462/D-14

Test Excavation of Several Geophysical Anomalies, Brown v. Board of Education National Historic Site (14SH113), Shawnee County, Kansas

National Park Service - Midwest Archeological Center

United States Department of the Interior

NATIONAL PARK SERVICE
Midwest Archeological Center
Federal Building, Room 474
100 Centennial Mall North
Lincoln, Nebraska 68508-3873

IN REPLY REEFER TO:

October 17, 2002

Memorandum

To: Superintendent, Brown v. Board of Education National Historic Site

From: Manager, Midwest Archeological Center

Subject: Archeological reports

Enclosed are five copies of each of the following reports:

Nickel, Robert K., and William J. Hunt, Jr. D-15
2002 1999 Archeological Geophysical Survey Tests at Monroe School, Brown v. Board of Education National Historic Site, Topeka, Kansas. Technical Report No. 81. Midwest Archeological Center, Lincoln, Nebraska.

Stadler, Scott D-14
2002 Test Excavation of Several Geophysical Anomalies, Brown v. Board of Education National Historic Site (14SH113), Shawnee County, Kansas. Technical Report No. 82. Midwest Archeological Center, Lincoln, Nebraska.

These reports detail the results of geophysical investigations conducted at the Monroe School property in 1999 and follow-up test excavations conducted the following year. We presume that you will want to send copies directly to the State Historic Preservation Officer for Kansas.

Thomas D. Thiessen

for Mark J. Lynott

Enclosures (10)

cc with reports:
Regional Director, Midwest Region
Associate Regional Director, Cultural Resource Stewardship and Partnerships, Midwest Region
Chief, Cultural Resources, Midwest Region
Manager, Midwest Archeological Center
DCA/Chief Archeologist, Archeology and Ethnography Program, Washington Office (2)
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Collections Management, Midwest Archeological Center
Scott Stadler, Lincoln, Nebraska
Robert Nickel, Lincoln, Nebraska
Bill Hunt, Midwest Archeological Center
Douglas Scott, Midwest Archeological Center

Test Excavation of Several Geophysical Anomalies, Brown v. Board of Education National Historic Site (14SH113), Shawnee County, Kansas

By

Scott Stadler

Midwest Archeological Center
Technical Report No. 82

United States Department of the Interior
National Park Service
Midwest Archeological Center
Lincoln, Nebraska

2002

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

Archeological investigations were conducted at Brown v. Board of Education National Historic Site to examine selected geophysical anomalies, i.e., variations from normal background readings, noted during a previous geophysical survey. Excavations revealed a portion of the first Monroe School basement floor, located north of the current Monroe School. The first Monroe School was in existence from 1874 until 1927, when it was replaced by the current school. Artifacts from the late nineteenth century to the present were recovered from the excavations, including such school-related items as pencil fragments, marbles, ink bottles, buttons, and construction debris. The artifacts and structure remnants suggest the school grounds contain undisturbed historic deposits dating from the first residences in the late 1800s to the present. Further excavations are required to determine the extent of these deposits as well as to aid interpretation of the history of the Monroe School neighborhood.

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Table 1. Former historic structures at Monroe School (14SH113) and their locations as determined from 1889, 1896, 1913 Sanborn maps.

Structure Number	Structure Name	Function	Year(s)	Lot(s)	E-W (ft)	N-S (ft)	Distance to 15th St. (ft)	Distance to Monroe St. (ft)
1	Monroe School [1]	school	1889, 1896	505, 507, 509	40	68	3	38
1	Monroe School	school	1913	505, 507, 509	70	68	3	38
2	Outbuilding A	school storage shed or privy	1889	505	6	16	5	144
3	Outbuilding B	school storage shed or privy	1889	505, 507	6	12	21	144
4	Outbuilding C	school storage shed or privy	1889	507	6	12	33	144
5	Frame Building A	dwelling	1889, 1896, 1913	511	46	15, 20 [2]	82	16
6	Outbuilding D	barn?	1889	511	12	24	75	138
7	Brick Building A [3]	dwelling	1889,1896	513	15	15	110	16
8	Outbuilding E	storage shed or privy	1889	513	10	8	302	140
9	Outbuilding F	school storage shed or privy	1896	505	10	15	5	135
10	Outbuilding G	school storage shed or privy	1896	505, 507	8	14	20	142
11	Outbuilding H	school storage shed or privy	1896	507	8	14	38	142
12	Outbuilding I	storage shed	1896, 1913	511	12	18	75	138
13	Outbuilding J	storage shed	1896	513	14	14	103	136
14	Outbuilding K [4]	storage shed or privy	1896	513	8	6	117	142
15	Frame Building B [5]	dwelling	1913	521, 523	34	28	222	16
16	Outbuilding L	storage shed or privy	1913	523	8	16	205	142
17	Brick Building B [6]	dwelling	1913	525, 527	30	22	253	16
18	Frame Building C	dwelling	1913	529	24	14	303	30

[1] According to the 1896 Sanborn map, the school's southern wall was about 12 ft from the north wall of Structure 5. An addition to the west (rear) side of the school after 1896 but before 1913 expanded the school's size considerably. Two sets of fire escape stairs were also added to the south side of the structure.

[2] The front room of Structure 5 was approximately 15 ft wide (north-south) by 34 ft long. The back room extended another 5 ft to the south and was 12 ft east-west. A full-width 5-ft-deep porch was at the front of the structure in 1889 and 1896. The porch was expanded to 8 ft deep by 1913.

[3] According to the 1896 Sanborn map, Structure 7's north wall was about 13 ft from the south wall of Structure 5. Although this building originally had no porch, a 5-ft-wide porch had been added to the front of this building by 1896.

[4] Structure 14 abutted the south wall of Structure 13.

[5] Structure 15 was Z-shaped in plan view and had a full-width 5-ft-deep porch on the front.

[6] Structure 17 was an L-shaped building with a 12-ft-long by 5-ft-deep porch centered on its front.

Introduction

Archeological investigations were undertaken at Brown v. Board of Education National Historic Site (BRVB) during June 2000. The purpose of the excavations was to examine selected anomalies noted during a 1999 geophysical survey (Hunt 1999; Nickel and Hunt 2002) Excavations revealed artifacts dating from the late nineteenth century to the present. The investigations also located a portion of the foundation from the first Monroe School (1874–1927) and a possible concrete support for one of the residences dating at least to the early 1900s. All artifacts, records, photos, and other materials pertaining to this project are curated at the Midwest Archeological Center under MWAC Accession 903 and BRVB Accession 3.

Background

Much of the history of the land now encompassed by BRVB (1.85 acres) is documented in reports by Quinn Evans Architects (2000) and Rachel Franklin Weekley (1999). Unless otherwise stated, the following summary is taken from those two sources. The Monroe School is located in northwestern Topeka at the corner of 15th and Monroe Streets. The location is part of a tract historically known as the Ritchie Tract. In 1856, Jacob Chase, one of Topeka's founders, sold 160 acres of land to John Ritchie. Ritchie was one of Topeka's leading citizens and a strong advocate of abolishing slavery. In the late 1860s, Ritchie subdivided part of his land into Lots 75 and 150 feet wide. This area became known as the Ritchie Tract. Ritchie sold the land, favoring sale to African Americans (Franklin Weekley 1999:18). By the 1880s, most of the land in the Ritchie Tract was owned and occupied by African Americans.

In 1888, after Ritchie's death, the city of Topeka annexed the tract, laid out a street grid, and subdivided the lots into parcels 25 feet wide by 150 feet deep with a 20-ft-wide alley bisecting the block (Quinn Evans Architects 2000).

In 1868, Lots 505, 507, and 509, on the corner of Monroe and 15th Streets, were purchased by the Topeka Board of Education (Figure 1). At the time of purchase, a small building already existed on the lots and was set up as a temporary school until a new one could be completed. The location of this structure within the three lots remains unknown. The first Monroe Elementary School was constructed in 1874 as a segregated school for blacks. The earliest map of these lots is an 1889 Sanborn fire insurance map (Figure 2). It shows the first Monroe School encompassing parts of all three lots (505, 507, 509). Table 1 provides dimensions for the building as well as its location relevant to Monroe Street and 15th Street. The 1896 Sanborn map shows the school building unchanged, but three outbuildings appear to have been altered (Figure 3).

Quinn Evans Architects (2000:17) states that the school building was remodeled in 1911. The 1913 Sanborn map shows a large addition on the west side of the school (Figures 1 and 4). The building functioned as a school until a new Monroe Elementary School building was completed south of the existing school in 1927. The first school was demolished in 1927 (Quinn Evans Architects 2000:17) and the land was converted to a north playground for the new Monroe School.

In 1913, the Board of Education purchased Lots 513 and 515 (Figure 1). Lot 511 remained in private hands until 1916, at which time the Topeka Board of Education purchased it as well. In 1925, Lots 517, 519, 521, and 523 were acquired, and the next year Lots 525, 527, 529, and 531 were added. With the new land acquisitions the Board began construction of a new school building on the land adjacent (south) to the first Monroe School. The second Monroe Elementary School was completed in 1927 (Quinn Evans Architects 2000). The final land purchase for the Monroe School occurred in 1934 with the addition of a triangular piece of land east of the school, across Monroe Street, for use as a playground (Figure 5).

