V. SITE TREATMENT

A. TREATMENT OPTIONS

There are essentially two options for the treatment of a rural archaeological site: data recovery (excavation) and preservation. Preservation is generally the preferred option. Archaeological sites are a precious resource and should be protected for the future whenever possible. It is not always practical for construction plans to avoid sites, however, and data recovery will no doubt continue to be necessary in some cases. When data recovery is the treatment option, the excavations should be sufficiently intensive to permit the recovery of a large part of the data present in the site.

B. DATA RECOVERY EXCAVATIONS

In the course of excavating 12 eighteenth-century sites in Delaware, a number of practical lessons have been learned that can help to guide future digs on similar sites. It is the purpose of this chapter to pass on this information. It is not the purpose of this chapter to specify how sites ought to be dug, or to mandate certain techniques and forbid others. Archaeologists must make their own decisions, based on what they find, but they will be able to make better decisions if they know what has been done before and what has been found.

1. Some Cautions on the Bonanza of an Unplowed Site

Archaeologists who excavate plowed farm sites often wish for one that has never been plowed, believing that such a site will contain a vast trove of additional data. The only unplowed eighteenth-century site that has been fully excavated in Delaware is the William Hawthorn Site. Comparison of the excavation report from the William Hawthorn Site with reports from plowed sites shows that less was learned from the William Hawthorn Site than from many of the other sites, possibly less than from any of the others. Excavations at Locust Grove, an unplowed nineteenth-century site, were also not particularly informative. A good deal was learned from the early nineteenth-century Charles Allen Site, but not any more than has been learned from some of the plowed sites.

The William Hawthorn and the Locust Grove sites both suffered from major problems of integrity relating to their twentieth-century occupation: at Locust Grove a swimming pool had been dug in the yard immediately behind the house. Perhaps the main reason these unplowed sites yielded less information is that their excavation was very conservative. Unwilling to use machinery, the archaeologists dug only by hand. In intact soils, hand excavation is slow, and only a very small part of these two sites was exposed. None of the rewarding, trash-filled features (wells, cellars, privies) that are uncovered by the machine stripping of plowed sites were found, so the artifacts from the sites all came from poorly preserved yard deposits. In theory, outbuilding foundations that would be destroyed by plowing might survive on an unplowed site, but no early outbuildings were found at either William Hawthorn or Locust Grove. Not enough of these sites was uncovered to find them. Even the artifact distribution information was poorer from these sites, because a much smaller sample was obtained. The foundations of three outbuildings were found at the Charles Allen Site, including one shed that was supported by a single stone under each corner, as well as a cobble courtyard. These discoveries were quite important, but they were made only because the structures

were within 25 feet of the house, in the area of hand excavation. The Charles Allen Site was on a rather small lot quite close to the town of Christiana, and its size and location may have been responsible for the close arrangement of buildings.

Archaeologists who perform data recovery excavations on unplowed sites (in time-limited, cultural resource management situations) in the future should probably be more aggressive. Rather than concentrating all their resources on careful excavation of house foundations or close-in yard deposits, they should spread out their efforts. Test units could be dug across the site, as is usually done on a plowed site. (At the William Hawthorn and Locust Grove sites, shovel tests were used in this way, but ineffectively.) Where outbuildings or artifact deposits are identified, hand excavations could be expanded. In areas where no important remains are found by hand, a machine should be used to strip off the topsoil and search for features. Even at the Charles Allen Site, much might have been found by such stripping, including post buildings, fences, or trash pits. This stripping should be carefully monitored, so that if any foundations or intact deposits are encountered, hand excavation could resume. It is better to lose part of a deposit to the backhoe than not to find the deposit at all. Ideally, stripping should continue in this way until all of the topsoil that would not be dug by hand has been removed. Using this or a similar approach, archaeologists might actually extract from an unplowed site the enormous amount of information such sites undoubtedly contain, without spending an unsupportable amount of money.

