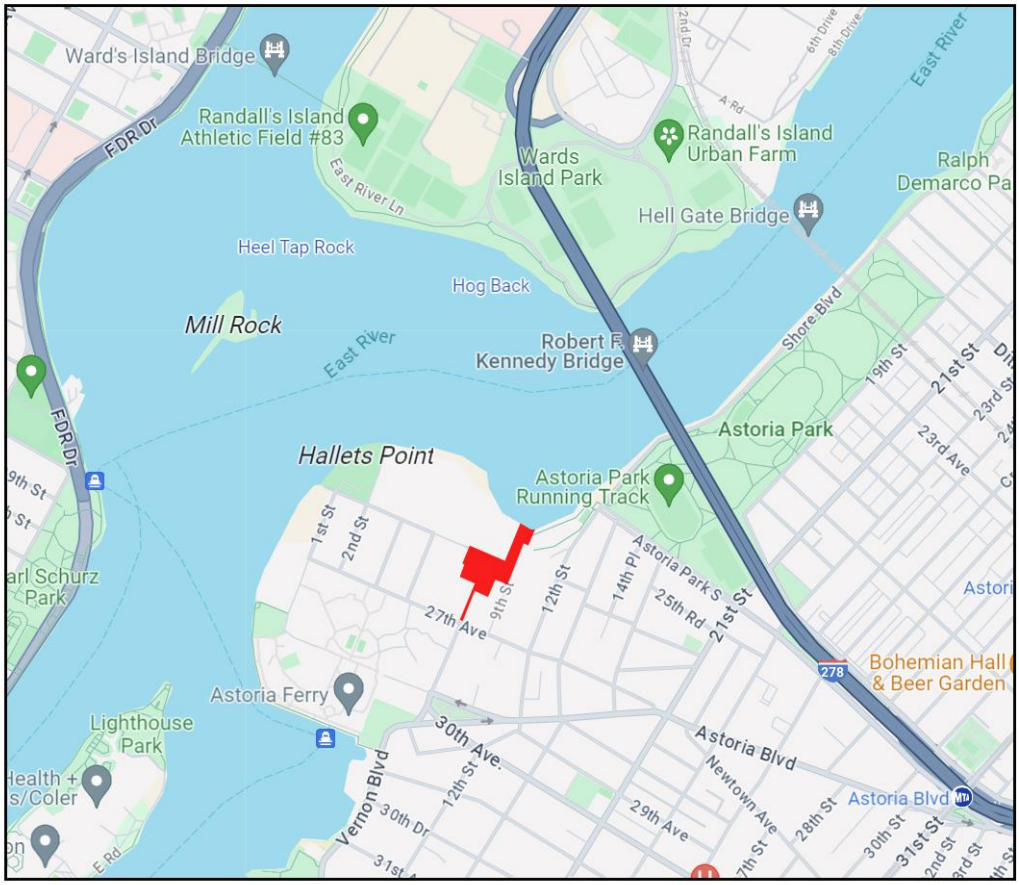
PHASE IB ARCHAEOLOGICAL TESTING

ASTORIA COVE DEVELOPMENT

Department of City Planning 13DCP127Q

Block 906, Lot 1, Block 908, Lot 12 and Block 909, Lot 35

Borough of Queens, New York



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I. EXECUTIVE SUMMARY

The Astoria Cove project site in western Astoria, Queens comprises approximately 379,023 sf of lot area on: block 906, lots 1 and 5; block 907, lot 1; block 908, lot 12, and block 909, lot 35. These blocks are located north and south of 26th Avenue (Orchard Blvd.), between 4th Street (Perrot Place) on the west, 9th Street (Wardell Street) on the east, and the 1926 U.S. pier head and bulkhead line on the East River.

The Landmarks Preservation Commission's (LPC) review of archaeological sensitivity models and historic maps indicated that there was potential for the recovery of Native American and 19th Century archaeological remains of significance on a portion of the Astoria Cove Site, including block 906, lot 1; block 908, lot 12, and block 909, lot 35. These areas of potential archaeological sensitivity are referred to in this report as the "project site".

The project site, which includes the section of 26th Avenue on block 906, lot 1, and the 8th Street easement on the upland tract, was the subject of a Phase IA archaeological assessment. The assessment concurred with the LPC's initial findings and recommended that the areas considered potentially sensitive for archaeological remains should be subject to Phase IB archaeological testing.

Phase IB archaeological testing was conducted on the Astoria Cove site between October 17 and November 15th, 2023 (Fig. 1, p. 6). We excavated five different areas using a variety of methods: trenching with a backhoe; hand excavation of shovel test pits as a method of site survey as well as in the bottom of some of the trenches, and soil borings. We found no evidence of Native American presence or of any privies or cisterns associated with the dwellings depicted on 19th century maps.

The excavations revealed that the site was extensively disturbed by successive episodes of repaving or other undocumented activity that likely occurred earlier in the 20th century.[1] The report therefore concludes that any potential archaeological remains on the project site, if present, will have been negatively impacted by these actions and would not be sufficiently well preserved to warrant additional archaeological investigation. We therefore recommend that no further archaeological testing or excavations be required on the project site.

[1] I would especially like to thank Shloime Aron and Mike Strohli for their friendly and efficient logistical support.

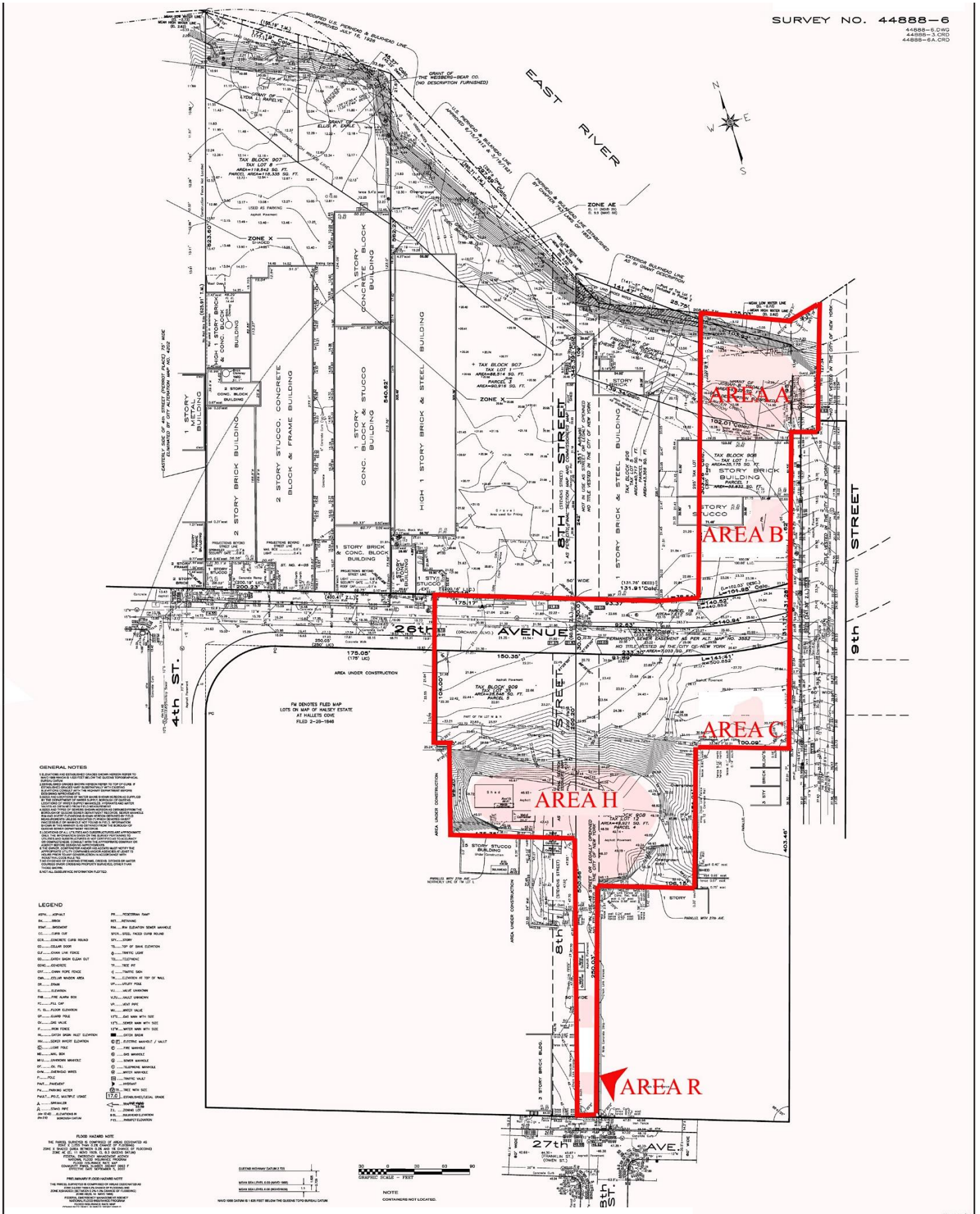

Fig. 1. Montrose Plan showing the location of the project site and the excavated areas.

Fig. 2. Architect's rendering of the proposed Astoria Cove development (Courtesy of Fogarty Finger, Joseph Frankl Architects, landscape design by Ken Smith Workshop, in conjunction with SLiM Co).

II. PROJECT DESCRIPTION AND CURRENT SITE CONDITIONS

As detailed in the FEIS (Astoria Cove 2014), the Applicant, 2030 Astoria Developers, LLC, is seeking a variety of zoning amendments, special permits, and certifications affecting an approximately 8.7-acre site in the Astoria neighborhood of the Queens Community District on block 906, lots 1 and 5; block 907, lot 1; block 908, lot 12, and block 909, lot 35. (Astoria Cove 2014, 1-1). The area of the proposed development comprises both waterfront and upland tracts.

The requested discretionary actions will facilitate a proposal by the Applicant to develop a new approximately 2,189,068 gross square foot (gsf) mixed-use development on approximately 377,726 sf of lot area. The proposed project would comprise approximately 1,689 dwelling units, of which 295 dwelling units would be affordable; approximately 109,470 gsf of local retail space, including an approximately 25,000 gsf supermarket; a site for an elementary school with approximately 456 seats (PK-5); approximately 900 accessory parking spaces, and approximately 83,846 sf of publicly accessible open space (Fig. 2, p. 7).