As with the first school, the second was one of several African American schools in Topeka. In 1951, a lawsuit was filed against the Topeka Board of Education aimed at ending segregation in the city's public elementary schools. The landmark *Brown v. Board of Education of Topeka* decision, handed down by the United States Supreme Court in 1954, ruled that "separate educational facilities are inherently unequal" and violated the 14th Amendment guaranteeing all citizens "equal protection of the laws."

In 1975, the doors to the Monroe Elementary School were closed due to declining enrollment. The school district slightly modified the interior of the building, removed the playground equipment to provide parking for buses and maintenance vehicles, and used the building as a storage and maintenance facility for the school district until 1980, when it was sold to a developer. The developer sold the property to the Church of the Nazarene two years later. The church modified the interior and used the building until 1988, when it was sold to a construction company who further modified the building's interior and used it as a warehouse until 1991, at which time the Trust for Public Land purchased the property. Near the end of 1991, the school was designated a national historic landmark. On October 26, 1992, the building and grounds were designated the Brown v. Board of Education National Historic Site. The property was transferred to the National Park Service in 1993.

A search of the Kansas State Historical Society archives by William Hunt produced four maps showing the school and its surroundings (Hunt 1999; Nickel and Hunt 2002:1–2, Table 1). All are Sanborn insurance maps and are dated 1889, 1896, 1913, and 1945 (Figures 2–5). The 1889 and 1896 maps were produced by the Sanborn Perris Map Co. Ltd. (1889:Sheet 82, 1896:Sheet 34). The 1913 and 1945 maps were produced by the Sanborn Perris Map Co. (1913:Sheet 82, 1945:Sheet 82).

The present report's Table 1 is based on Nickel and Hunt (2002:Table 1) and is the result of Hunt's study of the Sanborn maps, revealing that as many as 18 structures existed at various times on the Monroe School property between 1889 and 1913. It should be noted that the Sanborn maps prior to 1913 show information only for Lots 505 through 515. No details are given for Lots 517 through 531 before 1913. As a result, any structures that may have existed on the higher-numbered lots are not included in the table.

The structures present before the school board acquired the property represent a residential neighborhood, primarily African American. As the Topeka Board of Education purchased the lots, the residential structures and associated outbuildings were removed for construction of the Monroe School.

Figure 1 is a composite Sanborn map and depicts all of the buildings that are known to have existed within the studya area between 1889 and 1913. At least one building known to exist before 1889 is not shown on this map. A building on Lots 505–509 existed at the time the Topeka Board of Education purchased the land in 1868. As noted above, the existing building on these lots was used as a school until the completion of the first Monroe School in 1874.

According to Hunt's summary of the Sanborn map data, there were different numbers of structures on the school property at different times (Hunt 1999; Nickel and Hunt 2002). Eight structures appear on Lots 505–515 on the 1889 Sanborn map (Figures 1 and 2). These are Monroe School (Structure 1), three school outbuildings (Structures 2–4), a frame dwelling (Structure 5), an associated structure that may have been a horse barn (Structure 6), a brick dwelling (Structure 7), and its outbuilding (Structure 8).

By 1896, nine structures appear on the same lots (Figures 1 and 3). As Nickel and Hunt (2002:2) note:

> These include the school (Structure 1) and two of the dwellings (Structures 5 and 7) shown on the 1889 map. The outbuildings for these structures appear to have been replaced, as suggested by changes in dimension. Structures 9–11 are larger outbuildings for the school. The "barn" of 1889 in Lot 511 had been replaced with a smaller outbuilding (Structure 12). The single small outbuilding at the rear of Lot 513 in 1889 had been replaced by a larger outbuilding (Structure 13) and another (Structure 14) that abuts the latter's south wall. Lot 515 appears to remain empty.

By 1913, information for Lots 517–531 appears for the first time (Figures 1 and 4). According to Nickel and Hunt (2002:2), at this time:

> The school itself had been enlarged considerably with an approximately 30-ft (east-west) by 54-ft addition attached to the older building at its southeast corner. The map suggests that all of the school's outbuildings had been removed by this time. The frame dwelling (Structure 5) in the lot immediately south of the school was still in place, as was its outbuilding (Structure 12). The small brick house (Structure 7) and its outbuildings (Structures 13 and 14) had apparently been razed. ... Lots 515, 517, 519, and 527 remain empty, but a frame dwelling (Structure 15) and its outbuilding (Structure 16) occupy Lots 521 and 523. An L-shaped brick dwelling (Structure 17) occupies Lot 525 while a small frame dwelling (Structure 18) occupies Lot 529.

Lots 506–522, located east of Monroe Street and the last acquisition by the school, show no structures on either the 1913 or 1945 maps. These lots were used as a playground by the school. By 1945, all structures except the new Monroe School and one small outbuilding (Structure 16) had been removed (Figures 1 and 5). No evidence of any structures other than the most recent school building is currently visible on the surface.

Previous Investigations

The first investigation to occur on BRVB property was in 1997. William Hunt monitored the installation of a new gas line that crossed Lots 505, 507, 509, 511, and 513 (Hunt 1997). This resulted in the identification of a foundation of unknown derivation. The 1945 Sanborn map indicated this was the west wall of the current school's former coal pit (Figure 5).

A second investigation was a geophysical survey conducted in 1999 by Robert Nickel and William Hunt (Hunt 1999; Nickel and Hunt 2002). During that project, three remote sensing instruments were used on various portions of BRVB property. These included ground penetrating radar (Noggin 500), a soil resistance meter (Geoscan RM 15), and a magnetometer (Geoscan FM36 Fluxgate Gradiometer). The choice of instrument and its success depended largely on the existing surface (asphalt, grass, concrete). Some areas were surveyed using two of the three instruments to maximize results.

Ground-penetrating radar sends pulses of radio waves into the ground and records them as they are reflected back to the surface. The radar records abrupt changes between layers of soil. If the contrast between two layers of soil is diffuse and subtle, radar may not be able to detect the change (Bevan 1998).

Ground-penetrating radar was used on the asphalt area north of the school, the concrete area along the east side of the school, and the concrete sidewalk south of the school. Results of the radar survey on the asphalt area north of the school revealed the presence of a subsurface anomaly that may be the footing of the west wall of the first school (Nickel and Hunt 2002:7–8).

The radar survey on the concrete walk south of the school showed an anomaly that may represent the remains of Structure 17, which was a residence in use until the school board acquired the property and removed it (Table 1 and Figure 4; Nickel and Hunt 2002:9).

A magnetometer measures variations in the strength of the Earth's magnetic field. Objects containing iron as well as fired features such as bricks tend to distort this magnetic field. The magnetometer records the distortion and plots the anomaly's location below the surface (Bevan 1998). At BRVB the magnetometer was used on the grassy area south of the school and on the asphalt area north of the school. The area south of the school produced many anomalies, several of which were thought to be historic features such as wells, outbuildings, or cisterns. One large group of anomalies was also thought to be remains of Structure 17 (Table 1 and Figure 1; Nickel and Hunt 2002:9–10). The magnetic survey revealed a higher number of subsurface anomalies in Lot 529 than in Lot 527. Three strong anomalies from the magnetic data were selected for investigation during this project, including the anomalies possibly associated with Structure 17.

A resistance meter measures the electrical resistivity of the soil. A small electrical current is passed between two probes placed in the soil. The change in current from one probe to the other is measured. Changes in soil composition, or the presence of objects such as stone, can cause changes in current that can be plotted (Bevan 1998). The soil resistance meter "tends to be most effective when the targets are stone or masonry footings, walls, or walks buried in soil." (Nickel and Hunt 2002:13).

A resistance meter was used on the grassy area south of the school, the grassy area north of the school, and the grassy strip between the school building and the asphalt on the west side of the school. Investigations north of the school revealed an anomaly that might represent the northeast and southeast corners of the first school. These investigations also suggested the presence of a concrete or masonry surface in front of (east of) the first school (Nickel and Hunt 2002:7–8, 13). The resistance meter survey on the west side of the school showed anomalies that might be remnants of Structures 6, 12, 13, and 14 (Table 1 and Figure 1; Nickel and Hunt 2002:10–11, 13–14).

Archeological investigations in the vicinity surrounding BRVB include excavations at the Ritchie House (14SH370) conducted by Marsha King of the Kansas State Historical Society in 1997 (King 1998). The Ritchie House is located approximately four blocks north and one block east of BRVB. Both the Ritchie House and BRVB property were part of the parcel of land owned by John Ritchie known as the Ritchie Addition. Since Ritchie favored sale of his lots to African Americans, the area surrounding BRVB has always been primarily an African American community.

King collected information concerning the construction and modifications of the Ritchie House. Excavations produced new information about the foundation and two limestone retaining walls around the house. Renovations and additions to the house were also recorded as well as a previously unknown brick cistern near the northeast corner of the house. Extensive testing of areas in the yard surrounding the house indicated differential use of yard areas by examining artifact densities and features. Two concrete clothesline bases and a trash pit in separate areas indicated which areas were used and what their function were. Artifacts dating from the mid-nineteenth century through the late-twentieth century were recovered.

