

# Phase I Archeological Field Procedures

**T**HE FOLLOWING GUIDELINES outline Phase I archeological field and laboratory procedures. The guidelines are intended to provide comprehensive, detailed instructions for all Cultural Resources Program staff and ORISE interns members within a framework from which all Phase I surveys and evaluations will be conducted, as well as post-field laboratory procedures. Phase I archeological investigations are required by Sections 106 and 110 of the National Historic Preservation Act. Section 106 requires federal agencies to consider how their activities will affect historic properties, and requires archeological surveys prior to surface disturbing activities in areas not previously surveyed. Section 110 requires that federal agencies assume responsibility for identifying, evaluating, nominating and protecting historic properties under their control.

## Policy

### Field Technicians

All archeological technicians must have completed a formal archeological field school at a recognized university, community college, or equivalent and must have experience with Phase I survey and evaluation techniques. Each team member is required to attend a field safety and unexploded ordnance briefing prior to beginning field work. In the field, technicians are required to wear proper field attire and use appropriate equipment.

### Field Equipment Inventory

Prior to all field work, team members should account for and check the condition of all necessary field equipment. This includes: vehicle, shovels, screens, compasses, field attire, notebooks, pencils, pens, artifact bags, camera and film, flagging tape, water, radio, first aid kit, and the PA folder. Similarly, while in the field, all equipment not carried with team members must be kept in a locked field vehicle. The Field Equipment Inventory table lists the equipment that should accompany all field investigations.

## Part 2: Standing Operating Procedures

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### Pre-Field Preparation Procedures

The Cultural Resources Manager will provide all pertinent site information and survey guidance, including survey strategy/methodology or evaluation strategy/methodology and an appropriate timetable for completion. Field preparation should consist of the following steps:

1. Survey team members should first review the materials provided in the survey area and/or site folders. The Cultural Resources Manager compiles the folders as project managers request archeological survey of project areas. Survey area folders contain location, geomorphic unit and soils maps, and/or aerial photographs regarding known sites and previous surveys within or adjacent to the project area. Project folders contain all documentation collected during Phase I survey, the artifact catalogue, and a copy of the report citing the site.
2. All field equipment should be checked, evaluated, and maintained if necessary.
3. The field note box should be restocked with the following forms as appropriate:
  - a) Field site forms
  - b) Shovel test forms
  - c) Test unit level forms
  - d) Field specimen log
  - e) Photograph log
  - f) Graph paper
  - g) Stamped bags for artifacts

### Phase I Field Survey Procedures

A site shall be defined as a concentration of more than five artifacts within an area measuring 20-m diameter. Also, the occurrence of two adjacent positive shovel tests shall result in the definition of a site. A positive shovel test is one within which at least one cultural item that appears to be older than fifty years is found. An isolated find consists of one to five artifacts within a 20-m diameter area or a single, isolated positive shovel test with fewer than six artifacts. North Carolina state site forms shall be filled out for isolated finds as well as sites.

### Site Discovery

High Probability Zones include all slightly elevated, level-to-nearly level landforms (less than 20% slope) within 100 m of a source of water. High Probability zones shall be subdivided into a series of parallel transects spaced 30 meters (m) apart. Shovel tests shall be excavated along each transect at 30 meter intervals. Areas where there is greater than 75% visibility can undergo walkover survey at 30 meter intervals. If sites are found, they must still be shovel tested, however, to delineate site horizontal and vertical boundaries and evaluate deposit integrity.

Low Probability Zones are defined as areas with greater than 20% slope or that are located more than 100 m from a source of water. Low Probability Zones shall be subdivided into a series of parallel transects spaced 50 m apart. Shovel tests shall be excavated along each transect at 50 m intervals. Areas of significant slope may be walked over, with particular attention paid to any type of surface visibility or areas where artifacts or cultural materials can be expected to accumulate due to colluvial activity, etc. Areas that are level, or nearly so, and are 100 m or more from water should be shovel tested, provided surface visibility is less than 75%. If sites are found, shovel testing is required to delineate site horizontal and vertical boundaries and evaluate deposit integrity.