"The Proposed Action is intended to provide opportunities for new residential and commercial development, as well as enhance and upgrade accessibility to the area's waterfront. The Applicant intends for the Proposed Action to create opportunities for new housing development, including affordable housing, on underutilized and vacant land formerly used for manufacturing purposes where there is no longer a concentration of industrial activity and strong demand for housing exists" (Astoria Cove 2014, 1-3).

The Landmarks Preservation Commission (LPC) determined that portions of the development site were sensitive for Native American and 19th Century remains. These areas, on block 906, lot 1, block 908, lot 12, and block 909, lot 35, were the subject of a Phase IA archaeological assessment, whose conclusions concurred with the LPC and recommended archaeological testing. The areas of potential archaeological sensitivity are referred to in this report as the "project site" (Fig. 1, p. 6).

Within the project site area, there are two vacant former industrial or warehouse buildings near the waterfront, on Block 906, Lot 1, and a shed on the upland tract, on Block 909, Lot 35. Additionally, the upland area is occupied by a number of containers and a trailer, as well as a parking and storage area for vehicles and equipment. The project site also includes part 26th Avenue in the waterfront section, which is unimproved, and the unbuilt easement for 8th Street, in the upland tract. The proposed development plans to build out both streets.

Fig. 3. 1851 *Hell Gate* ... map (detail), showing the location of the project site.

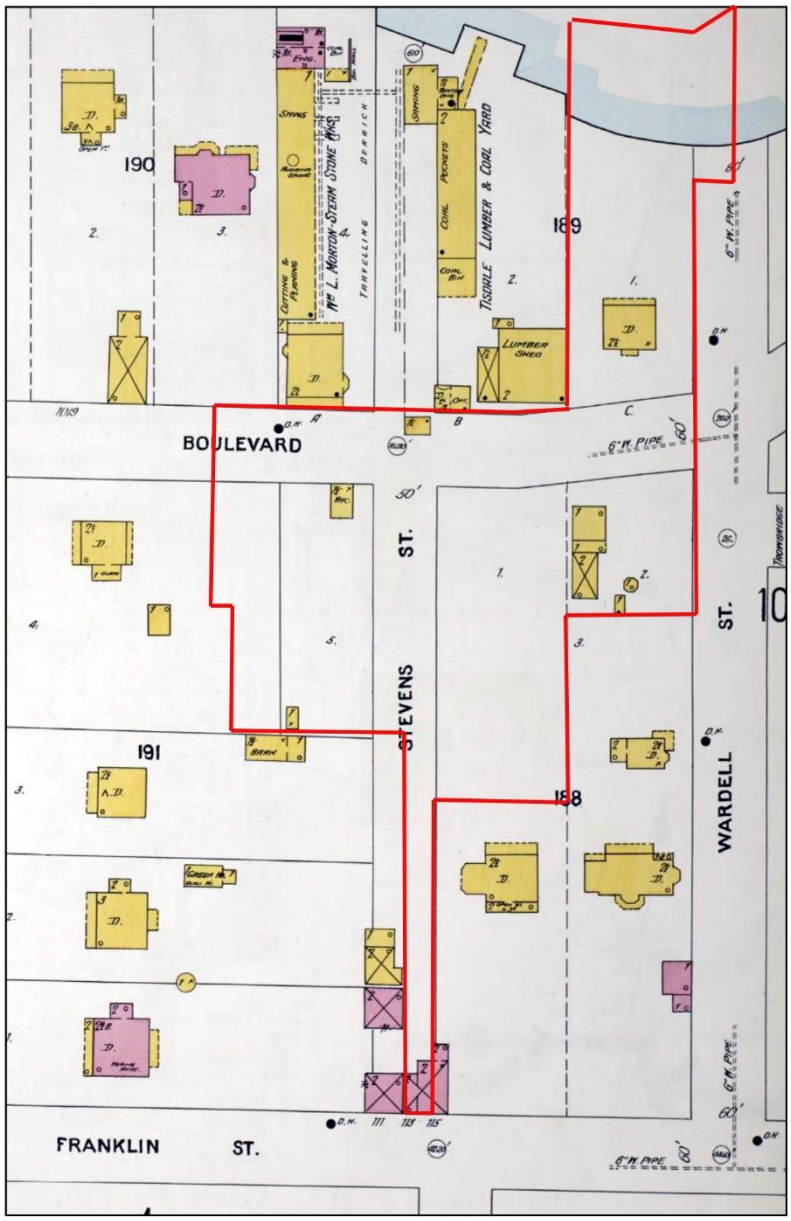

Fig. 4. 1898 Sanborn map showing the location of the project site.

III. PREHISTORIC AND HISTORIC ARCHAEOLOGICAL POTENTIAL: SUMMARY

The following is a summary of the documentary research presented in Bergoffen 2013.

The project site is located on the shore of Astoria Cove, on the northeast side of the promontory known as Hallett's peninsula. Formerly called Pot Cove, the stretch of the Hell Gate channel fronting the project site has a strong current and was full of rocks and reefs that were not blasted away until 1876 (Fig. 3, p. 9; Bergoffen 2013, 8).

The waterfront portion of the development site is in the flat plain along the coast. The upland site, to the southwest, is on a hill whose highest point, according to the Montrose Plan (MP, Fig. 1, p. 6), is about 50 feet above msl. The northern end of waterfront site on Block 906, Lot 1, north of the "1 Story Brick Building" shown on the MP, is composed of landfill. The earliest filling dates to the 1840s, following Astoria's incorporation as a village in 1839 (Colton 1836; Fig. 3, p. 9). Between 1898 and 1915, the coast along the high-water line was straightened and finally, in the 1980s the land was built out to its present extent, approximately 100 feet north of the high-water line (Bergoffen 2013, 9). Between the coast and the hill, the land rises slowly from approximately 14.0 feet above msl at the waterside, to about 30.0 feet above msl at the foot of the hill (MP).

The assessment of the project site's prehistoric potential was based on its environmental setting as well as on previous finds of Native American archaeological remains within a one-mile radius of it. In general, Native Americans were attracted to coves and estuaries, or tidal inlets that offered rich opportunities for hunting birds and for harvesting shellfish. The project site is on the shoreline at the top of Astoria Cove, where shellfish might have been collected and processed, and near a source of fresh water, the Linden Brook, which formerly emptied into Astoria Cove south of Astoria Park, to the northeast of the project site (Beers 1873; on the other side of the Shore Towers Condominium, Fig. 24, p. 35). The tract of land between the high and low water lines would have offered the ideal conditions for shell gathering. Native American place names and sites within a one-mile radius of the project site include Sunwick and Sint Sinck, both associated with localities on Hallett's Cove, and other sites recorded by early 20th century archaeologists opposite the north end of Roosevelt Island (Bergoffen 2013, 11). The hilltop might also have attracted Native Americans for its wide views over the shore and defensible position.

Hallett's point was named after William Hallett. In the 17th century, Hallett owned a large tract of land in western Astoria, including the promontory. The Halletts married the children and grandchildren of another major 17th century landowner in Astoria, Robert Blackwell. In 1753, the descendants of these families established the first ferry service to Manhattan. The pier was at the end of 30th Avenue, as shown on the 1836 Colton map (Fig. 3, p. 9). By that date, other piers had also been built on Hallett's Cove, and the village first developed on that more sheltered side of the promontory.

The earliest recorded buildings on the project site appear on the1851 *Hell Gate* map and 1852 Quilitch maps (Fig. 3, p. 9). By that date, several mansions had been built in the immediate area of the project site along later 4th Street, north of 27th Avenue and in the middle of large lots fronting on 27th Avenue, including a residence on the property of Josiah Blackwell. On the project site, there was a large building at the northeast foot of the hill and a smaller structure to the south in the later line of the 8th Street easement.

The square building formerly standing on Block 906, Lot 1, is labeled A.O. Whittmore on the 1852 Quilitch and 1859 Slator maps. By 1873, the property had been purchased by R.M.C. Graham (Beers 1873). The house is still shown unlabeled, on the 1898 Sanborn map, but was demolished by 1903 (Fig. 4, p. 10; Hyde 1903). The area became part of a Coal and Lumber business' yard.

The structure on 27th Avenue and 8th Street shown the 1852 Quilitch and 1859 Slator maps, may have been an outbuilding belonging to Josiah Blackwell, whose house stood on the lot along the east of 8th Street, or to Horace Whittmore, whose mansion stood on 27th Avenue and 4th Street from 1840 to 1965 (later owned by the La Roque family).[2] On the 1873 Beers map, a large building is shown in the same position as on the 1898 Sanborn map, seemingly on its own lot, with a second, smaller building at the rear. This second building had a wing on its north. Unlike the residences on the adjoining, larger lots, none of these frame-built buildings in the line of later 8th Street are labeled with an owner's name. In conclusion, it is uncertain whether the structure at the foot of 8th Street depicted on the 1873 Beers, 1898 Sanborn and 1903 Beers maps, is the same as the one shown on the maps from the 1850s, or not, or whether the earlier structures were residential or utility buildings (Fig. 4, p. 10). All the structures in the line of later 8th Street were demolished by 1915, and the road has remained vacant up to the present time (Sanborn 1915; Hyde 1919).

Between 1873 (Beers) and 1898 (Sanborn), a building was erected south of 26th Avenue on Block 908, Lot 12. By 1898, pipes had also been laid in 26th Avenue. It is therefore uncertain whether this building, which had a brick one story front section and a two-story frame wing at the rear, was initially equipped with a cistern or privy. The 1898 Sanborn map does however show two structures at the rear of the lot, one circular, the other rectangular, which might have served one or the other of these purposes (Fig. 4, p. 10). The main building existed until at least 1901, although the Wolverton map does not record the installations in the yard. By 1903 the lot was vacant (Beers).