2. A Plowed Site

When approaching the testing or excavation of an eighteenth-century farm, archaeologists should keep a few basic facts in mind. First, eighteenth-century farms sites are often big. At the McKean/ Cochran Farm, more than 22,600 square feet (2,100 square meters) of plowzone was stripped, and the excavators (including the author) later wished they had kept going to expose more of the landscape surrounding the main farm buildings. The stripped area at the Charles Robinson Plantation measured 32,000 square feet (2,900 square meters), while that at the William Strickland Plantation measured 23,800 square feet (2,200 square meters). Compared to a modern farm, these half-acre sites are not especially large, but they are much bigger than the urban back yards and 5x5-meter block excavations where many archaeologists are trained. Even sites with relatively few artifacts in the plowzone may be fairly large: the Augustine Creek South Site, which was nearly written off because of the small size of the plowzone collection, measured at least 7,200 square feet (660 square meters). Second, the distribution of subplowzone features will probably not exactly match the distribution of artifacts in the plowzone; outbuildings and fenced enclosures may be found in areas with very few artifacts. Third, these sites may contain large features and tens of thousands of artifacts, so complete excavation is time-consuming and expensive.

To date, the excavation of every plowed farm site dug in Delaware has followed the same basic three-step plan:

1) excavate a sample of the plowzone by hand;

2) strip the remainder of the plowzone with mechanical equipment;

3) excavate the features exposed.

This approach has generally worked well and it can be adapted to a wide variety of circumstances and budgets. It is important to strip a large area of the site, not just the part with high artifact densities. Outbuildings, fenced enclosures, and pits are sometimes found a considerable distance from the center of the site, and knowledge of such outlying features can be critical for reconstructing the eighteenth-century appearance of the site.

The amount of plowzone sampling used on Delaware sites has varied from 100 percent in the core area of the Whitten Road Site to one percent at the Augustine Creek South Site. The sample size chosen on future sites will depend on the number and types of artifacts present in the plowzone and the kinds of questions the archaeologists want to answer. For the most part, plowzone artifacts are used only statistically, to generate artifact distribution maps or mean ceramic dates. Therefore, a statistically valid sample is all that is required. But what constitutes a valid sample? A one percent sample might be valid for the entire artifact collection, but most discussions include treatment of individual artifact types, such as creamware or gun flints. A larger sample might be necessary to generate valid generalization of these particular types. The sample interval must also be small enough to capture changes on the scale of a farmyard; for example, some buildings are only 10 feet across, so a sample much greater than 10 feet would miss any differences between the front and back yards. No one has yet made a detailed statistical study of plowzone sampling at eighteenth-century farm sites. Based on a visual inspection of the printed distribution maps, the five percent sample used at the McKean/Cochran Farm and Thomas Dawson sites seems to have produced results very similar to those from sites where larger samples were employed. On a site with few artifacts, such as one occupied for a short time by tenants, it may be necessary to dig a much larger sample.

Samples for soil chemistry have been taken from most of the farm sites that have been excavated in Delaware, primarily to study the use of space around the farm. Comparisons of samples taken during the excavations of the Benjamin Wynn, Wilson-Lewis, and Moore-Taylor Farm sites found that samples taken from the subsoil "showed consistently more meaningful variation than plow zone samples" (Grettler et al. 1996:80). If soil chemical analysis is to be employed, samples should be taken from the top of the subsoil. Common sampling intervals have been 10 feet and 5 meters, although Heite and Blume (1998) advocate a much tighter interval, on the order of 1 meter, or 30 inches. The most widely used analyses have been those to determine soil pH, and phosphorus, potassium, calcium, and magnesium content. At the Bloomsbury and Augustine Creek South sites, chemical analysis was performed on samples from pit fills, with interesting results, and this practice could be continued.

It should be kept in mind that Delaware law requires the filing of an erosion control plan for all projects that involve disturbing more than 10,000 square feet of soil, which would include the excavations of most farm sites. For DelDOT projects, the plan must be filed with DelDOT's own erosion control supervisor; for other projects, the plans must be filed with Delaware's Department of Natural Resources. If the area of the site is more or less flat, silt fencing on the downhill sides will probably be adequate erosion protection during excavation. If construction is not to commence for more than 30 days after the completion of fieldwork, long term-stabilization measures, such as seeding, must be undertaken.

C. FEATURE EXCAVATIONS

When the plowzone is stripped from a farm site, 100 or more features may be exposed. Many of them will be noncultural pits created by trees, rodents, or unknown agencies. The most common cultural features are postholes and small pits. Larger features include cellars, wells, ditches, and large pits. No privies have been identified on Delaware farm sites from before 1800, but they may be found on sites established toward the end of our period, as they were at the Darrach Store Site.

1. Wells

One of the most exciting and challenging features on a farm site is the well. Eighteenth-century wells are usually found very close to houses. Statistics compiled by Heite and Blume (1998:126) show that all of the wells found to date on eighteenth-century Delaware sites are within 35 feet of the house, and most are within 20 feet. The distance from the early well to the house at the McKean/Cochran Farm was 7 feet, and at the Charles Allen Site only 3 feet. One should not have to look more than 50 feet from a house before establishing that the site had no well; likewise, a well with no house within 50 feet, as at Bloomsbury, indicates that a house once stood on the site and has left no trace.