Fieldwork and Methodology

As reported in the next section, several test units were excavated in June 2000 to examine, or "ground truth," selected anomalies occurring within geophysical data collected in 1999 (Nickel and Hunt 2002). Four anomalies were investigated during the project. A 1-x-2-meter test unit was placed over each of three anomalies. The fourth anomaly was examined by hand trenching. Each of the test units is described below. The three test units were excavated in 10-centimeter levels. All soil was screened through ¼-inch mesh hardware cloth and cultural material was retained. Large pieces of construction material (concrete, stone, and brick) were noted and samples were collected from each of the test units. The trench over the fourth anomaly was not screened and artifacts were noted but not collected.

Results

The datum for Test Units 1, 2, and 3 is located 11 meters east and 3 meters south of the southeast corner of the current Monroe School building. This is also the intersection of two concrete sidewalks (Figure 6). No datum was established for the trench on the north side of the school. The southwest corner of the trench was placed by measuring from the southeast corner of the asphalt parking area (Figure 6). Measurements from the trench to the northeast corner of the current Monroe School were later taken to aid in relocating the trench. These distances are discussed below.

Test Unit 1

Test Unit 1 was a 1-x-2-meter unit located in the grass southwest of the existing school building (Figures 1 and 7). Its location was determined by using the intersection of two concrete sidewalks as a datum. One sidewalk extends east-west along the south end of the school building. It joins the sidewalk that extends north-south and parallels Monroe Street. This junction is also one corner of the geophysical grid established previously by Nickel and Hunt for the south playground (Hunt 1999; Nickel and Hunt 2002). This allowed for accurate placement of test units in relation to the geophysical anomalies. The northeast corner of Test Unit 1 was located 37.5 meters west and 5 meters south of the sidewalk intersection. The unit extended 2 meters west and 1 meter south.

The 1913 Sanborn map shows a residential structure on the east end of Lots 525 and 527 (Figure 4), which is designated Structure 17 (Table 1, Figure 1). The magnetometer indicated an anomaly west of Structure 17's former location that could be an outbuilding, privy, well, or cistern. Test Unit 1 was placed to investigate this anomaly.

Excavation of Test Unit 1 revealed several strata. The first stratum below the thin sod is a 5–10 cm layer of gravel. This was the former school playground surface. School-related artifacts, dating at least to the 1930s, were recovered from this layer. They include buttons, marbles, a jack, a "G-man" ring, pencil parts, and a clothing snap. This layer also contained construction related materials such as very small fragments of brick, concrete, mortar, and nails.

Below the level of the playground were several strata containing mostly construction materials. Small fragments of brick, concrete, sandstone, nails, mortar, coal, and clinker were found throughout the upper red clay portion of this sequence. Below this were larger pieces of the same materials but within a matrix of dark clay. A lens of sand at 30 centimeters below the surface (cmbs) in the eastern portion of the unit surrounded a piece of concrete that may have functioned as an anchor, possibly to secure playground equipment in the ground.

All of the building materials from both the red and dark clay strata can also be found in the structure of the existing school. This suggests that debris was deposited before the playground was constructed and may have been deposited either during construction of the school or during the destruction of a nearby outbuilding or house that stood in the vicinity before the school was constructed. Other than building materials, few artifacts were recovered from these strata.

Several complete shell buttons and a portion of a freshwater mollusk from which three circles had been cut were recovered from Test Unit 1 (10–20 cmbs). The circles were undoubtedly blanks used in the manufacture of shell buttons. This suggests that limited small-scale button making either for use in a household or for sale occurred here.

The commercial shell button industry flourished in the United States from 1891 until around 1950 (Claassen 1994). The shell button industry in Kansas seems to have peaked commercially beginning around 1910 and lasting until 1947 (Claassen 1994:43). Small-scale or private fashioning of shell buttons continued after the decline of the commercial industry. The shell blank and shell button from Test Unit 1 were recovered from directly below the gravel playground layer, near the top of the construction rubble

strata. The shell blank may represent a secondary deposit, having been moved from its original location during construction of the school.

The deepest stratum containing cultural material (70–110 cmbs) was formed of dark clay loam. This was the original surface present when Euroamericans first settled the area. Artifacts found in this stratum are primarily residential items and are probably associated with residences present before the Board of Education purchase of Lots 525 and 527 in 1926. Artifacts from this original surface include window glass, medicine bottles, ink bottles, nails, freshwater shell, animal bone, whiteware, bricks, and mortar. The datable items indicate use of this lot since the late nineteenth century (Table 2).

It is possible that a feature such as a well, cistern, or privy once stood on or near the location of Test Unit 1. However, since no definable structure remnants were located, additional investigations here would be needed to fully confirm or deny the presence of such structural remains. The size and amount of ferrous material could account for at least part, if not all, of the geophysical anomaly.

Test Unit 2

Test Unit 2 was placed over a second geophysical anomaly. This anomaly appeared during the magnetic survey of the area south of the school. It registered as a strong magnetic anomaly that was thought possibly to be a historic feature. The test unit was located using the same reference point as Test Unit 1, the junction of the two sidewalks. From this intersection, the northeast corner of Test Unit 2 was 30 meters west and 16 meters south. The unit extended 2 meters west and 1 meter south. This location places Test Unit 2 near the west end of Lot 529 (Figures 1 and 8). The earliest map of the lot is the 1913 Sanborn fire insurance map. The map shows a single residential structure near the east end of the lot (Figure 4), which is identified as Structure 18 in Table 1 and Figure 1. The 1945 Sanborn map does not show this structure because it was removed after the lot was acquired by the Monroe School. It was thought the geophysical anomaly could be a well, privy, or cistern associated with the residence.

The uppermost strata in Test Unit 2 were quite similar to those in Test Unit 1. A thin sod layer overlies the gravel of the former playground. Below the gravel was mottled red and tan clay to 40 cmbs. Some building materials were found in this unit but the fragments were smaller and less numerous than in Test Unit 1. Below the mottled red and tan stratum was approximately 40 cm of very compact, blocky gray clay. The clay appeared to be sterile and was removed without screening the lower two thirds of the layer. The origin of this clay is unknown, possibly fill from the construction of a basement or foundation.

Beneath the gray clay, and also deepest stratum containing cultural material (87–97 cmbs), is the same dark clay loam noted in Test Unit 1 that is thought to be the historic ground surface. This layer contained glass, ferrous metal, and whiteware but in much smaller quantities than in Test Unit 1. The small quantity of artifacts in Test Unit 2 (Lot 529) as compared to Test Units 1 and 3 (Lots 525 and 527) seems to suggest that Lot 529 was kept much cleaner, with little debris scattered around the lot. This is supported by the geophysical survey, which showed a distinct difference among the lots. Lot 529 showed far fewer anomalies than the other two lots (Nickel and Hunt 2002).

A large piece of rectangular rebar in the west wall of the unit and much metallic slag could account for the geophysical anomaly at this location. No features or structural remains were noted during the excavation of Test Unit 2.

Test Unit 3

Test Unit 3 (Figures 1 and 8) was situated to investigate a geophysical anomaly noted during the magnetometer survey. The anomaly appears to correspond to the location of Structure 17 (Table 1 and Figure 1). Structure 17 first appears on the 1913 Sanborn fire insurance map as an L-shaped building located at the east end of Lots 525 and 527, south of the current Monroe School building (Figure 4). The northeast corner of Test Unit 3 was 9 meters west and 4 meters south of the same sidewalk juncture as described above. This test unit extended 2 meters south and 1 meter west.

Excavations in Test Unit 3 revealed the same layer of playground gravel as found in the other two units (5–17 cmbs) with playground and school-related items being recovered (marble, pencil fragments). Beneath the gravel is a mottled layer of dark and tan clay loam (17–65 cmbs). This stratum contained glass, nails, ceramics, buttons, bone, and ferrous metal. The lower part of this stratum also revealed bottle glass, flat glass, ceramics, slate, ferrous items, and pencil fragments.

The soil changed to grayish brown sandy loam at 65 cmbs. This new stratum contained glass, medicine bottles, ink bottles, bone, ferrous metal, coal, clinkers, brick fragments, and a 1904 nickel. Due to time constraints, excavation of this unit was halted at 90 cmbs, at which point artifacts were still occurring and the soil remained grayish brown sandy loam. A ¾-inch soil corer was used to examine the soil below 90 cm. It revealed that the same brownish sandy loam extended at least another 24 cm. Since this unit was not fully excavated, the source for the geophysical anomaly at this location remains uncertain.

Old School Trench

Geophysical investigations north of the Monroe School revealed evidence that portions of the first school are still present. The soil resistance survey in the grassy area north of the existing school showed that the northeast and southeast corners of the first school could still be present. The first school, constructed in 1874, was torn down shortly after completion of the current school in 1927 (Quinn Evans Architects 2000:17–18). A test trench was placed to examine a portion of the anomaly and determine if the first school foundation was present (Figure 9).

The southwest corner of a test trench was located 5 meters north and 3 meters east of the southeast corner of the asphalt parking area (Figures 1 and 6). Measured from the northeast corner of the school building, the southwest corner of the trench was 4.2 meters north and 2.3 meters west. The trench originally measured 0.5 meters north-south and 2 meters east-west. The western half of the trench was eventually expanded 0.5 meters to the north. The final form of this excavation thus became a 1-x-1-meter unit on the west with a 0.5-meter-wide trench extending 1 meter to the east.