The 1915 Sanborn map shows that the Tisdale Lumber & Coal Yard used the area extending south from 1 Story Brick Building for lumber storage (it was erected in 1930s, Bergoffen 2013, 18). The property was then acquired by the Morey Machine Co. Through subsequent machine shop owners, the sites of the 19th century houses were not impacted by further episodes of construction. The 8th Street easement also remained vacant after the 19th century buildings at the foot of the street were demolished, early in the 20th century.

[2] The Rococo Revival parlor from this building is on view at the Metropolitan Museum: "Architectural elements from the La Roque Manion, Astoria, New York", Metropolitan Museum website, https://www.metmuseum.org/about-the-met/collection-areas/the-american-wing/period-rooms/rococo-revival-parlor

In sum, these areas of the project site were considered potentially sensitive for significant archaeological remains because the areas where 19th century buildings once stood remained vacant after the buildings' demise, and the potential archaeological resources associated with them therefore possibly intact.

IV. FIELD TESTING REPORT

Methodology

Bergoffen 2013 recommended that five areas of the site be considered potentially sensitive for archaeological remains and that these be subjected to Phase IB archaeological testing (Fig. 1, p. 6).

Phase IB archaeological testing is recommended to assess the presence or absence of archaeological remains and, if found, to make an initial determination of their potential significance.

In practical terms, because an entire site cannot be excavated, a sampling strategy needs to be developed. Archaeological testing attempts to target the most likely parts of the site to yield archaeological remains, and within the areas of interest, to execute a sampling strategy that will yield the most representative result. The sampling strategy also considers the method of excavation, whether by hand or mechanical, or whether in test trenches, test pits, or borings, among other techniques.

In Area A, bordering the cove (Block 906, Lot 1), we were interested in determining the possible location of a shell midden, created by Native Americans in the process of gathering and harvesting shellfish. Since the original shoreline is buried under up to 20.0 feet of fill, boring was recommended to reach the relevant levels where shells might be detected in the material recovered in the drilling spoons. D.K. Drilling of N.Y. conducted the drilling and the material excavated was sampled and analyzed by geotechnical engineer Scott Mermelstein of Geo-Technology Associates, Inc. GTA Engineering Services of New York, PC.

In Area H, where our goal was to test for the presence or absence of remains associated with Native American uses of the site, we hand-excavated 37 three-by-three-foot test trenches, following the removal of the surface layer of concrete and asphalt using a backhoe. We sifted 100% of the soils removed from the trenches through a ¼ inch screen. This area straddles portions of Block 909, Lot 35 and Block 908, Lot 12.

In Areas B, C, and R, where historic maps recorded residential or other buildings and associated structures, a combination of backhoe trenching and hand excavation was used to determine the presence or absence of water or sewage installations, or other historic installations, and the nature or state of preservation of any features observed during trenching.

In Area B, on Block 906, Lot 1, we opened a large area next to the former Whittmore House, a stately brick mansion that stood shown on the 1898 Sanborn map. Our goal was to locate and trace the rear wall of the building in case the cistern was built against it, and to excavate trenches in the former backyard to search for a possibly privy.

In Area C, on Block 908, Lot 12, we excavated a trench to find a circular installation depicted on the 1898 Sanborn map in association with a building, probably a dwelling. A second part of this site, occupied by a small, one-story structure shown on the 1898 Sanborn map, could not be investigated because there were two trees growing in it.

In Site R, the continuation of 8th Street, which leads into Site H, we opened four backhoe trenches to investigate the areas between and behind the buildings that stood in this road in the late 19th century. This area was located on a portion of Block 908, Lot 12.

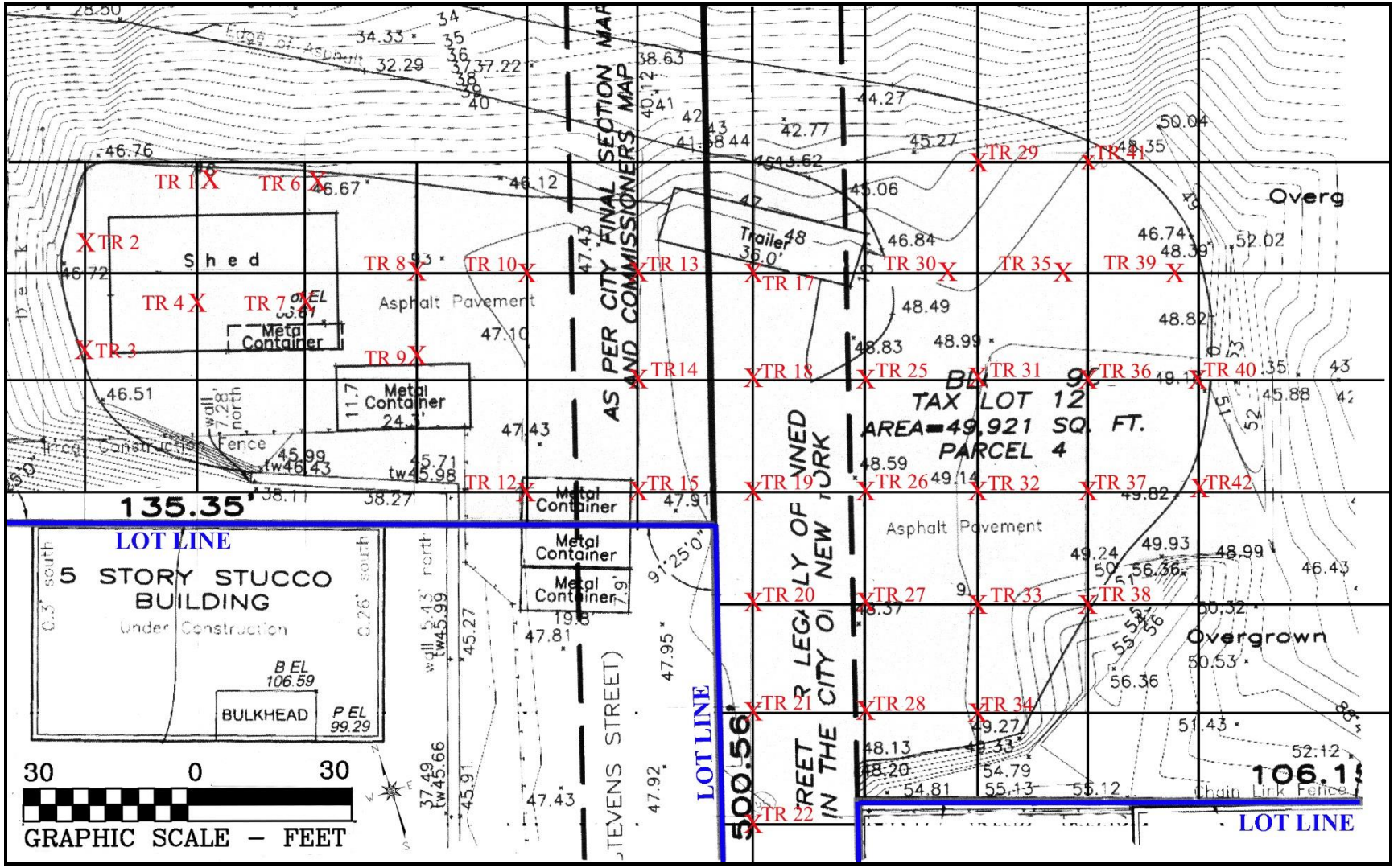

Fig. 5. AREA H – MP detail showing Area H with test trench locations added.

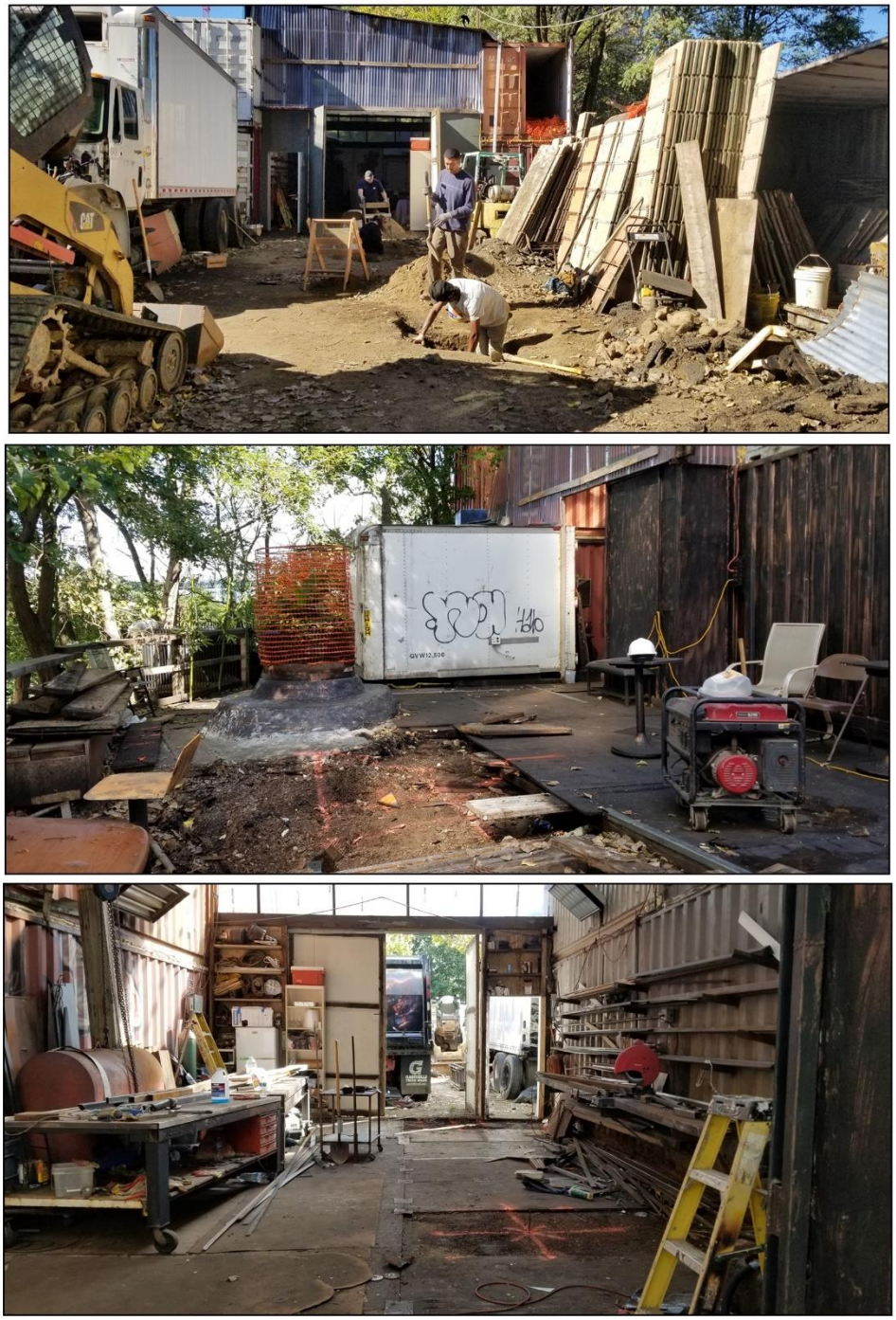

Fig. 6. (top) AREA H – The Shed, TR 8 and TR 10, looking west.

