow pit at the northeast edge of the site. Because of these features, the effective site area available for investigation was only 7,215 m^2, or 64.4% of the total site.

The following procedure was used to excavate a trench. First, the intended trench location and lateral boundaries were located and staked out. Next, the trackhoe operator began at one end of the trench, carefully stripping the topsoil within an approximately 3x4-m area in 5 cm to 10 cm increments. As soon as the top of the old plow zone or subsoil began to appear, a team of archaeologists using shovels and working in concert with the trackhoe operator carefully removed the remainder of the topsoil to expose a clean surface. Artifacts found during the excavation were bagged by trench (or sometimes by area within a trench), and all exposed trench floors were flatshoveled and examined for evidence of archaeological features. Artifacts collected during both phase I and II mechanized stripping include 2,569 potsherds, 769 flakes, 172 other lithic artifacts, and 27 other artifacts.

Possible features, indicated by the presence of fire-broken rocks, artifact concentrations, or darkened soil stains, were marked with pin flags for later investigation. Artifacts found in association with those possible features were either left in place or collected and bagged separately. In this fashion, the trackhoe and archaeologists moved across the entire trench until the opposite end was reached. Obvious tree stump holes and root molds were not marked or mapped; however, more ambiguous soil disturbances were treated as possible cultural features until determined otherwise through excavation.

Once the trenches were completed, additional 1x1-m test units were excavated within them at five meter intervals in order to supplement the sample of systematically recovered artifacts from old plow zone and sub-plow zone contexts (Figure 3.18). Seventy-two units were excavated during this phase of investigation. With the overlying deposits removed by stripping, most of these units were less than 20 cm deep; however, some units in Trenches 14, 17, and 23 sampled old plow zone deposits that were up to 40 cm thick. Overall, the test units excavated within the stripped trenches yielded 2,099 potsherds, 2,320 flakes, 96 other lithic artifacts, 2,097 fire-cracked rock fragments, and 108 other artifacts. On average, the per-unit artifact counts from the trench units were about 70% of those from the initial test units where all soils within a unit were excavated and screened, even though stripping removed about 60% of the upper fill from those units. This reflects the generally higher artifact density within the old plow zone, but doesn't consider the additional fact that artifacts from that zone were generally larger due to less mechanical weathering.

Table 3.2. Dimensions of Trenches Excavated during Phase I and II Stripping, and Numbers of Test Units Subsequently Dug in Each Trench.

Trench	Length (m)	Width (m)	Area (sq m)	Initial Depth (cm)	Total Depth (cm)	No. of Test Units	Avg. Test Unit Depth (cm)
Phase I Stripping							
Trench 1	10.8	3.6	36.4	20	38	2	18
Trench 2	19.3	3.8	72.4	14	31	4	17
Trench 3	25.4	3.8	90.3	27	39	5	12
Trench 4	15.1	4.3	59.4	23	30	2	7
Trench 5	6.9	3.5	25.6	27	35	1	8
Trench 6	9.0	4.6	37.1	35	45	2	10
Trench 7	9.0	3.7	35.3	31	46	2	15
Trench 8	11.7	4.2	50.8	25	42	3	17
Trench 9	16.3	3.8	56.4	26	41	4	15
Trench 10	29.6	4.5	145.9	15	35	6	20
Trench 11	13.8	4.2	52.1	25	39	3	14
Trench 12	14.0	4.8	62.2	12	39	3	27
Trench 13	6.5	4.3	28.2	14	30	1	16
Trench 14	17.7	5.0	86.5	25	62	4	37
Trench 15	36.9	5.6	196.3	33	57	7	24
Trench 16	29.6	4.9	154.4	29	40	6	11
Trench 17	10.9	4.1	41.0	37	77	2	40
Trench 18	20.5	4.5	82.3	33	56	4	23
Trench 19	13.5	4.2	54.1	30	43	3	13
Trench 20	9.7	4.8	42.4	31	58	2	27
Trench 21	9.6	4.5	43.5	25	39	2	14
Trench 22	10.0	4.5	42.3	32	48	2	16
Trench 23	7.7	4.1	29.5	36	63	2	27
Sub-total			1,524.4			72	
Phase II Stripping							
Trench 2a	9.2	4.9	42.4	-	31	-	-
Trench 6a	5.9	4.1	20.6	-	45	-	-
Trench 8a	3.5	5.2	18.2	-	42	-	-
Trench 10e	15.3	12.4	142.6	15	39	3	24
Trench 10n	14.5	8.8	46.6	-	30	-	-
Trench 10s	12.4	10.1	68.8	-	36	-	-
Trench 10w	19.9	6.3	68.3	-	30	-	-
Trench 24	20.0	14.1	110.0	-	39	-	-
Trench 25	21.1	6.0	95.2	-	57	-	-
Trench 26	11.1	6.5	64.9	-	41	-	-
Trench 27	9.8	8.3	84.4	-	44	-	-
Trench 28	13.3	9.4	103.6	-	41	-	-
Trench 29	7.7	5.3	38.3	-	44	-	-
Trench 30	9.7	5.0	43.5	-	52	-	-
Trench 31	13.3	7.7	89.7	-	44	-	-
Trench 32	5.1	4.3	22.0	-	35	-	-
Sub-total			1,059.1			3	
Total			2,583.5			75	

Figure 3.18. Excavating and mapping test units in Trench 3. View to west.

