



INTEGRATED HISTORIC RESOURCES MANAGEMENT

May 29, 2006

Mr. William F. Carboni, P.E.
Spath-Bjorklund Associates, Inc.
593 Main Street
Monroe, Connecticut 06468

RE: End-of-Fieldwork Management Summary for a Phase I Cultural Resources Reconnaissance Survey of the Proposed Newtown Technology Park, Newtown, Connecticut.

Mr. Carboni:

This letter summarizes the results of a Phase I cultural resources reconnaissance survey for the above-referenced project. Heritage Consultants, LLC, completed the field investigations for this project, undertaken on behalf of Spath-Bjorklund Associates, Inc., during March and April of 2006. All work was performed in accordance with the National Historic Preservation Act of 1966, as amended; the National Environmental Policy Act of 1969, as amended; and the *Environmental Review Primer for Connecticut's Archaeological Resources* (Poirier 1987). The remainder of this document presents descriptions of the proposed project, the methods by which the Phase I cultural resources reconnaissance survey was completed, the results of the investigation, and management recommendations for identified cultural resources.

Project Area Description

As mentioned above, the development area, which will be the site of a proposed industrial/technology park, is located to the west of Deep Brook and to the south of Interstate 84 in Newtown, Connecticut (Figure 1). The currently proposed project area consists of a combination of open fields covered with grass, mixed deciduous forest, and areas that have been impacted heavily by past gravel operations and modern trash dumping. It is situated at approximate elevations ranging from 91.4 to 118.9 m (300 to 390 ft) NGVD. As depicted in Figure 2 the proposed project parcel has been divided into areas scheduled for construction related impacts and areas that will remain as open, undeveloped land. The former, which constituted the areas examined for archaeological deposits during this investigation encompass approximately 30 ac of land. The remaining open space areas include approximately 40 ac of land that lie along the northern, eastern, and southern edges of the proposed project parcel. To provide control during the survey process, the Area of Potential Effect was divided into smaller test areas designated as Areas A through F (Figure 3). These areas corresponded to internal natural and manmade divisions of the property, including roads, fields, wooded areas, and wetlands, etc.

Prior to initiating the current Phase I cultural resources reconnaissance survey for this project, Heritage Consultants, LLC consulted with Dr. David Poirier, Staff Archaeologist of the Connecticut State Historic Preservation Office to develop an appropriate subsurface testing strategy. Survey methodologies employed during the current investigation were designed to sample the Area of Potential Effect in an effort to determine whether or not intact cultural deposits were present. Pedestrian survey and systematic

subsurface testing were conducted throughout each of the tests areas. The details of the field methods, as well as the results of this field effort, are reviewed below.

Background Research

The current Phase I cultural resources reconnaissance survey was completed using a three-step approach. The first step consisted of preliminary historic research and records review that focused on the area of Newtown encompassing the proposed technology park and its surroundings. This was followed by the identification of all previously recorded archeological sites and National Register of Historic Places properties situated within the vicinity of the Area of Potential Effect. Finally, the project approach entailed the completion of the current Phase I cultural resources reconnaissance survey.

Background research included analysis of readily available historic maps and aerial imagery depicting the project parcel and the surrounding area; an examination of the pertinent 1983 USGS 7.5' series topographic quadrangle; and examination of previously completed archaeological investigations in the project vicinity; and a review of all archeological data maintained by the Connecticut State Historic Preservation Office and digital records archived by Heritage Consultants, LLC. The intent of this review was to identify all previously recorded cultural resources situated within the vicinity of the Area of Potential Effect. This information was used to further develop the archeological, environmental, and stratigraphic context of the proposed technology park area, as well for assessing any cultural resources that may be identified during survey. This information also was used to design survey methods and techniques appropriate for evaluating the National Register significance of cultural resource identified during the execution of the subsequent cultural resources survey.

Field Methods

Following the completion of all background research, the test areas, designated as Areas A through F, were subjected to a Phase I cultural resources reconnaissance survey utilizing pedestrian survey, systematic subsurface testing, and photo-documentation. The sampling strategy was designed to provide coverage of all portions of the test areas. The pedestrian survey portion of this investigation included visual reconnaissance of all areas scheduled for impacts by the proposed development project, as well as intensive photo-documentation of the proposed project parcel.