Wells have been found on a majority of the farm sites excavated in Delaware, but not on all. No well was found at the Augustine Creek South Site, which was completely excavated, or at Augustine Creek North, which was extensively tested.

Wells as deep as 21 feet have been found on eighteenth-century Delaware farm sites, and these, of course, require special technical measures for safe excavation. For wells less than 10 feet deep, a common technique has been to dig the well down to a depth of 4 or 5 feet, and then use a backhoe to widen the hole so that hand excavation can be continued safely. Most of the deeper wells in Delaware have been excavated by machine. Machine excavation is somewhat destructive of the well's contents but is much less expensive than installing protective shoring within the well shaft. Reaching the bottom of a well is important, because the waterlogged environment at the bottom sometimes preserves organic remains (such as the leather shoe parts and cut twigs found in the well at Bloomsbury). In the Piedmont region, some stone-lined wells have been found, but in central Delaware all of the documented wells found have been wood-lined.

2. Cellars

The cellars excavated on Delaware farm sites have varied considerably in size, from full basements measuring 600 square feet to root cellars as small as 2 by 3 feet. Determining the depth of a particular cellar requires test excavation. Cellars sometimes contain important architectural information, such as stone or brick foundations, or stains left by wooden sills. Careful excavation may be necessary to protect these architectural details. However, cellars also sometimes contain large deposits of what is essentially washed-in plowzone soil hardly worth hand excavation. At the Charles Robinson Plantation, McKean/Cochran Farm, and Augustine Creek South sites, parts of the cellar fill were removed by machine, resulting in a great saving of time. In these cases the cellar fills

had already been carefully tested, and the extent of the deposits to be removed by machine had been determined through hand excavation.

It may sometimes be desirable to sample the fill from cellars and other large features rather than excavating them completely. However, some analytical techniques, especially minimum number of vessels analysis, work better on complete collections than on samples. Whenever possible, analytically important collections should be excavated completely, and sampling would be limited to collections that would not merit a high level of analysis.

Many of the important artifact collections from Delaware farm sites come from cellars or wells that seem to have been filled in after the site was abandoned. It then has to be asked, if the site was truly abandoned, who filled in the cellar, and why? And where did the artifacts come from? If the site had not been abandoned, why was the cellar filled in? The assumption made by most historical archaeologists has been that the artifacts in a backfilled cellar do indeed derive from the site where they were found. In a few cases, however, there are reasons for suspecting otherwise. At the Charles Robinson Plantation, the cellar fill, on a site occupied for about 19 years, included fragments of 46 teapots and 91 earthenware dishes. The site is only about a mile from Odessa, and it is tempting to imagine some enterprising soul carting wagonloads of trash to the site and dumping them in the open cellar, and returning with loads of stones or other salvaged building materials. Most eighteenth-century people seem to have been rather casual about trash disposal, and carting their domestic waste a mile's distance seems uncharacteristic, but it is certainly possible. Archaeologists should consider the possibility that artifacts from features filled at the time a site was abandoned may have come from somewhere else.

3. Post Buildings

Many of the outbuildings and some of the houses found on Delaware Sites have been post-in-the-ground or earthfast buildings. This construction technique involved setting posts into deep holes and framing the structure around them, somewhat like a modern pole barn. The most common procedure for excavating a post building is to completely expose the building and cross-section each posthole on the same axis, usually perpendicular to the long axis of the building. For this reason, it is not usually a good idea to excavate part of a posthole that has been exposed in a Phase II test unit. Certain details of the construction technique can sometimes be identified by comparing the absolute elevations of the post-mold bottoms, so these elevations should be recorded.

4. Missing Buildings

Eighteenth-century builders employed many techniques that leave no detectable traces on a plowed site. Log buildings, in particular, were often constructed with very shallow brick or stone foundations. Other ephemeral techniques include placing brick or stone piers under the corners of a structure, usually sunk no more than a few inches into the soil, and wooden blocks were used in the same way. Many outbuildings and some houses will simply never be found. No foundations of any sort were found at the Bloomsbury Site. At the William Strickland Plantation, Thomas Williams, and Loockerman's Range sites, the only remains of houses were root cellars and chimney bases. Archaeologists should resist the temptation to create buildings from scattered posts or pits

and accept the fact that there may simply be no information. Possible indications of a house should be identified as just that, possible indications, and measurements based on such indications should not be presented in tables as accurate information. It may sometimes be possible to speculate about the location of missing buildings based on gaps in fencelines or concentrations of architectural artifacts in the plowzone, but such speculations should never be confused with definite information.

