



The 1993 and 1994 Archeological Investigations at James A. Garfield National Historic Site, Mentor, Lake County, Ohio



By
Rose E. Pennington

Technical Report 133



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This report has been reviewed against the criteria contained in 43CFR Part 7, Subpart A, Section 7.18 (a) (1) and, upon recommendation of the Midwest Regional Office and the Midwest Archeological Center, has been classified as

AVAILABLE

Making the report available meets the criteria of 43CFR Part 7, Subpart A, Section 7.18 (a) (1).



ABSTRACT

Previous 1990 and 1991 archeological investigations at the James A. Garfield National Historic Site (JAGA) resulted in the recognition of Late Prehistoric and Historic 1930s-1950s components (Hunt 1999; Lee 1994). From June 21 to July 2, 1993, the Midwest Archeological Center (MWAC) conducted an archeological inventory and evaluation at JAGA. These investigations included shovel test surveys of the proposed access road and sanitary sewer line, and test excavations in the proposed parking lot area. A total of 219 shovel tests were excavated along ten transects in the area of the proposed access road. An additional 42 shovel tests were excavated along three transects in the area of the proposed sanitary sewer line. Since the proposed parking lot area had yielded some cultural materials during the extensive 1990 shovel testing (Lee 1994), four 1 x 1-m test units were excavated to evaluate this area prior to grading activities. Artifact yield was low across all three project areas, but included both prehistoric and historic materials. In addition, a previously unknown historic building foundation was uncovered along the route of the proposed sanitary sewer line.

In March, 1994, grading for the access road and parking lot began. In June and July, 1994, trenching occurred for the sanitary and storm sewers. On-site monitoring by MWAC personnel occurred intermittently throughout the five months of ground disturbance resulting in the recording of three historic features and the field observation of two other historic artifact scatters. The 1994 features were two previously unrecorded wells and a large concentration of architectural cobblestones found in association with a small midden.

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INTRODUCTION

James A. Garfield Farm

James A. Garfield National Historic Site (JAGA) is located approximately 26 miles east of Cleveland, in the town of Mentor, Lake County, Ohio (Figure 1). The street address is 8095 Mentor Avenue. This street, as in Garfield's time, is a major east-west thoroughfare. JAGA consists of 3.13 hectares (7.82 acres) of property including Lawnfield, the president's home, and several ancillary structures associated with the Garfield family farm. These include the carriage house and attached gas holder building, Garfield's campaign office, a stone pump house, a barn, a granary, a chicken coop, and the tenant house. The latter currently serves as the curator's residence (Figure 2).

The life of the twentieth president, James A. Garfield, has been explored in depth by numerous authors and need not be reiterated in this report. Rather, this discussion presents a brief history of the land, its use, and the structures upon it. Much of this material is drawn from park documents (e.g., Newman 1991; Johnson 1984; Westerly Group and William Behnke Associates 1991) and the following background is oriented toward the archeological interpretation of the site (e.g., Lee 1994).

The land upon which JAGA is located was surveyed by the Connecticut Land Company in 1796. In 1802, Ralph Bacon purchased the tract of land, which includes the present location of JAGA. Presumably, Bacon farmed the land until 1811, when Warren Corning acquired the tract. Corning farmed the land until 1830, at which time he divided the land among his nine children. Corning's daughter Harriet received the future site of JAGA. Tax records suggest that as early as 1831 or 1832 a house stood on Harriet Corning's land, although the history of this structure remains unclear (Johnson 1984:22-23). In 1835, Harriet Corning married James Dickey, and the couple lived on the farm. The house and property remained in the Dickey family until 1876 when Harriet, widowed since 1855, sold 117.46 acres to James A. Garfield. The following year, Garfield acquired the remaining 40 acres from another family member, George W. Dickey (Newman 1991:7).

James A. Garfield possessed an interest in scientific farming techniques and had long desired a country residence at which to practice them. Lawnfield, as this residence later came to be known, also served as the Garfield's refuge from the pressures of the U.S. Senate. Garfield ran the farm and employed the latest in scientific farming methods until his death in 1881. During his occupancy, Garfield made a number of improvements to the farm, including remodeling the house, building a new horse barn and moving the other existing barns further back from Mentor Avenue. He moved a small tenant house closer to the main house and converted it for use as a library. Garfield also built a large icehouse, dug several new wells, and instituted various other minor improvements.

The year 1880 brought momentous changes to Lawnfield. Garfield enlarged the one-and-one-half-story house to two-and-one-half-stories, added a large front porch, and made many interior and exterior improvements, at a cost of \$4,000 (Newman 1991:8). Garfield also converted the library for use as campaign headquarters for his presidential

bid. From there, Garfield conducted the first successful “front porch campaign” for president in 1880. Visitors would disembark from the railroad which bordered the Garfield farm to the north, walk the approximately one mile south down the lane which ran through the farm, and arrive at Lawnfield, quite literally to hear Garfield speak from the porch of his house or campaign office. The strategy worked and Garfield won the election. His presidency, however, was brief: he was shot on July 2, 1881 by Charles Guiteau, a disgruntled office-seeker. Garfield lingered for 80 days, dying in a cottage at Elberon on the New Jersey shore on September 19, 1881 (Johnson 1984:111).

Post-James Garfield Developments

During this era, there were no pensions for presidential widows, so a grieving and sentimental public raised a substantial sum of money by subscription to provide for Lucretia Garfield and her family. The funds, which totaled \$360,000, were conservatively invested in bonds, which yielded a \$12,000 yearly income for Lucretia—no mean sum in the 1880s. With a portion of this money, Lucretia gathered her husband’s books and papers and had a large library addition made to Lawnfield for displaying the collection. This effort became the first presidential library. In 1885, the three-story stone Queen-Anne-style addition was built onto the east facade of the existing house. In addition to the library and fire-proof vault, the wing also included a new kitchen, laundry, two bathrooms, second floor servants’ rooms, third floor bedrooms, and a 300 gallon water storage tank in the attic. This building phase also included the remodeling of the first floor reception hall and the addition of a grand staircase, new entry, and a carriage porch (Newman 1991:8-9). The addition necessitated the relocation of the campaign office slightly north, just south of the large icehouse (Mack 1994a:7). Lucretia substantially altered the house again in 1903 and 1904. Indeed, Lucretia Garfield, more than James, is responsible for Lawnfield as it appears today.

Lucretia also added a number of new structures to the farm. The first, a massive stone gas holder, was erected over a natural gas well in 1885, with alterations possibly being made to the structure as late as 1893 (Mack 1994b:12; Westerly Group and William Behnke Associates 1991: Appendix, Chronology: 2). Also in 1885, a new tenant house was constructed north of the main house (Grabinski 1994b:6). This structure is still in use as the park curator’s residence. The previous tenant house located south of Mentor Avenue has been sold and does not belong to the park.

Further alteration to the property occurred in 1893 and 1894. In 1893, a new and elaborate carriage house (also called the carriage barn) was constructed north of the main house, just east of the tenant house. The carriage house was built adjacent to the gas holder building, incorporating the gas holder’s west wall (Hunt 1999). A portion of the carriage house was built over the deep foundation of the older western portion of the gas holder building—thus confirming alterations to the gas holder (see Previous Archeological Investigation). Archeological evidence shows that the carriage house has been added to and altered several times throughout its history (Hunt 1999). Also in 1893, the barn complex was relocated north of the tenant house and carriage house. At this time, the circa 1870s horse barn and granary, both of which are still extant on the property, as well as several other ancillary structures which are no longer standing were moved to new locations (Newman 1991:9). Construction of a new chicken coop and

poultry run completed the “new” farm complex (Grabinski 1994a:6). The chicken coop is still present on the property, as is the foundation of the poultry run.

In 1894, a new well was dug and a large and elaborate windmill was constructed over it to pump the water into the third floor storage tank in Lawnfield. The 1894 windmill replaced an earlier and obsolete well and windmill. The windmill consisted of a massive Richardsonian-Romanesque stone base, similar in style to the gas holder, surmounted by tall wood-frame windmill tower (Figure 8). The wooden portion of the windmill was severely damaged by a storm in 1930 and was removed. It was replaced in 1939 by an electric pump which served the farm’s agricultural needs. The main house was connected to the city water supply that year (Mack 1994c:5-6). The stone base and electric pump (no longer functioning) are still present on the property.

Lucretia Garfield died in 1918 and the property passed into joint management of her children. As all but one of the Garfield heirs lived some distance from Mentor, the property began to decline rapidly. The financial burden of caring for the aging estate proved too much for the Garfield family, and in 1935, they donated Lawnfield and one acre of land to the Western Reserve Historical Society (WRHS). The WRHS acquired the additional 6.82 acres, which compose the current park, through later donations and purchases.

The WRHS and the Lake County Historical Society (LCHS) co-owned Lawnfield, with on-site management provided by the LCHS, until 1988. Congress authorized the James A. Garfield National Historic Site (JAGA) on December 28, 1980. The National Park Service (NPS) later purchased the land and buildings from the Lake County and Western Reserve Historical Societies. The WRHS owns the contents of the house (furnishings, objects d’arte, etc.) and continues to manage the property under a cooperative agreement with the NPS (Hunt 1999:2). JAGA is administrated by the superintendent of the Cuyahoga Valley National Recreation Area (CUVA), located approximately forty miles from JAGA. The 1993 fieldwork for the proposed access road, sanitary sewer line, and parking lot, and the 1994 monitoring was under the direction of MWAC Archeologist Rose Pennington.

JAGA

ENVIRONMENTAL SETTING

Glacial Geology, Topography, and Soils

JAGA lies atop glacial lake deposits laid down during the Wisconsin Glacial Period. More specifically, JAGA is located on the proglacial Lake Warren beach ridge. In Lake County, the Lake Warren beach coincides with the earlier Early Wisconsin wave-cut Lower Cliff, which exaggerates the elevation of the linear deposit of beach sands above the underlying proglacial Lake Whittlesey lake bed deposits (Lee 1994:13). The project area is characterized by Tyner and Otisville loamy sands mixed with fine to coarse glacial gravels. Tyner soils are characteristically deep, well drained, rapidly permeable, and formed in sandy sediment on beach ridges (Ritchie and Reeder 1979:60). Otisville soils are characteristically deep, excessively drained, rapidly permeable, and formed in water-sorted sand and gravel on postglacial beach ridges (Ritchie and Reeder 1979:56). Slopes for Tyner soils typically range from 1 to 12 percent; slopes for Otisville soils typically range from 1 to 6 percent. The slope at JAGA is more characteristic of Otisville soils, being relatively flat with a gentle slope to the northwest, and a grade difference of no more than 5 feet (1.52 m) across the entire site (Westerly Group and William Behnke Associates 1991:77). Soils in this part of Ohio are alfisols. Alfisols are typically warm, moist soils with gray to brown surface horizons with subsurface horizons of clay accumulation that formed under forest conditions (USGS 1970:87).

Flora and Fauna

The orchards, crops, and fields of the former Garfield farm have given way to cultivated lawn, flowering plants, and mature trees. The majority of JAGA's vegetation consists of a well-manicured lawn peppered with escapees such as Shasta daisies, pachysandra, and English and Boston ivy. The mature trees that dot the park dominate the vegetation. Most notable are the magnificent London Plane (sycamore) and European copper beech, located along the west property line. Many more trees shaded the park, but several have recently been removed to facilitate the excavation of the sewer line trenches and the grading of the access road and parking lot. Around the foundation of Lawnfield and the campaign office, the Garfield Garden Club has planted flowering plants and shrubs. A Cornelian cherry copse lies just east of the campaign office (Westerly Group and William Behnke Associates 1991:81-83).

The vicinity of the new parking lot, in the northern portion of the park, was, until recently, overgrown with young saplings and trees, including maple, apple (a remainder of the former orchard which occupied this area), swamp elm, mulberry, ash, and beech. The floor was covered with leaf mold, deadfall, and some weeds, with very little understory. This was the area formerly occupied by the Garfield farm's "new" orchard, vegetable garden, and poultry run (Westerly Group and William Behnke Associates 1991:82). The chicken coop and poultry run foundation border this area immediately to the north. The carriage house/gas holder roughly borders the area on the south. In March of 1994, all trees were removed and the area was cleared in preparation for parking lot grading.

JAGA

Just north of the new parking lot lies the northernmost portion of the existing JAGA property and the location of the remaining old farm buildings, the horse barn and granary. This area is somewhat overgrown with a number of shrubs, including burdock, barberry, forsythia, staghorn sumac, and Osage orange that are mostly the remainders of past historic plantings (Westerly Group and William Behnke Associates 1991:81-82). In 1993, the area east of the gas holder was very overgrown and included sporadic but dense patches of poison ivy, somewhat hindering survey in this area.

Because of JAGA's suburban location, fauna is limited to small species such as rabbit, squirrel, chipmunk, skunk, and small birds. Recently, there has been a problem with raccoon infestation in the basement of Lawnfield and in the second floor of the carriage house. Indeed, as recently as July 1994, attempts were underway to remove the animals from the carriage house even as interior demolition was in progress for its conversion to a visitor center. JAGA has also been plagued with an infestation of groundhogs, which have burrowed throughout the grounds and disturbed the carriage house floors.

PREVIOUS ARCHEOLOGICAL INVESTIGATIONS

The 1990 Inventory and Evaluation

The first archeological investigation of JAGA occurred in July of 1990 (Lee 1994). It included both a shovel test survey and a test unit survey. As has been stated previously, this investigation was included as part of the initial planning phase of the proposed new parking lot and access road. Additionally, testing around the foundation of the main house and several outbuildings was initiated in preparation for future renovation of those structures. As of this writing, renovation of Lawnfield is still in the planning stage.

The Midwest Archeological Center (MWAC) and the Cleveland Museum of Natural History (CMNH) entered into a cooperative agreement for the CMNH to conduct the archeological investigation of JAGA. The goal of the project was to identify archeological deposits that could be affected by the planned construction and renovation. Co-Principal Investigators for the project were MWAC Archeologist Vergil E. Noble and CMNH Archeologist Alfred M. Lee, with the fieldwork directed by CMNH Archeologist Stephanie Belovich. Fieldwork was performed by CMNH field school students from July 2, 1990 through July 25, 1990, and concentrated on five locations: the main house (Lawnfield), the campaign office, the existing gravel parking lot, the proposed new parking lot, and the carriage house/gas holder (Noble 1990; Lee 1994). Figure 4 shows the location of test units and the shovel test survey zone of the 1990 CMNH investigations.

CMNH Test Units (TU) 1-3, placed along Lawnfield's foundation, recovered small amounts of architectural construction materials and revealed the presence of a builder's trench. These test units also provided information regarding the depth of the house's stone facing, and the depth and direction of two downspout drains (Lee 1994).

Test Units 6, 15, and 22 were placed northwest of the campaign office. These intersecting units located a stone foundation approximately 6.4 m north of the north facade of the campaign office. The foundation was traced west until its southwest corner was located. This feature has been interpreted as the remains of the large circa 1876-1877 icehouse built by Garfield (Lee 1994).

Test Units 7, 8, 9, and 17 were placed around the margins of the existing gravel parking lot. Intersecting TUs 7 and 17, to the east of the lot, uncovered a deep cylindrical pit filled with brick, cobbles, and other rubble. This feature has been interpreted as a probable pre-Garfield era well (Lee 1994).

Eight test units were excavated in and around the carriage house and gas holder. Four units (Test Units 4, 5, 10, and 21) were placed along the north, west, and foundations of the carriage house. TU 4 was located at the joint between the present gas holder and the carriage house. The remaining four test units were placed inside the stables (north) portion of the carriage house. Testing along the south facade of the carriage house revealed that the foundation of the gas holder was much larger and deeper (over 6 feet [1.8 m] in some locations) than that under most of the carriage house. However, this

deep foundation did extend west under the carriage house for an unknown distance. Test units placed inside the stables uncovered brick and stone partition foundations, a circular brick feature of unknown function, and stratified deposits containing tack-related materials (Hunt 1999:4).