Fig. 7. (middle) AREA H – The deck behind the shed, on the western edge of the hill, TR 3 and TR 2, looking north.

Fig. 8. (bottom) AREA H – The interior of the shed, TR 4 and TR 7, looking east.

Fig. 9. (top) AREA H – View from the southeast side of the site looking west, with the 8th Street easement in the center. The area on the opposite side of the easement seen in this view is not part of the project site. TR 38 and TR 37 are in the foreground and TR 34 and TR 33 behind them. TR 32 has been backfilled.

Fig. 10. (middle) AREA H – View from the northeast part of the site looking north towards the Robert Kennedy Bridge.

Fig. 11. (bottom) AREA H – View of the east side of the site looking east.

Fig. 12. (top) AREA H – Peripheral area not tested south of the Irregular Construction Fence, looking west.

Fig. 13. (middle) AREA H – View of the hilltop from directly below, south of the line of 26th Avenue, looking south.

Fig. 14. (bottom) AREA H – Peripheral area not tested on the truck ramp at the northern hilltop edge, looking east.

1. Area H – (Block 908, Lot 12 and Block 909 Lot 35)

Thirty-six test trenches were excavated in this area between October 18th and November 10th (Fig. 5, p. 16).

Area H was on top of the hill that rises above the coastal flats around Astoria Cove. The sides of the upland here are steep on the west and north and descend more gently on the east. The ravine shown on the MP at the southwest corner is the cut made by the construction of the 5 Story Stucco Building (Fig. 5, p. 16). The remainder of the south side of the testing site joins the wider upland area between Astoria and Hallett's Coves.

The grid was planned to provide the maximum coverage of testing at 20-foot intervals, but several shovel test pits were eliminated to avoid areas of major disturbance or containers that could not be moved. Other test trenches were therefore moved to keep the testing coverage as regularly spaced as possible.

Almost the entire area was covered by concrete over a layer of asphalt and gravel, which was removed using a backhoe. Our test trenches measured three square feet and we sifted 100% of all the soil excavated. Unless we encountered large cobbles, the trenches were dug down to a maximum of 4.0 feet depth in total, as required by OSHA, or until sterile soil was reached. All the trenches were backfilled.

It should be noted that the measurements of layers within the trenches are, as usual, from the top of the paved surface. With the layer of concrete and asphalt removed, the top layer seen in the photographs is actually the second below the surface. The measuring stick in the photographs is a meter stick. One square equals approximately 4 inches.

The discussion of the individual test trenches is organized in three sectors, roughly following the order in which they were excavated. The division between the sectors splits along the line of 8th Street, with the trenches at the north end, TR 17 and TR 18, grouped with the northwestern sector; TR 19 with the northeastern, and TR 20, TR 21 and TR 22 in the southern sector.

In the northwestern sector of the site, we noted a concentration of building detritus, including rivets and wooden beams, and 20th century industrial and domestic detritus. The southern sector was largely sterile.

Buildings and fencing labeled on the Montrose Plan are referred to below by their name on that plan and capitalized.

Photographs of the test trenches are in Appendix A, arranged in numerical order for ease of finding.

Northwestern sector – TR 1, TR 2, TR 3, TR 4, TR 6, TR 7, TR 8, TR 9, TR 10, TR 12, TR 13, TR 14, TR 15, TR 17 and TR 18

This portion of the site is dominated by a Shed flanked on both its north and south sides along its entire length by containers (not shown on the MP) and a Trailer standing parallel to the edge of the hill, a short distance east of the shed (Figs. 6, 7, 8, 10, 13 and 14). A large part of the area between these structures was occupied by defunct vehicles, mechanical parts, building materials and containers (Figs. 6, 9 , 11 and 13).

The northwest corner of the testing area, where trench 1 was originally planned, had collapsed. Since this proposed test was necessarily eliminated, the next TR to the east was renamed TR 1, also because it was the first we excavated. TR 1 and TR 6 were excavated along the narrow strip left by the 8-foot-wide trailers on the north side of the Shed, above a steep slope.

To excavate TR 2 and TR 3, on the western edge of the hill, it was necessary first to remove the wooden panels from the deck that covers the hilltop edge, west of the Shed.

On the south side of the Shed, containers block the entire area between the Shed and the Irreg Construction Fence (ICF), noted on the MP, which demarcates the backyard area of the 5 Story Stucco Building (Fig. 5, p. 16 and Fig. 12, p. 19). The MP depicts only one Metal Container (MC) at the eastern end of the row backing on the ICF, and this container is now actually a few feet further east than indicated on the MP. The containers made it impossible to insert a third row of test pits along our gridline. The MC is actually located approximately 10.0 further east than shown on the MP, resulting in the loss of TR 11. In order to preserve some data, we retained TR 9, but had to move it north, as the grid ran under the immovable MC. Because several large, defunct vehicles had to be moved away to reach this location, TR 9 was actually the last STP that we excavated.

We also planned to open test trenches along our east-west grid line south of the ICF. But on re-examining this area, we concluded that it had been extensively disturbed during the construction of the 5 Story Stucco Building and was too disturbed to be suitable for test trenches (Fig. 12, p. 19). The lower stories of this building cut through the side of the hill, as shown on the MP, while the upper three stories rise above its western edge. The side of the hill cut by the Stucco Building was supported by a retaining wall that turned north approximately where the hill cut met the edge of the building's plinth.

TR 4 and TR 7 were excavated inside the Shed after removing panels from its wooden decking. We are grateful to the tenant, who graciously made way for us in his welding shop.

TR 1 and TR 6 (Fig. 36, p. 52)

These two squares were sited on the north side of the shed. TR 1 was opened on Oct. 18 and closed on Oct. 19. TR 6 was completed on Oct. 18. This part of the site was not paved.

The two containers (one stacked above the other) on the shed's north wall are 8 feet wide and run the width of the shed (Fig. 6, p. 17). The testing grid line was drawn along the edge of the hill,

which slopes down steeply at this point. The test squares were therefore dug on the narrow ledge remaining in front of the containers, TR 1 on the west, TR 6 on the east.

Both trenches were full of roots in loosely packed, crumbly dark grey-brown soil in the top layer. In both, a layer of yellowish-brown soil appeared below the dark grey-brown soil layer, between approximately 44.08 to 45.25 feet above msl. The excavation of TR 6 was impeded by a very large knotted root occupying approximately one-quarter of the trench and several large cobbles.

One late 19-early 20th century small, cylindrical medicine bottle and some metal detritus was recovered from the yellowish-brown layer in TR 6. This test square was dug to 32.0 inches below the surface on its south side, and 29.0 inches on its north side, or approximately 44.0 feet above msl.

TR 1 yielded sparse remains consisting of a few shell fragments and a few pieces of modern detritus. It was excavated to depths of 40.0 inches on its south side and 33.0 inches on its north, or approximately 43.4 feet above msl.

TR 2 and TR 3 (Fig. 36, p. 52)

These two squares were excavated on the west side of the shed, under its wooden decking (Fig. 7, p. 17).

In TR 2, the top, 5.0-inch layer of asphalt and gravel was followed by an approximately 19.0-inch thick layer of yellowish-brown sandy silt mixed with medium and large cobbles. Below this was a brown, more compact layer of a similar sandy silt with large, slab-like cobbles. This trench was excavated to a depth of 4.0 feet (42.7 feet above msl). Plastic refuse was found throughout the soils removed from this trench.

In TR 3, below a 3.0-inch layer of gravel, there was an approximately 19.0-inch thick layer of yellowish-brown sandy silt. Within this layer, up to 3.0-inch-thick deposits of gravel were unevenly distributed between 14.5 and 23.0 inches below the surface (45.5 feet to 44.8 feet above msl.) Below this came a darker yellowish-brown, finer textured sandy silt, as noted in TR 2. At the bottom of this trench, 33.0 inches below the surface (43.8 feet above msl), we encountered a metal pipe. The trench was closed at this depth.

TR 4 and TR 7 (Fig. 37, p. 53)

These two squares were excavated in the interior of the Shed, under its wooden decking, on Oct. 19 (Fig. 8, p. 17).

Both TR 4 and TR 7 had an approximately 9.0-inch layer of asphalt on the top that was removed with difficulty, using a pickaxe. Below this was approximately 1.2 feet of yellowish-brown sandy silt mixed with a great deal of grey, no doubt the residue from the asphalt. In both trenches, the sandy silt was followed by a second layer of asphalt.

In TR 4, the yellowish-brown sandy-silt layer was loosely packed and mixed with many small and medium-sized pebbles and cobbles. We noted glass, nails and other industrial and building waste.

At 3.5 feet inches below the surface, 43.4 feet above msl, we encountered a piece of pipe of rebar, indicating that we were still in modern fill and the trench was closed.

TR 7 contained a large metal beam on its west side. Industrial debris was noted throughout the trench, down to 4.0 feet depth, 42.9 feet above msl, at which point, the trench was closed.

TR 8, TR 10, TR 13, TR 17 (Figs. 37, 38 and 39, pp. 53-55)

These trenches were opened along east-west transects. The northernmost ran from approximately the middle of the shed to just in front of the middle of a Trailer (Fig. 6, p. 17).