As with the initial testing at the site, surprisingly few test units encountered archaeological features. Feature 11, a large storage pit, was identified in Square 758R930 (Trench 21); Feature 12, a fire-cracked rock cluster, was found in Square 784R895 (Trench 14); and the edge of Feature 13, another fire-cracked rock cluster, was observed in Square 778R905 (Trench 18) (Figure 3.19).

Phase II Stripping of Plowed Soil

Most of the trenches excavated during the initial stripping of topsoil exposed the top of the old plow zone rather than subsoil; consequently, few archaeological features were clearly identified during this phase of site investigation. After excavating the additional test units, the remaining old plowed soil was removed from the trenches and additional areas, also called trenches but more irregular in shape, were excavated to the base of the old plow zone or top of subsoil (Figure 3.20; Table 3.3). Seven areas containing high concentrations of artifacts and evidence of archaeological features were exempted from additional mechanized stripping and instead were excavated by hand as blocks of 1x1-m units (see discussion below under *Additional Test Units and Block Excavations*).

Sixteen new areas totaling 1,059 m^2 were exposed during phase II stripping, and all of the initially excavated trenches, except for Trenches 13, 17, and 23, also were taken down to the top of subsoil. Most of the new phase II stripping occurred north of the highway, where most of the identified archaeological features were clustered. This also was the part of the site that would

Figure 3.19. Trench test units excavated from the trench base to the top of subsoil: Square 778R905 in Trench 18, showing fire-broken rocks associated with Feature 13 at northwest corner (left); and Square 758R930 in Trench 21, exposing the top of Feature 11 and a large potsherd in the west half of the unit (right).

experience the greatest impact from SC DOT's bridge replacement project. Phase I stripping of the site area south of the highway indicated that it contained far fewer archaeological features and that the features were widely scattered. Coincidentally, SC DOT plans indicated that this part of the site would be used primarily as a staging area and therefore not be as heavily impacted. One large area designated Trench 25, and located between Trench 15, Trench 18, and the highway, was stripped because of higher-than-expected densities of artifacts in those adjacent trenches and the presence of Mississippian potsherds within those artifact samples. It exposed a single feature—Feature 41—that is interpreted as the truncated base of a Late Mississippian storage pit.

Two particularly large exposures were created by contiguous trenches dug around Trenches 6–11 in the west-central part of the site and around Trenches 10 and 11 along the east-central site edge. These two areas contained 36 (69%) of the 52 archaeological features identified at the site, including the three identified graves. In contrast, the remaining areas examined north of the highway, including a large block of 64 1x1-m units excavated across Trenches 2 and 3, produced only seven archeological features, and the entire area stripped south of the road yielded only nine features.

If the total areas stripped on each side of the highway are considered separately, about 44% of the effective site area north of the highway was examined while 33% of the site area south of the highway was exposed. The largest area north of the road not investigated was between Trench 3 and Trenches 6 and 7. This was the location of the site datum, critical to maintaining spatial control of the investigations throughout the project. Unexcavated areas peripheral to the