The 5 m interval shovel test survey of the proposed new parking lot northeast of the carriage house resulted in the location of a few sparse historic refuse concentrations and a sparse prehistoric scatter. The latter was defined by the recovery of a Late Woodland projectile point which resembles a Madison point, and several chert flakes. The crew also examined the ruins of a small brick structure. The structure was determined to be a relatively late and historically insignificant spring house and was subsequently leveled in the spring of 1994 (Lee 1994).

The 1991 Carriage House Excavations

From May 28 through July 1, 1991, a five-member MWAC crew under the direction of Supervisory Archeologist William J. Hunt, Jr., conducted archeological excavations at the carriage house/gas holder (Hunt 1991; 1999). These excavations were initiated in preparation for the conversion of the carriage house to park visitor center, a process involving a significant amount of internal demolition. Hunt set two primary goals for the investigation: first, to determine the original shape and dimensions of the gas holder; and, second, to establish the reason for the differing brick configurations on the carriage house entryway floor (bricks on the east end were oriented with their long axes running north to south and were poorly set with crumbly limestone mortar, while bricks on the west end were oriented with their long axes running east to west and were expertly mortared with very hard concrete). Additionally, as much archeological information as possible regarding the carriage house had to be retrieved as this would be the last opportunity to do so prior to construction. With that in mind, Hunt concentrated his efforts on the oldest portions of the carriage house: the south room/carriage storage area and the north room/stables. Twelve test units were placed in the south room and 17 in the north room. In order to explore the question of the construction sequence of the carriage house and gas holder, five excavation units were placed around the exterior perimeter of the carriage house (Figure 4) (Hunt 1999).

Throughout the 1991 project, artifacts were sparse and recovered items were primarily late, i.e., circa 1920s to present. However, Hunt's work resulted in discoveries that clarified the evolution of the gas holder and carriage house. Foremost was the confirmation of Lee's observation that the gas holder had a thick, deep foundation, and that this deep foundation extends under the east portion of the carriage house. The massive stone foundation extends approximately 3.5 m to the west under the east portion of the carriage house and corresponds with the brick and softer mortar floor on the east end of the room. This massive foundation enclosed a basement room over 2 m deep. It is apparent that the gas holder building was once approximately twice its present size and that the west portion of the gas holder—as represented by the deep foundation—was apparently leveled at the time of the carriage house construction in 1893. Evidently, the former west portion of the gas holder was rectangular in shape (Hunt 1999).

Furthermore, evidence was recovered which suggests that the ground floor of the former west portion of the gas holder building was covered by a heavy wood floor, and that the basement most likely had a wood floor as well. It has been conjectured that the ground floor may have supported heavy objects such as sacks of feed, bales of hay and/or buggies and wagons, while the basement may have been employed as a fruit cellar. The basement was filled with clean gravel, apparently at the time the carriage house was constructed, thus obscuring any archeological evidence of its use. Access to the gas holder basement may have been through an opening in the southeast corner of the south room of the carriage house. Hunt interpreted this opening as evidence for a basement stairway. Previously, this space had been misidentified as a crawl space. The opening is located 3.2 m (10.5 feet) west of the wall presently separating the gas holder from the carriage house. The razed blocks from the former west portion of the gas holder building may have been incorporated into the foundation of the carriage house during its construction. Finally, the discovery of roofing slate in pre-1893 contexts lead to the conclusion that the original gas holder building, or an earlier building, had a slate roof. Hunt (1999) observed there was no evidence for a slate roof in the twentieth century at this location.

Regarding the difference in configuration of the brick floors in the carriage house entryway (south room), it is apparent that this was the result of being composed of different construction materials laid at different times by persons of disparate skill levels. While the relative chronology of the two flooring episodes remains unclear, it appears as if the west portion is the most recent. Evidence suggests that this portion of floor was removed to facilitate repairs to the subsurface drains. Hunt (1999) hypothesized that this occurred either during the early 1930s or after 1935 when the property was donated to the WRHS.

JAGA

THE 1993 AND 1994 ARCHEOLOGICAL INVESTIGATIONS

Project Area Description

The 1993 archeological investigation of JAGA included a transect (TR) shovel test (ST) inventory for the proposed access road and sanitary sewer line. In addition, two small test units were excavated in the area of the proposed parking lot, and two other test units were excavated south of the proposed parking lot (Figure 4). Investigations were conducted from June 21 to July 2, 1993 by MWAC Archeological Technicians Kay Adams, Jennifer Moon, Harold Roeker, and Julie Schablitsky, under the direction of Archeologist Rose E. Pennington.

The 1994 investigation consisted chiefly of monitoring ground disturbance associated with the grading of the access road and parking lot and the trenching of the sanitary sewer line. As a result of various delays, ground disturbance associated with the access road, parking lot, sanitary and storm sewers, and construction of the comfort station (restrooms), occurred intermittently from March through July of 1994. On-site Archeological monitoring occurred in six segments: March 28 to April 6; April 11 to April 15; May 24 to May 27; July 7 to July 8; July 20; and July 29. Monitoring was performed solely by Archeologist Pennington on all occasions except July 20 when she was accompanied by the 1994 CUVA crew consisting of MWAC personnel Supervisory Archeologist Jeffrey J. Richner and Archeological Technicians Bob Caversagie, Tim Porter, and Keith Richter; and on July 29, when she was accompanied by Bob Caversagie. The contractor for the project was M. E. Osborne, of Mentor, Ohio. NPS project supervision was performed by Denver Service Center (DSC) Project Manager Dan Cloud.

The 1993 Proposed Access Road

The area covered during shovel testing for the proposed access road extended from the east property fence, west to within 5 m of the main house, and north from the south property fence to the edge of the proposed parking lot (Figure 4). The westernmost transects terminated just north of the Cornelian Cherry copse (TR7, TR8) and just south of the campaign office (TR9). This provided ample coverage of the area to be disturbed by the grading of the access road and attendant equipment staging.

The 1993 Sanitary Sewer Line

At the time of the 1993 investigations, the route of the new sanitary sewer line had not been fully determined. Only that portion of the line running between the main house and the carriage house had been determined. Therefore, this was the only portion of the line to be shovel tested. Three transects were tested running north from the northwest corner of the main house to just south of the carriage house southwest entry. These transects covered an area encompassing 5 m on either side of the sewer centerline (Figure 4).

The 1993 Proposed Parking Lot

As the area of the proposed parking lot had been extensively shovel tested in 1990, the goal was to define the extent of the light prehistoric scatter identified at that time. Three 1m-by-1m square test units were excavated in the general area of the proposed parking lot (Test Units 1, 2, and 3, with TU 1 south of the proposed area). One additional 1m-by-1m square test unit (Test Unit 4) was excavated south of the proposed parking lot, in the area of the proposed access road (Figures 13 and 17). Test Units 2 and 3 were randomly placed in order to gauge, respectively, the scatter's western and eastern extents within the proposed parking lot disturbance zone. Test Unit 1 was excavated just southwest of Transect 4 Shovel Test 23 where an object initially thought to be a partial biface was recovered. Upon closer examination, this object was determined to be a piece of glacial gravel. While not within the area proposed for the actual parking lot, Test Unit 1 was well within the parking lot/comfort station disturbance zone. Additionally, it was expected that Test Unit 1 could intercept a potential trash scatter from the carriage house and gas holder to the west. Test Unit 4 was excavated along Transect 2, between Shovel Tests 13 and 14. Transect 2 Shovel Test 13 produced a flake of debitage, and Transect 2 Shovel Test 15 produced an odd pitted stone, possibly a nutting stone, and a piece of potential debitage. Test Unit 4 was excavated in order to determine if a definable prehistoric scatter was present in this area.

The 1994 Access Road/Parking Lot/Sanitary Sewer Line Monitoring

Primarily, monitoring was limited to the disturbance zones previously mentioned for the 1993 investigations. However, additional sanitary sewer trenching performed in order to connect the first manhole at the southwest corner of the property to the line running to the northwest corner of the main house, and trenching from the north facade of the tenant house to the sewer line running parallel to the west facade of the carriage house necessitated monitoring in those areas as well. Trenching between the comfort station and the gas holder produced a cobble feature (described under results, below). In addition, a non-historic bust and plaque surrounded by a small brick floor and garden, located just west of the northwest corner of the main house, was removed. This required only a cursory examination as this recent feature lay atop sandy fill. Finally, internal demolition work at the carriage house produced cultural materials necessitating archeological interpretation.

The 36-inch-diameter PVC storm sewer runs north parallel to the access road until it reaches the new parking lot, where it turns approximately 35 degrees, running northwest across the parking lot. An 8-inch-diameter PVC arm of the storm sewer branches off from the parking lot and runs west to a drain just east of the gas holder. The storm sewer runs through an extensively-surveyed area and therefore did not require close monitoring. Overall, the total area of project disturbance was quite broad, encompassing nearly 35 percent of JAGA's total acreage (Figure 4).

Fieldwork

The 1993 Proposed Access Road

The datum point for the access road shovel test grid (Figure 5) was marked by a nail in the center of a stake located 2.5 m west of the east fence line and 3.7 m north of the utility pole along Mentor Avenue. It should be noted that the fence line is 2 m to the west of the actual property line. The datum point was previously established by the engineering surveyors of Land Design Consultants, Inc., of Mentor, who were at JAGA to stake the utility lines.

Using an Ushikata surveyor's compass set on a tripod and a plumb line over the datum point, a baseline was established at a 90-degree angle to magnetic north. A 100 m metric tape was then used as a guide to set marked pin-flags at 5 m intervals. Initially, eight parallel transects were established from TR 1 at datum, to TR 8 at 35 m west of datum.

Shovel tests progressed along a magnetic north line at 5 m intervals and were numbered sequentially (e.g TR 1 ST 1-31, TR 2 ST 1-28; etc.). The only variation to this pattern was provided by two shovel tests labeled simply ST A and ST B, which were excavated in order to provide further coverage in the area of the gas works. ST A was located 174 degrees and 4.05 m from the northeast corner of the gas holder. ST B was located 5 m east of ST A.

Shovel test excavation began at the baseline. However, TR 1, ST 1 was offset 1 m to the east so as not to disturb the datum. A few other shovel tests also had to be slightly offset due to the presence of impenetrable tree roots or architectural structures, such as the pump house. As a consequence of being offset to the west by the pump house, TR 1, ST 17 and 18 intersected the TR 2 line. Therefore ST 17 and 18 did not need to be excavated as a part of TR 2. TR 5, ST 18 and 22 were skipped because they fell on large (recent) compost heaps.

As the work progressed along TR 1, it soon became apparent that an additional transect would be required to the east in order to fully cover the area of the access road. Rather than abandon the grid pattern already in use, it was decided to call the transect placed to the east of TR 1, TR A. Thus, TR A, ST 1 was placed 5 m to the east of TR 1, ST 6. TR A ran parallel to TR 1 along a magnetic north line.

It was further decided to extend the grid with the addition of TR 9, for a total of 10 transects (A through 9) and a coverage of 45 m along the baseline. TR 9 was deemed necessary to cover the area that was to be disturbed by the installation of buried utility lines.

The number of shovel tests excavated along each transect varied from a high of 31 in TR 1 to a low of 4 in TR 9 since the north-south coverage ranged from a low of 15 m to a high of 150 m. TR A through 6 were terminated at the south edge of the proposed parking lot (north of the carriage house). It was unnecessary to expand the grid north, as this area had been surveyed by the CMNH in 1990.

TR 7, 8, and 9 were short. It was unnecessary to enlarge them since the access road will disturb only the area to the east (TR A through 6). However, it was necessary to excavate them at least as far as the main house, since buried utility lines will have an impact on this area. TR 7 and 8 were terminated on the north edge of the Cornelian Cherry copse. TR 9 terminated just south of the campaign house.

A total of 219 shovel tests were excavated along the 10 transects (TR A through 9). This large shovel test grid ensured complete coverage of the area to be disturbed by the construction of the proposed access road, staging for the access road construction, and the installation of buried utility lines.

All shovel tests measured an average of 30 cm in diameter except for TR 4, ST 15, which was expanded to a 50 x 50-cm square in order to better view its anomalous stratigraphy (see results, below). All shovel tests were excavated until sterile subsurface sand or clay was encountered. The contents of each shovel test were screened through ¼-inch hardware mesh. All recovered cultural materials, with the exception of recent cultural debris such as plastic, were bagged and marked according to provenience. Coal, when observed, was recorded and then discarded. Large bricks and chunks of mortar were not collected but were measured and described; small brick fragments and sample pieces of mortar were collected. The location of each shovel test was plotted on project drawings and standard MWAC recording procedures were followed.

The 1993 Proposed Sanitary Sewer Line

In order to test the route of the proposed sanitary sewer line between the main house and the carriage house, 42 shovel tests were excavated over three transects (Figure 6). These transects, which covered an area extending 5 m on each side of the sewer centerline, were aligned toward magnetic north and oriented on a new datum point.

The new datum was a nail in a surveyor's stake set by Land Design Consultants, Inc., of Mentor. This was chosen due to the unreliability of the Ushikata in measuring over long distances and because of the visual obstruction caused by the intervening main house. The stake was located 4.15 m (342 degrees) northwest of the northwest corner of the main house.

The new transects were designated TR 10, 11, and 12. The middle transect, TR 11, overlaid the centerline of the sanitary sewer line trench and was in a direct line with the datum point and the line of the surveyor's stakes which marked the centerline. TR 10 ran parallel to TR 11, 5 m to the east. TR 12 ran parallel to TR 11, 5 m to the west.

Using a compass, shovel tests were spaced at 5 m intervals as before. The number of shovel tests excavated on each transects varied according the amount of subsurface disturbance encountered. TR 11 was the longest, with 16 tests; TR 10 was the shortest, with 12 tests; and TR12 had 14 tests. The first three shovel tests in TR 11 and 12 were skipped or terminated due to dense gravel, probably associated with the existing gravel parking lot and drive immediately to the west.

The only other anomaly occurred in TR 10, ST 3 and 4, where a probable sandstone foundation was uncovered. The diameters of these two tests were expanded in an irregular fashion in order to further explore this feature. As this feature was encountered near the very end of the field session and we did not have a probe among our equipment (efforts to improvise an effective probe proved unsuccessful), we were unable to determine the full extent of the foundation. Only those portions of the foundation which lie in ST 3 and 4 were exposed.

TR 10 through 12 were excavated and recorded in the same manner described for TR A through 9. However, once the foundation was exposed in TR 10, ST 3 and 4, these tests were carefully excavated by trowel. The foundation segment was mapped individually for each test.

The 1993 Proposed Parking Lot

Test Unit 1 was opened adjacent to the west side of TR 4, ST 23 (Figure 7). The southeast corner of TU 1 was located 23.65 m at 335 degrees from the northwest corner of the pump house. TU 1 was 1m x 1m square and was excavated in arbitrary 10 cm levels.

Test Unit 2 was arbitrarily placed approximately 15 m to 20 m northeast of where the 1990 crew recovered the Madison point. This is approximate since existing 1990 project records are unclear as to exact unit placement in this area. The southeast corner of TU 2 was located 40.8 m at 279 degrees from the southeast corner of the tenant's house. TU 2 was 1m x 1m square and was excavated in arbitrary 10 cm levels.

Test Unit 3 was arbitrarily placed to try to determine the east edge of the "lithic" scatter, and because no test units were apparently placed there in 1990. The southeast corner of TU 3 was located 157.3 m north of the southeast corner of the east fence and 10.5 m at 270 degrees west of the east fence. TU 3 was 1m x 1m square and was excavated by arbitrary 10 cm levels.

Test Unit 4 was opened just north of TR 2, ST13. The southeast corner of TU 4 was located 16.25 m at 185 degrees southwest from the southwest corner of the pump house. TU 4 was 1m x 1m square and was excavated by arbitrary 10 cm levels.