This unit was excavated without screening to enable a quick examination of the geophysical anomaly. Underneath a thick layer of large construction rubble, a smooth slab of concrete was located at approximately 1 meter below the surface (Figure 10). The slab appeared to have been poured in sections and the unit exposed the juncture of four sections. Each section is 88 cm wide, and the feature appears to be two sections wide. This is likely a section of the concrete basement floor of the first school. Due to time constraints, excavations here did not go below the concrete.

Table 2. Artifacts from excavations at 14SH113.

Artifact Category Test Unit No.	Level	Count	Color	Identification	Comments
Curved Glass					
Test Unit 1	0–10	10	clear	bottle	fragments
		3	amber	bottle	fragments
		3	green	bottle	fragments
	10–20	6	milk glass	?	1 jar lip and neck fragment, 1 base fragment
		1	sun altered	bottle	fragment, ca. 1880–1916 (Munsey 1970:55)
		2	aqua	bottle	fragments
		3	cobalt blue	?	fragments
		1	olive	bottle	fragment
		9	amber	bottle	1 with /...G. U.../ on base and raised / 20 / on side; 1 with raised / CL[O] / on side near base; same bottle as previous fragment; 1 with partial raised-shield? design
		58	clear	bottle	2 fragments of screw-top finish, 2" diam; 1 panel bottle frag with /...NDER /; two-piece panel bottle with no marking; 1 base fragment; 1 lip fragment; 1 molded ribbed fragment
		1	clear	drinking glass	fragment
	20–30 E¼	1	cobalt blue	?	fragment
		2	light green	bottle	1 has / SO[D] / on side
		3	clear	lamp chimney	lantern chimney fragments
	20–28 W¾	1	blue	?	base fragment, unusual blue color
		1	sun altered	bottle	ca. 1880–1916 (Munsey 1970:55)
		7	clear	bottle	fragments
		1	milk glass	?	fragment
	28–30 W¾	1	clear	bottle	fragment
	30–40	2	clear	bottle	fragments
		1	clear	lamp chimney	lantern chimney fragment
	40–50	4	clear	bottle	3 melted
		1	amber	bottle	fragment
	50–60	1	light green	bottle	fragment
		2	clear	bottle	fragments
	60–70	3	clear	bottle	fragments
		2	aqua	bottle	fragments
		1	sun altered	bottle	base fragment, ca. 1880–1916 (Munsey 1970:55)
	70–80	1	amber	bottle	fragment
		1	cobalt blue	?	fragment
		1	milk glass	?	fragment
		2	sun altered	bottle	ca. 1880–1916 (Munsey 1970:55)
		1	light green	bottle	base fragment
		1	aqua	bottle	fragment
		12	clear	bottle	fragments

Artifact Category Test Unit No.	Level	Count	Color	Identification	Comments
Curved Glass	70–80	1	clear	bottle	complete round sample bottle with / CACTUS / on side
Test Unit 1		1	aqua	bottle	shoulder, neck and finish; oil finish
continued	80–90	2	milk glass	?	base, two pieces fit together, red coloration on one piece
		3	sun altered	bottle	ca. 1880–1916 (Munsey 1970:55)
		2	aqua	bottle	fragments
		1	blue	—	unusual blue color
		8	clear	bottle	1partial shoulder, neck and finish (packer finish), automatic bottle machine mold seam; 1piece with / [PI]NT / on heel
		2	clear	lamp chimney	lantern chimney fragments, one scalloped rim
		1	light green	bottle	fragment
	90–100	1	clear	ink bottle	/ BANKERS INK / KANSAS CITY / on side; squat square with continuous thread finish
		2	green	?	1 piece has a decorative scalloped edge with gold paint
		1	olive green	bottle	fragment
		3	milk glass	?	fragments
		2	amber	bottle	1 melted
		1	light blue	bottle	fragment
		2	aqua	bottle	fragments
		2	sun altered	bottle	1 melted, ca. 1880–1916 (Munsey 1970:55)
		14	clear	bottle	2 melted
		8	clear	lamp chimney	lantern chimney fragments, 2 scalloped rim fragments
	100–105	2	clear	decorative ?	possibly from the same vessel as in Test Unit 1, 10–20 cm
Test Unit 2	0–6	1	light green	bottle	fragment
		2	amber	bottle	fragments
		18	clear	bottle	1 piece with / [G] / G74 / O / FL /
	6–16	1	light green	bottle	fragment
		15	clear	bottle	1 milky frag; 2 with etched lines and / D[R] /; 1 base fragment; 2 continuous thread finish
		3	clear	decorative ?	possibly from the same vessel as in Test Unit 1, 100–105 cm
		1	milk glass	?	fragment
	16–26	1	clear	bottle	fragment
	36–46	1	clear	lamp chimney	lantern chimney fragment
	87–97	1	aqua	bottle	fragment
Test Unit 3	0–10	1	amber	bottle	fragment
		8	clear	bottle	1 base fragment with / 41 /
	10–20	1	olive green	bottle	fragment
		1	light green	bottle	base fragment
		1	milk glass	?	molded
		4	aqua	bottle	1 with / [B]OT[T] /; 1 melted
		8	clear	bottle	fragments

Artifact Category Test Unit No.	Level	Count	Color	Identification	Comments
Curved Glass	10–20	2	clear	lamp chimney	lantern chimney fragments
Test Unit 3	20–30	2	olive green	bottle	fragments
continued		1	aqua	bottle	1 base fragment with / [N]O... / or / [V]O /
		2	aqua	bottle	1 finish fragment; soda finish
		22	clear	bottle	2 milky fragments; 1 base with cup bottom mold and / 7 / on heel
	30–40	2	sun altered	milk bottle	1 finish and neck, ca. 1880–1916 (Munsey 1970:55)
		1	milk glass	?	fragment
		2	light green	bottle	fragments
		21	clear	bottle	3 melted; 1 piece marked / [G]W /
	40–50	13	clear	bottle	2 base fragments
		1	clear	milk bottle	finish and part of neck
		1	sun altered	bottle	parts of four letters; the only legible one is / O /, ca. 1880–1916 (Munsey 1970:55)
		1	olive green	bottle	fragment
	50–60	1	clear	lamp chimney	lantern chimney fragment
		27	clear	bottle	fragments
		1	clear	medicine bottle	complete, with prescription finish, cup bottom mold, graduated CC scale on one side, dashes on other side and / 3ii / on front shoulder, / W.B.M. Co / on base; 1880–1910 (Toulouse 1971:535)
		1	clear	ink bottle	complete short, round ink bottle with continuous thread finish, post bottom plate mold
		7	clear	bottle	all are part of same bottle, base is round with / 3 /
		1	olive green	bottle	melted
		5	aqua	bottle	fragments
	52	1	clear	ink bottle	complete short, round ink bottle with continuous thread finish, post bottom plate mold
	60–70	5	clear	bottle	fragments
		1	aqua	bottle	fragment
		1	sun altered	bottle	ca. 1880–1916 (Munsey 1970:55)
		1	milk glass	?	fragment
		2	amber	bottle	fragments
	70–80	8	clear	bottle	1 base fragment
		4	clear	?	milky glass; same as Test Unit 3, 80–90 cm
		1	amber	bottle	fragment
		1	aqua	bottle	fragment
	80–90	9	clear	bottle	1 finish fragment
		2	clear	lamp chimney	lantern chimney fragments
		8	clear	?	milky glass; same as Test Unit 3, 70–80 cm
		3	aqua	bottle	fragments
		1	green	bottle	fragment
		4	light green	bottle	1 finish fragment

Artifact Category Test Unit No.	Level	Count	Color	Identification	Comments
Flat Glass					
Test Unit 1	0–10	13	—	—	1 melted
	10–20	42	—	—	3 molded with starburst design; privacy glass
	20–30	21	—	—	E ¼ of unit
	20–28	2	—	—	W ¾ of unit
	28–30	24	—	—	W ¾ of unit, 2 molded with starburst design; privacy glass
	30–40	17	—	—	—
	40–50	11	—	—	2 with frost design, different designs; privacy glass
	50–60	8	—	—	—
	60–70	4	—	—	1 with frost design; privacy glass
	70–80	14	—	—	2 molded with starburst design; privacy glass
	80–90	21	—	—	1 molded with starburst; 1 with frost design; privacy glass
	90–100	5	—	—	—
	100–105	1	—	—	—
Test Unit 2	0–6	2	—	—	1 with hand painted white stripe
	6–16	3	—	—	—
	26–36	1	—	—	—
	36–46	1	—	—	—
Test Unit 3	0–10	4	—	—	1 molded with swirl design; privacy glass
	10–20	32	—	—	10 molded with swirl design; privacy glass
	20–30	28	—	—	5 molded with swirl design; privacy glass
	30–40	30	—	—	2 molded with starburst design; 6 with frost design; privacy glass
	40–50	28	—	—	4 with frost design; privacy glass
	50–60	32	—	—	4 with frost design; privacy glass
	60–70	9	—	—	2 with frost design; privacy glass
	70–80	1	—	—	—
	80–90	4	—	—	—
Ceramics			—	—	—
Test Unit 1	10–20	2	—	whiteware	1 burned
		1	—	porcelain	—
	30–40	1	—	whiteware	—
	40–50	1	—	porcelain	—
	70–80	1	—	porcelain	—
		1	—	stoneware	—
	80–90	6	—	whiteware	1 with part of a raised molded design
	90–100	5	—	whiteware	1 with partial flower design
		3	—	porcelain	—
	100–105	3	—	whiteware	—