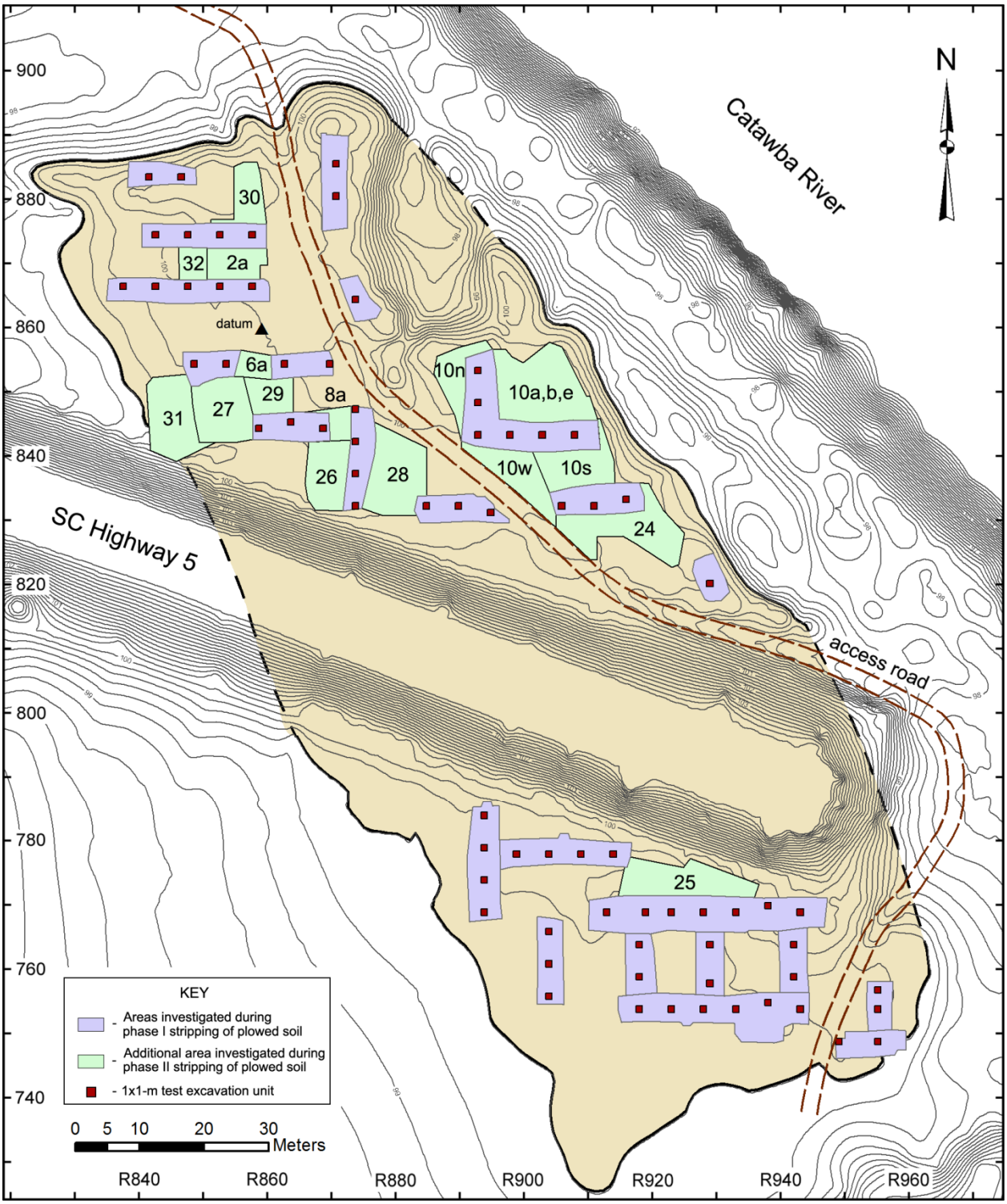

Figure 3.20. Map of the Ashe Ferry site showing the additional 16 trenches opened during phase II stripping of plowed soil.

datum were used to store backdirt. This area also lay between two widely separated clusters of identified archaeological features in Trench 2 and 2a and in Trenches 27 and 29. Most of the area not investigated south of the road was at the southwestern edge of the site where artifact densities within test units were low and no archaeological features were found during initial stripping.

Additional Test Units and Block Excavations

Seventy-two test units were excavated within the trenches exposed by phase I stripping. Three more test units—all in the vicinity of Trench 10—were excavated during phase II stripping in order to provide additional coverage within this important site area. This area was adjacent to the front edge of the T1 terrace and was where 23 features, including three graves, were ultimately found. Although numerous potsherds and other artifacts were observed and collected during phase II stripping in this area (designated Trench 10e), only remnants of the old plow zone remained and artifact density within that zone was generally low (i.e., less than 20 potsherds per unit).

Eight other areas were hand-excavated as blocks of contiguous 1x1-m units (Figure 3.21). These blocks ranged in size from three 1x1-m units to as large as 64 1x1-m units and represent a total of 181m^2. The trench areas selected for sampling through block excavation contained higher artifact densities and in some instances also contained evidence of archaeological features. Two of the areas where blocks were excavated south of the highway produced several fragments of Mississippian pottery during phase I stripping.

Trench 2 Excavation Block. This excavation block contained 64 1x1-m units (Squares 866–875R853–859), plus four test units excavated at the east ends of Trenches 2 and 3, and was by far the largest block excavation at the site (Figure 3.22). The units in this block cover a 7 m by 10 m area, within which eight units were left unexcavated due to the presence of large trees. Two additional units were dug at the southwest corner to fully expose an archaeological feature. Eighteen potential archaeological features were identified and excavated within this block; following their excavation, 13 were interpreted as non-cultural features that likely represent tree disturbances. The other five features include: a small, fire-cracked rock cluster (Feature 15); two shallow, refuse-filled basins that appear to represent truncated storage facilities (Features 32 and 42); and two other irregular, refuse-filled basins (Features 35 and 40). In Square 873R856 near the north edge of the block, excavators found numerous fragments of a largely restorable fine fabric-marked jar that is attributed to the Ashe Ferry phase. These fragments were recovered at the base of the old plow zone (Figure 3.23).

The more than 10,000 artifacts from this excavation block, not including those from feature contexts, appear to be associated almost exclusively with the Ashe Ferry phase site occupation and include: 3,075 potsherds, 3,529 flakes, 186 other lithic artifacts, 3,151 fire-cracked rocks, and 150 other artifacts. The contents of the five features are described more fully in Appendix B.