5. Fences

One of the features of eighteenth-century farm sites that has troubled excavators is the nearly random distribution of small postholes. Many such holes were once part of fences, but on most of the excavated farm sites the postholes do not form straight lines at regular intervals. Some of these fences may have been worm fences, staked or even supported by occasional posts. Others may have been small pieces of fence covering gaps between buildings, or between other sorts of barriers, such as hedges. Archaeologists should not expect to find clear, straight fences on eighteenth-century farm sites. On the sites excavated by UDCAR, every fence posthole within the core area of the site was excavated. In most of the reports on these sites, however, there is not even a reference to data gained from this exercise; excavation of a sample of fence postholes may be more appropriate.

D. PUBLIC INVOLVEMENT

The regulations under which Cultural Resource Management studies are performed require attempts to involve and educate the public. Public interpretation is often ignored as a potential component of Cultural Resource Management studies, but it should be considered as important a part as scholarship. DelDOT has a particularly strong public interpretation program, and in the past several years considerable experience has been gained in a variety of forms of public outreach.

1. Excavations by Schoolchildren

One of the best ways for nonprofessionals to learn about archaeology is to participate in an excavation. Berger archaeologists have hosted more than 500 students, mostly middle-schoolers, on Delaware sites in the past three years, and have found it to be a very positive experience. The teachers were excited by the opportunity to participate with their students in an archaeological dig, and the students seemed to enjoy the experience. Berger had good success dividing the students into groups of three to six and assigning one crew member to oversee each group. The students dug, screened, and took measurements and notes. The best approach was to get the students digging right away, and teach them as they worked, rather than try to give a long introduction. Two to three hours proved a good length of time for students to work; one hour was barely enough to get started, but beyond half a day many tended to get bored and wander off. Besides school classes, Girl Scout and Boy Scout troops are also possible sources of young excavators.

2. Excavations by Other Volunteers

Excavations can be a good experience for adults as well. The major obstacles are timing, since adults are more often available on weekends, and getting the word out to people who might be interested. Delaware has active archaeological societies, which are one source of volunteers. Some

newspapers will print notices of volunteer opportunities as a public service, and if the newspaper writes a story on the site, mention can be made there of the opportunities. Volunteers should work closely with professionals who can help them and answer their questions.

3. Site Tours

The Thomas Dawson Site was located along U.S. 13 near Dover, a very heavily traveled stretch of road. More than 200 visitors were attracted to the site by a large sign that read "The Thomas Dawson Site Dig—Visitors Welcome." Site tours, lasting 10 to 20 minutes, were given by members of the crew, who took this duty on a rotating basis. Tours of sites can also be arranged with groups, such as school classes or clubs.

4. Brochures and Interpretive Signs

The experience of visiting a site can be enhanced by interpretive written materials, and such materials can sometimes give a sense of the site to people who are not able to visit. A kiosk containing interpretive posters was set up at the Thomas Dawson Site. An interpretive display at the Hickory Bluff prehistoric site included posters, copies of newspapers articles, color graphics depicting the excavations, and artifacts in display cases. The public information handouts that used to be part of all DelDOT projects have recently evolved into color brochures which can be mailed out widely. They can also be handed out at the site, giving people a souvenir of their visit and something to show their friends.

5. Newspaper and Television Stories

Delaware press outlets, including all the major newspapers, several local town papers, and WBOC TV, have run stories about archaeological sites. Although the stories as reported are not always accurate, they reach a broad audience. Sometimes it is possible to get across a simple message about the past to a newspaper reporter, but television is strictly for generating enthusiasm. Newspaper and television can also be used to announce volunteer opportunities or site visiting hours.

6. The Internet

Another way to reach many people, in Delaware and around the world, is by means of the Internet. DelDOT is developing a World Wide Web Site for its archaeological program, and future DelDOT projects are all likely to include a Web page. Other agencies should be encouraged to do the same. Developing a Web page for a site is quite simple, requiring only a few paragraphs of text and scanned photographs. The challenge with the Internet is making it possible for interested people to find the site. An effort has to be made to contact other Web site operators and post links to one's own site as widely as possible; the more links, the more visitors.