In TR 8, the layer of yellowish-brown sandy silt mixed with grey began approximately 1.3 feet below the surface, 45.6 feet above msl. At 44.5 feet above msl, the quantity of large cobbles increased, on top of and within the following finer textured brown sandy silt layer. Metal detritus was noted throughout the deposit. A large piece of metal was encountered at 43.1 feet above msl, running across the bottom of the trench, together with large cobbles, and the trench was closed.

In TR 10, the asphalt layer was thinner than in TR 8, and the yellowish-brown sandy silt layer began approximately 46.6 feet above msl (6 inches below the surface). Large cobbles began at the top of the finer textured brown sandy silt layer, approximately 44.9 feet above msl (2.2 feet below the surface). Plastic garbage was noted throughout this layer. This trench was closed at 43.6 feet msl (3.5 feet below surface) when large cobbles blocked the bottom of the trench.

In TR 13, approximately 9.0 inches of gravel below the asphalt was followed by yellowish brown sandy silt, with many roots in it, which continued to 43.9 feet above msl (42.0 inches below the surface), where the trench was closed. There were many roots and an increase in the amount of plastic, glass and metal refuse was observed at 44.4 feet above msl. There was an embossed brick stamped “JJJ”, manufactured by the company Juan Jacinto Jova, dated ca. 1880s. We noted fragments of white ware.

In TR 17, below approximately 9.0 inches of gravel we encountered the yellowish-brown sandy silt layer. A second layer of gravel was observed at 46.8 to 45.9 feet above msl. A darker greyish-brown layer of root mat occurred between 45.9 and 44.9 feet above msl. The yellowish-brown sandy silt layer continued to the bottom of the trench, where large cobbles began to appear. The trench was closed at 44.0 feet above msl, or approximately 4.0 feet below the surface. One fragment of transfer ware was noted. Plastic was still found at the bottom of the trench.

TR 9, TR 14, TR 18 (Figs. 37, 38 and 39, pp. 53-55)

The western portion of the next transect to the south was mostly covered by containers, as noted above. TR 9 was moved north of the grid line, to the north side of the Metal Container (MC). TR 11, under the MC, which now stands approximately 10.0 feet further east, was eliminated.

In TR 9, below a layer of asphalt and gravel over 1.0 foot thick, the yellowish-brown sandy silt layer appeared. At approximately 43.9 feet above msl (3.0 feet below the surface), there were large cobbles at the top of a slightly sandier and darker layer of greyish-brown sandy silt. The trench was excavated to 42.9 feet above msl (4.0 feet below the surface), where we encountered an 8.0-

inch square metal plate. Glass, brick, nails, wire, wood and a few ceramic fragments were noted throughout the deposit.

In TR 14, the yellowish-brown sandy silt layer began approximately 8.0 inches below the gravel later and continued to a depth of 43.7 feet above msl (45.0 inches below surface). At the bottom was a darker, finer textured layer of dark yellowish-brown silty sand. Along with small amounts of mica, coke, a piece of unworked flint and clam shell, there were many tiny fragments of glass and ceramic, including green bottle glass, clear glass, whiteware, a sherd of transfer printed ware, and ceramic pipe fragments, these last found in the lowest layer. There was, however, still plastic detritus at this level, indicating that the material culture remains had been redeposited. This trench was closed at 43.4 feet above msl (4.0 feet below the surface).

In TR 18, there was a great deal of wood immediately below the approximately 9.0-inch-thick gravel layer. There were also large chunks of plaster, as well as many small stones in the yellowish-brown sandy silt layer below the gravel. A large sheet of metal lay approximately two feet below the surface. The trench was closed when a layer of cobbles was encountered, completely covering the bottom of the trench. The trench was closed at about 44.5 feet above msl (42.0 inches below the surface).

TR 12 and TR 15 (Fig. 38, p. 54)

TR 12 and TR 15, on a transect running along the south side of the northwest sector, edge of the project site, were located either side of the northernmost of three Metal Containers standing side by side.

In TR 12, below approximately 6.0 inches of the asphalt and gravel layer, a dark yellowish-brown sandy silt layer contained large cobbles and a boulder, which greatly reduced the area that could be excavated. The darker color of this layer may have been due to its moistness. At the bottom of the trench, beginning at 45.1 feet above msl (27.0 inches below the surface), there was a layer of ash and gravel fill. This trench was closed approximately 44.6 feet above msl (34.0 inches below the surface). A section of bathroom tile, a plastic bottle cap and glass were noted in the dark yellowish-brown layer.

In TR 15, below approximately 10.0 inches of the asphalt and gravel layer, the yellowish-brown sandy silt layer contained a great deal of building detritus, such as nails, glass and brick, as well as some housewares, including pieces of a printed glass vessel, the base of a bottle, a piece of white ware and further, non-diagnostic ceramic fragments. Pieces of shell were also noted. The trench closed at 43.9 feet above msl (4.0 feet below the surface).

<u>Northeastern sector – TR 29, TR 41, TR 30, TR 35, TR 39, TR 25, TR 31, TR 36, TR 40, TR 19, TR 26, TR 32, TR 37</u>

The trenches are discussed from north to south and west to east beginning at the northeastern edge of the hill. TR 16 and TR 23, sited on the truck ramp on the north side of the trailer, and TR 24, by

a metal I-beam on the east side of the trailer, were eliminated because these areas had clearly been very disturbed (Figs. 12 and 14, p. 19) . TR 30, TR 35 and TR 39 were moved 10.0 feet west to maintain more regular spacing of the trenches on this transect and to permit the excavation of TR 39, whose original grid point was underneath a container (not shown on the MP).

TR 29 and TR 41 (Fig. 42 and 45, pp. 58 and 61)

The area of these two trenches, on the northeast edge of hilltop, had to be cleared of large piles of wood and other building materials, as well as refuse before they could be excavated (Fig. 10, p. 18).

In TR 29, below the approximately 6.0-inch gravel layer mixed with many small stones and dark grey silty soil, was a yellowish-brown to brown sandy silt layer that continued to the bottom of the trench, at 42.7 feet above msl (40.0 inches below the surface), where it was closed due to obstruction by cobbles. In the top layer, we noted nails and other metal detritus, fragments of brick, plastic and glass, and two small sherds of white porcelain. In the second layer, we observed larger pieces of metal detritus and brick together with two shell fragments. A boulder in this layer obstructed about one-third of the trench.

In TR 41, the top 12.0 inches of sand and gravel were followed by a 6.0-inch-thick layer of yellowish-brown silty sand with many pebbles and small cobbles. It contained brick fragments, bottle and window glass, nails and other metal objects, including one large piece embedded in the northeastern baulk. At 46.8 feet above msl (18.0 inches below the surface), it was followed by a layer of coarser, darker yellowish-brown silty sand, which continued to the bottom of the trench, which was excavated to 45.3 feet above msl (3.0 feet in depth).

TR 30, TR 35 and TR 39 (Figs. 42, 43 and 44, pp. 58-60)

These trenches were east of the trailer, on the same transect as TR 8, TR 10, TR 13 and TR 17 (Fig. 10, p. 18).

In TR 30, below an approximately 6.0 thick layer of grey silt mixed with gravel and pebbles, was a layer of yellowish-brown sandy silt, which continued to approximately 25.0 inches depth or 45.9 feet above msl. This layer contained bone and shell fragments and shards of glass and ceramic. This layer of redeposited material was followed by dark brown silty sand, which we excavated to 45.5 feet above msl (30.0 inches below the surface), where the trench was closed due to obstruction by medium-sized and large cobbles.

In TR 35, the gravel layer was approximately 12.0 inches thick. This was followed by yellowish-brown sandy silt, which continued to approximately 46.3 feet above msl (20.0 inches below the surface). Plastic refuse and a concrete floor were encountered 45.3 feet above msl (32.0 inches below the surface), with a pipe running underneath it. This trench was closed at this level.

In TR 39 contained fragment of shell, ceramic and glass in the top layer of grey soil. The second layer, composed of yellowish-brown sandy silt, was excavated to 46.7 feet above msl (24.0 inches below the surface). In this layer we noted a glass bottle rim and non-diagnostic ceramic fragments.

The trench was closed at this level when we encountered a large piece of chain-link fence lying across the bottom of the square.

TR 25, TR 31, TR 36 and TR 40 (Figs. 41, 43 and 44. Pp. 57, 59 and 60)

These trenches are on the same transect as TR 14 and TR 18 (Fig. 11, p. 18).

In TR 25, below the asphalt and gravel layer, there was a great deal of wood building material in a matrix of reddish-brown soil containing many pebbles and small cobbles. This layer, between 47.5 and 46.8 feet above msl (16.0 and 24.0 inches depth), was followed by dark grey sandy silt, from approximately 46.8 to 46.4 feet above msl. Near the bottom of this layer, we found animal teeth (sheep/goat?) and ceramic fragments. Below 46.4 and the bottom of the trench, at 45.8 feet above msl, there was brown sandy soil with larger cobbles, possibly virgin soil. There were no finds in the lowest layer.

In TR 31, the top 11.0 inches contained greyish-brown silt mixed in with the gravel of the asphalt bed. This was followed by 8.0 inches of yellowish-brown sandy silt. At approximately 46.6 feet above msl (19.0 inches below the surface), we encountered a layer of brown silty sand. Industrial detritus was found throughout these layers, including window glass and construction debris, also a tire embedded in the northwest corner of the trench. At the bottom of the trench was a very large slab-like stone. This trench was closed at 46.9 feet above msl. (25.0 inches below the surface).

In TR 36, below 12.0 inches of gravel and sand we reached the yellowish-brown sandy silt layer, which continued to about 20.0 inches depth, 48.4 feet above msl. This was followed by brown sand topped by a few medium-sized cobbles. In the gravel layer there were hand made nails, tile, and glass fragments. One piece of ceramic was found in the yellowish-brown sandy silt layer. The lowest layer was devoid of finds down to 45.6 feet above msl (35.0 inches below the surface), where the trench was closed.