Artifact Category Test Unit No.	Level	Count	Color	Identification	Comments
Ceramics, cont.					
Test Unit 2	6–16	1	—	whiteware	—
		2	—	kaolin ?	unglazed white clay decorative piece with geometric design
	16–26	1	—	whiteware	—
	36–46	1	—	whiteware	—
Test Unit 3	10–20	1	—	porcelain	—
		4	—	whiteware	—
		1	—	roof tile	red roof tile fragment
	20–30	2	—	whiteware	—
		1	—	stoneware	—
	30–40	2	—	porcelain	—
	40–50	12	—	whiteware	9 pieces fit together (cup plate) with decal flower design
	50–60	1	—	whiteware	—
	70–80	1	—	stoneware	—
	80–90	2	—	whiteware	—
Clothing					
Test Unit 1	0–10	1	—	snap	metal outer ring with plastic disc in center, complete
	10–20	1	—	snap ?	cuprous
		1	—	button	ceramic, white, two-hole, 20 lignes, complete
		4	—	buttons	4 freshwater shell fragments forming 2 buttons, both are two-hole, 22 lignes
	40–50	1	—	button	plastic, white, four-hole, 24 lignes, complete
Test Unit 2	6–16	1	—	button	fragment of shell button, approximately 20 lignes
Test Unit 3	0–10	1	—	snap ?	cuprous snap or button fragment
	30–40	1	—	button	ceramic, white, four-hole, 24 lignes, complete
	40–50	2	—	button	fragments of freshwater shell, two-hole, 24 lignes
	50–60	1	—	shank button	ferrous shank, ceramic? domed head, mostly complete
		1	—	snap	cuprous snap
Building Materials					
Test Unit 1	20–30	1	—		slate
	30–40	1	—	brick	half of a red brick with / FREDO... / (Fredonia Brick)
Test Unit 2	0–6	2	—	floor tile	ceramic ? floor tile
	16–26	3	—	plaster	plaster sample
		2	—	brick	red brick sample
		1	—	limestone	burned limestone sample
	26–36	5	—	plaster	plaster sample
		1	—	brick	red brick sample
	36–46	4	—	brick	red brick sample

Artifact Category Test Unit No.	Level	Count	Color	Identification	Comments
Building Materials, cont.					
Test Unit 3	10–20	2	—	slate	slate sample
	20–30	1	—	slate	slate sample
	40–50	1	—	slate	slate sample
	60–70	1	—	slate	slate sample
Hardware and Nails					
Test Unit 1	10–20	3	—	wire nail	ferrous
		3	—	nail	unidentified nail fragments
		3	—	?	ferrous fragments
		1	—	crown cap	fragment
		1	—	?	cuprous fragment
	15–20	1	—	wire nail	from red clay layer, E ¼ of unit.
	20–28	9	—	nail	unidentified nail fragments
		3	—	?	ferrous fragments
		2	—	wire nail	ferrous
	20–30	4	—	?	ferrous fragments
		4	—	nail	unidentified nail fragments
		7	—	wire nail	ferrous
	28–30	10	—	wire nail	ferrous
		4	—	nail	unidentified nail fragments
		7	—	?	ferrous fragments
	30–40	6	—	wire nail	from red clay layer, E ¼ of unit
		3	—	nail	unidentified nail fragments
		11	—	wire nail	W ¾ of unit
		2	—	nail	unidentified nail fragments, from W ¾ of unit
		4	—	?	ferrous fragments
	40–50	1	—	nail	unidentified nail fragments
		1	—	?	ferrous fragment
	50–60	2	—	nail	unidentified nail fragments
	60–70	5	—	nail	unidentified nail fragments
	70–80	1	—	bolt	carriage bolt
		38	—	nail	unidentified nail fragments
		1	—	wire nail	ferrous
		7	—	?	ferrous fragments
	80–90	2	—	wire nail	ferrous
		20	—	nail	unidentified nail fragments
		1	—	washer	ferrous
		4	—	?	ferrous fragments
	90–100	5	—	wire nail	ferrous
		8	—	nail	unidentified nail fragments
		13	—	?	ferrous fragments
	100–105	1	—	wire nail	ferrous

Artifact Category Test Unit No.	Level	Count	Color	Identification	Comments
Hardware and Nails					
Test Unit 2	16–26	1	—	?	piece of wire or nail fragment
	26–36	1	—	wire nail	ferrous
		1	—	?	ferrous fragment
	87–97	1	—	washer	ferrous
Test Unit 3	10–20	2	—	nail	unidentified nail fragments
		2	—	pipe	ferrous pipe fragments
		15	—	wire nail	ferrous
	20–30	25	—	wire nail	ferrous
		13	—	nail	unidentified nail fragments
		1	—	wire	ferrous wire fragment
		1	—	?	unidentified hardware
		1	—	nail	cuprous
	30–40	8	—	nail	unidentified nail fragments
		1	—	wire nail	ferrous
		2	—	wire	copper wire fragments
	40–50	3	—	?	ferrous fragments
	50–60	8	—	nail	unidentified nail fragments
		3	—	?	ferrous fragments
		1	—	fuse	metal end from an electrical fuse/circuit breaker
		5	—	wire nail	ferrous
	60–70	3	—	nail	unidentified nail fragments
		8	—	wire nail	ferrous
		2	—	wire	ferrous wire fragments
	70–80	14	—	wire nail	ferrous
		1	—	washer	ferrous
		3	—	nail	unidentified nail fragments
	80–90	17	—	nail	unidentified nail fragments
		1	—	wire nail	ferrous
		1	—	bolt	square head
		3	—	?	ferrous fragments
School-Related Items					
Test Unit 1	10–20	1	—	jack	nearly complete child's jack
		3	—	pencil top	metal end (eraser holder) of wooden graphite pencil
Test Unit 2	0–6	1	—	pencil top	metal end (eraser holder) of wooden graphite pencil
	6–16	1	—	pencil lead	graphite pencil lead
Test Unit 3	30–40	1	—	pencil lead	graphite pencil lead
	40–50	1	—	pencil	wood from graphite pencil
	50–60	5	—	pencil lead	graphite pencil lead
	70–80	2	—	pencil lead	graphite pencil lead

Artifact Category Test Unit No.	Level	Count	Color	Identification	Comments
Toys					
Test Unit 1	10–20	1	—	G-Man ring	part of child's ring with / G Man /, metal, lead ?
		1	white	marble	glass marble, complete
Test Unit 2	6–16	1	—	airplane	plastic toy airplane part
Test Unit 3	20–30	1	white	marble	clay marble, decaying
Bone and Shell					
Test Unit 1	10–20	1	—	worked shell	freshwater shell with 3 holes where button blanks were removed
	10–20	14	—	bone	—
	20–28	1	—	bone	—
	70–80	1	—	shell	freshwater shell fragment
	70–80	1	—	bone	—
	80–90	1	—	bone	—
Test Unit 2	6–16	7	—	bone	—
	16–26	1	—	bone	—
	26–36	2	—	bone	—
Test Unit 3	10–20	2	—	bone	—
	20–30	1	—	bone	—
	60–70	1	—	bone	—
	70–80	4	—	bone	—
Coins					
Test Unit 3	70–80	1	—	nickel	1904 Liberty head nickel
Prehistoric					
Test Unit 1	90–100	1	—	debitage	chert
Miscellaneous					
Test Unit 1	10–20	1	—	record	small piece of vinyl record
	30–40	1	—	bullet	deformed lead slug
	90–100	1	—	clock gear ?	cuprous gear, possibly from large clock
Test Unit 3	20–30	1	—	?	rectangle of carbon?
	40–50	1	—	finial	cuprous acorn shaped finial, possibly from curtain rod
		1	—	light bulb	metal base from small light bulb (flashlight?)

Conclusions

The 1999 geophysical survey and the 2000 excavations indicate that remains of structures dating to the late nineteenth century still exist on the grounds of BRVB. At least part of the basement floor of the first Monroe School, constructed in 1874, has been proven to be intact. It is likely that remnants of some of the 17 other structures that once existed here can still be located. All of the structures are listed in Table 1, and their spatial relationships to each other can be seen in Figure 1. Additional investigations would be required to determine the limits, integrity, and significance of these remains, including the first Monroe School building.

The proximity of the remains of the first Monroe School to the current school structure, approximately 4 meters north of the north wall, warrants caution when ground-disturbing activities occur north of the existing school. Further excavations in this area would be needed to determine the limits and integrity of the foundation of the first school.

Both the geophysical investigations and the current excavations revealed a higher density of artifacts and anomalies in Lots 525–527 than in Lot 529. The "noisy" character of Lots 525–527 may be due to their closer proximity to the Monroe School. Removal of various structures prior to the construction of the school, as well as the construction of the school itself, may have resulted in more debris being deposited on these lots than on the more distant Lot 529. It is also possible that the owners of the respective lots prior to acquisition by the school took differential care in picking up debris or used their lots differently.