Because Areas A, B, and F were deemed to have been significantly impacted by plowing, gravel mining, and/or logging activities in the past, they retained only a low to moderate potential for yielding intact cultural deposits. Thus, they were examined using shovel tests positioned at 30 m (98.4 ft) intervals along parallel survey transects spaced 30 m (98.4 ft) apart. Areas C and E, in contrast, were characterized by smaller landforms located near to wetlands or stream courses. As such, these areas were examined through the excavation of shovel tests at 15 m (49.2 ft) intervals along survey transects spaced 15 m (49.2 ft) apart. Finally, visual inspection of Area D, as well as aerial imagery analysis, indicated that this test area has been radically altered in the past by gravelling operations and modern trash dumping. As a result, Area D was subjected to pedestrian survey and photo-documentation only. The heavily disturbed nature of this test area negated the need for subsurface examination. The above-described survey methodology was in keeping with the Phase I cultural resources reconnaissance survey guidelines promulgated in the *Environmental Review Primer for Connecticut's Archaeological Resources*.

During survey, each shovel test measured 50 cm (19.7 in) in size and each was excavated to a minimum depth of 50 cm (19.7 in) or until sterile subsoil or immovable objects (e.g., boulders) were encountered. Each shovel test was excavated in 10 cm (3.9 in) arbitrary levels within identified strata, and the fill from each level was screened separately. All shovel test fill was screened through 0.635 cm (0.25 in) hardware cloth; extremely wet soils were hand-sifted, troweled, and examined visually for cultural material. Soil characteristics were recorded in the field using Munsell Soil Color Charts and standard soils nomenclature.

Finally, each shovel test was backfilled immediately upon completion of the archeological recordation process.

Laboratory Analysis

Laboratory analysis of recovered cultural material, which consisted of prehistoric lithic and historic artifacts, was completed following established archeological protocols. To begin the laboratory analysis process, field specimen bag proveniences first were crosschecked against the field notes and the specimen inventories for accuracy and completeness. Following this quality-control process, all recovered material was washed by hand, air-dried, and sorted into basic material categories.

The nature and structure of the laboratory analysis was determined by the goals of the project. The artifact analysis consisted of making and recording a series of observations for each recovered specimen. The observations were chosen to provide the most significant information about each specimen. A Microsoft database was employed to store, organize, and manipulate the data generated by the analytical process. The database was designed specifically for the analysis of the recovered historic artifacts. The analytical protocols applied to the recovered artifacts area discussed in detail below.

Historic Cultural Material Analysis

The analysis of the historic cultural material recovered during the current Phase I cultural resources reconnaissance survey was organized by class, functional group, type, and subtype. The first level, class, represented the material category, e.g., ceramic, glass, metal. The second level, functional group, e.g., architecture, kitchen, or personal, was based on classifications established by South (1977). The third and fourth levels, type and subtype, described the temporally and/or functionally diagnostic artifact attributes. The identification of artifacts was aided by consulting standard reference works, including Fike (1987), Florence (1990), Kovel and Kovel (1986), Miller (1980, 1991), Nelson (1968), South (1977), Switzer (1974), and Toulouse (1971, 1977).

Prehistoric Lithic Analysis

The lithic analysis protocol used during completion of this project was a “technological” or “functional” one designed to identify prehistoric reduction trajectories and lithic industries. The protocol therefore focused on recording technological characteristics of the recovered lithic artifacts. The lithic artifact database was organized by lithic material group, type, and subtype. The first level described the raw material type of the artifact. Lithic materials were identified utilizing recognized geological descriptions and terminology, and were placed into distinct categories based on three factors: texture, color, and translucence. The second analysis level, type, was used to define the general class (e.g., unmodified flake, core, or perform) of lithic artifact, while the last level, subtype, was employed to specify morphological attributes (e.g., primary cortex, extensively reduced, etc). These levels followed classifications outlined by such authors as Callahan (1979) and Crabtree (1972), among others.

Curation

Following the completion and acceptance of the Final Report of Investigations, all cultural material, drawings, maps, photographs, and field notes will be curated with Dr. Nicholas Bellantoni, Office of Connecticut State Archaeology, Box U-1023, University of Connecticut, Storrs, Connecticut 06269.

Results of the Investigation

Due to the configuration of the proposed project parcel, as well as the internal divisions contained therein and to facilitate control during the survey process, the proposed technology park area was divided into six separate testing areas. These areas were designated as Areas A through F (Figure 3). During survey, a total 178 of 178 (100 percent) planned shovel tests were excavated successfully throughout the six test areas. As mentioned above, these shovel tests were excavated along parallel survey transects spaced 30 m (98.4 ft) in Areas A, B, and F. Areas C and E, on the other hand, were examined using shovel tests

excavated along survey transects paced at 15 m (49.2 ft) intervals, while Area D was not subjected to subsurface testing due to extreme previous impacts. The remainder of this section provides a breakdown of the results of the Phase I cultural resources reconnaissance survey.