### Field Methods

All individual shovel test locations, both positive and negative, as well as all transect beginning and end points, shall be flagged using high visibility (i.e., day glow red or orange) flagging tape. Sufficient tape shall be used to permit the easy relocation of tests along transects. No shovel tests shall be excavated in areas of standing water or if the locations are otherwise inappropriate or inaccessible, such as, if they are located on steep slopes (greater than 20 degrees). Any deletions of shovel tests shall be fully noted and justified in the survey record. Transects shall be oriented along terrace edges and ridge tops, when practical, to insure that these locations are thoroughly surveyed. If a shovel test is aligned so that a likely site location, such as a knoll, might be missed, surveyors shall use discretion to realign the shovel test so that all likely observed site locations shall be shovel tested.

All survey transects shall be delimited on maps of the project area, and these maps shall be included in the draft and final report. The project field notes shall specify the number and location of individual shovel tests excavated along each transect. Each survey transect and constituent shovel test shall be numbered in such a way as to permit subsequent

researchers (using the maps in the report and the field notes) to relocate individual shovel tests, and areas that were not shovel tested.

**Identification of Site Boundaries:** After a site or isolated find has been identified, additional shovel tests shall be excavated to identify site boundaries. Shovel tests shall be excavated to define site boundaries at all sites, even in areas where surface visibility is excellent. Shovel tests excavated to define site boundaries shall be arranged in a grid or in perpendicular transects. The transects shall be oriented along cardinal directions (i.e., N/S and E/W) at a maximum of 15 meters on all sites and isolated finds. No shovel test should be more than 15 meters from another shovel test, if done in a grid pattern for site delineation-i.e., delineation transects, and shovel tests within transects, should be no more than 15 m apart. Shovel tests excavated to define site boundaries shall be laid out using a compass or transit and tape; pacing distances is not acceptable. In each transect, shovel tests shall continue to be excavated until two consecutive negative tests are encountered. The last shovel test in the sequence containing archeological material shall be used to define the site boundary.

Standard metric archeological grid coordinates shall be used to describe the location of all shovel tests excavated on project sites and isolated finds. Grid origins (datums) shall be indicated on all site maps.

**Shovel Tests:** All shovel tests shall measure at least 30 cm in diameter and shall be excavated to subsoil (i.e., to the base of Late Pleistocene and Holocene age sediments), or to a depth of at least 75 cm below surface if subsoil is not reached. All excavated soil shall be screened through 1/4 inch mesh. All cultural materials shall be retained for analysis. All subsurface excavations will be thoroughly and promptly backfilled.

**Shovel Test Logs:** (written records and standardized forms) shall be maintained throughout the fieldwork. These logs shall include information for each shovel test on location (including grid coordinates), excavated depth, number of artifacts recovered, and soil conditions (texture, stratigraphy, evidence for cultural features. Sufficient profiles to clearly delineate the natural and cultural stratigraphy of sites shall be drawn to scale, and soil horizons and strata shall be described in standard scientific terms. The Munsell Soil Color Chart shall be used to describe soil strata and colors. All features and other relevant phenomena shall be recorded in plan and profile, as appropriate, and other significant information including dimensions, depth, orientation, associations, etc., shall be recorded. Representative soil profiles shall be illustrated and

described in the report; (soil profiles do not need to be included for every shovel test).

**Site Maps:** An accurate sketch map of each site and isolated find shall be made. These maps shall include sketched-in contour lines showing major topographic features. All shovel tests, survey transects, disturbed areas, and prominent cultural and natural features within the site or isolated find as well as in the immediate vicinity of the site or isolated find shall be included on these maps. This information can be collected using a compass and tape, pacing, a hand level and stadia, or a transit. The maps shall differentiate positive from negative shovel tests and shall show the locations of site datum points. North Carolina site numbers shall be used on all maps, forms, records, photographs, and throughout the report.

**Historic Sites:** Standing structures, foundations, wells, cisterns, rock walls, and other surface features of historic sites shall be plotted as accurately as possible on the sketch maps. These features shall also be recorded using black and white print, color slide photographs; digital photography is acceptable. Every effort shall be made to determine the site-specific history, site function, date of construction, and occupation and identity of the inhabitants of historic sites. This effort shall include examination of installation and local county property, tax, and other records as appropriate. Wells, cisterns, and all other possible personnel hazards shall be clearly marked with high-visibility flagging tape and reported to the Cultural Resources Manager for future backfilling.