It is also possible that a small cottage industry—production of freshwater shell buttons—by the family occupying Lots 525–527 resulted in the deposition of more debris on these lots than was deposited in the neighboring, purely residential, lot. A combination of a cottage industry and the construction debris could also account for the geophysical "noise" seen on the two lots.

If a cottage industry did indeed exist on this property, it would provide a significant and interesting glimpse of one aspect of life in the Monroe School neighborhood during the late nineteenth and early twentieth centuries.

Additional investigations on the school grounds would provide information concerning the African American community and its lifestyle at the time of the *Brown v. Board of Education of Topeka* lawsuit and earlier, including the first people to live on the land known as the Ritchie Tract. Furthermore, conducting additional investigations would aid BRVB staff in future planning by providing information concerning the kinds, locations, and conditions of cultural materials present on the property.

References Cited

Bevan, Bruce W.
1998 *Geophysical Exploration for Archaeology: An Introduction to Geophysical Exploration*. Special Report No. 1. National Park Service, Midwest Archeological Center, Lincoln.

Claassen, Cheryl
1994 Washboards, Pigtoes, and Muckets: Historic Musseling in the Mississippi Watershed. *Historical Archaeology* 28(2).

Franklin Weekley, Rachel
1999 *"A Strong Pull, a Long Pull, and a Pull Altogether" Topeka's Contribution to the Campaign for School Desegregation.* Historic Resource Study for Brown v. Board of Education National Historic Site, Topeka, Kansas. Report on file, National Park Service, Midwest Regional Office, Omaha.

Hunt, William, J, Jr.
1997 Memorandum to Manager, Midwest Archeological Center, from Archeologist, Midwest Archeological Center, October 3, 1997. Subject: Archeological Monitoring at Monroe School site, Brown v. Board of Education (BRVB). On file, National Park Service, Midwest Archeological Center, Lincoln.

1999 Memorandum to Manager, Midwest Archeological Center, from Archeologist, Midwest Archeological Center, July 9, 1999. Subject: Trip Report, Geophysical Survey at Monroe School, Brown v. Board of Education National Historic Site (BRVB). On file, National Park Service, Midwest Archeological Center, Lincoln.

King, Marsha
1998 *Results of Archeological Investigations at 1116 SE Madison (14SH370) Topeka, Shawnee County, Kansas.* Kansas State Historical Society, Topeka.

Munsey, Cecil
1970 *The Illustrated Guide to Collecting Bottles.* Hawthorn Books, New York.

Nickel, Robert, and William J. Hunt, Jr.
2002 *1999 Archeological Geophysical Survey Tests at Monroe School, Brown v. Board of Education National Historic Site, Topeka, Kansas.* Technical Report No. 81. National Park Service, Midwest Archeological Center, Lincoln.

Quinn Evans Architects
2000 *Historic Structure Report, Monroe Elementary School (HS-01), Brown v. Board of Education National Historic Site, Topeka, Kansas.* Quinn Evans Architects, Ann Arbor, Michigan. Submitted to National Park Service, Midwest Regional Office, Omaha.

Sanborn Perris Map Co. Ltd.
1889 *Topeka, Shawnee County, Kansas.* Sanborn Perris Map Co. Ltd., New York.

1896 *Insurance Maps of Topeka, Kansas.* Sanborn Perris Map Co. Ltd., New York.

Sanborn Perris Map Co.
1913 *Insurance Maps of Topeka, Kansas.* Sanborn Perris Map Co., New York.

1945 *Insurance Maps of Topeka, Kansas, Vol. 2.* Addenda July 1945 to Add'l index of December 1942 (pasted over 1913 map). Sanborn Perris Map Co., New York.

Toulouse, Julian Harrison
1971 *Bottle Makers and Their Marks.* Thomas Nelson, Inc., New York.

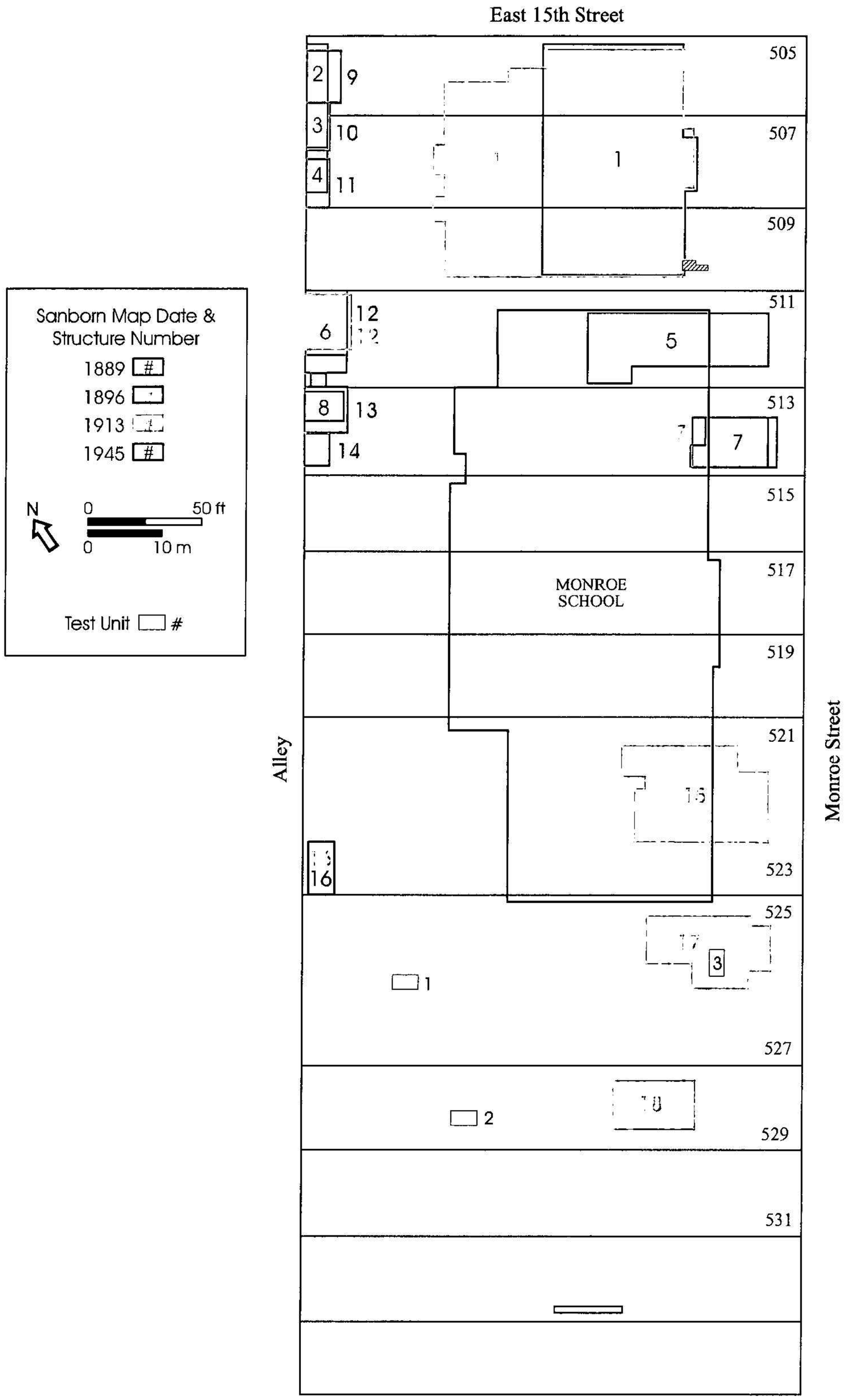

Figure 1. Composite map of known structures in the Monroe School study area showing test units and structure numbers; compiled from Sanborn maps dated 1889, 1896, 1913, and 1945.