Test units were dug using a combination of shovel skimming and troweling. Each unit was excavated until sterile subsurface sand or clay was encountered. The contents of each excavation level were screened separately through 1/4 inch hardware mesh. All recovered cultural materials, with the exception of recent cultural debris such as plastic, were bagged and marked according to provenience. Coal, when observed, was noted then discarded. Large bricks and chunks of mortar were not collected but were measured and described; small brick fragments were collected. The location of each test unit was plotted on project drawings and standard MWAC recording procedures were followed. Plan maps of level floors were generated as it was deemed necessary; wall profile maps were drawn for each completed test unit. TU 4 provided the only exception to this pattern. It quickly became apparent that TU 4 was non-productive; therefore, after "chunking out" a corner of the unit to see what lay below, and observing no change, excavation was halted and Unit 4 was closed.

The 1994 Monitoring Phase

Monitoring consisted chiefly of visual observation, on-site photography, and surface collection (Figure 8). The author was on-site during the grading of the access road and a small portion of the parking lot, and during trenching near the tenant house. The author was able to observe artifacts and subsurface features as they were exposed in these areas (Figure 4). Unfortunately, the major portion of the parking lot grading, trenching for the sanitary and storm sewers, and installation of buried utility lines, occurred in the author's absence. Therefore, observation was limited to after-the-fact surface collection in these areas. Additionally, an excavator, rather than a backhoe, was used to trench the sewer line, thus disturbing a broader area than was anticipated and obfuscating stratigraphic observation of the sandy subsoil.

The length of sanitary sewer line running from the main house to the carriage house was backfilled but a large portion was left open to an approximate depth of 50 cm at MWAC's request. This allowed for some observation of the trench and the identification of a feature, a probable well. An open trench between the comfort station and gas works netted the observation of a cobble feature (see below). Where features were encountered, they were rough sketched, photographed, quickly explored with trowel and shovel, and were recorded using standard MWAC feature forms. Artifacts recovered from features and surface collections were bagged with their approximate proveniences recorded.

The 1993 and 1994 Laboratory Methods

Upon completion of the fieldwork, artifacts, photographs, and written records were returned to the MWAC archeological laboratory in Lincoln, Nebraska, to be organized in preparation for analysis and curation. Artifacts were cleaned and sorted according to their raw material, probable functional group, and provenience. Written records were photocopied, and the originals, along with the project photographs, were retained for permanent storage at MWAC. Given the relatively sparse material recovered from the 1993 and 1994 JAGA investigations, data analysis was very basic, focusing on artifact identification, functional classification, and chronology.

RESULTS

The 1993 Proposed Access Road

The soil profiles revealed by the access road shovel tests was fairly consistent across the project area: approximately 10 cm of humus followed by an A horizon of dark brown sandy loam and a B horizon of dark yellow to tan very sandy loam, sometimes with clay. The A horizon averaged 25 cm in depth, with a range of 15 cm to 39 cm. The southern six to seven shovel tests of every transect exhibited signs of disturbance in the form of a surface layer of compact light tan clay. The cause of this disturbance is not known, but may be attributed to a combination of causes including pre-existing utility lines (the gas and electric meters are located along the east facade of the library wing of the main house), tree removal, and the former presence of a line of utility poles which once ran from Mentor Avenue, north across the property to the barn (a steel piling for a telephone pole was observed 0.5 m northeast of TR 4, ST 7). The change from A horizon to B horizon occurred abruptly in those tests which fell within the north wood lot. This may reflect the woodlot's past use as an orchard, poultry yard, and vegetable garden. All shovel tests west and north of the pump house were significantly wetter than those to the east and south of the pump house, suggesting a higher water table in this area. Evidence for isolated episodes of cinder dumping occurred throughout the project area.

One noteworthy anomaly occurred in TR 4, ST 15, where a lens of dark black soil was observed above a layer of compact light tan clay. This same compact light tan clay was observed in TR 4, ST 11 and 14. In all three tests in which the light tan clay was encountered, small specks of charcoal peppered the clay. The depth of the clay layer varies between the three tests, and ranges from 7 cm to 35 cm below surface. What set ST 15 apart from Shovel Tests 11 and 14 was the appearance of a straight, even black lens above the clay layer. As the soil profile of this test differed sufficiently from that of the other tests, the decision was made to enlarge the test to 50cm by 50cm, in order to better view its stratigraphy. The stratigraphy of the enlarged TR 4, TU 15 read as follows: 0-14 cmbs humus; 14-17 cmbs dark brown sandy loam with sparse charcoal; 17-20 cmbs thin, straight, sterile, black organic layer; 20-24 cmbs compact, light tan clay; 24-33 cmbs brown sandy loam; 33-35 cmbs tan, sandy clay, not as compact; and, finally, 35-49+ cmbs brown sandy loam with pea size gravel.

Initially, no artifacts were recovered from ST 15 except for a shard of flat glass from its sod plug. However, once enlarged, ST 15 yielded a whiteware sherd and a piece of debitage in mixed context. The artifacts came from the horizon below the black lens. It was first believed that the black lens may have been a charcoal layer but it lacked the proper consistency. More likely, it represents a layer of decomposed organic matter placed over fill. Isolated charcoal from otherwise sterile disturbed contexts occurred at various points throughout the project area and may reflect isolated cinder dumps. Approximately 20 m north of TR 4, ST 15, lay a compost and cinder heap at the south edge of the north woodlot.

Of the 219 shovel tests excavated along ten transects (A through 9), 86 were positive for cultural material - nine of these were positive for prehistoric material. These

tests netted nine pieces of debitage (all isolated finds, with the exception of TR 4, ST 16, which produced two pieces of debitage) and a possible nutting stone. A somewhat greater amount of suspected debitage was collected, but much of this subsequently proved to be glacial or wheel-cut gravel. Those pieces of debitage which are undeniably of prehistoric cultural origin are generally made of poor quality material. The prehistoric scatter, while somewhat diffuse, seems to form an ellipse running southeast. The transects and shovel tests that produced prehistoric materials were: TR A ST 4; TR 1 ST 6; TR 2 STs 11, 13, 15, and 16; and TR 4 STs 13, 15, and 16.

Except for a couple of sparse historic artifact concentrations near the main house and carriage house, historic artifact yield was low and widely scattered throughout the project area. Furthermore, most artifacts, particularly glass and ceramics, were very small suggesting that the entire area had been plowed or churned at some point. Historic artifacts consisted chiefly of maintenance and household related items (i.e. nails, flat and bottle glass, crockery sherds, etc.). Shovel tests in the vicinity of the carriage house produced several pieces of carriage and machine related hardware. None of the historic artifacts were particularly significant and most appear to post-date 1890.

Most artifacts were too small to yield reliable dates or inferences as to their precise function. One late but datable artifact, a small solid clear glass caricature of a horse's head, came from TR 5, ST 26, east of the carriage house. This is most certainly a part of a child's glass candy container representing the comic character "Barney Google's" horse "Sparkplug" from the Barney Google comic strip. The container is all glass and about 3 inches tall with a 3-inch base. Parts were painted black or orange. Marks include "U.S.A." between the hooves and "King Features Syndicate Inc." and "Copyright 1923" on the bottom rims. Other variations were made with different details. The container appears in the 1924 and 1925 G. Sommers & Co. catalogs and the 1925 Butler Bros. catalog (Kovel and Kovel 1994). Such candy containers were made over a period of many years but reached the peak of their popularity during the 1920s, also the peak years for the comic strip "Barney Google."

Another interesting artifact was recovered from TR 1, ST 22, placed 20 m north of the pump house. It is a ferrous object, triangular in shape, with a decorative filigree design cut through it and with a star shape atop its apex and another toward the bottom of the design. The object measures 10 cm on a side and has a ferrous brace or flange in the back. Its age and purpose is unknown but it is conjectured that it may have been a circa 1880s or 1890s wall grate.

No subsurface features were identified in the area of the proposed access road, however a small pile of brick, stone and concrete rubble (Figure 9) was identified approximately 15 m east of the gas works building, and approximately 25 m southeast of the brick ruin (spring house), which was removed in 1994. The pile of bricks, broken sandstone pavers, large chunks of concrete, and sewer tile was located immediately adjacent to the west edge of TR 3, ST 25 (which produced only a shard of bottle glass), and approximately 15 m east of the gas holder. The bricks included three-hole perforated bricks (the same as those of the small brick spring or pump house located approximately 25 m to the northwest, at the south edge of the proposed parking lot), and large, thick, pavers boldly impressed with the mark "BUCKEYE" (the K is larger than the other

letters), the same bricks which pave the east floor of the carriage house. One anomalous small brick impressed with a long six-sided geometric shape was observed.

James R. Garfield, great-grandson of the president and current JAGA grounds-keeper believes that yet another spring house may have been located here (personal communication 1993), but there is no evidence of the stone footing he describes. He may be remembering the small brick spring house described above, which does match his description. A second interpretation is that this represents the remains of a large icehouse which is depicted immediately east of the gas holder on a historic base map dated October 2, 1924 (Newman 1991:137, Base Map 5). If the debris pile does represent the remains of that structure, then much of it had been removed previously as very little debris was visible and prodding with trowel and shovel produced very little else. A third alternative is that the pile may have been a wheelbarrow dump for superfluous construction materials, as the bricks were in angular rows suggesting dumping, and the other materials were in a mixed pile. Unfortunately, with so little debris remaining in a disturbed and overgrown condition, and given the number of lesser outbuildings that were constructed and razed on the farm over the years, an exact structural identification is currently impossible.

The 1993 Proposed Sanitary Sewer Line

Of the three sewer line shovel test transects (TR 10, 11, and 12), only the eastern-most one, TR 10, exhibited undisturbed soil stratigraphy. Shovel testing along this transect uncovered the remains of a structural foundation and a gravel drive (discussed below). Undisturbed soil profiles were consistent with those previously described. Artifact distribution among the three transects was light and consisted chiefly of nails, glass, and stoneware. Prehistoric cultural material was limited to one possible fire-cracked rock from TR 12.

Transect 10

TR 10 was very interesting in that it is located on an old gravel roadbed and a foundation. Twelve shovel tests were excavated along TR 10. Initially, only one, ST 3, produced artifacts - a badly deteriorated sanitary can fragment and cut nails from the same level, and in association with, the stone foundation uncovered in ST 3 and 4, described below (subsequently, Expanded ST 3 and 4 would produce a few more artifacts). ST 9 through 12 encountered a probable gravel roadbed. With the exception of these tests, and ST 1 and 2, which were very disturbed, the remaining tests exhibited the expected soil profiles as previously described.

ST 9 through 12 encountered a thick layer of uniform natural gravel, highly compact. The gravel layer, which extends variously from 10 cmbs to 28 cmbs, was encountered below a compact layer of brown to dark yellow sandy loam with varying degrees of clay content. The matrix of the roadbed itself was dark brown to black in color and below this lay the tan to light brown sandy loam B horizon. No artifacts were associated with this gravel bed, save for the occasional small bit of coal or clinker which was discarded. It is conjectured that this may represent the remains of a circa 1895 drive

which lead to the southwest entry of the carriage house (Westerly Group and William Behnke Associates 1991: Appendix Page 63, Figure 48).

Expanded Transect 10 ST 3 and 4: Foundation

TR 10, ST 3 and 4 uncovered a probable sandstone foundation (Figure 10). The diameters of these two tests were expanded in order to explore this feature further. The stones were thick, sawed, and retained remnants of mortar, including one large chunk with clear wood impressions recovered from Expanded ST 4. Several cut nails and a badly deteriorated sanitary can fragment were recovered in association with the sandstone blocks in ST 3. The probable foundation was identified at 8 to 10 cmbs, in a dark brown sandy loam soil.

The placement of the foundation segments in ST 3 and 4 suggested that two corners had been exposed, one in each shovel test. Subsequent observations in 1994 would suggest that these might represent the western corners of a structure. The two corners lay 5 m apart in a direct line with each other and were oriented at roughly a 30 degree angle from the main house, just to the northwest of the campaign office. The foundation was exposed at a depth of 8 cmbs to 10 cmbs. Compact clay formed the matrix. Associated artifacts were sparse: cut nails and wire nails (ST 3 and 4), the base of a badly deteriorated sanitary can, a piece of plastic coated wire, and a piece of molded plastic (all from ST 3), and a portion of a milk glass electric insulator of the knob and tube type (ST 4). Additionally, several large shards of window glass found in situ were collected from ST 4. Samples of mortar were collected from both tests with one large chunk from ST 4 displaying wood impressions.

The foundation segment uncovered in ST 3 consisted of numerous large chunks of small cut sandstone blocks, many irregular in shape. Running parallel to the sandstone blocks were three whole yellow mason's bricks with a ridged side surface. Several of the stone blocks and bricks were mortared, possibly with limestone mortar, as it was fairly friable. The arrangement of the stones and bricks suggest a wall collapse, although whether outward or inward remains unclear.

Approximately 15 cm to the west of this arrangement was a semicircular pattern of stones, mortar, and cement, suggesting a post support. Such a post would measure approximately 15 cm to 20 cm in diameter. Whether this post was associated with the foundation is unclear. The post mold was in linear alignment with a similar impression 5 m to the north in ST 4 (see below).

The foundation segment uncovered in ST 4 was similar to that of ST 3, except that the sandstone blocks were somewhat more scattered in their arrangement and there were no bricks present. A portion of what appeared to be a poured concrete block, approximately 15 cm wide, was uncovered in the southwest quarter of the enlarged shovel test. Approximately 5 cm to the west of this arrangement was a semicircular mold of mortar atop a stone block. This probable post mold was in linear alignment with that of ST 3 at 5 m to the south. Unfortunately, there was not enough of the mortar present in the ST 4 post mold to accurately determine the diameter of the post with which the mold was associated.

Transect 11

Sixteen shovel tests were recorded for TR 11. ST 1 through 4 were skipped as they lay in a zone of compact gravel associated with the existing access road and parking lot to the west. ST 6 was offset 2 m east of the line due to gravel. Several tests along this line displayed disturbed stratigraphy. Those tests which were undisturbed evidenced soil profiles consistent with previous descriptions: an 8 cm to 10 cm deep humus layer, followed by a dark brown sandy loam A horizon, followed by a dark yellow, and much sandier, B horizon. ST 6 through 9 were very disturbed, with mottled bands of brown, black, and dark yellow sand and sandy loam with some clay content, and a thick band of clay at top (as in the disturbed tests near the baseline of TR A through 9). A probable drain field was located in ST 7, and possibly ST 8. In ST 7 and 8, a thick layer of white, angular, limestone gravel was encountered at 31 cmbs. In association with the gravel in ST 7 was a large sherd of vitrified red-ware drainage pipe. A similar, or perhaps the same, pipe is depicted in the 1991 draft of the Cultural Landscape Report by the Westerly Group and William Behnke Associates (1991: Appendix page 57). The presence of the drainfield and its subsequent exploration for the preparation of the Cultural Landscape Report (Westerly Group and William Behnke Associates 1991) is the most likely cause of the disturbance noted in the shovel tests along this transect.

ST 12 included a number of large, round lake cobbles, which were initially believed to be in association. The test was expanded to 50 cm x 50 cm, and it became evident that the cobbles were random and probably not in deliberate association after all. However, several small sherds of a Rockingham glazed yellowware vessel were recovered from the expanded test. Several cut nails and a shard of flat glass were also recovered.

ST 15 was offset 1.5 m to the east to test a depression which may have been a tree fall or may have been associated with the 1990 investigations. Oddly, the A horizon was disturbed but the B horizon was not. The abrupt change from the A horizon to the B horizon noted in the North wood lot units and shovel tests is evident here. As ST 15 lies about 6 m from the entrance to the carriage house, which was built after President Garfield's death, it may be conjectured that this is further evidence for a spreading of topsoil connected with the agricultural program carried out in this portion of the property during Garfield's lifetime. A hard-paste hand-painted cobalt-blue porcelain sherd from a pre-1914 oriental deep saucer was found in the soil plug of ST 15. This piece does not match any of the Garfield China in the collection of the WRHS, although Lucretia Garfield was known to have collected Chinese and Anglo-Japanese china and porcelain. The only other artifacts recovered from TR 11, ST 15 were several ferrous objects, including nails, and one shard of colorless bottle glass.

Of the 16 shovel tests recorded for TR 11, only 12 were excavated, with only 10 positive for cultural material. Cut and wire nails account for the majority of recovered artifacts. Stoneware, flat glass, and curved glass were also recovered in small quantities. All artifacts were recovered from approximately 20 cmbs to 25 cmbs.