Results of Phase I Survey of Area A

This portion of the proposed project parcel consisted of a large open, grass covered field situated within the west-central portion of the Area of Potential Effect (Figure 4 and 5). Completion of the Phase I cultural resources reconnaissance survey of this area was accomplished through the successful excavation of 29 of 29 (100 percent) planned shovel tests along six survey transects spaced at 30 m (98.4 ft) intervals. Shovel tests excavated throughout Area A exhibited two soil strata in profile. Stratum I was classified as a layer of dark brown (10YR 3/3) sandy loam that reached from 0 to 30 cm (0 to 11.8 in) below surface. Stratum II consisted of a deposit of yellowish brown (10YR 5/4) sandy loam mixed with minor amounts of gravel; it reached to a maximum excavated depth of 50 cm (19.7 in) below surface. Despite this field effort no cultural material and/or evidence of intact cultural deposits were identified within the confines of Area A. Thus, no additional testing of this area is recommended.

Results of Phase I Survey of Area B

Phase I testing of Area B, which also consisted of a large open field, was accomplished through the excavation of 49 of 49 (100 percent) planned shovel tests (Figures 4 and 6). Shovel tests excavated throughout Area B also revealed two soil strata in profile. Stratum I in these shovel tests consisted of a layer of dark brown (10YR 3/3) sandy loam that reached from 0 to 30 cm (0 to 11.8 in) below surface. Stratum II, which reached from 30 to 50 cm (11.8 to 19.7 in) below surface, was described as a deposit of yellowish brown (10YR 5/4) sandy loam mixed with minor amounts of gravel. During survey of Area B, two non site cultural resources loci were identified. They were designated as Locus 1 and Locus 2. Locus 1, which produced 2 quartz thinning flakes, was identified within Shovel Test 2 along Transect 4. This artifact was recovered from plowzone contexts at a depth of 10 to 20 cm (7.8 to 11.8 in) below surface. Further, Locus 2, which consisted of a 2 quartz thinning flakes, was identified within Shovel Test 5 on Transect 4 and Shovel Test 5 along Transect 5. These artifacts also were recovered from the plowzone at depths ranging from 10 to 20 cm (7.8 to 11.8 in) below surface (Table 1). Despite the excavation of delineation shovel tests within the vicinity of both Locus 1 and Locus 2, no other cultural material or evidence of cultural features was identified. Thus, it was determined that both of these non site cultural resources loci lacked research potential and the qualities of significance as defined by the National Register of Historic Places criteria for evaluation (36 CFR 60.4 [a-d]). No additional testing of Locus 1, Locus 2, or Area B is recommended.

Results of Phase I Survey of Development Area C

Phase I cultural resources reconnaissance survey of Area C of the proposed Newtown Technology Park was completed through the excavation of 50 of 50 (100 percent) planned shovel tests. The excavated shovel tests, which were placed along the length of a relatively flat upland terrace overlooking Deep Brook to the east, exhibited two soil strata in profile (Figures 4 and 7). Stratum I was described as a layer of dark brown (10YR 3/3) loamy sand that reached from 0 to 20 cm (0 to 7.9 in) below surface. Stratum II, which ranged in depth from 20 to 50 cm (7.9 to 19.7 in) below surface consisted of a deposit of yellowish brown (10YR 5/4) coarse sand mixed with gravel. During survey of Area C, a single non-site cultural resources loci (Locus 3) was identified. Locus 3, which measured approximately 120 m (393 ft) in length by 20 m (65.6 ft) in width, contained 14 artifact-producing shovel tests that yielded a total of 24 artifacts. The recovered artifacts consisted of a single argillite thinning flake, 1 piece of calcined bone, 11 chert thinning flakes, 1 piece of quartz block/shatter, 8 quartz thinning flakes, and 2 whiteware sherds (Table 1). With the exception of a single chert thinning flake, all of the recovered cultural material was collected from Stratum I, the plowzone. Laboratory analysis of the cultural material recovered from this multi-component locus revealed that while two nineteenth century artifacts were recovered, no temporally diagnostic prehistoric cultural material was identified. Further, review of the recovered data indicated that

Locus 3 consisted of a low density scatter of prehistoric and historic cultural material that lacks research potential. Thus, it was determined that Locus 3 does not possess the qualities of significance as defined by the National Register of Historic Places criteria for evaluation (36 CFR 60.4 [a-d]). No additional testing of Locus 3 or Area C is recommended.

Results of Phase I Survey of Development Area D

As mentioned above, Phase I cultural resources reconnaissance survey of Area D was limited to pedestrian survey and photo-documentation (Figures 4 and 8). No subsurface testing was conducted in this portion of the proposed project area. A review of historic aerial imagery depicting the proposed project parcel, as well as pedestrian survey, indicated clearly that Area D has been subjected to heavy impacts associated with former sand and gravel operations, as well as historic and modern trash dumping. These anthropogenic activities have resulted in a significant reduction of grade in many portions of Areas D, as well as the deposition of large mounds of re-deposited soil, tree stumps, asphalt, and modern debris (e.g., plastic, rolled wire, and cinder blocks) in other portions of the test area, especially in the south along an extant asphalt road that extends from east to west across the proposed technology park area. Because of these large-scale impacts, Area D no longer retains any potential to produce intact cultural deposits. As a result no additional testing in this area is recommended.