Trench 10 Excavation Blocks. While stripping the northwest end of Trench 10, a layer of artifact-rich soil was observed near the edge of the old borrow pit that intrudes the northeast edge of the site. This deposit was sampled by a block of three units (Squares 855R893–895) and an adjacent block of four units (Squares 854–855R888–889). The first block revealed a 5-cm-thick lens of old plow zone that contained 95 potsherds as well as other artifacts, including a piece of iron wire. The artifact-bearing zone in the adjacent block was much deeper, with a

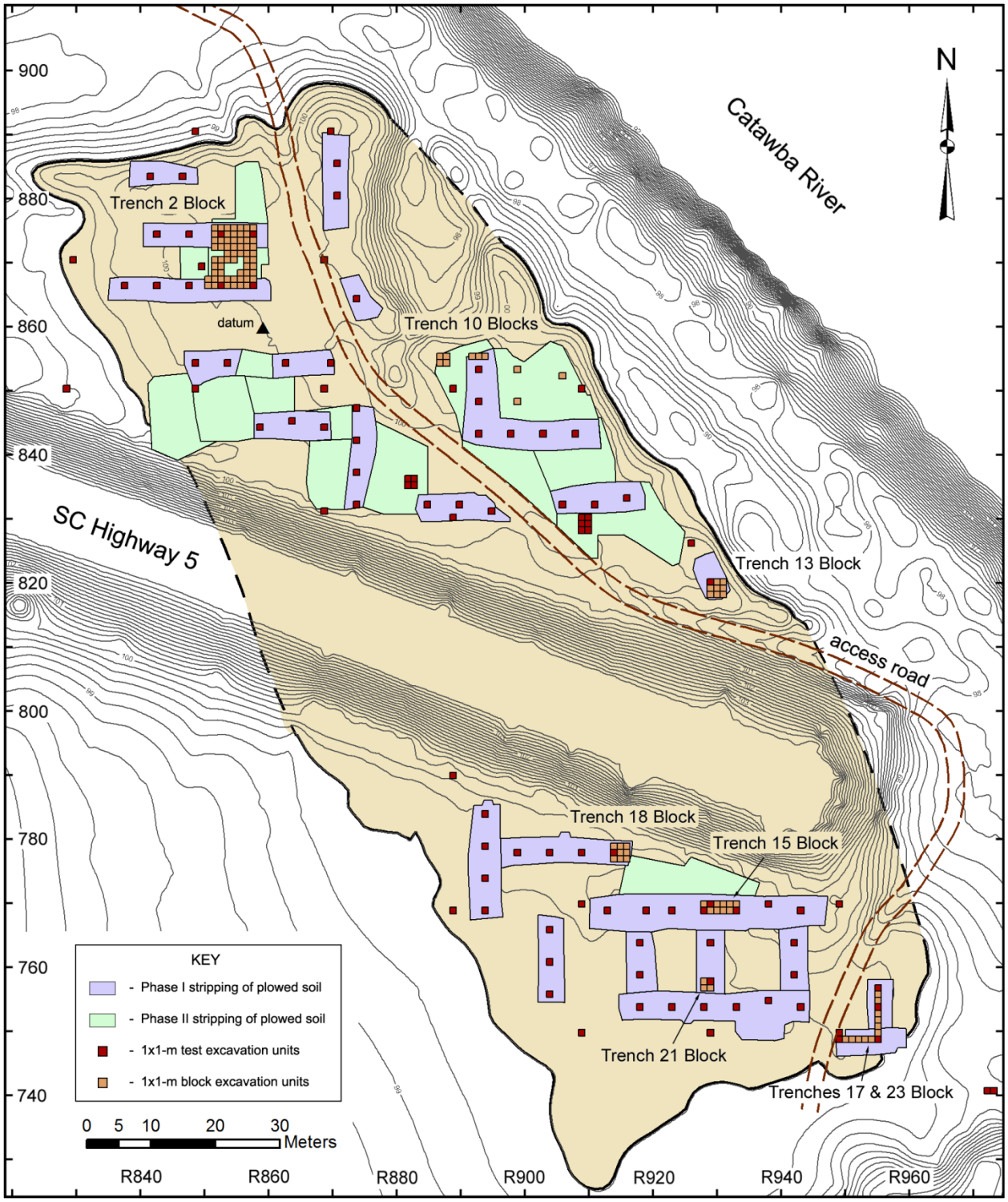

Figure 3.21. Map of the Ashe Ferry site showing all stripped trenches, test units, and block excavations.

Figure 3.22. Excavating units at the north edge of the Trench 2 block. The students at right are troweling old plowed soil in Square 873R856 to expose a cluster of large potsherds.

Figure 3.23. Cluster of large fabric impressed potsherds found in Square 873R856 within Trench 2 excavation block.

maximum depth at the northwestern edge of 38 cm below the base of the stripped surface. It contained 385 potsherds, 1,038 flakes, 44 other lithic artifacts, 1,956 fire-cracked rocks, and 32 other artifacts. Two cut nails, an iron disk, and an iron nut were among the other artifacts found near the base of the deposit, indicating that it represented old plowed soil that had been pushed over the edge of the old borrow pit rather than an aboriginal deposit that had been truncated by that pit.