Transect 12

Fourteen shovel tests were excavated along TR 12, ten of which were positive for cultural material. Recovered artifacts included several cut nails, small chunks of mortar, a small red ware sherd, a small sherd of cream-colored salt-glazed crockery with a rolled and flattened lip band, a small whiteware sherd, a small shard of green bottle glass, and one possible fire-cracked rock (recovered from disturbed context in ST 7). Virtually every shovel test had some small bits of coal or clinker, which were discarded. All shovel tests along this transect (which ran close to the existing gravel parking lot and drive) were very disturbed, with a thick band of compact clay on top and a zone of mottled dark brown, brown, and orange sandy loam with some clay, beneath. ST 10 and 14 did not appear as disturbed, evidencing the expected A and B horizon soil profiles below the clay. However, while the A horizon remained the standard dark brown sandy loam, the B horizon sandy loam appeared to have darkened to an orange or rust color. In addition, the texture of ST 10 through 14 was much looser than that of ST 1 through 9.

The 1993 Proposed Parking Lot

Overall, results obtained from the parking lot test units mirrored those obtained from the access road survey. It appears that the soil in the area of the proposed parking lot is finer in consistency than that of the access road transect shovel tests to the south; however in all other respects the soil profile is identical. Artifact yield was light and consistent with that of the proposed access road. Prehistoric artifacts included just four pieces of chert debitage (three from TU 1). No prehistoric subsurface features were identified; however a historic plow scar was identified, confirming this area's past agricultural function. Also identified was a postmold, probably associated with one of a line of utility poles, which once served the barn to the north.

Test Unit 1

The stratigraphy of TU 1 is largely representative of the project area as a whole (Figure 11). Beneath 10 cm of rich black humus (there was much leaf mold and composting in this area), lies 23 cm of dark brown sandy loam with pea size gravel, and beneath this lies brown sandy loam with gravel. There was an abrupt change between the dark brown and the brown sandy loams. The brown sandy loam graded into a B horizon consisting of light brown to dark yellow/tan much sandier loam with gravel and fist-sized lake cobbles. No features were observed and artifact yield was light to moderate.

Three small flakes of chert debitage were recovered from TU 1 (one each from Level 1, 0-10 cmbs; Level 3, 20-30 cmbs; and Level 4, 30-40 cmbs). All flakes were recovered from mixed contexts which contained historic artifacts. The most notable historic artifact recovered was a black transfer print sherd which appears to have been burned. The sherd is circa pre-1860s and was recovered from Level 3. This level also produced a few cut nails, a tiny shard of milk glass, two small pieces of charcoal, and one flake of chert debitage. Other artifacts recovered from TU 1 include a wire-wrapped pin, perhaps from a window sash, a ferrous fishhook, wire and cut nails, a hinge, wire, amber and colorless bottle glass, whiteware, porcelain, and brick—all in small pieces. Coal was

observed but not collected. Level 1 was the most productive, with the yield decreasing by level. TU 1 bottomed out into sterile sand at 40 cmbs (Level 4).

Test Unit 2

Below a thin humus layer, Level 1 (0-10 cmbs) consisted of a loose sandy brown loam containing many tree roots which graded into a light brown or tan sandy loam containing roots and pea gravel near the top of Level 2 (10-20 cmbs). Level 3 (30-40 cmbs) consisted of a very fine dark yellow sandy gravel with much root disturbance. Nearing the floor of Level 4, at 36 cmbs, a dark circular stain on a very compact yellow clayey loam surface was observed. Excavation carefully proceeded to the bottom of Level 5 (50 cmbs), where the soil was observed to be a dark yellow to tan, very compact sandy gravel with lake cobbles and much root disturbance, especially in the north wall. The soil had a slight orange cast to it and was lighter than that of the other test units. Despite its compact nature, there appeared to be very little clay in the soil. However, by Level 5 the soil was very gravelly.

The circular stain identified in Level 4 was at first believed to be a rodent burrow as it was similar in dimension to rodent burrows then present on the property. The circular stain fill measured 35 cm in diameter and contained soil which was darker and looser than the surrounding matrix. The circular fill was a medium brown to dark brown sandy loam and was devoid of cultural material. It is now conjectured that this stain may be the mold of a utility pole. This is further suggested by the presence of broken cables and cable anchors in the ground approximately 5 m to the south of Unit 2. James R. Garfield (personal communication 1993) confirmed that the barn at the north edge of the property was once electrified, and that a line of utility poles had stretched from Mentor Avenue north across the property. However, it is unknown when these poles were removed from the property. The cables do not appear particularly old.

Test Unit 2 yielded few artifacts. However, while less productive than Test Unit 1, it was more productive than TU 3 and 4. Level 1 produced a faunal bone of indeterminate identification that displayed saw-cut marks, a small quantity of curved and flat glass, and a basal portion of a small unglazed red-ware flower pot. Level 2 produced a small quantity of flat and curved glass. Level 3 produced one fairly large chert flake, one shard of thick flat glass, and one cut nail. Decalcified limestone and a small portion of brick were observed in Level 3 but not collected. The last two levels of Unit 2 (Levels 4 and 5) were culturally sterile with the exception of the probable postmold. Isolated specks of charcoal peppered the unit, but not in direct association with the circular stain. This anomaly was not assigned a feature number.

Test Unit 3

Level 1 (0-10 cmbs) consisted of a culturally sterile medium brown fine sandy loam with small gravel. Level 2 (10-20 cmbs) consisted of medium brown fine sandy loam with small to medium gravel. The only artifact collected from TU 3, a tiny shard of aqua-colored bottle glass, was recovered from this level. At Level 3 (20-30 cmbs), the A horizon consisted of dark to medium brown fine sandy loam with gravel, grading into light brown sand with some clay content. Numerous large roots disturbed the northeast

quarter of the unit. Several small flecks of charcoal were observed in this level. Level 4 encountered the B horizon consisting of light brown coarser sand with some clay content, gravel, and several large, natural lake cobbles. This B horizon was darker than that of Unit 2, as was the B horizon of Unit 1. Flecks of wood charcoal were observed throughout the unit with a small concentration visible in the southeast corner of the unit at 38 cmbs. This was interpreted as the remains of a stump burn.

Of most interest in Unit 3 was the discovery of a probable plow scar in the east wall. It was most evident in the A horizon, but grazed the top of the B horizon. The plow scar was visible in the wall profile from about 7 cmbs to about 26 cmbs and appears as a linear series of gently undulating arcs, spaced exactly 13 inches (33 cm) apart. A few large lake cobbles were visible within this soil zone. One prominent rodent burrow was encountered about 15 cm below the plow scar, and parallel to it, in the B horizon. Unit 3 encountered sterile sand at the bottom of Level 4 (40 cmbs) and excavation was terminated.

This area was used variously as a vegetable garden and orchard throughout the Garfield family's residence. The presence of the plow scar and evidence of historic stump burning provide archeological confirmation of the area's past agricultural use.

Test Unit 4

Level 1 (0-10 cmbs) consisted of seven cm of humus below which lay the A horizon. This horizon consisted of dry dark brown sand with some clay content and much lake gravel. A large root obstructed the southwest corner of the unit. Small brick fragments and specks of charcoal were observed throughout the level but not collected. The soil of Level 2 (10-20 cmbs) was the same as that of Level 1, with the top of the B horizon change becoming evident at 20 cmbs. No artifacts were noted, but small specks of intermittent charcoal were observed. Level 3 (20-30 cmbs), the B horizon, consisted of a light brown fine sand with a little clay content and much gravel. Specks of charcoal were still evident but there were no artifacts. As nothing in the floor or wall of the unit indicated the presence of a feature and as no cultural material was observed beyond the light peppering of charcoal, the southwest corner of the unit was "chunked out" to see what was below. Observing no change and reaching sterile sand at 40 cmbs, the excavation was halted and TU 4 was closed.

The 1994 Monitoring Phase

Among other observations, the 1994 monitoring phase recorded three historic features: a large cobble feature just north of the gas holder and two previously unrecorded wells, one east of the pump house and one along the route of the sanitary sewer line. Nothing was observed in the soil profile that would contradict the 1993 soil assessment. With the exception of two notable historic artifact concentrations in the area of the new parking lot, artifact distribution was light and scattered, as it was in 1993. No prehistoric artifacts or features were uncovered in 1994.

Access Road

Grading for the access road (Figure 12) netted the observation of a previously unrecorded hand-dug, circular, brick-lined well that was 6.5 m directly east of the pump house. This was designated JAGA 1994 Feature 1 (Figure 13). Feature 1 was uncovered by a front-end loader as it was scraping tree remains from the area. The well is surrounded by a concrete pad and lies approximately 6-8 inches (15-20 cm) below original grade. This feature does not appear on any maps, nor was its presence known to JAGA or WRHS personnel—not even James R. Garfield was aware of its presence.

The well, which was capped by an iron manhole cover, was just over 17 feet (5.18 m) deep and contained approximately 4 feet (1.22 m) of water when it was discovered. The feature was a hand-dug, circular well consisting of an unknown number of courses of mold-formed, 2-x-4 inch brick, and Portland cement. The pipefittings were galvanized steel with a “street-L” configuration and clearly ran to the pump house where they emerged adjacent to the circa 1939 pump. Both the pipe and the well were in excellent condition; however, just visible at its bottom was a mass of small tree roots.

Feature 1, which was surrounded by a tooled-edged concrete pad, had an opening diameter of 2 feet 1.5 inches (63.75 cm), with a 7 inch (17.5 cm) overhang of surrounding brick and cement. Four bricks set at a 90-degree angle to the other bricks, presumably to support the cement pad, created this ledge. The ferrous manhole ring was fused to the manhole cover. The interior of the cover was embossed: THE DONLEY BROS. CO. CLEVE. O. According to a representative of M. E. Osborne, the contractor, this company did not exist before the mid 1930s but is currently still in business.

The northwest corner of the concrete pad was located 21 feet 6.5 inches (6.5 m) southeast of the northeast corner of the pump house. The center of the well was 24 feet 10 inches (7.45 m) from the northeast corner of the pump house. The southwest corner of the concrete pad was 20 feet 2.5 inches (6.1 m) northeast of the southeast corner of the pump house. The center of the well was 24 feet 3 inches (3.38 m) from the southeast corner of the pump house.

After consultation with the Ohio EPA and the National Park Service/Midwest Regional Office in Omaha, the NPS/DSC project supervisor decided to remove the top portion of the well, fill the remaining portion, and continue with the access road as planned. The well was pumped overnight; however, at least three feet of water remained in the well the next morning. When it was noted that water was seeping into the well as fast as it could be pumped, the decision was made to fill the well in spite of the standing water.

First, the protective raised pallet of earth surrounding the well was graded down to match the surrounding area. Then the concrete pad was removed along with the top six courses of brick exposing the fact that the brick courses had been parged on their exterior surface. The concrete pad was 12 cm thick. The concrete pad and top brick courses were removed to allow the access road to pass over without any change to its grade. Thus opened-up, the well's shape became more evident. It appeared to have a top diameter of approximately 6 feet, and a bottom diameter of approximately 4 feet.

The well was filled by dumping a large sheet of bentonite into the well, followed by 5 gallons of Claymax. Finally, fourteen cubic yards of slurry were poured into the well, driving the water to the surface where it drained off. A Lake County Health Inspector was present during these proceedings.

Parenthetically, a shallow, bell-shaped brick-lined pit was observed 4.75 m north of the pump house. The bricks are of the standard 2-x-4 mold-formed variety and were mortared with Portland cement. A ferrous ring surrounded the top of the pit; its cover was missing. The basin was filled with soil and leaf litter. At the time of examination, the basin was approximately 70 cm deep. This pit is interpreted as a probable catch basin or valve access associated with the pump house. No action will be taken with regard to this feature as it is not currently in the path of development.

Sanitary Sewer Line

This portion of the project area consisted of the sanitary sewer line running from the first manhole west of the existing gravel drive, across the drive to the northwest corner of the house, veering north across the property to the carriage house. In addition, branches of the sanitary sewer line ran to the comfort station north of the carriage house and to the north facade of the tenant house (west of the existing gravel drive). The trench was approximately 3.5 m wide and dug with an excavator rather than a backhoe. The soil profile appeared fairly consistent across the project area: 20 cm to 30 cm of dark brown loamy sand with occasional lenses of glacial gravel or lake pebbles above dark yellow sand.

The contractor wished to backfill as the line was being laid; however MWAC was told by DSC that the entire length of trench would be left open to a depth of 20 inches for our inspection. Despite this assurance, that portion of trench which ran from the first manhole, east across the existing drive to the house (a distance of approximately 40 m, paced), as well as a portion of the trench running north from the house to the carriage house (approximately 15 m, paced) had been completely backfilled prior to our arrival. This is unfortunate as the backfilled area possessed the possibility of displaying evidence for the circa 1876 barn complex which is believed to have been located under the existing gravel drive and parking lot. WRHS staff, who observed the trenching, could not recall seeing any possible features; however they did observe a few early (ca. 1850s) ceramic sherds which may be associated with the Dickey occupancy.

The following observations are described in the order in which they were encountered moving north along the sanitary sewer trench:

Cinder Block Septic Tank This feature had already been removed and the trench backfilled before the arrival of MWAC personnel; however, a few of the cinder blocks were still evident on the backdirt pile and the author was able to get a description of the tank from DSC project supervisor Dan Cloud. Apparently, the excavator encountered what appeared to be a septic tank approximately three feet (91cm) below grade. The tank was 4 feet wide by 8 feet long and 5 feet deep. It was constructed of cinder block with a concrete or stone lid that had collapsed in, filling the tank with soil. A 4-inch diameter clay pipe fed into the tank. The tank was uncovered approximately 9 m northeast

of the northwest corner of the main house near the flagstone walk. This area had been backfilled before our arrival. Certainly, this septic tank was a twentieth century feature—the cinder block examined by the author was no more than fifty years old.

Dry Well and Adjacent Probable Cobble Well (Feature 2) Feature 2, a previously known dry well/utility manhole and an adjacent previously unknown probable cobble well (Figure 14), was clearly visible in the exposed east wall of the sanitary sewer trench. This position is just north of the fully backfilled portion of the trench. The presence of the dry well was known, as it had been visible on the ground surface prior to trenching. The dry well had been capped with a sandstone square, which was removed in 1993, long enough for a cursory examination of its contents. At that time, the well contained various pipes and shut-off valves, which have since been removed. The dry well, as exposed during trenching, was semi-circular. The remainder had been obliterated by mechanical excavation during construction. The archeological elements of the dry well consisted of mortared mold-made brick, which had been thinly parged. Thirty cm of the dry well, top to bottom, were exposed. This feature did not appear to be particularly old, but it almost certainly pre-dates the cinder block septic tank described above.

Conversely, the presence of the cobble well was a complete surprise. It was adjacent to the dry well to the north (Figure 14). Very little of it was visible as much of its southern and eastern portions remain buried and its northern and western portions having been obliterated by the mechanical excavation. However, the arc of the visible portion of this feature suggests that it was very large and may have been truncated by the dry well. This suggests that the feature predates the dry well.

While the dry well and the cobble well appear unrelated, they were assigned the same feature number, JAGA 1994 Feature 2, due to their spatial proximity. It was initially believed that this facility may have been the hand-dug well previously recorded by the CMNH; however, Lee's (1994:24) description of the 1990 feature does not match that of 1994 Feature 2 (see interpretation, below). Feature 2 was located 17.5 m northwest of the northwest corner of the Campaign Office, 19.9 m northwest of the northwest corner of the main house.

The probable cobble well was exposed as an arched or rounded wall of mortared cobbles, faced on its interior side, i.e., the side rounding toward the dry well. A vertical brick was set with mortar along the top course of cobbles, as is often observed at the top of wells. This cobble wall was exposed at 24 cmbs, and was troweled down until 48 cm of the feature was exposed, from top to bottom. Due to time constraints and the probability that the feature had been largely destroyed by the mechanical excavation, no attempt was made to chase the feature beyond this point. The well extended west approximately 24 cm out of the east wall of the sanitary sewer line trench, and extended approximately 40 cm in its north-south dimension along the east trench wall. Approximately 28 cm of the cobble well wall was observed on the spoil pile.