Results of Phase I Survey of Area E

Phase I testing of Area E, which consisted of a partially wooded area in the northwestern part of the proposed project parcel, was accomplished through the excavation of 28 of 28 (100 percent) planned shovel tests positioned on a moderate sized knoll located between two wetlands courses (Figures 4 and 9). Pedestrian survey of Area E revealed some past disturbances, including tree throws and soil removal as evidenced by the presence of borrow pits. In addition, the most northern portion of Area E along Commerce Road has been heavily disturbed by bulldozing, installation of the extant railroad tracks to the west, and modern trash dumping; this part of Area E was not examined using subsurface testing techniques. Shovel tests excavated within the central and southern portion of Area E revealed two soil strata in profile. Stratum I in these shovel tests consisted of a layer of dark brown (10YR 3/3) loam that reached from 0 to 30 cm (0 to 11.8 in) below surface. Stratum II, which extended to a maximum excavated depth of 50 cm (19.7 in) below surface consisted of a deposit of yellowish brown (10YR 5/4) coarse sand mixed with gravel. During survey of Area E, a single non-site cultural resources locus (Locus 4) was identified. Locus 4, which contained two artifact-producing shovel tests (i.e., Shovel Test 5 on Transect 1 and Shovel Test 7 on Transect 2), yielded a total of only 4 artifacts. These artifacts were classified as a single whiteware sherd and 3 quartz thinning flakes (Table 1). All of these artifacts were collected from disturbed topsoil deposits at depths ranging from 20 to 30 cm (7.8 to 11.8 in) below surface, and despite the excavation of delineation shovel tests throughout the Locus 4 area, no other cultural material or evidence of cultural features was identified. Thus, it was determined that Locus 4, a multi-component artifact scatter containing both prehistoric and historic items, lacked research potential. As a result, it was assessed as not significant applying the National Register of Historic Places criteria for evaluation (36 CFR 60.4 [a-d]). No additional testing of Locus 4 or Area E is recommended.

Results of Phase I Survey of Area F

At the time of survey, Area F consisted of a large open, grass-covered field situated within the northeast portion of the proposed project parcel (Figures 4 and 10). This open area contained areas of relatively flat relief and steep slopes. As a result, subsurface testing was confined to the identified areas of low slope. Completion of the Phase I cultural resources reconnaissance survey of Area F was accomplished through the successful excavation of 22 of 22 (100 percent) planned shovel tests along seven survey transects spaced at 15 m (49.2 ft) intervals. Shovel tests excavated throughout Area F also revealed two soil strata in profile. Stratum I in these shovel tests consisted of a layer of dark brown (10YR 3/3) sandy loam that reached from 0 to 25 cm (0 to 10 in) below surface (this stratum represented a modern plowzone). Stratum II consisted of a deposit of mottled yellow (10YR 7/6) and brown (10YR 4/3) clayey and coarse sands mixed with

significant amounts of gravel. A review of historic aerial images depicting Area F revealed that it had been significantly impacted in the past as a result of large scale gravelling operations, explaining the mottled nature of Stratum II. Despite a comprehensive subsurface testing effort, no cultural material and/or evidence of intact soil deposits were identified within the confines of Area F. Thus, no additional testing of this area is recommended, and no cultural resources will be impacted as a result of the development project.

Miscellaneous Project Items

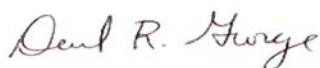
In addition to the test areas mentioned above, representatives of Spath-Bjorklund Associates, Inc., requested that Heritage Consultants, LLC review plans for a proposed storm water runoff facility to be placed within an open space area situated adjacent to Deep Brook in the easternmost portion of the proposed project area. Upon review, Heritage Consultants, LLC was able to determine that the proposed facility will be located within the limits of previously identified archaeological Site 97-72 (Figure 4). As a result, representatives of Heritage Consultants, LLC met with Dr. David Poirier of the State Historic Preservation Office to discuss the proposed impacts to the previously identified site area. It was determined that Site 97-72 has already been subjected to Phase III data recovery excavations by the Public Archaeology Survey Team, Inc., as part of mitigative measures taken prior to the construction of the extant sewer line and associated sewage facility that extend through and are located adjacent to the currently proposed project parcel. Dr. Poirier and Heritage Consultants, LLC agreed that since Phase III data recovery excavations have already taken place within the Site 97-72 area, no additional archaeological investigations are needed prior to the installation of the proposed storm water runoff facility.