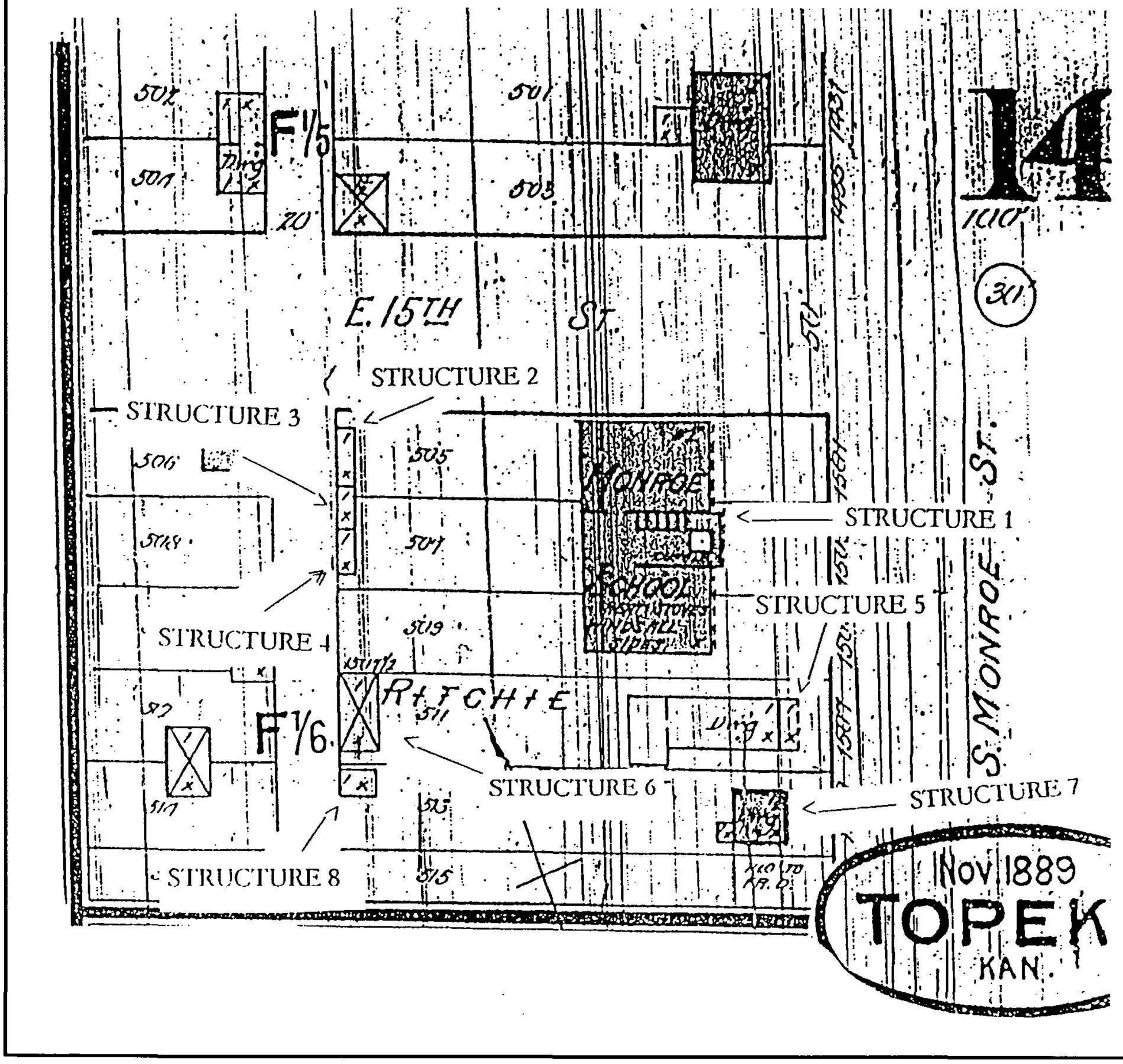

Figure 2. Map of the study area, 1889. The first Monroe School and seven other structures are present; adapted from Sanborn Perris Map Co. Ltd.

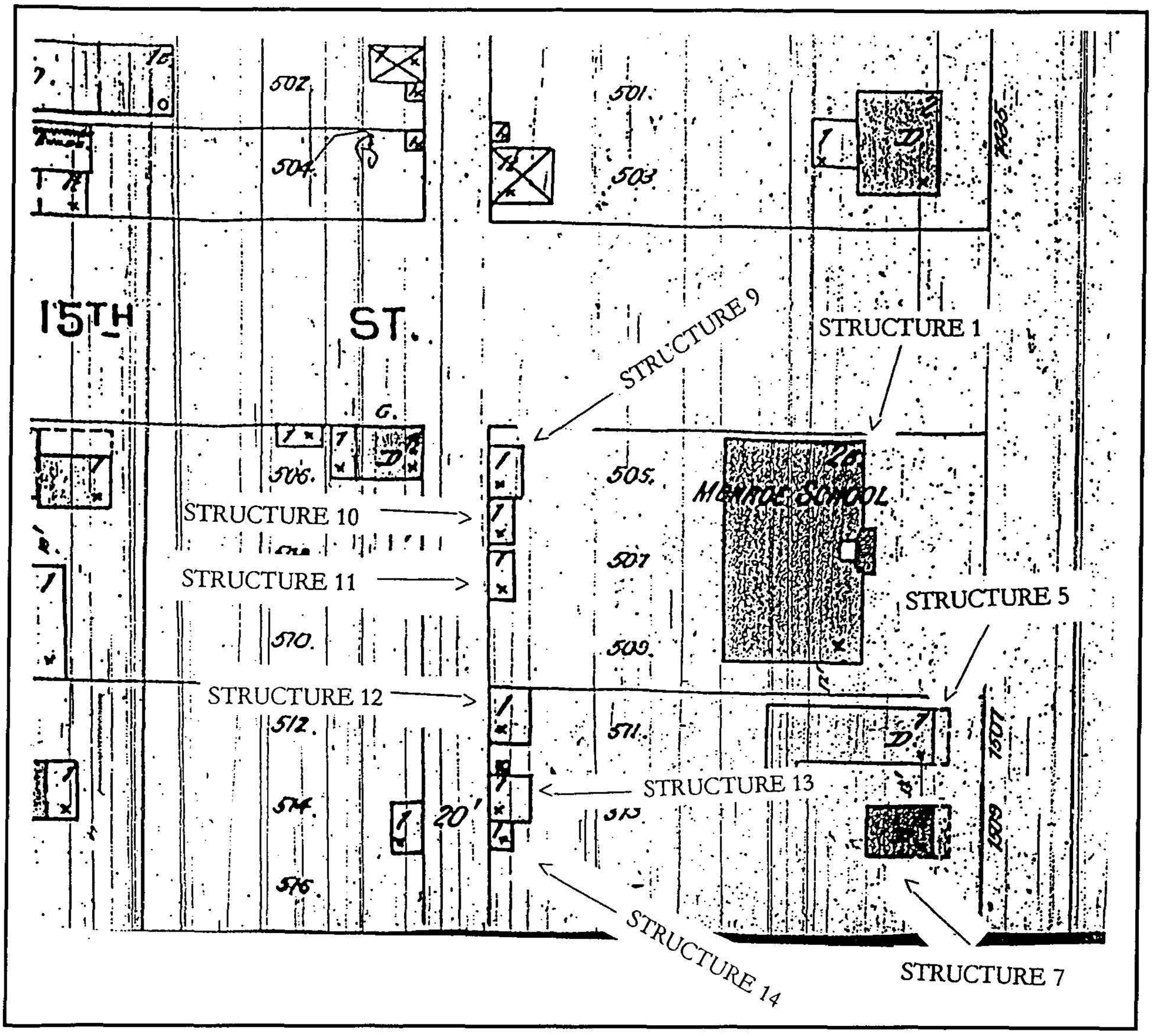

Figure 3. Map of the study area, 1896. The first Monroe School and eight other structures are present; adapted from Sanborn Perris Map Co. Ltd.

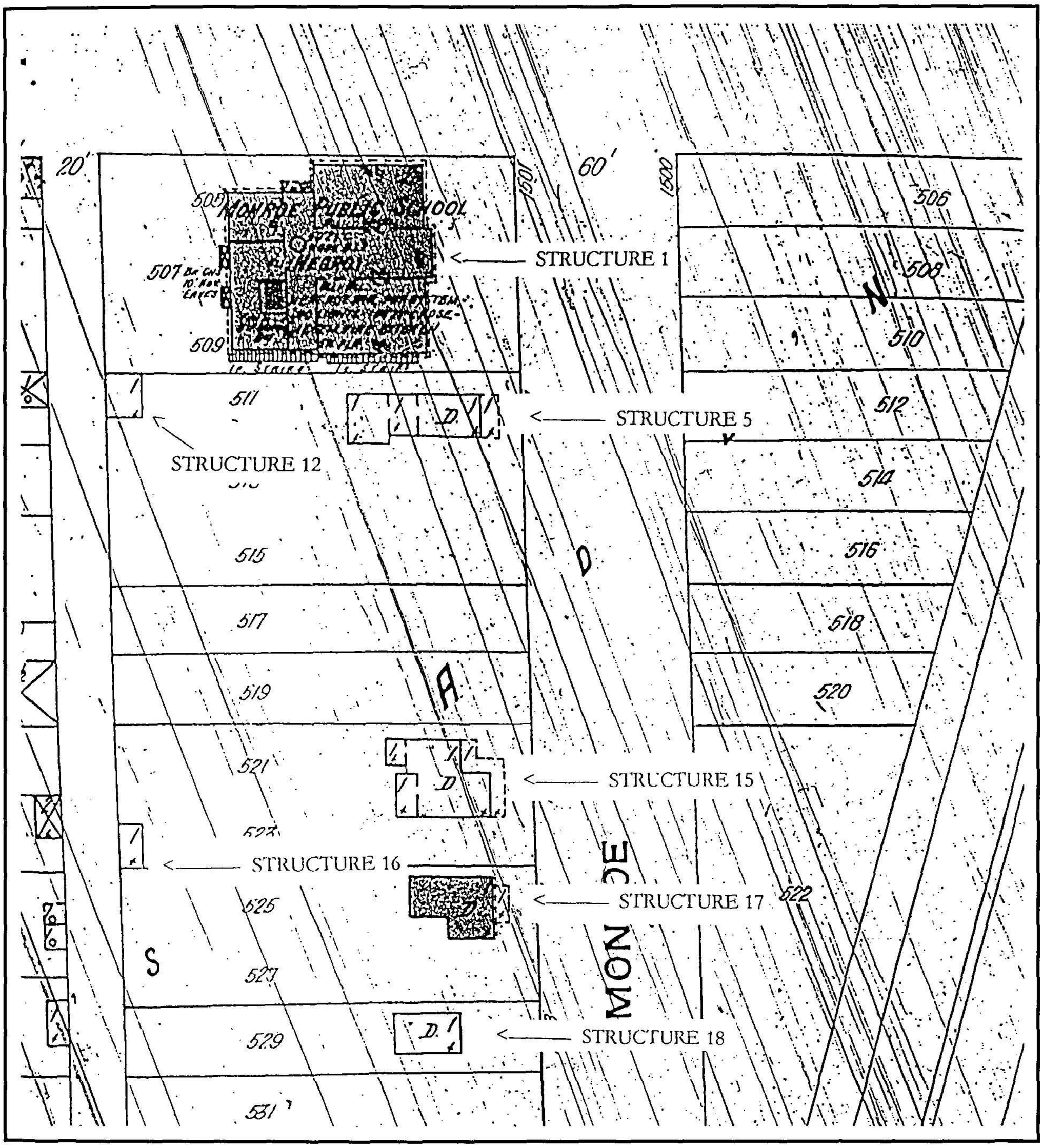

Figure 4. Map of the study area, 1913. The first Monroe School, with addition, and six other structures are present; adapted from Sanborn Perris Map Co.