Trench 13 Excavation Block. Artifacts recovered from Square 820R930, the only test unit excavated in Trench 13, included several Badin Fabric Impressed potsherds, indicating the presence of an Early or Middle Woodland occupation at the site. Since this was the only location where Badin pottery had been observed, a block of nine 1x1-m units (Squares 818–820R930–932), including the initial test unit, was excavated to provide additional material associated with this cultural component. These units contained a dark yellowish brown (10YR 4/4) silty sand and were excavated as a single zone to depths of 13–20 cm. Tree disturbances were encountered in three of the units, but no cultural features were identified. Trench 13 excavations, including the initial test unit, produced 183 potsherds, 189 flakes, five other lithic artifacts, 174 fire-cracked rock fragments, three pieces of daub, and two calcined bone fragments.

Trench 15 Excavation Block. This excavation block was located near the center of Trench 15, about six meters south of the SC highway 5 embankment. It contained 12 1x1-m units (Squares 769–770R929–934), including Square 770R930 dug during initial test excavations at the site and Squares 769R929 and 769R924 which were dug after phase I stripping of Trench 15 (Figure 3.24). All three of these test units yielded Mississippian potsherds from a moderately thick (i.e., 17–29 cm) old plow zone. These were expanded into a 2-m x 6-m wide trench in order to search for undisturbed features and midden deposits associated with the site's Mississippian component and to obtain a larger artifact sample from the old plow zone (Figure 3.25). While no undisturbed contexts were identified in this excavation block, the only feature clearly attributable to the Mississippian component was found less than two meters north of the block within Trench 25. The 12 units within the Trench 15 excavation block contained 404 potsherds, 255 flakes, 12 other lithic artifacts, 195 fire-cracked rocks, and 25 other artifacts.

Trenches 17 and 23 Excavation Block. During the initial testing of the site, Square 750R950 at the southeast edge of the site exposed an especially deep zone of old plowed soil containing potsherds, calcined bone, and other artifacts. Because of the thickness of the overlying deposits, this area along the front edge of the T1 terrace was considered to have a higher potential for containing undisturbed, and perhaps stratified, cultural deposits beneath the base of plow zone. Trackhoe stripping of Trenches 17 and 23 removed about 30 cm of flood deposits and modern plowed soil from a 70 sq m area, and several fragments of burnished and complicated-stamped pottery, attributable to the Mississippian period, were collected while cleaning the top of the old plow zone. After stripping, four 1x1-m test pits were dug into the trench floors. These units—Squares 749R950, 749R956, 754R956, and 757R956—contained artifact-bearing strata as deep as 50 cm below the top of the old plow zone and revealed up to three distinct fill zones resting on top of sterile sand. The block excavation within Trenches 17 and 23 consisted of digging 11 additional 1x1-m units between the test units to form an L-shaped, one-meter-wide trench running seven meters west to east from Square 749R950 to Square 749R956 and then nine

Figure 3.24. Trench 15 after phase I stripping and excavation of test units. The block excavation encompassed the three test units near the center of the trench. View to northeast.

Figure 3.25. Trench 15 excavation block with old plow zone removed. The deeper unit in the foreground was excavated into the subsoil sand. View to east.

meters north to Square 757R956. Units within this trench were excavated by natural strata (Figures 3.26 and 3.27).

Despite the soil depth and stratigraphy, all of the zones above sterile sand are interpreted as buried plowed soils and not intact cultural deposits. A mixture of Late Woodland and Mississippian pottery was recovered from the basal zones, and the juncture between the lowest artifact-bearing zone and the sandy subsoil was distinct and irregular, similar to the soil interface seen elsewhere at the site where plow scars were clearly evident at top of subsoil. Parts of the trench floor and walls were heavily mottled with light sandy soil due to worm activity.

Artifacts recovered from the Trenches 17 and 23 excavation block (including those found in the four test pits) include 774 potsherds, 208 flakes, 20 other lithic artifacts, 297 fire-cracked rocks, and 14 other artifacts. A slightly darker, mottled soil discoloration at the base of Square 749R956 was designated Feature 81, but it was not excavated. While this feature may represent an intentionally dug pit, its location at the edge of the T1 terrace suggests that it more likely is a natural gully filled in with old plowed soil.

Trench 18 Excavation Block. Square 778R915, the easternmost test unit excavated in Trench 18, contained two distinct zones of old plowed soil (each about 15 cm thick) beneath the modern plow zone, and both contained numerous potsherds, fire-cracked rock, and other artifacts. Given the depth of this unit, it was hoped that patches of undisturbed midden might be present in this area. Eight contiguous 1x1-m units forming a 3x3-m block (Squares 777–779R915–917) were excavated to test this hypothesis (Figure 3.28). No traces of undisturbed midden were found, but a large, plow-disturbed cluster of fire-cracked rocks was encountered in

Figure 3.26. Excavating the block within Trenches 17 and 23. View to north.