Summary and Recommendations

In sum, the Phase I cultural resources reconnaissance survey of the proposed project parcel in Newtown, Connecticut resulted in the identification of four non-site cultural resources loci (Locus 1 through Locus 4). A total of two of these non-site loci (Locus 1 and Locus 2) produced only prehistoric artifacts, while Loci 3 and 4 yielded both prehistoric and historic period cultural material. Despite the excavation of additional delineation shovel tests throughout the four loci areas, no evidence of intact cultural deposits or cultural features was encountered. It was determined that Locus 1 through Locus 4 did not possess research potential. As a result, these four non-site cultural resources loci were assessed as not significant applying the National Register of Historic Places criteria for evaluation (36 CFR 60.4 [a-d]). No additional testing or recordation of Locus 1 through 4 is recommended. In addition, shovel testing and pedestrian survey conducted throughout the remainder of the proposed project parcel failed to identify any cultural resources, and, in fact, confirmed that much of the proposed project area has been subjected to disturbances in the past as a result of continued farming of the area, gravel mining, and modern trash dumping. Finally, examination of the proposed storm water runoff plans offered by Spath-Bjorklund Associates, Inc., indicated that the facility will be located within the confines of Site 97-72; however, since this site has been subjected to Phase III data recovery excavations already, no additional examination of the site area is warranted prior to construction of the proposed water diversion facility. Completion of the current Phase I cultural resources surveys resulted in the determination that no impacts to significant will be made by the proposed construction project.

If you have any questions regarding this End-of-Fieldwork letter, or if we may be of additional assistance with this or any other projects you may have, please do not hesitate to call me at 860-667-3001 (office) or (860) 299-6328 (cell) or email me at dgeorge@heritage-consultants.com. We are at your service.

Sincerely,



Project Manager

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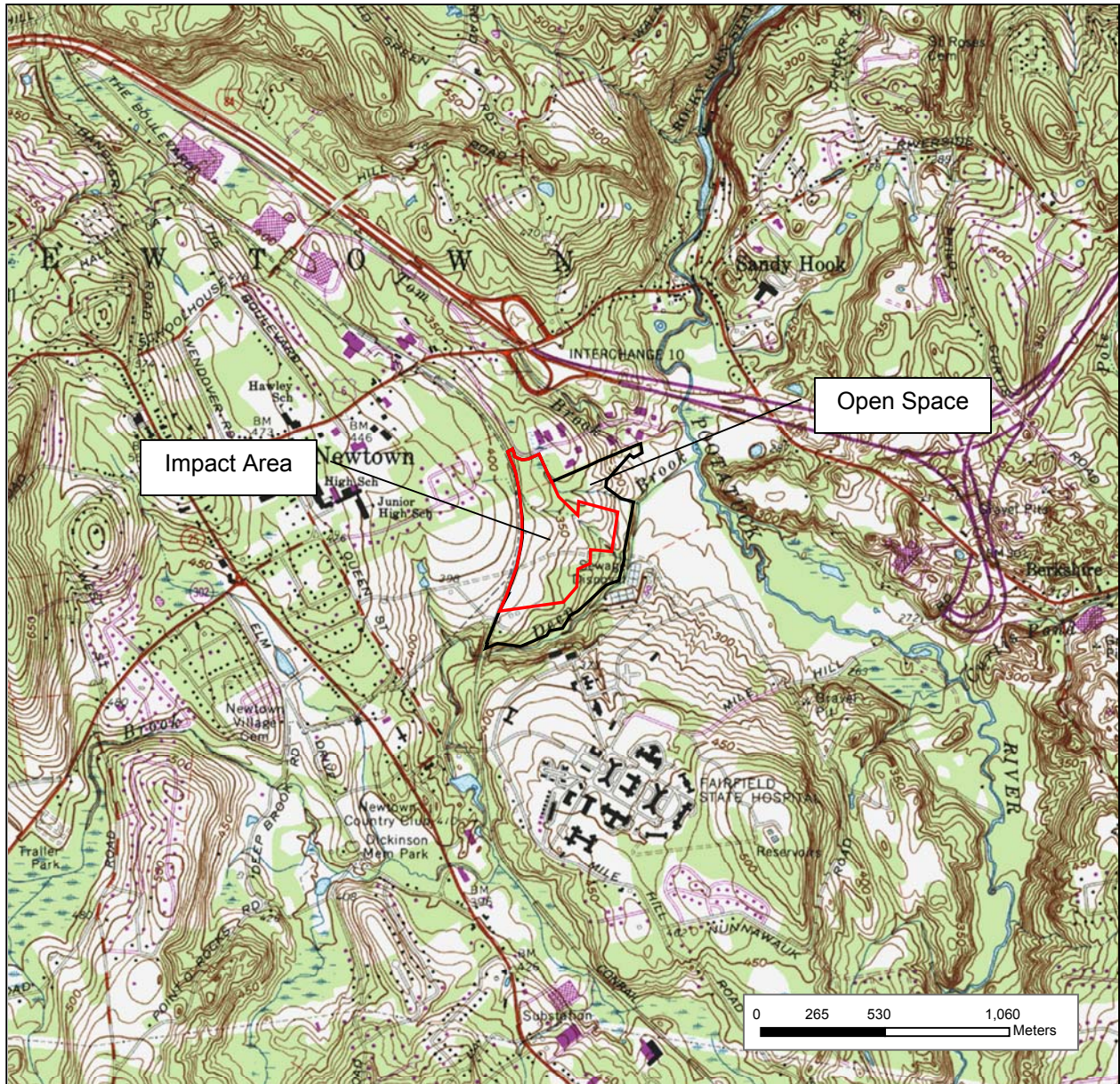