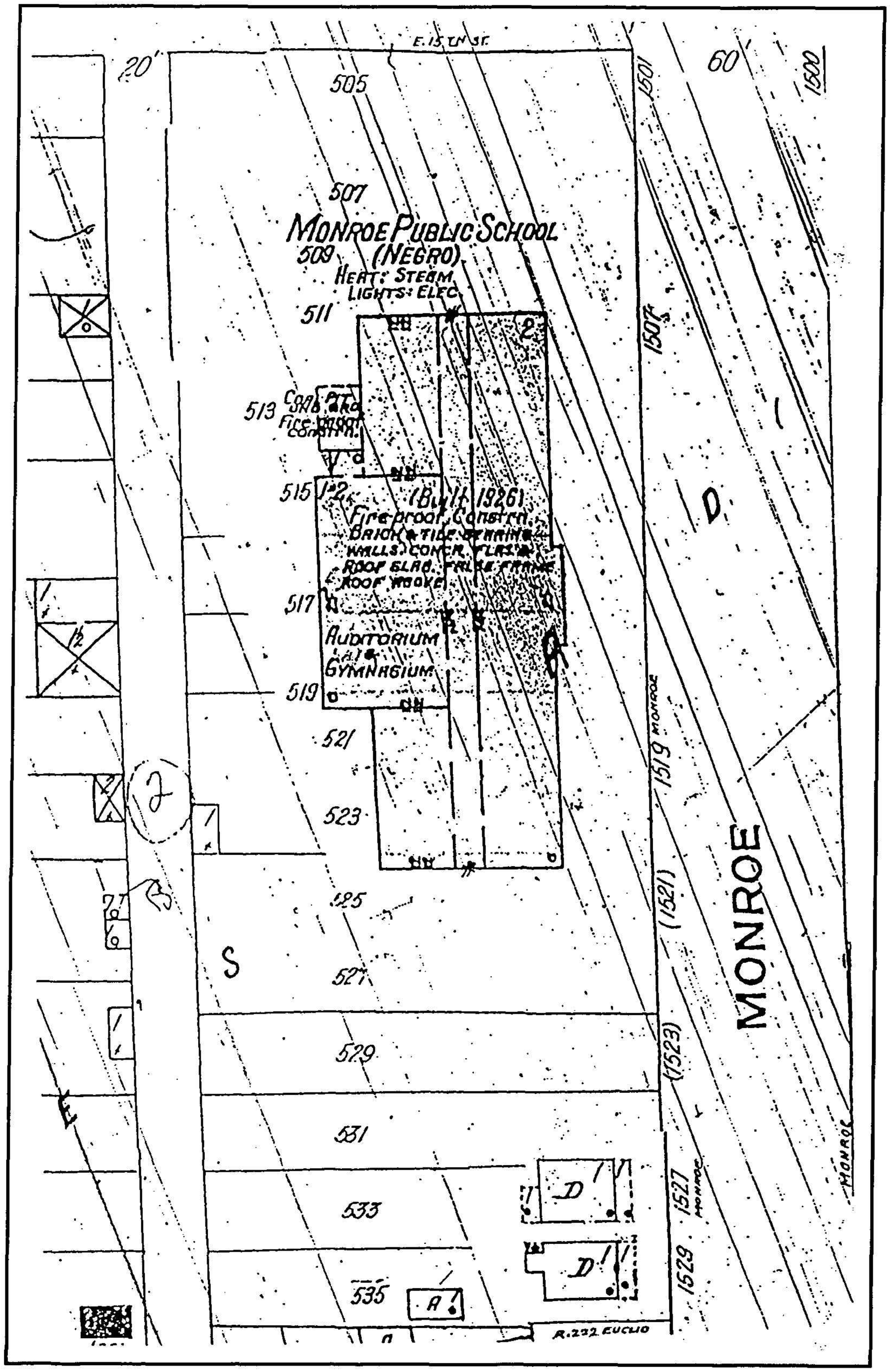

Figure 5. Map of the study area, 1945. The current Monroe School and one outbuilding are present; adapted from Sanborn Perris Map Co.

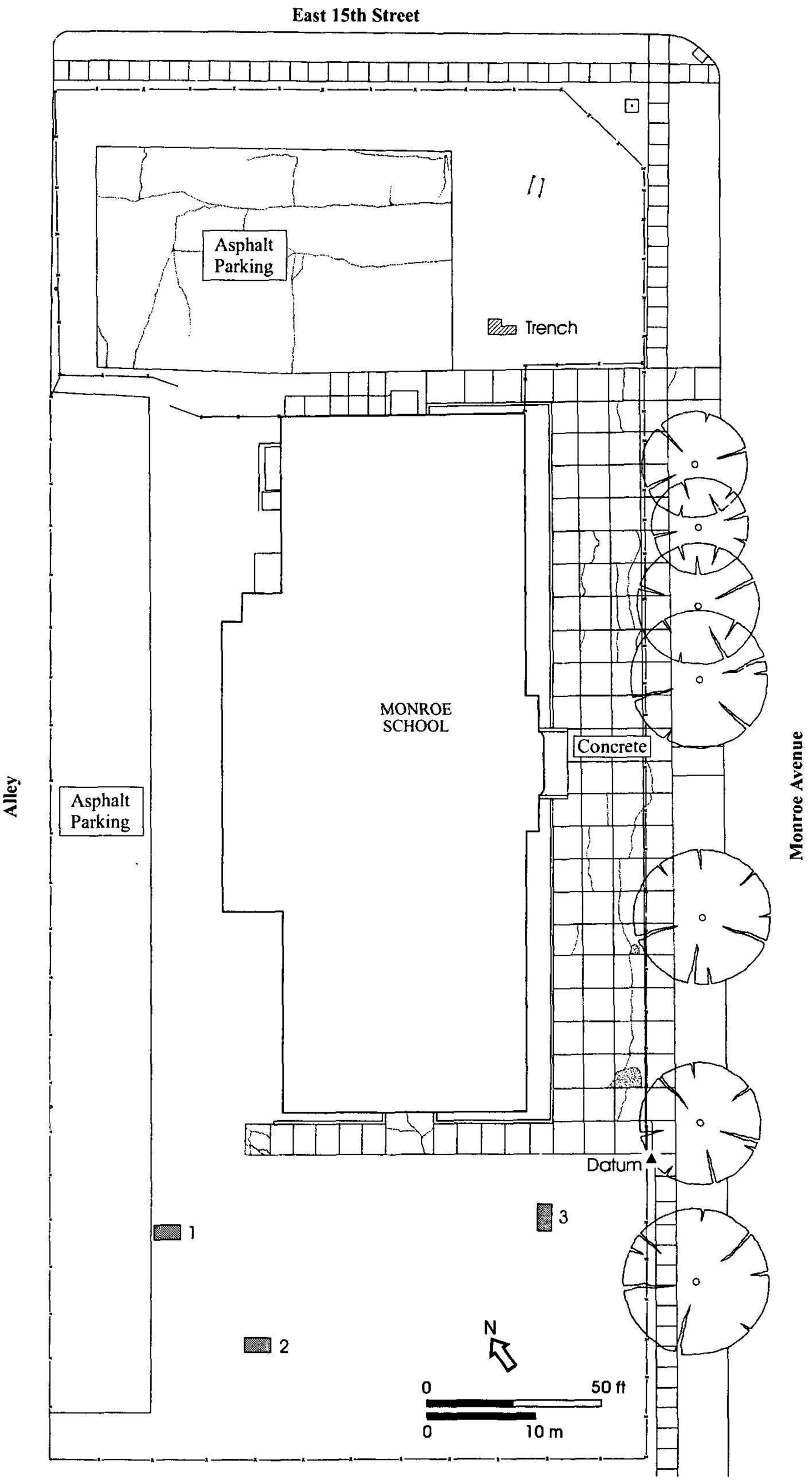

Figure 6. Map of the study area, 2000, showing the current Monroe School and test units.

Figure 7. Location of Test Unit 1; view to the northeast.

Figure 8. Location of Test Units 2 (foreground) and 3 (rear); view to the northeast.

Figure 9. Location of the trench on the north side of school; view to the southwest.

Figure 10. Concrete slab (the basement floor of first Monroe School).