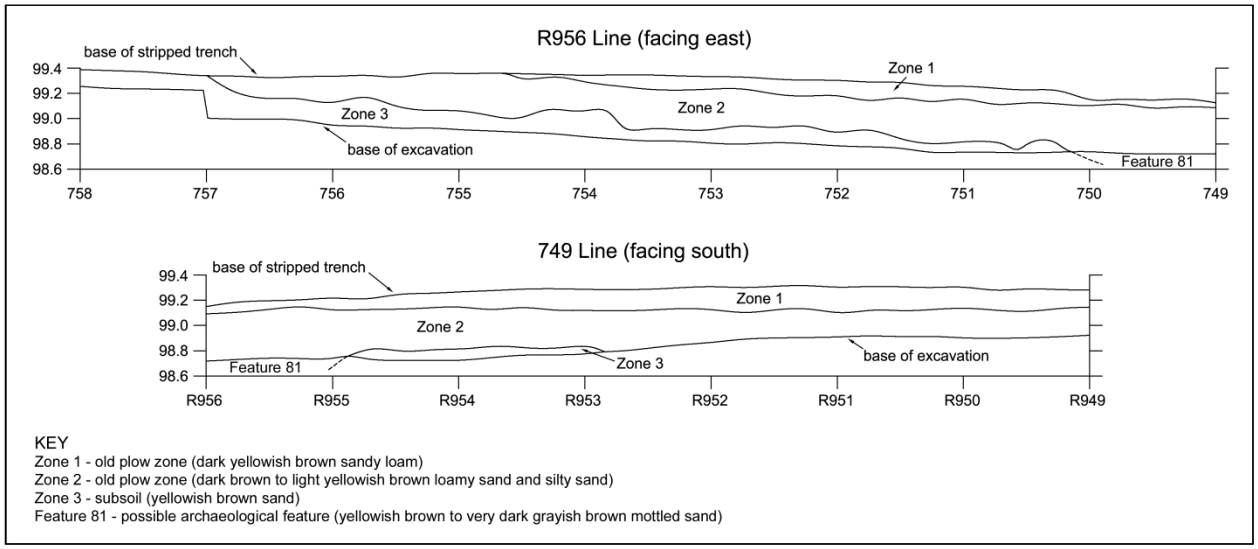

Figure 3.27. East and south soil profiles for the L-shaped trench comprising the Trenches 17 and 23 excavation block.

Figure 3.28. The Trench 18 excavation block, showing *in situ* fire-cracked rocks associated with Feature 21. View to north.

the southeast quadrant at the base of the excavation block. This cultural feature, designated Feature 21, represents a cooking or heating facility and is attributed to the Late Woodland Ashe Ferry phase. Artifacts recovered from the Trench 18 block excavation (excluding those found while excavating Feature 21) include 351 potsherds, 284 flakes, 12 other lithic artifacts, 1,111 fire-cracked rocks, and 15 other artifacts.

Trench 21 Excavation Block. This was a 2-m x 2-m block (Squares 757–758R929–930) that expanded from Square 758R930, one of the test units in Trench 21, in order to expose the top of Feature 11. These units exposed most, but not all, of this large, Ashe Ferry phase storage pit; phase II stripping exposed the remainder of this feature. These units were only 10–12 cm deep (below base of phase I stripping) and contained relatively few artifacts, including 119 potsherds, 46 flakes, 37 fire-cracked rocks, and three other artifacts.

Mapping and Excavation of Archaeological Features

Eighty-one sub-plow zone contexts at the Ashe Ferry site were designated as archaeological features and excavated as discrete contexts; after excavation, 52 of these were determined to be of cultural origin (Figure 3.29). Two basic types of culturally derived archaeological features were evident. The first type consisted of pits of various sizes, shapes, and depths, which represent storage pits, refuse-filled depressions, possible post holes, caches, and graves. Thirty-eight features of this type were excavated. The second type included clusters of fire-broken rocks, also of various sizes and shapes, that are interpreted as hearths or cooking facilities. Thirteen rock clusters were excavated as features.

While remnants of both types of features were sometimes recognizable near the base of the old plow zone, they usually could not be defined clearly until all plowed soil had been removed. As trenches were stripped, all areas of darker soil were carefully cleaned with flatshovels and trowels. Many of the exposed feature surfaces exhibited higher densities of pottery, flakes, and fire-broken rock. Fire-cracked rock clusters, however, often consisted only of rocks resting on the top-of-subsoil surface, and in many cases these had been partially disturbed by plowing. Those potential features which did not disappear with the removal of the old plow zone were flagged and given a feature designation. These included 29 other disturbances that, upon excavation, were determined to be of non-cultural origin such as tree tip-ups, root disturbances, and stump holes.