Small Ferrous Feature A small concentration of cut nails and a ferrous pipe was observed in the east trench wall, approximately 10 m south of the carriage house, 44 m southeast of the large Copper Beech tree. It is likely that this feature represents the remnants of one of the pipes leading from the present pump house or from one of a

series of wells that predated it, and provided water either to the carriage house or to the orchard and garden north of the carriage house. No conclusion has been drawn from the presence of the nails except that, given the feature's proximity to the carriage house and the number of randomly occurring nails recovered from across the project area, this is not surprising. As this feature was small, it was not given a feature number and was not recorded.

Possible Tenant House Wing Foundation Large sections of mortared brick, as well as large sections of concrete set with bricks at odd angles (suggesting that the brick was used as fill in the concrete), were unearthed by the excavator along the north facade of the tenant house during sanitary sewer line trenching in that area (Figure 15). Unfortunately, the trench was being backfilled as MWAC personnel were alerted to the presence of this feature. Therefore it was obliterated before it could be recorded properly. However, photographs were taken of the trench and what was left of the brick and concrete on the spoil pile. It is known that there was once a non-historic wing attached to the north facade of the tenant house and that it and a concrete block chimney were removed during renovation in 1988 (Grabinski 1994b:6). The date that the north wing was added is unknown, but may have occurred during the 1950s when much unrecorded maintenance was performed at JAGA.

Additional Observations. Trenching along the west facade of the carriage house, initiated in order to connect the sanitary sewer line into that structure, necessitated the temporary removal of the large post-1900 granite water trough. While no cultural material was observed in the trench, the removal of the trough netted an interesting observation. The underpinnings, or footings, of the stone blocks upon which the trough stood were revealed to be recycled polished granite headstones. One of the stones was sheared off at some point in the past while the other bore the inscription "Harold J. Waste, 1907-1967," with a floral motif below. This is interesting in that it establishes an approximate date as to when the trough was moved to its most current location. It was known to have been relocated between 25 and 30 years ago, but the date was uncertain. It is likely that these stones were rejects or practice pieces from the local stonecutter.

Parking Lot Work in the area of the new parking lot and the construction of the comfort station just north of the gas holder uncovered a large cobble feature (designated JAGA 1994 Feature 3), and two artifact concentrations.

Cobble Feature (Feature 3). This feature was uncovered during unmonitored trenching between the gas holder and the comfort station initiated in order to connect the sanitary sewer line into the comfort station. The author was unable to examine the feature until approximately two weeks after its discovery and an unknown amount of damage was inflicted upon it by ongoing construction of the comfort station.

Feature 3 was located approximately 3 m south of the south facade of the comfort station cement pad, and approximately 10 m north of the north facade of the gas works. It was approximately 2 to 3 m north, and approximately 5 m east of the sloping ramp into the northeast facade of the carriage house. In addition to the damage sustained by the feature itself, exact location was difficult to determine due to the condition of the site. The location has been estimated due to the many obstacles to measure accurately.

The feature consisted of numerous large cobbles and boulders interspersed with several mold-made bricks and late nineteenth-century midden refuse (Figure 16). Large chunks of mortar, some with post impressions, were present but were not in direct association with any of the stones or bricks. The loose, disorganized nature of the feature suggests secondary deposition (a dump) as opposed to a structural collapse. However, elements of the feature do suggest that it may represent redeposition from a demolished structure. A large ice house purported to have stood very near this location is one possibility.

Exact dimensions were difficult to determine for this feature as it was uncovered, and partially obliterated, by the contractor prior to its examination. The feature, as exposed, lay approximately 50 cm below the graded ground surface, and measured approximately 110 cm in its east-west dimension. Its extent north-south was impossible to determine, as was its total depth. This was a very large feature judging by the amount of rubble displaced by the backhoe.

Probing with a trowel produced bottle glass (including manganese, brown, and aqua; patent medicine type bases, thick soda type bottle glass, and canning jar rims); flat glass; cut nails and roofing slate with nail holes; faunal bone and a clam shell; salt-glazed stoneware; large manganese glazed stoneware sherds, including a complete rim with handle; several sherds and a portion of the shoulder from one large brown glazed stoneware vessel, possibly a molasses jug; large rim sherds from a whiteware chamber pot; and various other whiteware sherds. Two bottles, complete but shattered in the feature, were recovered. The bottles bear lipping-tool finishes on their necks, suggesting a nineteenth or early twentieth century date for this feature. There appeared to be several other bottles and vessels, some possibly complete, still imbedded in the feature. The predominantly sandy matrix (mixed with a small amount of brown loam, yellow clay, and pebbles) of the feature, however, coupled with the depth to which it was excavated by the backhoe, make the feature very unstable and prone to collapse, thus precluding further exploration by trowel or shovel.

Initially, it was hypothesized that this feature may represent a filled trench leading to the gas works, and its trajectory seemed to confirm this. However, this proved not to be the case as a small exploratory trench excavated by a backhoe demonstrated that the feature stopped at least 3 m north of the gas works. The feature was exposed to a depth of 1.7 m, but its terminating depth was not found.

Artifact Concentration 1 Unmonitored storm sewer trenching uncovered two artifact concentrations. The first, a small concentration of metal artifacts, including gas jets, lamp fixtures, finials, and assorted other items, were uncovered together just under ground surface. Among the items in this concentration were two mace-like spiked balls joined by a chain which were unmistakably part of an armorial device or picture which is depicted in an 1888 photograph as having hung over the fireplace in the first floor reception hall (Newman 1991:266, Historical Photograph 62). The metal concentration was reportedly located approximately 30 m east-northeast of the north facade of the gas works. This may have been the location of an unusual soil lens observed by the author some weeks earlier during a visual scan of the then freshly graded parking lot.

At that time, the author observed an unusual lens of compact white ash and much lighter yellowish sand mixed with a great quantity of coal and clinker just above the natural sandy subsoil, located approximately 30 m southeast of the southeast corner of the chicken coop foundation. In this lens, one brick (standard mold-formed 2 x 4 inches) and one railroad spike were observed but not collected. A quick probe of the lens with a trowel produced no further cultural material. The lens was shallow but long and broad (approximately 4 m long, 1 m wide and 5 cm deep) and was encountered at approximately 4-6 inches (10-15 cm) below original grade. It is likely that this unusual soil lens represented the top of the metal concentration uncovered during trenching.

Artifact Concentration 2 The second artifact concentration was reportedly located a few meters east of the cobble feature. During trenching in this area, WRHS personnel collected a large number of ceramic sherds, as well as other artifacts. MWAC has since received the artifacts that were surface collected by the WRHS personnel and they include numerous richly decorated Limoges porcelain, Meissen, Haviland, and Staffordshire pieces. Among these pieces are sherds from a china service known to have been used by the Garfields while in the White House, as well as other pieces documented as belonging to Lucretia Garfield. However, this china service set was not Garfield's presidential china (see interpretation below). Only a representative sample was collected, many more small sherds remained observable on the ground surface. This concentration also produced bottle glass, flat glass, metal, fabric, plaster, burned whiteware, and stoneware.

Additional Observations

The 1994 monitoring phase also netted several observations not directly associated with ground disturbance for the access road, storm and sanitary sewers, comfort station, or parking lot.

Foundation No further light was thrown on the foundation feature discovered in 1993, as the sanitary sewer line trench did not extend that far east. However, masonry building materials were uncovered during unmonitored installation of a buried fax line between the main house and the carriage house. These materials, which included large sandstone cobbles, poured concrete, a sandstone brick (4 x 4 x indeterminate inches), and a portion of a mold-made red clay brick imbedded in some concrete, were reportedly uncovered approximately 18 m north of the northwest corner of the campaign office, and 5 m east of the masonry feature uncovered in 1993. It is conjectured that these two masonry features are related and are remnants of the foundation of an as-yet unidentified structure (see interpretation, below).

Unfortunately, only those materials which were not backfilled when the fax line was buried are listed above. WRHS personnel observed other building materials, but these were backfilled with the fax line. Furthermore, the discovery of this masonry "feature" was not reported to MWAC but was discovered by the author upon her return to the site some weeks later. Thus, the information that could potentially either link or disassociate the two masonry features (1993 and 1994) was obliterated.

Carriage House Bottle Cache and Faunal Bones The Carriage House to Visitor Center conversion proceeded concurrently with the access road/sewer/parking lot trenching and grading. During demolition within the carriage house, workers uncovered a cache of bottles in fill dirt under the staircase which lead to the second floor of the carriage house. This area was completely closed-off and the bottles were found only after the staircase had been removed. Eleven complete bottles, one complete jar, and one broken bottle were removed from this deposit. It is possible that more bottles remain in this deposit but as construction grade had been reached in this area, the decision was made to leave any remaining bottles in situ.

Most of the bottles are liquor bottles but a few appear to be liniment-type pharmaceutical bottles. Most retain their original corks and one retains a minute (illegible) portion of its original label. One tall brown liquor bottle retains its original cork-lined crown cap. All of the bottles appear to have lipping-tool finishes on their necks. The jar appears to be a small canning jar capped with a zinc band surrounding a milk-glass liner. One of the bottles, a large, squat, brown liquor bottle is embossed with “GANNEYMEDE 76” on the lower portion of its front face. Two of the liniment-type bottles—one complete bottle and the one broken bottle—are embossed with a stylized E V & CO. within a circle.

MWAC Museum Specialist W. E. Sudderth (personal communication 1994) has tentatively dated the bottle cache as post-1892 and pre-1920, based on a combination of lip finishes, mold seams, base marks, and other identifying factors. Parenthetically, a badly rusted 1957 Ohio auto license plate was found on top of the deposit. This could have easily slipped through the boards of the staircase, and it is probably not associated with the bottle deposit.

The 1991 MWAC crew also recovered a number of liquor bottles from the carriage house. The bottles recovered by the 1991 crew were of a somewhat later vintage, dating largely from the 1910s into the 1930s. Interestingly, the bottles recovered in 1991 were found in the south stables area, a location obscured from public view. Noting that a number of soft drink bottles were found in the more exposed north room, Hunt (1994:42) stated that:

All alcoholic beverage bottles, however, were discarded in the south end of the room, probably reflecting the stigma which would accompany public consumption of alcoholic beverages on a property such as JAGA. It appears that someone with relatively easy access to the Carriage House often drank in the south end of the Stables, a location isn't [sic] easily seen from the outside of the building or from the South Room, where the public had at least occasional access. Consumption of soft drinks would not have been associated with a stigma and could have been consumed in a more visible location. [Hunt 1994:42]

Being that the bottles recovered in 1994 were found in an area that was completely enclosed by the staircase leading to the second floor of the carriage house, it is not out of the range of possibility that they were placed there either at the time that this portion of the carriage house was built or by someone who worked in the carriage house.

In addition to the bottles, workers also recovered two faunal bones from the carriage house. The first was a rib from a mid-sized mammal, such as a pig or sheep. It had been saw-cut on one end. The bone was found approximately 30 cm (12 inches) below the threshold stone of the northwest door of the carriage house (carriage house room #111). The bone was found in the fill zone just above the original grade sand that lies approximately 52 cmbs. The foundation of the carriage house had been exposed below the sandstone foundation blocks as a layer of rotted sill beams above pea gravel fill and large cobbles. The bone was an isolated find, as there was no evidence of additional material.

The second faunal bone was uncovered under the carriage house foundation—this time from under the outer wall of one of the east facing horse stalls, just north of the ramp of the carriage storage portion of the carriage house. This bone appeared to be a portion of a scapula from a mid-sized mammal, such as a pig or sheep. This bone had also been saw-cut. This bone was found in similar context and depth as the rib described above. It appears to be an isolated occurrence as no other midden material was observed. It appears as if these bones were isolated drops at the time the carriage house was constructed—perhaps the work of the family pet.

Campaign Office In July, 1994, Robert C. Mack, the author of the historic structures report for the campaign office (Mack 1994) was at JAGA to conduct further exploration of that building. While exploring the base of the structure, he removed a section of lattice work, exposing the sandy, gravelly fill upon which the campaign office sits. He recovered a complete Pernod aperitif bottle from this area. The bottle was blown in a turn-mold and is of green glass with an irregular laid-on, fire-polished lip. The bottle's base exhibits a deep push-up with mamelon. The product name was impressed into a blob seal of glass, hand-applied to the shoulder of the bottle. The seal reads "E. PERNOD. COUVET." in a circle, with a cross in the center. The last three letters of PERNOD are shallowly impressed but are legible. The cork is present inside the bottle. This bottle most likely pre-dates 1910 (W. E. Sudderth, personal communication 1994). The author troweled around the area from which the bottle was removed and found a small whiteware sherd. Given that the campaign office was moved to its present location in 1885, the presence of a possible trash midden associated with its relocation is not inconceivable. More cultural refuse may be present in this fill but the active presence of several raccoons under the structure prevented further probing.

INTERPRETATION

Access Road Survey Area

Well (JAGA 1994 Feature 1)

The major questions associated with JAGA 1994 Feature 1 are its chronological placement and function. James R. Garfield believes that it may have been dug while he was away at school in the 1930s—a supposition which supports the general impression, based on the brickwork, pipe fittings, and manhole cover, that this well was dug between the mid-1930s and the early 1940s. This is supported by Mr. Garfield's brother who recalls work being done in that area during the mid-1930s and, he believes that the well was dug during that time (James R. Garfield, personal communication 1993). Accepting that the manhole cover is original to the well, the contractor's belief that the Donley Brothers, the manufacturer of this cover, began business in the mid-1930s helps to support a 1930s to early 1940s date. Ultimately, the association of the well pipes with the 1939 pump in the pump house suggests that this well was dug and fitted in 1939 to supply water to the garden north of the pump house, the previous well perhaps having gone dry.

Sanitary Sewer Line Survey Area

Foundation

The identity of the structure that had been associated with the foundation uncovered in 1993 just north of Lawnfield is not certain. There are five potential candidates for this building:

- the horse barn which now stands north of the carriage house,
- a privy,
- a reconstruction of Garfield's birthplace cabin,
- a ca. 1880 cow barn, or
- a ca. 1900 children's playhouse.

The first three may be readily dismissed. The original location of the horse barn can be placed farther west and under the present gravel parking lot. Moreover, the foundation in question is too small for that structure. Next, the foundation is too large for a privy and the associated soil matrix and artifacts are not commensurate with such an interpretation. Finally, the reproduction of the Garfield birthplace cabin, which was moved here in 1938 from the Great Lakes Exhibition, is now at the Lake County Historical Society. It is also too small for the foundation. Furthermore, the photographs

of the cabin when placed at JAGA indicate that it sat just slightly north-northeast of the foundation's location.

The remaining two candidates, the cow barn and the playhouse, bear more consideration. The dimensions and location of the foundation appear to match those of the westernmost cow barn, which was one of four buildings depicted as part of the barn and shed complex from the *New York Herald* newspaper map of Lawnfield dated September 26, 1881 (Figure 3). The four cow barns are depicted as being equal in size with the campaign house (5 m on its short side), and their location is depicted as being to the north of the campaign office and main house. However, it is quite possible that the *New York Herald* map may be inaccurate. Moreover, the artifacts associated with the foundation, such as the milk glass electrical insulator, are much later in date. However, later artifacts and construction materials may indicate either that the foundation was reused for a later structure or that the foundation remained open, allowing later materials to become associated with it. The associated post molds may relate to the line of utility poles which ran back to the "new" barn complex during the 1920s and 1930s, or they may have been associated with support posts within the structure.

The second, and perhaps even more likely candidate for the structure's identity, is a ca. 1900 children's playhouse (Figure 17). The playhouse was constructed from a converted trolley car and is depicted in three photographs dating from the first decade of the twentieth-century. Judging from the camera angle of each photograph, the playhouse stood precisely where the foundation was uncovered.

Ultimately, the true nature of this structure may remain obscure as many structures have circulated around this area in the past and portions of the area have been extensively disturbed.