In TR 40, at 7.0 inches the surface, 46.6 feet above msl, there was a lens of black clay within the very dark grey gravel and sand fill layer, which continued to 16.0 inches depth. Below it was yellowish-brown silty sand mixed with many small- and a few medium-sized cobbles. This layer contained some ceramic sherds, among them a fragment of transferware, and pieces of metal. This continued to 46.5 feet above msl (33.0 inches below the surface), where brown sand appeared. This lowest layer was devoid of finds. It was excavated to 45.9 feet above msl (40.0 inches depth), where the trench was closed.

TR 19, TR 26, TR 32 and TR 37 (Figs. 41 and 44, pp. 57 and 60)

These trenches are on the same transect as TR 12 and TR 15, from within the line of 8th Street eastward (Fig. 9, p. 18).

In TR 19, below approximately 6.0 inches of asphalt and gravel, we encountered a layer of yellowish-brown sandy silt, approximately 1.0 foot in depth, containing many pebbles and small cobbles and one piece of porcelain. This was followed by approximately 4.0 inches of reddish-yellow sandy silt over a layer of greyish-brown sandy silt, neither containing any artifacts. Large

cobbles blocked the square at approximately 25.0 inches below the surface, and the trench was closed at this depth, 45.9 feet above msl.

In TR 26, below approximately 9.0 inches of asphalt and gravel, was a layer of yellowish-brown sandy silt, somewhat coarser and sandier than observed in the other trenches and containing many small, medium, and large cobbles. This layer continued to the bottom of the trench, which was closed at 3.0 feet below the surface, 45.6 feet above msl. Aside from one small piece of glass and a sliver of ceramic, there were no finds.

In TR 32, there was a layer of greyish-brown sandy silt below the asphalt and gravel, down to approximately one foot below the surface. This layer contained a paper-like material, possibly degraded linoleum, fragments of glass, roofing material and metal detritus. This was followed by a layer of reddish-yellow silty sand which continued to the bottom of the trench, which was closed at 3.0 feet below the surface, 46.1 feet above msl. This layer contained large cobbles.

In TR 37, the first 11.0 inches were composed of grey soil fixed with gravel and small stones. This was followed by a layer of yellowish-brown sandy silt mixed with cobles. At approximately 22.0 inches below the surface, 48.0 feet above msl, was a layer of sandy yellowish-brown soil. Except for three small pieces of ceramic found near the top of the surface layer, including white ware and one of transferware, at 48.6 feet above msl, there were no finds in the lower layers of this trench, and it was closed at 47.1 feet above msl (32.0 inches below the surface).

Southern sector – TR 20, TR 27, TR 33, TR 28, TR21, TR 28, TR 34, and TR 22.

TR 20, TR 27, TR 33, and TR 38 (Figs. 40, 41, 43 and 44, pp. 56, 57, 59 and 60)

These trenches are on an east-west transect beginning in the line of 8th Street, continuing eastwards to the edge of the hilltop (Fig. 9, p. 18).

In TR 20, below approximately 9.0 inches of the asphalt and gravel layer, we encountered a reddish-yellow sandy silt layer that continues to approximately 29.0 inches below the surface, 45.5 feet above msl. There were many large cobbles in this layer and the following reddish-brown sandy silt layer, possibly virgin soil. Except for one small glass shard in the reddish-yellow sandy silt layer, this trench was devoid of material culture remains. The trench was excavated to 44.0 feet above msl (4.0 feet below the surface).

In TR 27, below approximately 10.0 inches of asphalt and gravel, the yellowish-brown sandy silt layer contained many pebbles and small cobbles, though fewer than the trenches north of it, TR 26 and TR 25. At 22.0 inches below the surface, 46.6 feet above msl, we encountered a coarser, reddish-brown layer that appeared to be virgin soil. A few small pieces of glass were noted in the gravel layer, and a piece of metal, but there were no finds below these. The trench was closed at 45.5 feet above msl (33.0 inches below the surface).

In TR 33, the yellowish-brown sandy silt layer continued to 18.0 inches below the surface, 47.6 feet above msl, followed by a layer of yellowish-red sand mixed with cobbles to about 47.0 feet above msl. Below this layer, yellowish-brown sand with some gravel continued to 46.2 feet above msl (36.0 inches below surface), where the trench was closed. We noted a piece of graphite, impressed glass and metal hardware.

In TR 38, the 13.0-inch gravel layer was followed by very dark greyish-brown sandy silt filled with large rocks, whole bricks and brick fragments, plastic, and metal construction detritus. This trench was excavated to 48.0 feet above msl (3.0 feet below the surface).

TR 21, TR 28, TR 34 (Figs. 40, 41 and 43, pp. 56, 57 and 59)

These trenches are on an east-west transect beginning in the line of 8th Street and continuing eastwards to the edge of the hilltop.

In TR 21, below approximately 9.0 inches of the asphalt and gravel layer, the soil was reddish-brown with greyish-brown lenses and a great deal of gravel and small stones. This layer also contained some medium-sized cobbles. At approximately 31.0 inches depth, 45.4 feet above msl, we encountered greyish-brown silty sand, possibly virgin soil. There were no finds in this trench, which was closed at 44.7 feet above msl.

In TR 28, below approximately 12.0 inches of the asphalt and gravel layer, there was a layer of coarse, reddish-yellow sand mixed with gravel and medium-sized cobbles. A piece of slag was noted but otherwise there was no construction debris or other material culture remains in this trench. The trench was closed at 45.0 feet above msl (3.0 feet below the surface).

In TR 34, the layer below the approximately 8 inches of asphalt and gravel was the yellowish-brown sandy silt mixed with brownish-grey loosely packed silty sand containing many pebbles and small cobbles together with brick detritus, woven cloth bagging, a fragment of an oyster shell and plastic, probably all redeposited material. Approximately 47.3 feet above msl (2.0 feet below the surface), the soil became sandier and slightly darker in color. In this layer we noted more woven cloth bagging, fragments of glass and ceramics and a ceramic pipe stem. This trench was closed at 46.3 feet above msl.

TR 22 (Fig. 40, p. 56)

This trench was excavated in the line of 8th Street, south of TR 21. There were a number of glass fragments and metal hardware in the yellowish-brown sandy silt layer, which began approximately 9.0 inches below the surface layer of asphalt and gravel. At 45.7 feet above msl (2.0 feet below the surface), the soil shaded to reddish-brown and the texture became coarser and sandier with more pebbles and small- and medium-sized cobbles in it. Since there no finds, down to 3.0 feet depth, this may have been virgin soil. The trench was closed at 44.7 feet above msl.

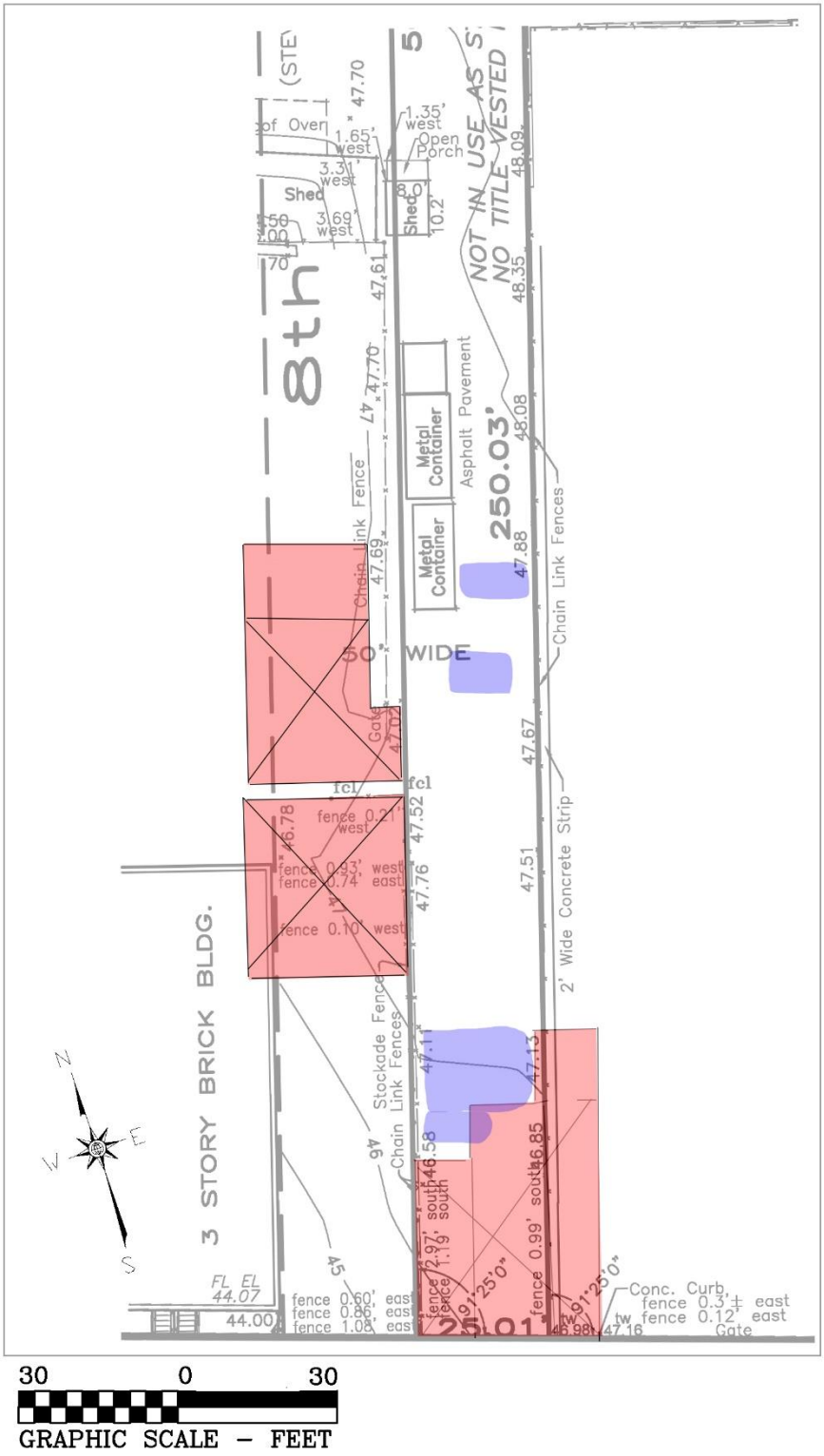

Fig. 15. AREA R – MP detail showing the location of the 19th c. buildings and The excavation trenches .