**Historic Cemeteries:** Historic cemeteries shall be assigned site numbers and sketch maps shall be prepared. If under 20 graves (marked and unmarked) are present, the locations of head and footstones shall be sketched, and the inscriptions on headstones shall be recorded. Cemeteries with more than 20 graves (marked and unmarked) present shall be sketch-mapped, and recommendations as to the level of effort needed to fully record grave locational and marker data will be determined. There are 27 historic cemeteries recorded on Fort Bragg and Camp Mackall. Verify that cemeteries encountered during Phase I survey have not been previously recorded to avoid duplication of effort.

**Miscellaneous Finds:** If any artifacts are discovered in exposed areas within the site boundaries, such as on roadways or eroded surfaces, or as surveyors walk between transects and/or shovel tests, these artifacts shall be handled the same as those found on a transect. If any artifacts are discovered in areas outside the survey boundaries, an attempt shall be made to ascertain the surface extent of the artifact scatter. These areas

need not be shovel tested, but the area of the artifact(s) shall be recorded on project maps and shall be given site or isolated find numbers, as appropriate.

**Site Datum Markers:** At all sites that are recommended as Eligible or Potentially Eligible for the NRHP, a datum marker at a prominent point will be erected, e.g., a key shovel test location. Datum markers should be a length of rebar (at least three feet) driven into the ground so that no more than a couple of inches is above the ground surface. The rebar must be fitted with an aluminum cap with the field site number stamped on it. The markers shall aid in site relocation and serve as a reference for future investigations. Wherever possible the locations of these markers shall be tied into permanent features, and the aluminum marker tips should be brightly painted or otherwise marked, to facilitate their relocation. No nails or spikes shall be driven into trees.

**Plot Sites on Maps:** The location of all sites and isolated finds will be marked on two sets of maps: 1) clean and current USGS 7.5 minute Quadrangle Maps and 2) Fort Bragg project maps.

**GPS:** Global Positioning System (GPS) instruments will be used to determine the exact locations of all sites and isolated finds. GPS coordinates shall be recorded for the site datum markers for all sites designated as Potentially Eligible or Eligible for the NRHP. These coordinates will be provided as VTMS, using the NAD 27 datum in the report.

**Photographs:** Sufficient photographs, both black and white print and color slide, shall be taken to record significant data and information. Digital photography, with resolution comparable to black and white print and color slides, is also acceptable. Photographs shall contain an appropriate scale, direction indicator (north arrow), and information (written on a menu board or chalk board, etc.) identifying the site, date, and subject. The north arrow and information boards shall be clearly readable in the photographs, but placed so as to not obscure the subject. When it is anticipated that a photograph may be reproduced in report, a second photograph of the subject shall be taken without the information board and north arrow. However, an appropriate scale shall be included in the photograph, and relevant information about the photograph shall be recorded. Additional color print photographs or digital photographs shall be taken that record each aspect of work that characterizes this project (e.g., excavating shovel tests, using GPS instruments). These photographs

shall be suitable for use in the context of military briefings, educational lectures, or professional presentations.

**Field Log:** Throughout all stages of the fieldwork, a field log or journal shall be maintained detailing the work accomplished, field conditions, findings, observations, impressions, and any other information that may be relevant to the project. Standardized forms can be used to assist in the collection of this information, but shall not represent a substitute for the field log. The field log or journal shall become a part of the permanent project records and shall be included in the material to be curated.

All cultural material collected during the field research, including artifacts, faunal and flora remains, soil and other samples, etc., shall be cleaned, stabilized when necessary, or treated as appropriate for the kind of material collected and the use for which it is intended. Where warranted and justified in the report, small samples of stone tools and flakes may be curated unwashed to facilitate future possible protein residue analysis. All material shall be clearly labeled with accession and state numbers acquired from the NC SHPO, using a permanent medium, in accordance with the Archeological Curation Standards and Guidelines North Carolina Department of Cultural Resources Division of Archives and History Office of State Archeology, 1995, the Fort Bragg Aritifact Curation Facility Guidelines, 2000 , or the standards in force at the time the work is carried out.

All cultural material collected shall be systematically identified and analyzed using procedures or processes appropriate to the type of class of artifact under consideration. Projectile points and ceramics shall be assigned to the appropriate culture-historical types to assist chronological assessments of site occupations.