Cobble Well and Dry Well/Utility Manhole (JAGA 1994 Feature 2)

The brick dry well uncovered adjacent to the earlier cobble well of Feature 2 is almost certainly the remains of a utility manhole installed to allow access to a waterline shut-off valve. The initial examination of this feature in 1993, when it was still intact and visible from the ground surface, suggested that it was chronologically late, perhaps associated with the connection of Lawnfield to the city waterline in the late 1930s.

However, the Westerly Group and William Behnke Associates (1991:Appendix, page 51) in their JAGA cultural landscape report, state that the pipes associated with this feature extend across the site, to the main house, carriage house, pump house, and former location of the barns. It is the last statement that is troubling: to which barns are they referring? If it is to the original barn complex which stood under what is now the gravel parking lot to the west, then the well is much older than the pipe fittings observed by the author would suggest. However, it seems more likely that the pipes fed into the barn complex north of the carriage house or to other non extant outbuildings. It is conjectured that this feature post-dates 1900 when much of the property was being modernized, but pre-dates the 1940s. Ultimately, however, the age of this feature remains uncertain.

Similarly, the age of the adjacent cobble well is also uncertain. The use of natural lake cobbles set with soft mortar suggests that this is a feature of some time depth. It may be early-Garfield or perhaps even pre-Garfield, although this is pure speculation based merely upon the well's appearance. Because of the circumstances surrounding its discovery (in the wall of the partially backfilled sanitary sewer line trench), no artifacts were found in association with this feature, and thus no conclusions regarding the feature's age can be drawn from the artifactual evidence.

Another question surrounding this well is whether it is, in fact, a new observation. Lee (1994:24) reports locating a feature which he interpreted as a cylindrical hand-dug well. The 1990 Feature 1 was very near the location of JAGA 1994 Feature 2:

First observed at a depth of 60 cm below surface, the feature was identified as a well-defined cylindrical pit, 1.02 meters in diameter. The feature was excavated to a depth of 1.5 meters below surface, at which point excavation was terminated for reasons of safety. The pit was filled with large cobbles and small boulders, ranging in size from 20 cm to 40 cm in nominal diameter. The stones were geologically indigenous to the area and were probably collected locally as fieldstone. Cultural materials recovered within the feature were limited to coal cinders, brick fragments, and geologically exotic, cobble-sized pieces of limestone. [Lee 1994:24]

In addition, Lee's crew recovered parts of a ceramic toy figurine from the excavation level just above the 1990 feature. This toy has been dated to the 1870s or 1880s, leading Lee to conclude that the well had been filled about the time the 1894 pump house well was excavated (Lee 1994).

Unfortunately, due to the lack of photographs or diagrams of the 1990 feature, coupled with the lack of a clear project map, it is difficult to determine if this could be the same feature encountered in 1994. The author believes that the 1990 and 1994 projects encountered two different, nearby well features. It appears that the 1990 crew were excavating approximately 5 m to the west, much closer to the east edge of the existing gravel parking lot. Furthermore, the description of the 1990 feature does not match that of the 1994 feature. Apparently, the 1990 feature consisted of loose cobbles thrown, with some building debris, into a deep pit as fill. Whether these cobbles represent the building components of a well is unclear. Certainly there is no description of mortar or any ordered association in Lee's account. Alternatively, the well encountered in 1994 consisted of cobbles mortared into place to form part of a circular wall. Moreover, the feature observed in 1994 was apparent at 24 cm below the ungraded ground surface; the 1990 feature was not observed until 60 cm below the ground surface. Thus, it is highly probable that two cobble wells were present in this area. This is not inconceivable given the knowledge that the Garfield's are known to have dug several wells, and it may be assumed that more than one was dug by the Dickey family over the tenure of their occupancy.

Parking Lot Survey Area

Cobble Feature (JAGA 1994 Feature 3)

Little can be said about this feature beyond that which has been stated in a previous section. The feature was composed primarily of cobbles mixed with other building materials such as bricks and chunks of mortar, over which was spread what appeared to be a thin late-nineteenth century trash midden consisting mostly of household refuse. The cobbles and other building materials indicate that this is the remains of a structure. However, the loose, disorganized nature of the feature suggests not an in situ collapse but rather a secondary deposition. Thus, it is conjectured that Feature 3 represents an excavated trench into which the debris of a collapsed or razed structure was pushed, and over which a layer of household refuse was opportunistically dumped prior to the trench being covered with soil.

That leaves the question of what structure Feature 3 represents. As mentioned previously, a second large icehouse is believed to have stood in the general vicinity; however there is little documentary evidence to support this hypothesis. The author believes, rather, that Feature 3 represents the debris of the razed portion of the older gas holder building. Certainly the artifacts associated with the feature are roughly contemporary with the razing of the west portion of the gas holder and the construction of the carriage house.

Historic Artifact Concentrations

General Discussion Because of the relatively well preserved and clustered nature of the two artifact concentrations identified in 1994—the metal concentration found east-northeast of the carriage house, and the ceramic concentration found east of the comfort station—and because of the general lack of refuse dumping observed across the project area, it is conjectured that these represent two isolated dumping episodes. Furthermore, it is believed that these dumping episodes resulted from the disposal of obsolete household furnishings in concert with the 1904 renovation of Lawnfield. During that year, a new entry was built and “unrecorded changes in furnishings, floor, wall coverings, and decoration” occurred (Newman 1991:9).

The Garfield China The presence of known household items within the metal concentration has been discussed previously. Within the ceramic concentration, of particular interest are numerous sherds of Meissen, Haviland, and other marks, which match vessels currently in the JAGA collection, documented as having belonged to Lucretia Garfield, and known to be incomplete sets.

Even more interesting are two sherds of peach-bordered porcelain decorated with a delicate gold floral motif just below the border. These sherds match a nearly complete dinner service in the JAGA collection. In addition to the peach and gold floral border, several of the JAGA pieces include a gold monogrammed “G” within the floral border. The centers of these dishes are undecorated. Several pieces of the service are marked Haviland, a French manufacturer, but are stamped with a faux English Registry mark. These vessels are of particular interest as it has been postulated they may have

been the Garfield presidential china. In fact, the Smithsonian Institution has displayed pieces from this service with that designation. However, MWAC Museum Specialist W. E. Sudderth disputes this interpretation:

The dinner service used during the short Garfield presidency was a set designed by the American designer/photographer Theodore Davis for the Rutherford B. Hayes Table..... The china was delivered to the White House in 1880.....during the Garfield tenure 3 of the pieces chipped—and were sent to the Hayes’ as a memento of their tenancy [sic].

.....the designs for the set were composed of American flora and fauna with each of the courses bearing a suitable representation of an appropriate subject, i.e., birds for the game course, fish for that course, etc. [Sudderth 1994:1]

This Theodore Davis set described by Sudderth is not the china service presently in the JAGA collection.

Sudderth’s research indicates that the mark on the JAGA service is a Haviland mark dating to 1871, thus predating Garfield’s presidency by nearly a decade. The faux English registry mark was possibly added to lend an air of sophistication to the set—English china being the considered the finest nineteenth-century ceramics. Or, perhaps, the porcelain blanks were manufactured in England and the set was merely decorated by Haviland. Sudderth believes, and the author concurs, that the JAGA china service was probably a special commission by the Garfields for their personal use, perhaps during Garfield’s years in the U.S. Senate, and may have been used by the family, unofficially, while in the White House.

Soils and Artifact Distributions

Soils

The only general comment to be made regarding changes in the excavated sediments, beyond that which has been presented previously, is that the soil in the area north of the pump house and carriage house is much finer and looser in consistency than that across the remainder of the property. This observation is undoubtedly the result of this area’s many years of cultivation as orchard and vegetable garden. Moreover, the area north and east of the carriage house would have experienced less sediment compaction from pedestrian and vehicular traffic than that portion of the property which lies to the south and west of the carriage house.

Artifact Distributions

Artifact Density The results of the 1990 and 1993 surveys indicate that artifact density is much lighter across JAGA than would be expected on a property of its age and length of occupation. While a light artifact scatter occurs across the breadth of the property, the most concentrated scatter occurs in the vicinity of the pump house and carriage house, and appears to be largely associated with activities associated with those

structures. The two exceptions to this are the previously described concentrations of household items (metal and ceramic) found east of the comfort station and in the north parking lot area. And these appear less to be ongoing refuse dumps than they appear to be isolated depositional episodes, perhaps related to renovation activities within Lawnfield. Where definable trash dumps do occur they tend to be associated with structures, such as the small midden under the campaign office or the small midden associated with the probable building rubble of Feature 3 (cobble feature).

Garfield Trash Dump Site A viable explanation for the lack of an extensive household midden at JAGA was provided by James R. Garfield (personal communication 1993) . He recounted that the family periodically carted trash via wagons to a dump site over the ridge to the north and paralleling the Lake Shore railroad tracks, a distance of just under a mile. At the location described by Mr. Garfield, there is indeed a large, overgrown mound, the result of generations of Garfield family refuse. Unfortunately, this historic trash dump deposit is located on private property. The Garfield trash dump site should be verified by archeological fieldwork and recorded in the Ohio Archaeological Inventory.

Pre-Garfield Occupation Another JAGA observation is the almost complete absence of early artifacts associated with the Dickey family occupancy. It is likely that much of the midden associated with the Dickey family, and certainly all of the kitchen midden, is buried under the enlarged main house. A few early transfer print ceramic sherds were observed by WRHS personnel during unmonitored sewer line trenching in the vicinity of the first manhole, west of Lawnfield.

Other Features No early features, such as privies, have ever been located at JAGA. It is reasonable that the earlier Dickey occupation had a privy, and it is known that Garfield built a brick privy in 1877. It is possible that these lay under the current gravel parking lot, in the area of the early barn complex. It must also be recalled that some property lying to the south of Mentor Avenue was owned by Garfield and that buried features associated with the Garfield farm may be present in this area, now developed as private residences. It is less likely, however, that architectural features would be located on the property south of the road as this was cultivated as a wheat field, although a tenant house did stand on the south side of the road prior to its 1885 sale.

SUMMARY AND CONCLUSION

With National Park Service involvement at JAGA, funding became available for a much needed Lawnfield renovation and the development of a new visitor's center (Hunt 1999:3). In 1990, archeological investigations were conducted around the foundation of Lawnfield, and at various other locations on the property. This was in preparation for Lawnfield's renovation and the construction of a new parking lot to service the visitor center (Lee 1994). Archeological investigations were conducted in the carriage house in 1991, preparatory to its conversion to the visitor center (Hunt 1999).

The 1993 and 1994 Archeological Investigations

The subsequent 1993 and 1994 archeological investigations were conducted in conjunction with the installation of a new access road, parking lot, and sanitary sewer line at JAGA. This work was divided in two phases. The archeological inventory took place during the summer of 1993 and consisted of an intensive pre-construction shovel test survey of the access road and sanitary sewer line route, and the excavation of four small test units in and around the area of the proposed parking lot. The second phase, monitoring of the ground disturbance for the parking lot, access road, sanitary and storm sewers, and comfort station occurred in the spring and summer of 1994.

The 1993 archeological investigations were prompted by subsequent changes in the planned location of the new parking lot and the new access road to service it, as well as the addition of new sanitary and storm sewers, and a new comfort station in the vicinity of the carriage house/visitor center. From June 21 to July 2, 1993, a five member crew from the Midwest Archeological Center, under the direction of the author, conducted a shovel test survey of the proposed route of the access road and sanitary sewer lines. Portions of the proposed storm sewer lines were placed parallel and adjacent to the access road and turned at the parking lot, and thus would be included in the access road survey and the 1990 parking lot survey (Lee 1994.) In 1993, a total of 261 shovel tests were excavated over 13 transects. In addition to the shovel test survey, four 1 x 1-m test units were excavated either within, or in the vicinity of, the parking lot to further explore this area.

Difficulties with permits, contractor problems, and various other administrative delays, caused the ground disturbance phase of the parking lot/access road/sewer lines project to drag on from March 28, 1994, to July 29, 1994. For this reason, the 1994 archeological monitoring by the author occurred intermittently throughout the four month span of ground disturbance. During the last month of ground disturbance, the MWAC crew from CUVA assisted in the excavation of the 1994 features.

Conclusion

Of particular archeological concern was the possible presence of a small Late Prehistoric component identified during the previous archeological investigations in 1990 and 1991. This prehistoric site, as well as the 1830s-1950s historic components, should be recorded in the Ohio Archaeological Inventory. Also of concern was the

possibility of encountering pre-Garfield and very early Garfield features, particularly the original Garfield barn complex. Ultimately, the 1993 and 1994 investigations netted very little prehistoric material, nor, for that matter, was much historic material recovered. However, several interesting features were identified including the foundation of an as yet unidentified structure. Two previously unrecorded wells were discovered, and a large cobble feature which most likely represents a trench or pit into which was pushed the debris from a razed structure, possibly the earlier gas holder building or a former icehouse.

Future plans for JAGA call for the removal and subsequent landscaping of the current gravel parking lot. Should this occur, it is highly recommended that the associated ground disturbance be monitored as the possibility remains that evidence of the early Garfield era barn complex may be present in this area. Furthermore, any potential future ground disturbance in that small portion of JAGA, which lies to the north of the new parking lot, should be closely monitored as no archeological investigation has occurred in this area.

Thus, it should be noted in conclusion that, while previous ground disturbance at JAGA has traversed areas of low archeological probability, much potential exists for buried archeological resources, especially in the western and northern portions of the park. Therefore, planners of future development at JAGA should remain mindful of the effects their actions may have on unidentified archeological resources.

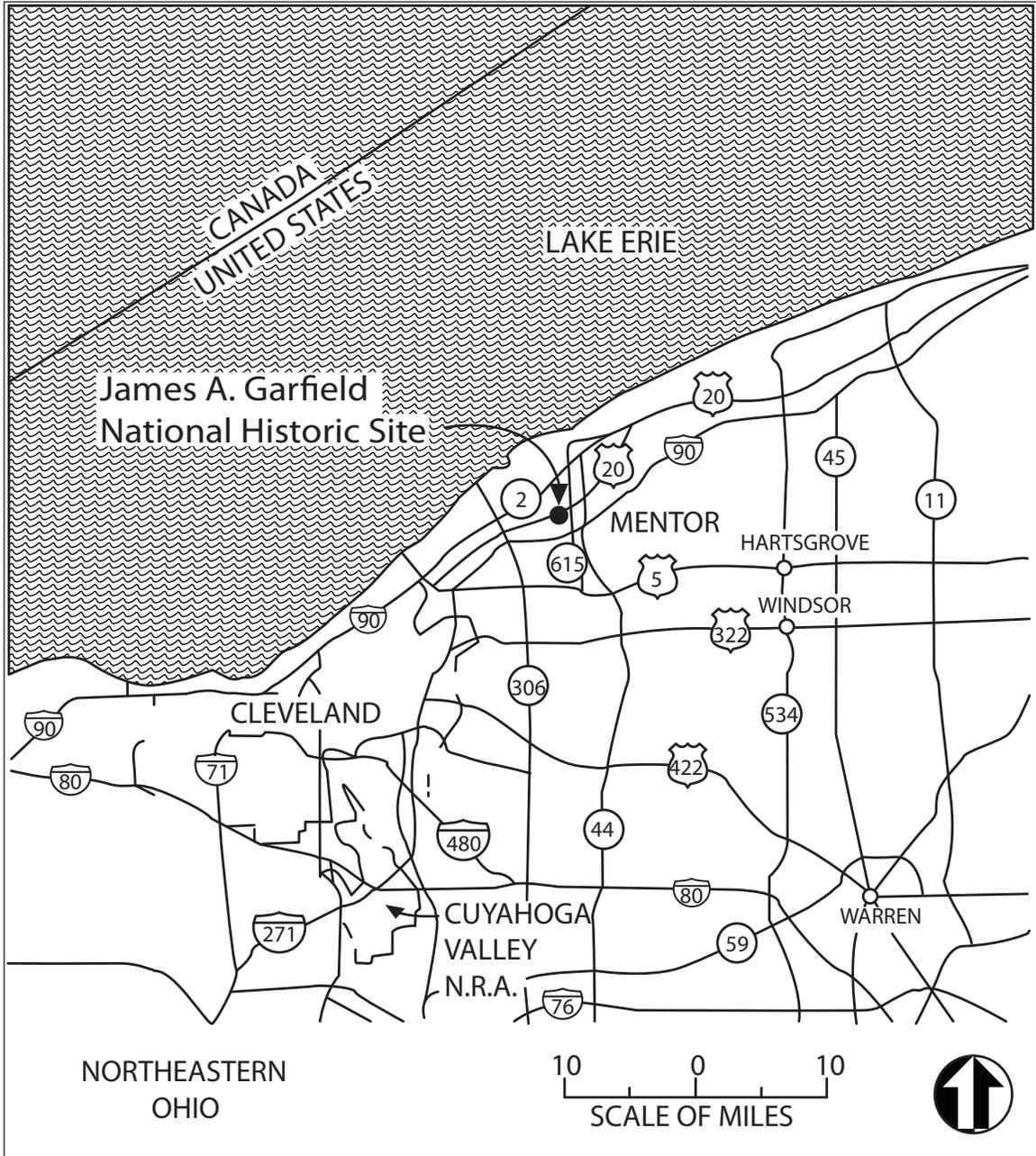


Figure1. Project Area in Northeast Ohio.