The following procedures were used to document, excavate, and map archaeological features. Prior to excavation, the top of each feature was carefully trowelled to create a clean, crisp surface; it then was photographed and mapped both by hand and with a total station (Figure 3.30). Most features were bisected and excavated by halves in order to expose and document the fill structure in profile. While some of these features contained a single fill zone, many had complex fill structures and contained multiple zones of contrasting fill. Fill from each zone (in each half) was excavated and processed separately. Artifacts encountered during excavation of a feature zone usually were removed and bagged separately. Standard 10-liter samples of soil from each zone were retained for flotation processing to recover carbonized and uncarbonized plant remains. In instances in which the volume of the zone was less than 10 liters, or the deposit appeared especially rich in botanical materials, the matrices of entire zones were flotation processed. All other feature soils were waterscreened through 1/16” window screen. Once the first half of a feature was completed, the exposed fill profile was trowelled, photographed, and mapped both by hand using a line level and folding rulers, and with a total station (Figure 3.31). Afterwards, the remaining half was excavated in similar fashion. Upon completion of excavation, the entire feature was again trowelled, photographed, and mapped (Figure 3.32).

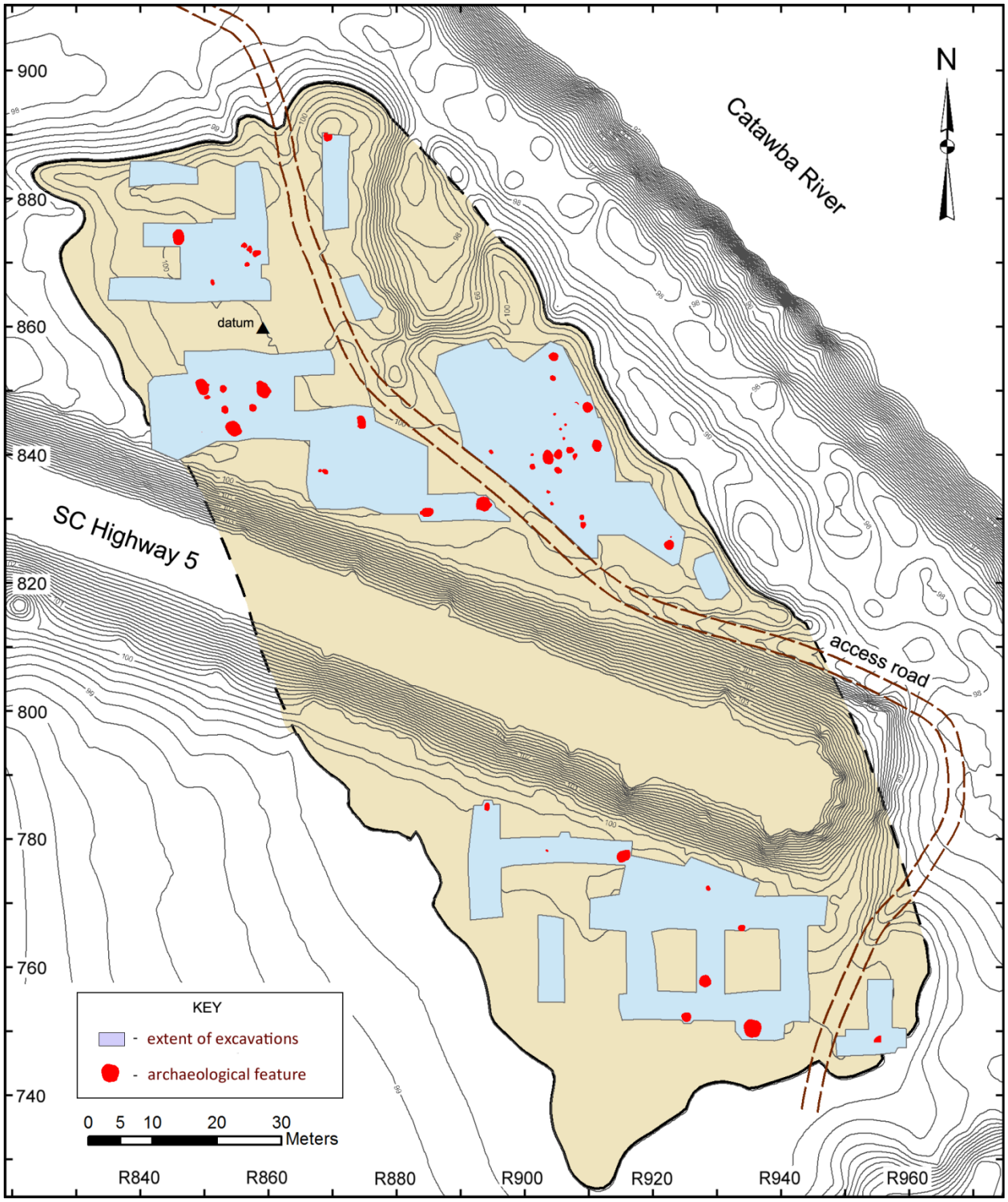

Figure 3.29. Map of the Ashe Ferry site showing the total extent of excavations and all identified archaeological features of cultural origin. See Appendix B for detailed maps and descriptions of features