Fig. 16. (top) AREA R – View of the 8th Street Easement looking north from the south end of the Road.

Fig. 17. (bottom) AREA R - View of the 8th Street Easement looking south from Area H.

Fig. 18. (top) AREA R - View of the excavation with 27th Avenue at the top (south).

Fig. 19. (middle) AREA R – View of trench 2 at the end of excavation, looking southwest.

Fig. 20. (bottom) AREA R – View of trench 3 at the end of excavation, looking southwest.

2. Area R – (8th Street / Stevens Street Easement)

This area was excavated on November 2nd and November 15th.

Area R is an approximately 25 foot-wide accessway leading north into our area H (Figs. 16 and 17, p. 30). The purpose of the excavations here was to test for the presence or absence of a privy or cistern associated with the buildings depicted on 19th century maps in the eastern half of the 8th Street Easement, discussed in Section III, above. These features were not located, nor did we observe any other historic archaeological remains in this area that would warrant further investigation.

With a backhoe, we first opened an approximately ten-foot-wide trench across the road, beginning on its west side (Fig. 15, p. 31). This location was judged to be at, or near, the rear, northern wall of the building fronting on 27th Avenue. We excavated to five feet in depth, finding only brownish-yellow sand below two layers of asphalt and gravel on the top. At the bottom of the trench, we reached a layer of brown soil filled with small stones. No material culture remains were noted. At the northeastern edge of this trench we encountered part of a curving metal pipe.

To excavate the pipe and any features possibly associated with it, the first trench was backfilled so the backhoe could manoeuvre in the narrow road. We opened an area approximately 14.0 feet north-south and extending across the eastern two-thirds of the roadway (Fig. 18, p. 31). We used a combination of backhoe and hand excavation in this trench. The south end of the pipe was inserted into a rectangular, cut stone block while its curved end terminated in a trough-like spout of molded concrete. South of the pipe was a tumbled row of large, block-like cobbles, possibly once part of a wall. These features lay in dark brown soil. We noted a few pieces of brick and a handful of artifacts consisting of fragments of glass bottles and non-diagnostic ceramic shards. On the eastern half of the area, the soil was yellowish-brown sandy silt. The trench was excavated to a depth of approximately two feet but no other intact features were found. The pipe does not appear to have been associated with a building. We concluded that the area was disturbed by the street repavings or other in-ground work, such as the laying of the pipe.

We opened two further trenches in the road to the north, at the rear of the second group of buildings that once stood west of the project site, on the western half of the 8th Street easement.

The southern of the two trenches, measuring approximately 10.2 feet east/west and 8.0 feet north/south, was filled with reddish-yellow silty sand below the asphalt. We excavated to 42.9 feet above msl, or a depth of about 5.0 feet in this layer without observing any material culture remains (Fig. 19, p. 31).

The northern of the two trenches measured approximately 9.0 feet east/west by 8.0 feet north/south (Fig. 20, p. 31). Below the asphalt was an 8.0 to 12.0 inch thick layer of reddish-yellow silty sand filled with small and medium-sized stones. One larger cobble and a possible stone building block were also noted in this layer. This was followed by clean sand, as in the previous trench. At the bottom of the trench, approximately 43.9 feet above msl, we reached a layer of small cobbles in a light grey silty soil matrix. No material culture remains were noted.

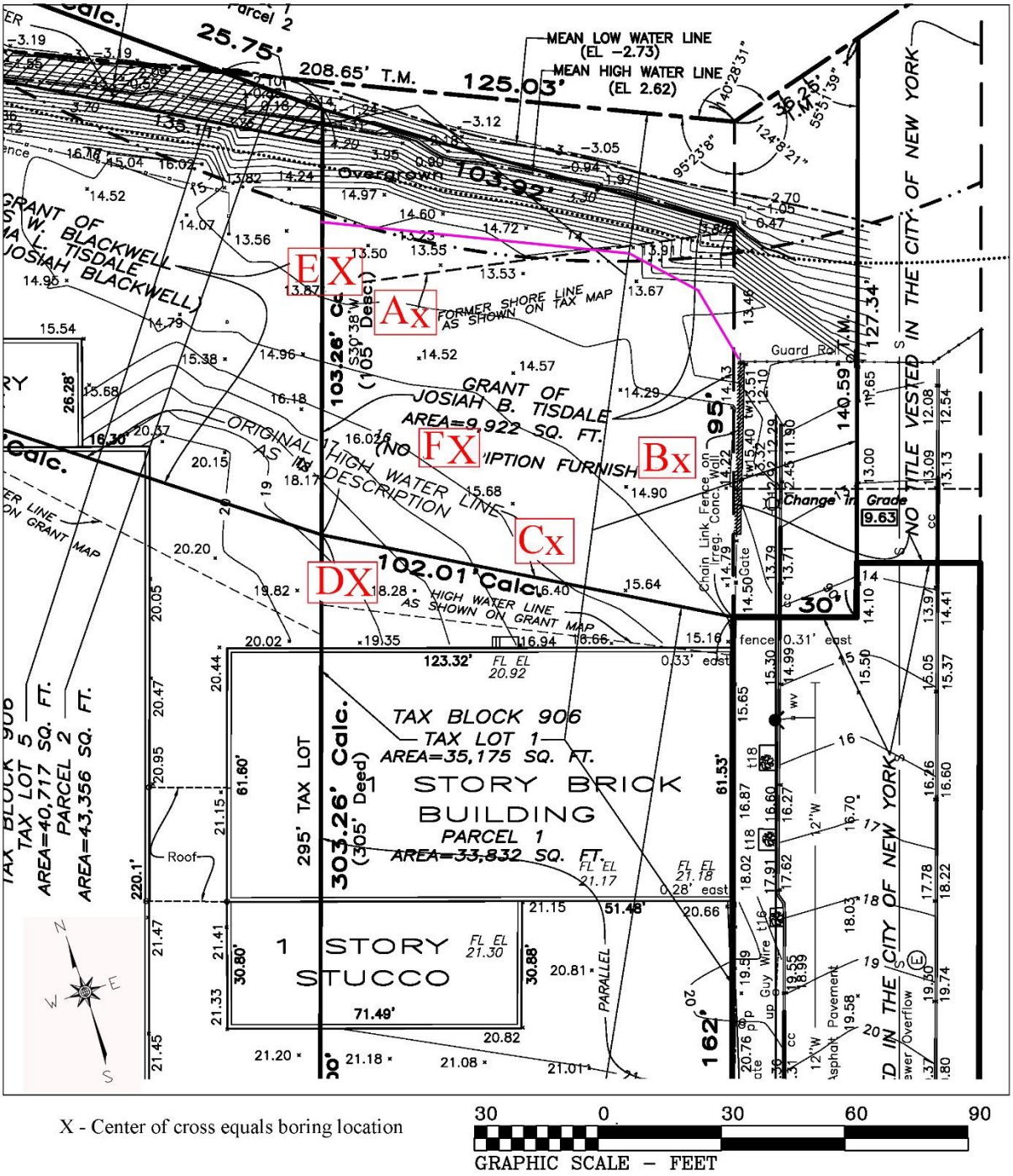

Fig. 21. AREA A – MP detail showing the location of the test trenches.

Fig. 22. (top) AREA A – View of Area A from near the northeast corner looking west.

Fig. 23. (bottom) AREA A - View of Area A from the east looking northwest.

Fig. 24. (top) AREA A – View of the northeast corner of Area A looking northeast with the Shore Towers Condominium on the right.

Fig. 25. (middle) AREA A – View of Astoria Cove from outside the northeast corner of Area A, at the end of 9th Street, looking northeast.

Fig. 26. (bottom) AREA A – View of Area A from outside the northeast corner, looking west.

3. AREA A - (Block 906, Lot 1)

This area was tested on November 6th and 7th.

This area is located at the shore, on the north side of the 1 Story Brick Building. One road on the west side of the building leads into it. The shore side is blocked by wooden fencing continued with the addition of chain-link fencing along the line of 9th Street, near the top of the cove (Figs. 22 to 26, pp. 34 and 35). This seemed like a prime location for a Native American shell collection and processing, which would be evidenced by a shell midden. The plot was repaved several times but aside from stray vegetation and some building detritus, it was clear. We conducted soil borings to reach the level of the original shore below the up to 20.0 feet of fill in this area to test whether shell deposits were present or not. The result was negative, with virtually no shell retrieved in the borings.

The borings were sited arbitrarily, with points both at the upper and low water marks, as indicated on the MP (Fig. 21, p. 33). The last boring, EX, was however shifted to the northwest corner of the site at the suggestion of S. Mermelman, who thought this might be a more promising location for finding shells. I thank him for his interesting observations.

The depth of the borings, ground water and record of the soil types are presented in S. Mermelman's report, submitted by D.K. Drilling and attached here as Appendix A.

C. Bergoffen observed the drilling and examined all the material removed in the process. The following is a description of the material culture remains and some environmental conditions observed in the cores.

Boring A (B-1)

This boring contained building detritus, including brick fragments, nails and other hardware. At 9 feet in depth, we encountered three paper-think laminations of shell in the core, above a second level of concrete at 10 to 12 feet in depth. A piece of plastic was still found at 18 feet below the surface, below the waterline. It At 18 to 20 feet in depth, the black clayey deposit was mixed with an oily residue. The boring was terminated at 20.0 feet in depth, about 5.5 feet below msl.

Boring B (B-3)

There was some brick detritus between 2.0 and 4.0 feet depth, followed by concrete at 5.0 to 5.6 ft depth. The core from 8.0 to 10.0 feet depth contained a tiny fragment of white porcelain. Small fragments of brick debris continued to 16.0 feet in depth. The boring was terminated at 20.0 feet depth, about 5.1 feet below msl.