Figure 1. Excerpt from the 1989 digital USGS 7.5' series topographic quadrangle depicting the proposed open space and impact area.

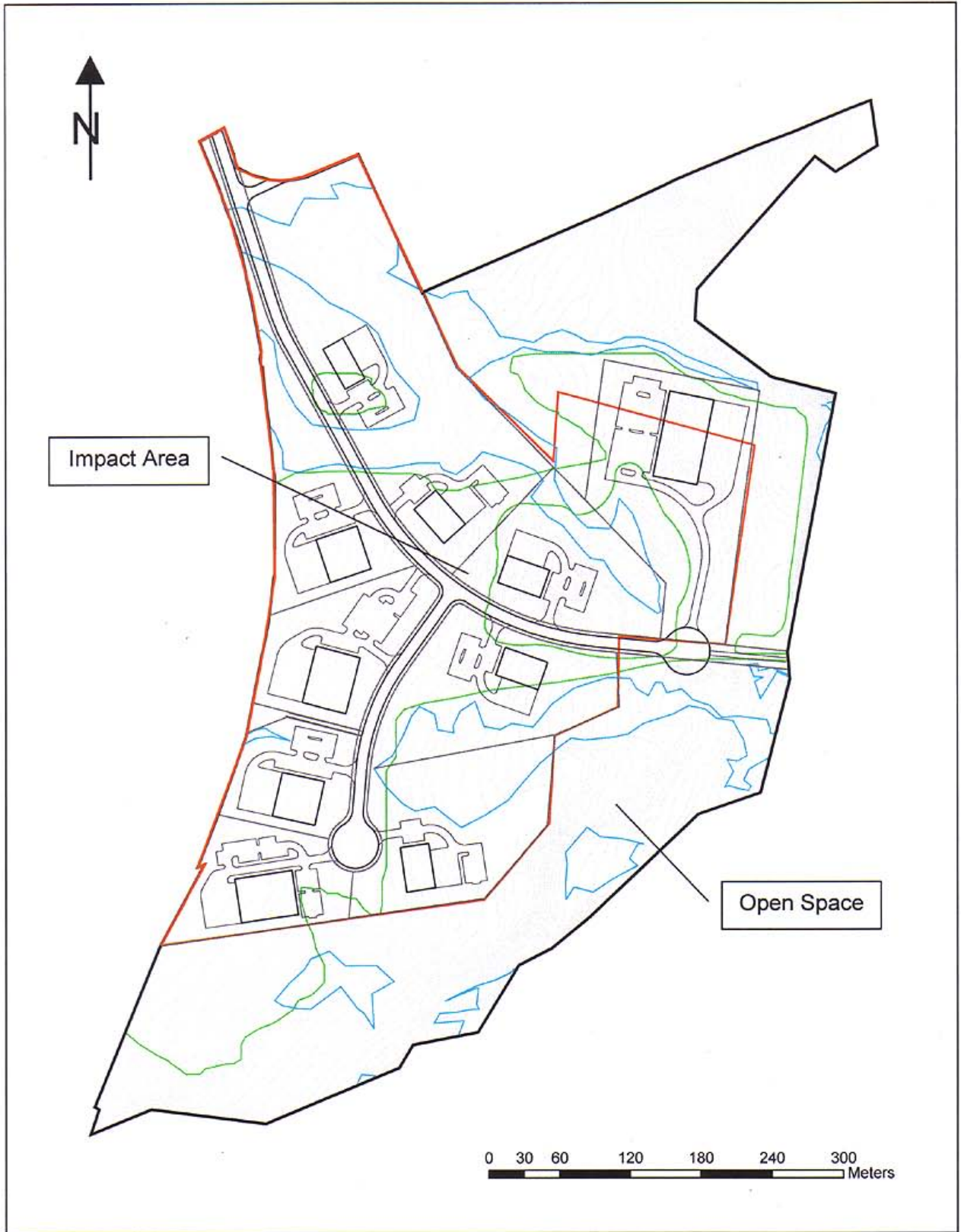


Figure 2. Plan view of the proposed project parcel depicting the locations of open space, the impact area, and proposed construction items.