All intact or potentially diagnostic projectile points or other tools, representative examples of common ceramic categories, and all unusual or potentially typologically ambiguous sherds shall be illustrated using scaled photographs. The scale must be included in all artifact plates, statements to the effect that artifacts illustrated are "Actual Size" are not acceptable. Accession numbers and site numbers for each artifact illustrated must be present either in the caption or adjacent to each artifact. For each projectile point, the following attribute data shall be included in any report: maximum length, width, and thickness, weight, and raw material. Additional attribute data may be compiled. For all prehistoric ceramic artifacts the following attribute data shall be determined: information about paste, surface finish, and rim and lip form.

All lithic artifacts (i.e., tools and, debitage) are to be reported using standardized and well defined and consistent sorting criteria. All historic artifacts will likewise be described using standardized and well defined sorting criteria.

A primary emphasis of the laboratory analysis and reporting shall be the determination of occupation span and function of each site, or for each component within complex sites. In the report, the analysis of artifacts shall be described in sufficient detail that subsequent investigators can evaluate technical conclusions and interpretations, and NRHP eligibility determinations.

At sites where systematic shovel testing yields at least twenty positive shovel tests, artifact density/distribution maps shall be produced to guide the interpretation of materials obtained from these units. These maps may be produced using standard computer mapping programs such as Surfer, Symap, MacGridzo, or their equivalent. The method by which the maps were produced shall be documented (i.e., the program, interpolative algorithm, and scale/contour intervals shall be fully specified). Minimally, one map of overall artifact density shall be prepared, based on the count or weight of materials, as considered appropriate. Additional maps of specific artifact categories (i.e., ceramics, lithics, historic glass, nails, etc.) may be produced.

## General Field Survey Practices

### Recording Field Information

Recording accurate, legible PA information is essential to the field survey process. Illegible or incomplete notes result in problems during mapping, cataloguing, and data compilation. When recording PA information, make sure the following appears neat and legibly on each page:

1. Survey member's name or initials
2. Project number
3. Date
4. Transect number
5. Magnetic direction the transect is heading
6. Names of team members on each side and their corresponding STPs
7. Individually numbered STPs, with positive or negative designations, as well as artifact descriptions
8. Brief soil description of each shovel test. The notes may reference soil types only as they change. For example an initial soil type on T1 STP1 might be sandy loam, and remain the same until T12

STP15 where sand is encountered. At that point “sand” should appear in the notes.

9. Any military impact on landscape: foxholes, tank emplacements, bunkers, machine gun nests, etc.

10. Any historical features

11. Two tracks, roads, streams, or other surface features

If a survey area is completed in the middle of a page, resume recording new project data on the next page

### Photography

After each survey is finished, the area or excavation site should be photographed. Photo documentation of each survey area and/or site should consist of both black and white prints and color slides. Field photography should consist of photographs that accurately record:

1. the surrounding terrain
2. extent and density of positive STPs
3. military features in the area
4. historic features, such as mills, foundations, windmills, barns, etc.
5. environmentally damaged areas, such as trash deposits or oil drums
6. other information relevant to the archeological interpretation of the site or PA
7. floor plan of each level within an excavation unit, and
8. wall profiles.

The field supervisor will be responsible for all photography. Each photograph should contain the photo board with the PA or site number and date. The photo board should be close enough to the camera as to be easily readable. Personnel may be included in the photograph for perspective or scale. A brief description, date, roll number, and photo number of the film must be recorded in the photo log, located in the field notebook. All film rolls should be numbered with an indelible pen before insertion into the camera.

### GPS

Under the direct supervision of the field supervisor, team members will complete the PA GPS data collection. As with photography, designated team members should consistently accomplish all GPS work in order to ensure continuity of performance. GPS data collection should include the PA boundary (when requested), and all historic features. GPS data is recorded in a notebook that stays with the project folder at all times. Information recorded at each location where GPS data is collected includes:

1. names of team members recording GPS data and date;

## Part 2: Standing Operating Procedures \_\_\_\_\_

2. file number obtained from the datalogger;
3. exact time when each feature is collected;
4. exact name of feature as it appears on the datalogger;
5. number of points collected for each feature;
6. any points collected where either the real time link is lost, or anomalies occur such as loss of satellites or recording ephemeris, etc.;
7. right facing page should be left open and prepared for entering Easting and Northing UTM coordinates, and standard deviation.