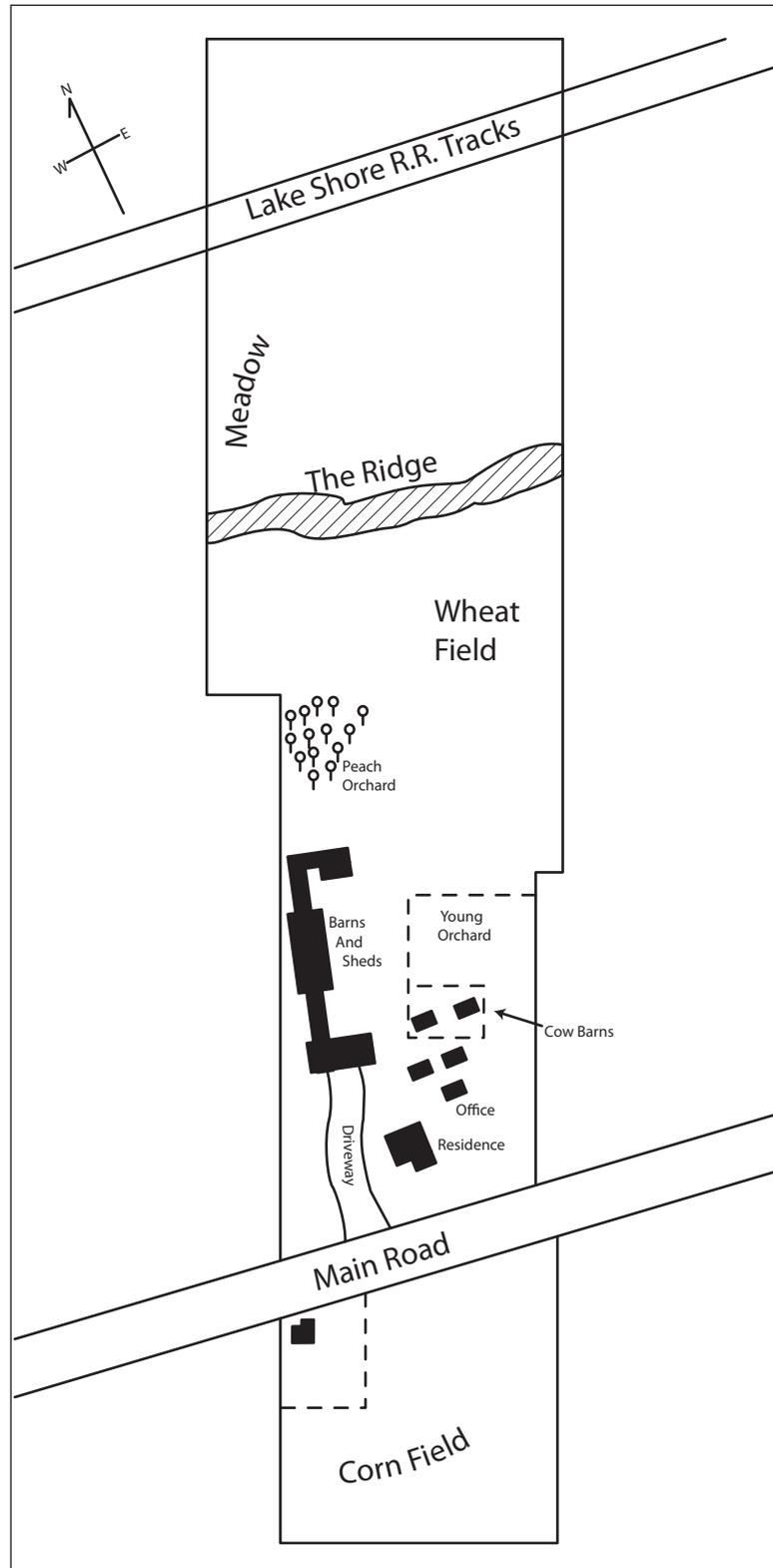


Figure 3. "The Garfield Farm" from the New York Herald, September 26, 1881.

Locations of 1990, 1991, and 1993 Archeological Projects

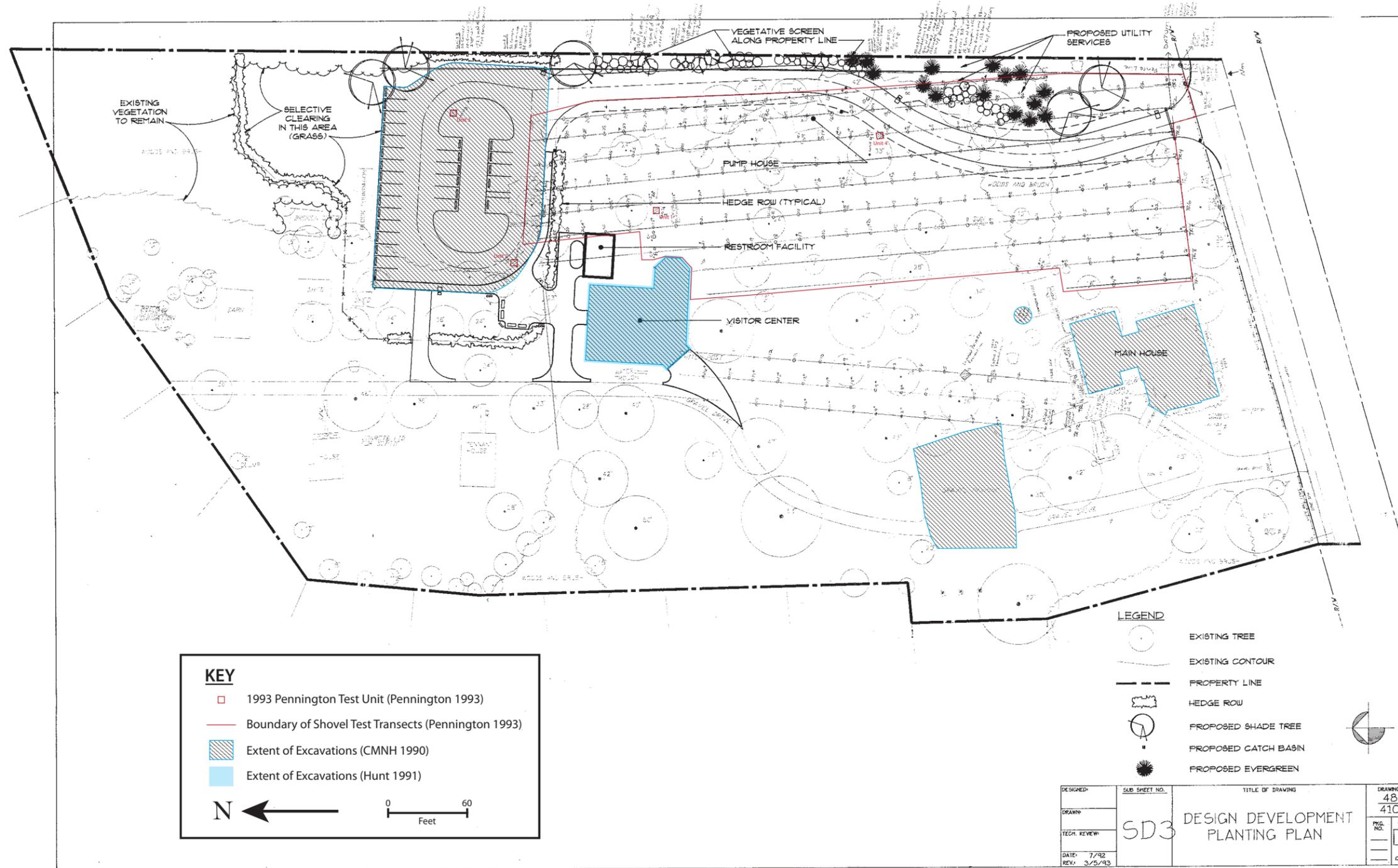
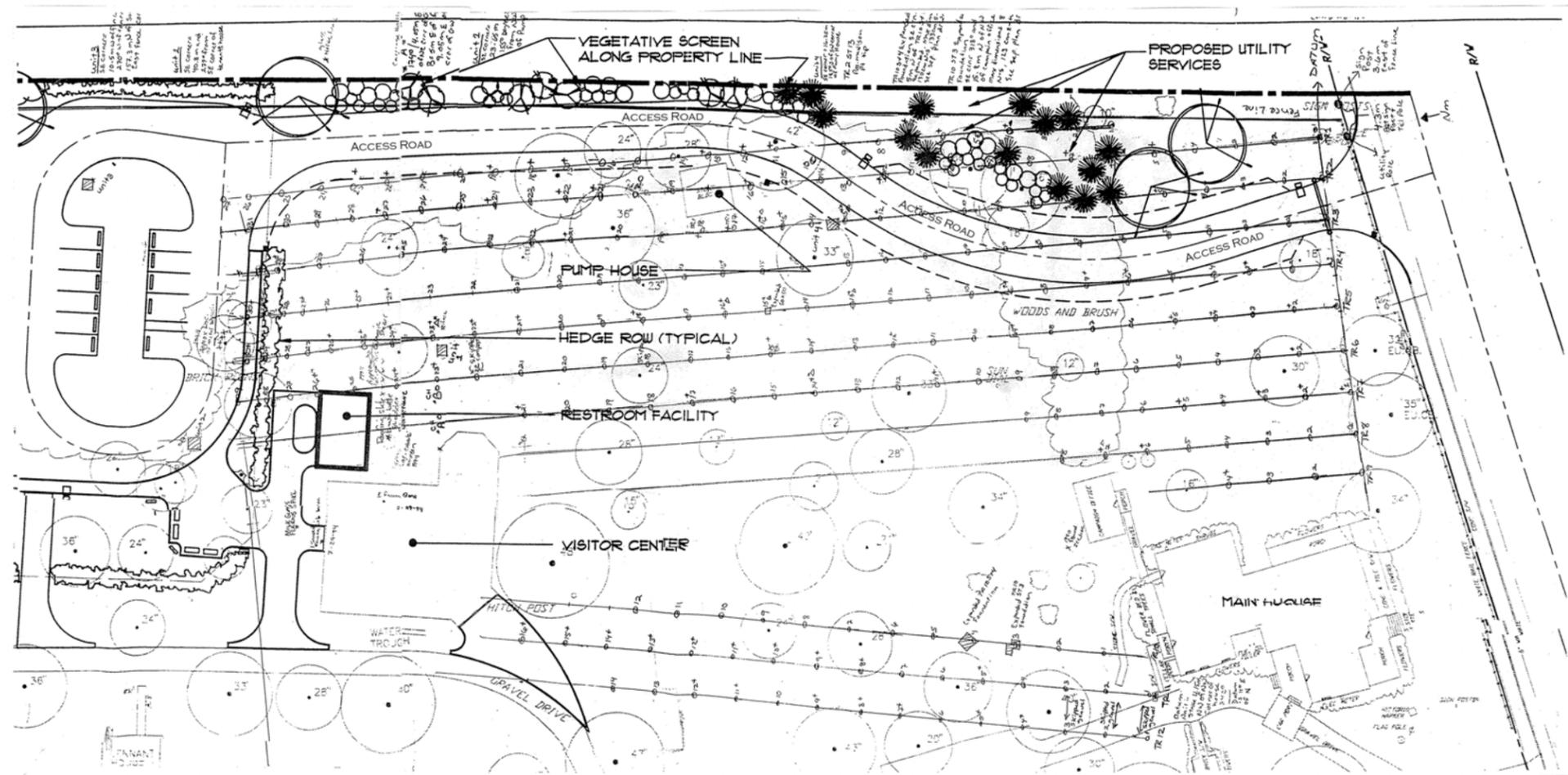


Figure 4. Location of tr

ons.

The 1993 Access Road Transects



86 OF 219 POSITIVE TESTS

- Δ = 10 TESTS POSITIVE FOR DEBRITAGE
- TR A ST4
- TR 1 ST6
- TR 2 ST 13 (POSSIBLE P TIP)
- TR 2 ST16
- TR 4 ST13
- TR 4 ST15
- TR 4 ST16 (2 PCS)
- TR 4 ST23
- TR 6 ST10 (3 PCS)
- TR 8 ST7

OFFSETS

- TR A, ST1: 5M E OF TR 1, ST6
- TR A, ST10: 2M W OF LINE (TREE ROOTS)
- TR 1, ST1: 1M E OF DATUM
- TR 1, ST10: 2M E OF LINE (TREES)
- TR 1, ST 13: 1M W OF LINE (TREE ROOTS)
- TR 1, ST17: 1M W OF SW CORNER OF PUMPHOUSE
- TR 1, ST 18: 5M N OF TR 1, ST17

TRANSECTS A-9:

- DATUM ⚡ NAIL IN SURVEY STAKE (3.7M N OF UTILITY POLE, 2.5M W OF FENCE)
- DATUM ⚡ NAIL IN SURVEY STAKE (4.15M NW [342 DEGREES] OF MAIN HOUSE; DATUM IS 11 DEGREES EAST OF NORTH)

- TR 2, ST17 AND ST18 SKIPPED (BECAUSE TR 1, ST17 AND ST18 INTERSECTED TR 2 LINE)
- TR 3, ST6: 1/2M W (BECAUSE OF SURVEYOR'S STAKE)
- TR 3, ST27: 1M W (BECAUSE OF RODENT BURROW)
- TR 5, ST18: SKIPPED (BECAUSE OF COMPOST HEAP)
- TR 5, ST22: SKIPPED (BECAUSE OF COMPOST HEAP)