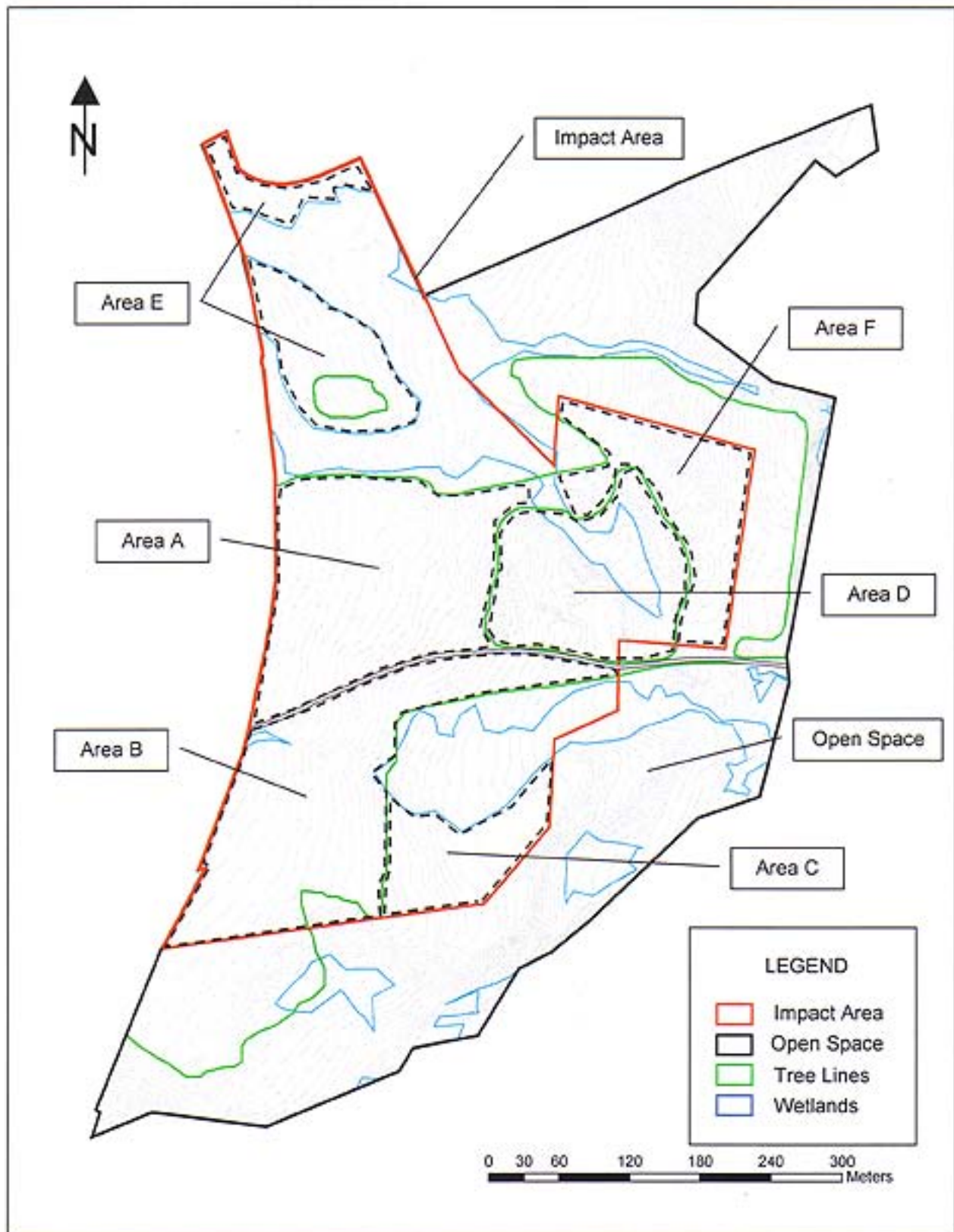


Figure 3. Plan view of the proposed project parcel depicting the locations wetlands, tree lines, open space, impact area, and test areas.