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Waterscreening and flotation were conducted at the site using sluices and a flotation tank which were fed by water pumped from the nearby river (Figure 3.33). Runoff from these devices collected in a "pool" created by the old borrow pit at the northeast edge of the site. Fill dirt excavated from features was transported in large buckets by truck. Because of the large volume of fire-broken rocks recovered during the excavation of both features and units, most rocks were analyzed in the field and discarded. Analysis consisted of dividing the rocks from each excavated context into four size categories (i.e., 1/4–1/2 inch, 1/2–1 inch, 1–2 inches, and >2 inches) using sorting screens, and then calculating the quantity and weight for each size class. Almost 14,000 fire-broken rocks weighing more than 368 kg (812 pounds) were processed in this manner. All other artifacts and "washings" from waterscreening, as well as samples processed by flotation, were taken back to the University of North Carolina for cleaning, cataloging, and analysis. Once the excavation of archaeological features was completed, all exposed trenches at the site were backfilled.

Treatment of Archaeological Features Containing Human Remains

The proposed data recovery plan for the Ashe Ferry site, quoted at length earlier in this chapter, anticipated the discovery of human graves. This expectation was based on their documented presence at other Late Woodland village sites in piedmont North Carolina such as Forbush Creek (31YD1), Donnaha (31YD9), the Hogue site (31OR233), and the Wall site (31Or11). As stipulated in the plan, upon the discovery of contexts identifiable as graves, excavation of those contexts would cease and officials with the South Carolina Department of Transportation would be notified immediately. Disposition of those contexts would be determined through consultation between SCDOT officials and interested parties, specifically the Catawba Indian Nation THPO and the South Carolina SHPO.

Three prehistoric graves (Features 43, 45, and 62) were identified during the summer 2010 investigations at the site, and a few human cranial fragments and teeth recovered in waterscreened fill from a fourth archaeological feature (Feature 20) were subsequently identified in the lab. As soon as human bone was encountered in the three features representing graves, excavation was halted, the pit contents and any exposed human remains were photographed and mapped, and officials with SCDOT were notified of the discoveries. Upon a site visitation by Mr. Chad Long, SCDOT archaeologist, the pits were carefully backfilled pending consultation with the Catawba THPO and SHPO.

Because the three graves were located within the proposed bridge corridor, it was not practical to preserve them in place. As a result of the consultation process, UNC archaeologists were directed to exhume the graves and rebury them in a protected location at the nearby site of Ayers Town (38YK534). The plan called for building a wooden box around each grave and removing it intact to the new grave location. This task was accomplished during the week of November 15–19, 2010, just prior to resuming fieldwork at Ayers Town.

Prior to reburial, each of the features containing human remains was re-excavated down to the level where uppermost bones began to appear. These bones were cleared of dirt using small tools and brushes in order to determine the disposition and approximate extent of the grave. The exposed bones and pit configuration were photographed and mapped, and then the edges of the pit were expanded and then excavated downward with trowels and shovels to the approximate level of the pit's bottom. This provided a working area around the entire grave. Next, the edges of the fill matrix on the pit's floor, containing the grave and now pedestaled,

Figure 3.30. Mapping and recording the top elevations of Feature 48 prior to excavation.

Figure 3.31. Trowelling Feature 17 for photography and profile mapping after removing the fill zones in the north half of the feature.

Figure 3.32. Excavating fill from around fire-broken hearth stones in Feature 77.

Figure 3.33. Waterscreening feature fill at the Ashe Ferry site.

were carefully trimmed with trowels to create a rectangular block. An effort was made to reduce the pedestal to as small a size and weight as possible without encroaching upon the burial itself. Once the size and shape of the block was finalized, 1x6-in boards were cut and fastened with L-brackets to form the sides of a wooden box.

At this stage in the process, a field analysis of each grave was conducted by Dr. Dale Hutchinson, a bioarchaeologist with the University of North Carolina, in order to identify and assess age, sex, and condition. This analysis was restricted to skeletal elements that were readily accessible and visible within the pedestaled block, but it was necessary to remove a small amount of fill dirt in order to inspect some of the bones and teeth. The results of this analysis are summarized in the descriptions of the features containing burials (see Appendix C), and the full report is presented in Appendix C.

The most difficult task was removing the boxed pedestal from the underlying sandy subsoil without disturbing the contents of the grave and without cracking the soil pedestal. To accomplish this, rectangular pieces of heavy-gauge sheet metal were pushed and pried underneath the block using levers to cut it free from the subsoil. Then, the block was slid onto a rectangular sheet of plywood slightly larger than the box and attached with metal L-brackets. Each block weighed about 60–135 kg (200–300 lbs.). Finally, the boxed remains of the graves were transported individually on litters and by truck to Ayers Town, where they were placed into newly-dug graves. This concluded the archaeological fieldwork at the Ashe Ferry site.