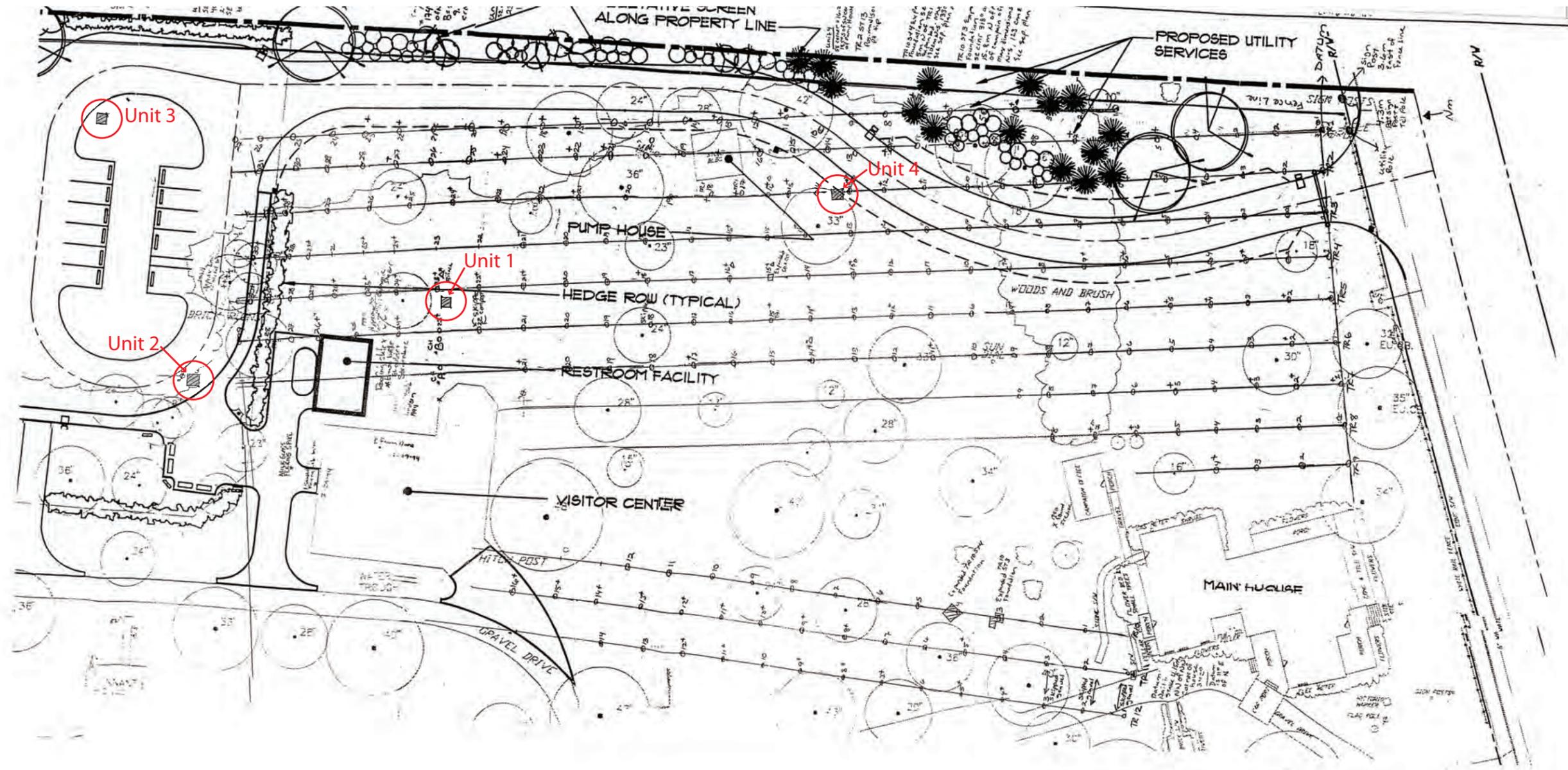
LEGEND

- EXISTING TREE
- EXISTING CONTOUR
- PROPERTY LINE
- HEDGE ROW
- PROPOSED SHADE TREE
- PROPOSED CATCH BASIN
- PROPOSED EVERGREEN



Figure 5. The 1993 Access Road Transects.

The 1993 Parking Lot Test Units



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Figure 7. The 1993 Parking Lot Test Units.

The 1994 Monitoring Zone

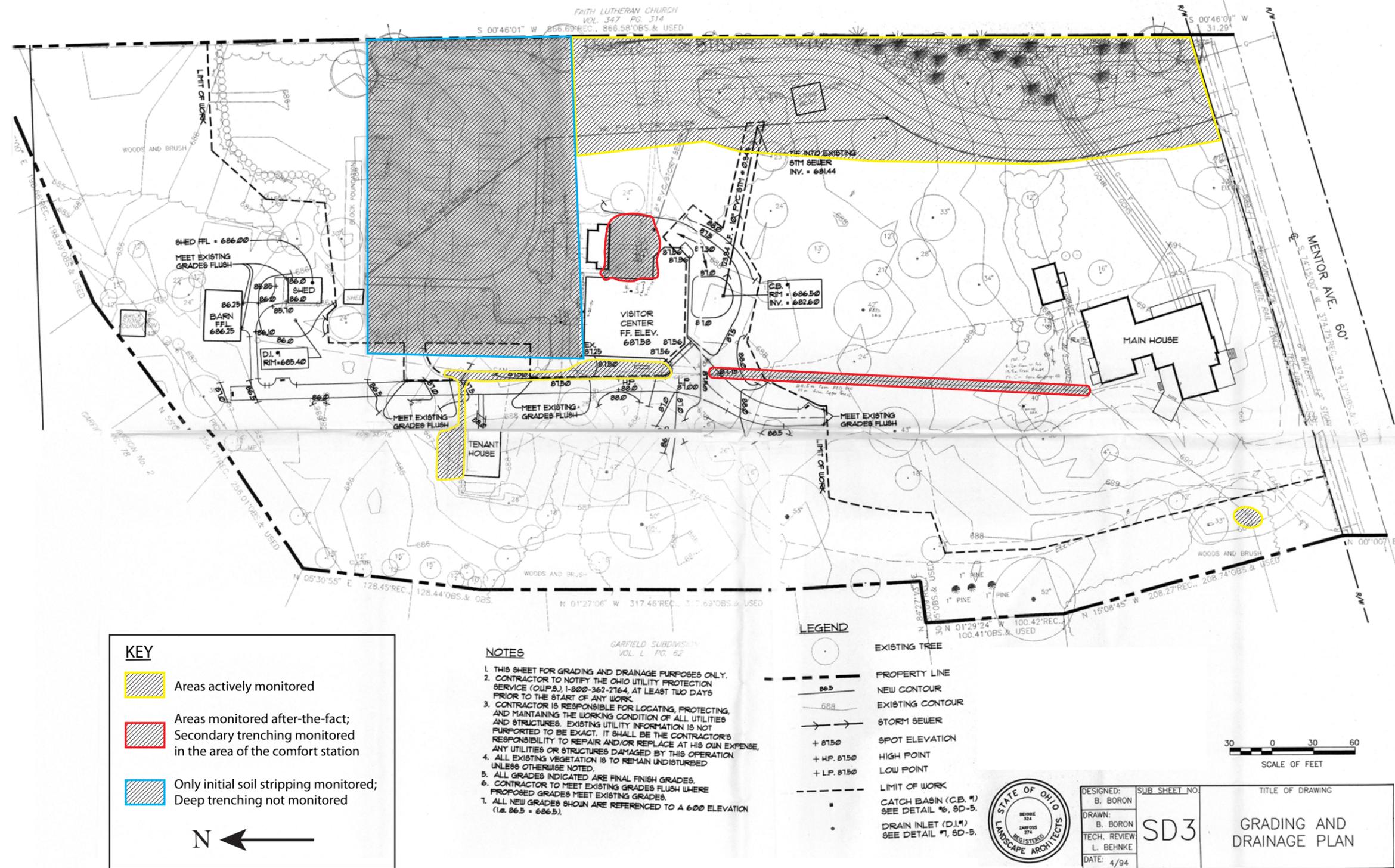


Figure 8. The 1994 Monitoring Zone.

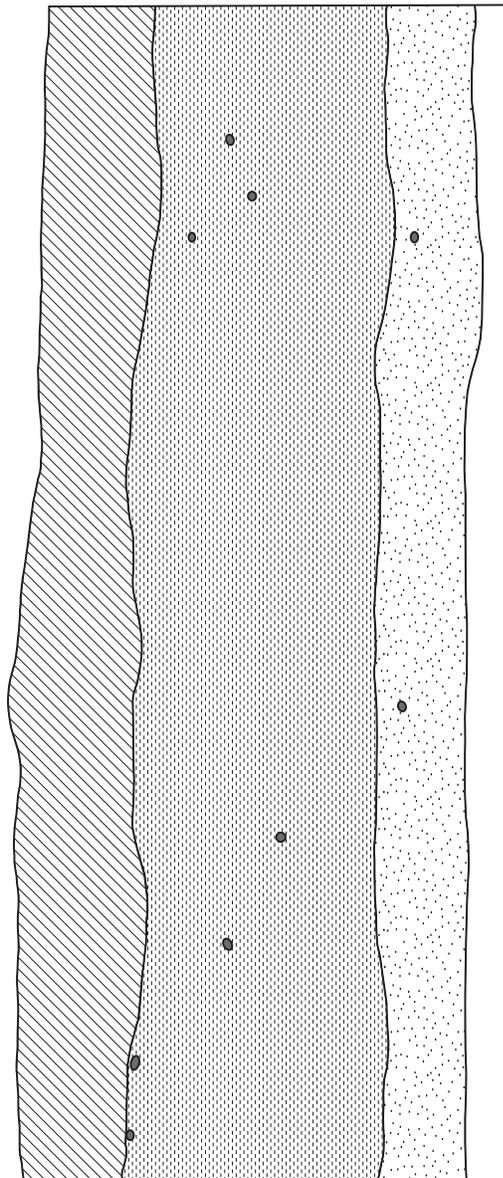
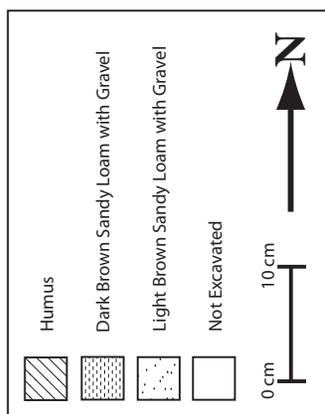


Figure 9. Brick and Rubble Pile Located East of the Gas Works.



Figure 10. Foundation Segment in TR 10, Expanded ST 3.

Test Unit 1: West Wall Profile



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Figure 11. West Wall Profile of TU 1.



Figure 12. Access Road After Soil Stripping, View Northeast Toward Pump House.



Figure 13. Well (JAGA 1994 Feature 1), View West Toward Pump House.



Figure 14. Dry Well and Adjacent Cobble Well (JAGA 1994 Feature 2).



Figure 15. Remnant of Probable Former North Wing of Tenant House.



Figure 16. Cobble Feature (JAGA 1994 Feature 3).



Figure 17. Children's Playhouse from Undated Early Twentieth Century Photograph.

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APPENDIX A: JAGA 1993 ARTIFACTS

Parking Lot Test Units--Prehistoric Artifacts

Provenience	Debitage	Total
Unit 1 Level 3	1	1
Unit 1 Level 4	1	1
Unit 2 Level 3	1	1
Total	3	3

Parking Lot Test Units--Hardware

Provenience	Non-Ferrous	Misc.	Total
	Metal Hinge	Ferrous Metal	
Unit 1 Level 1	1	3	4
Unit 1 Level 2	-	6	6
Unit 1 Level 3	-	1	1
Total	1	10	11

Parking Lot Test Units--Domestic Artifacts

Provenience	Ceramics		Curved Glass	Bone	Char-coal	Mirror Frag.	Total
	Whiteware	Redware					
Unit 1 Level 1	1	-	11	-	-	1	13
Unit 1 Level 3	1	-	1	-	1	-	3
Unit 1 Level 4	-	-	1	-	-	-	1
Unit 2 Level 1	-	1	10	1	-	-	12
Unit 2 Level 2	-	-	2	-	-	-	2
Unit 3 Level 2	-	-	1	-	-	-	1
Total	3	1	30	1	2	1	38

Parking Lot Test Units--Architectural Artifacts

Provenience	Window Glass	Nails				Screw	Brick	Window Stop	Total
		Cut	Wire	Roof	Misc				
Unit 1 Level 1	11	2	5	1	5	1	-	1	26
Unit 1 Level 2	2	9	-	-	5	-	2	-	18
Unit 1 Level 3	-	2	-	-	1	-	-	-	3
Unit 2 Level 1	2	-	-	-	-	-	-	-	2
Unit 2 Level 2	2	-	-	-	-	-	-	-	2
Unit 2 Level 3	1	1	-	-	-	-	-	-	2
Unit 4 Level 1	-	-	-	-	-	-	1	-	1
Total	18	14	5	1	11	1	3	1	54

Sewer Line Shovel Tests--Prehistoric Artifacts

Provenience	FCR
Tran 12 ST 7	1
Total	1

Sewer Line Shovel Tests--Hardware

Provenience	Non-Ferrous	Ferrous	Total
	Metal (misc)	Metal (misc)	
Tran 11 ST 5	1	-	1
Tran 11 ST 15	-	5	5
Tran 12 ST 13	-	1	1
Total	1	6	7

Sewer Line Shovel Tests--Domestic Artifacts

Provenience	Ceramics					Glass Curved	Total
	White-ware	Stone-ware	Yellow-ware	Redware	Porcelain		
Tran 11 ST 8	-	-	-	1	-	-	1
Tran 11 ST 9	-	-	-	-	-	2	2
Tran 11 ST 10	-	2	-	-	-	-	2
Tran 11 ST 12	-	-	13	-	-	-	13
Tran 11 ST 14	-	-	-	-	-	1	1
Tran 11 ST 15	-	-	-	-	1	2	3
Tran 11 ST 16	-	-	-	-	-	1	1
Tran 12 ST 5	1	-	-	-	-	1	2
Tran 12 ST 8	-	1	-	-	-	-	1
Tran 12 ST 12	-	1	-	-	-	-	1
Total	1	4	13	1	1	7	27

Access Road Shovel Tests--Hardware

Provenience	Wire	Hook	Ferrous Metal				Brass Cylinder	Light Bulb Frag	Elec Insulator	Total
			Sheet	Disc	Strap	Unid				
Tran 1 ST 25	-	-	8	-	-	-	-	-	-	8
Tran 2 ST 8	1	-	-	-	-	-	-	-	-	1
Tran 3 ST 21	-	-	-	1	-	1	-	-	-	2
Tran 3 ST 27	-	-	-	-	-	1	-	-	-	1
Tran 3 ST 30	-	-	-	-	-	1	-	-	-	1
Tran 4 ST 18	-	1	-	-	-	-	-	-	-	1
Tran 4 ST 22	-	-	-	-	-	-	1	-	-	1
Tran 4 ST 24	-	-	-	-	-	-	-	18	-	18

Concluded. Access Road Shovel Tests--Hardware

Provenience	Wire	Hook	Ferrous Metal				Brass Cylinder	Light Bulb Frag	Elec Insu- lator	Total
			Sheet	Disc	Strap	Unid				
Tran 4 ST 26	-	-	-	-	2	-	-	-	-	2
Tran 5 ST 4	-	-	-	-	-	1	-	-	-	1
Tran 6 ST 11	1	-	-	-	-	-	-	-	-	1
Tran 6 ST B	-	-	-	-	-	1	-	-	-	1
Tran 10 ST 3-ext	1	-	-	-	-	-	-	-	-	1
Tran 10 ST 4 ext	-	-	-	-	-	-	-	-	1	1
Total	3	1	8	1	2	5	1	18	1	40

Access Road Shovel Tests--Prehistoric Artifacts

Provenience	Debitage	Total
Tran A ST 4	1	1
Tran 1 ST 6	1	1
Tran 2 ST 11	1	1
Tran 2 ST 13	1	1
Tran 2 ST 15	1	1
Tran 4 ST 13	1	1
Tran 4 ST 15-exp	1	1
Tran 4 ST 16	2	2
Tran 6 ST 14	2	2
Tran 8 ST 7	1	1
Total	12	12

Access Road Shovel Tests--Personal Artifacts

Provenience	Plastic	Leather	Leather	Total
	Toy Frag	Shoe Frag	Ring	
Tran A ST 17	1	-	-	1
Tran 3 ST 25	-	1	-	1
Tran 6 ST B	-	-	2	2
Total	1	1	2	4

APPENDIX B: JAGA 1994 ARTIFACTS

Carriage House

Provenience	Glass		Bone Mammal	Total
	Bottle	Lid		
Surface, 0-10	15	3	2	20

First Manhole, Sanitary Sewer

Provenience	Ceramics		Total
	Whiteware	Earthenware	
Backhoe	1	1	2

Under Campaign Office, North Façade

Provenience	Ceramic	Glass	Total
	Whiteware	Bottle	
Surface, 0-3	10	2	12

Feature 3, by Comfort Station, Rubble north of Gas Works

Provenience	Ceramic	Glass		Total
	Stoneware	Flat	Curved	
Surface, 0-5	22	3	14	39