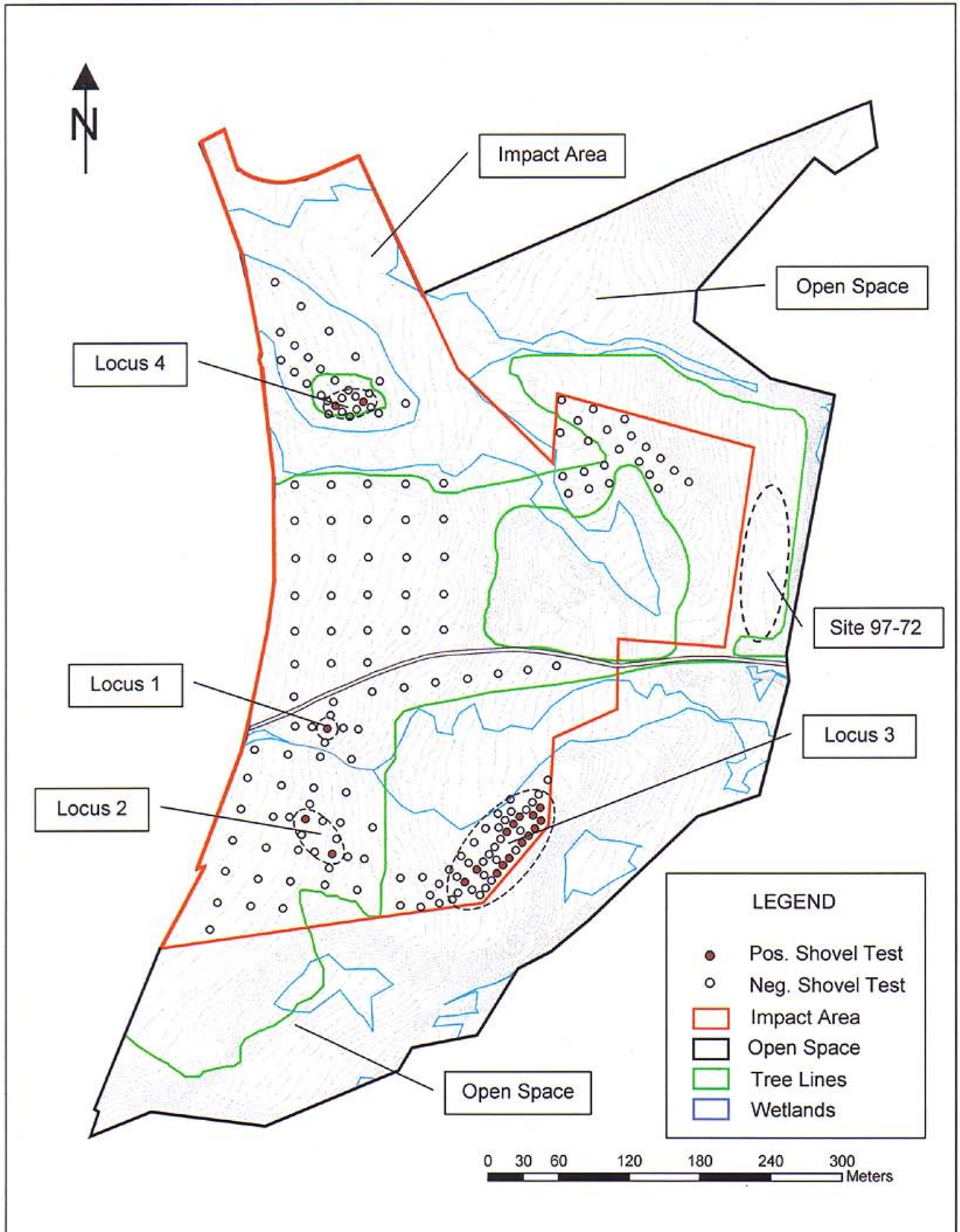


Figure 4. Plan view of the proposed project parcel depicting the locations wetlands, tree lines, open space, impact area, shovel tests, and identified non-site cultural resources loci.



Figure 5. Overview photo of Area A, facing northeast.



Figure 6. Overview photo of Area B, facing southwest.



Figure 7. Overview photo of Area C, facing southwest.



Figure 8. Overview photo of Area D, facing north.



Figure 9. Overview photo of Area E, facing southwest.



Figure 10. Overview photo of Area F, facing north.

Table 1. Cultural material recovered during Phase I survey of the proposed Newtown Technology Park.

LOCUS	STRATUM	MATERIAL	TYPE	SUBTYPE	STAGE	TOTAL
1	I	Quartz	Flake	Thinning	Secondary	1
1 Total						1
2	I	Quartz	Flake	Thinning	Secondary	2
2 Total						2
3	I	Argillite	Flake	Thinning	Secondary	1
		Bone	Calcined	Unidentified		1
		Ceramic	Whiteware	Plain		2
		Chert	Flake	Thinning	Secondary	10
		Quartz	Flake	Thinning	Secondary	7
					Primary	1
	II	Chert	Flake	Thinning	Secondary	1
3 Total						24
4	I	Ceramic	Whiteware	Plain		1
		Quartz	Flake	Thinning	Secondary	3
4 Total						4
Grand Total						31