Boring C (B-4)

Here too, brick detritus occurred between 2.0 and 4.0 feet depth, with a layer of concrete at the bottom. The boring was terminated at 20 feet in depth, about 4.4 feet below msl.

Boring D (B-5)

Concrete and coal were noted from the surface to 8.0 feet depth. An odor of oil or other industrial substance was noted at 16.0 feet in depth. Boring was terminated at 20.0 feet in depth, about 1.7 feet below msl.

Boring E (B-6)

This boring was the closest to the shoreline. Like Boring F, it retrieved a great deal of concrete and asphalt as well as material including brick and wood. A thick layer of concrete lay between 12 to 14 feet. At 16 to 18 feet depth, the drill reached a layer of black mud smelling faintly of oil. The drill operator claimed that the last spoon reached a depth of twenty-four feet or about 10.5 feet below msl.

Boring F (B-2)

This boring revealed three separate layers each of asphalt and concrete. The test location had to be moved twice because the drill could not go through. On the third attempt, an augur was used to drill through the concrete. The sixth layer of concrete was encountered at 6.5 feet depth. Brick and asphalt were noted at 8.0 to 10.0 feet depth, followed by a concentration of coal fragments, at 10.0 to 12.0 feet depth. Weathered rock was reached at 14.0 to 16.0 feet in depth, the first undisturbed layer. The boring was terminated at 20.0 feet depth, or about 4.3 feet below msl.

Fig. 27. AREAS B & C - View of Areas B and C from the northwestern edge of the hilltop, looking east.

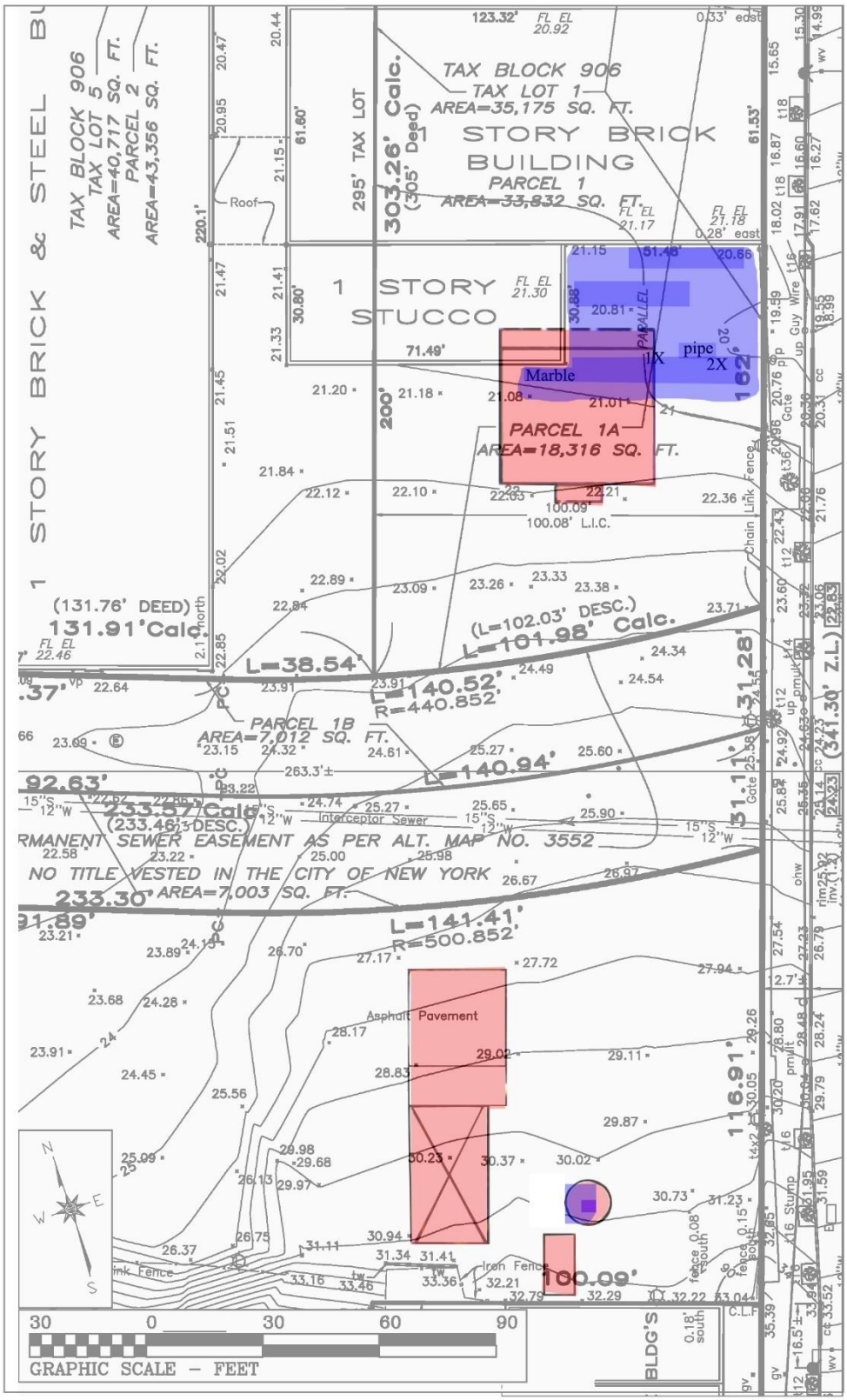

Fig. 28. AREAS B and C – MP detail showing the location of the former buildings and the excavation trenches .

Fig. 29. (top) AREA B – View from near the southeast corner of the area looking west.

Fig. 30. (bottom) AREA B – View of the excavation trench in the middle of Area B looking west.

Fig. 31. AREA B – View of the southwest corner of the excavation with the marble fragments, looking east.

Fig. 32. AREA B – View of the row of stone blocks at the north edge of the Very dark grey soil looking east.

Fig. 33. (top) AREA B – STP 1 at the end of excavation.

Fig. 34. (bottom) AREA B – STP 2 at the end of excavation.

4. Area B – (Block 906, Lot 1)

This area was excavated November 9th-10th and 13th-14th.

Area B was in the vacant paved yard south of the 1 Story Brick Building, between its 1 Story Stucco wing and the east lot line, continuing in a narrow section south of the stucco building along its south façade (Figs. 27 and 28, pp. 38 and 39). We excavated this area using a backhoe and by hand to locate an outer wall of the Whittemore house and to test for the presence or absence of a privy and / or cistern associated with this residence.

The pavement over the site was approximately 1.2 feet thick and had to be removed by a large backhoe (Fig, 31, p. 41). Because of the difficulty in breaking through the concrete, rather than attempting to open three separate trenches as originally planned, the pavement over the entire area was peeled off, together with the gravel bed beneath it.

Immediately under the concrete, we observed a layer of very dark grey to black soil. This was clearly demarcated from the rest of the area, which was made up of reddish-yellow sand full of small stones (Fig. 29, p. 40). The very dark grey silt layer covered the narrow section exposed in front of the stucco building, which was approximately 12.0 feet wide, extended north just beyond the building's southeast corner and continued east across the yard to the east lot line.

We used the backhoe to clean the top of the dark grey silt area in a long E/W trench near the south edge of the exposed area, running from the western end in front of the stucco building to the east lot line. In the narrow section in front of the stucco building we observed many fragments of broken marble pavement with some slabs of slate, and four small, circular marble slabs that may have been used in the Whittemore house (Fig. 31, p. 41). We continued excavating this section by hand and determined that the marble and other paving fragments were not *in situ* but merely building detritus. This section ended approximately on a line with the east façade of the stucco building in a heap of medium-sized cobbles.

We excavated two east/west backhoe trenches in the yellowish-red sand, one against the south wall of the 1 Story Brick Building, the other approximately in the middle of the yard, and found that the sand layer was more than 3.0 feet deep (Fig. 30, p. 40). In the backhoe trench against the wall of the 1 Story Brick Building, below the yellowish-red sand, was a layer of dark brownish-grey sandy silt with some brick detritus and pieces of coke in it. This trench was excavated to a depth of approximately 3.0 feet below the pavement. 17.9 feet above msl. In the second trench, the same brownish-gray sandy silt layer appeared about 2.4 feet below the pavement, 18.4 feet above msl, below the yellowish-red sand. The brownish-grey layer, which was approximately 6.0 to 8.0 inches thick, still contained some brick fragments. Below this we reached a layer of very dark grey to black sandy silt in which no material culture remains were observed. The closing depth of this trench was approximately 17.5 feet above msl (3.2 feet below the pavement). The difference in the depth of the brownish grey layer in the two trenches may reflect the natural slope northward, towards the cove.

Near the southern edge of reddish-yellow sand, approximately one foot north of the dark grey silt layer a loose section of two-inch pipe was exposed by the backhoe and then excavated further by hand (Fig. 32, p. 42). In this trench, the first of a series of large stone blocks was encountered. Some of these were scored on one side with narrowly spaced grooves.

We continued excavating by hand along the edge of the dark grey silt layer, where it met the reddish-yellow sand and found further large stone blocks on this line and many segments of wood, the longer pieces running parallel to the edge of the dark grey silt (Fig. 32, p. 42). Wooden planks or beams were also strewn in other parts of the dark grey silt layer. The Tisdale Lumber Co. used this area as a lumber storage yard, as shown on the 1915 Sanborn map, which noted "Lumber Piles" across the entire area. The stone blocks were placed approximately in a row along the north edge of this layer, but the different angles in which they were set indicated that they were not in their original position. We observed some pieces of a fabric-like material within the dark grey silt, also suggesting that this deposit had been disturbed. Behind the row of large blocks (south), within the dark grey silt layer, we noted a concentration of roughly dressed stone slabs of various sizes, some of which may have been used as building materials.

We opened a three-foot-square test square across the intersection of the dark grey silt and reddish-yellow sand to investigate the relationship between the two deposits (STP 1, "1X" on Fig. 28, p. 39). The west baulk of STP 1 showed the reddish-yellow sand running over the dark grey silt, confirming that at least a portion of the sand was redeposited from another part of the site (Fig. 33, p. 43). Decayed wooden beams lay across the north edge of STP 1, parallel to the edge of the dark grey silt deposit. STP 1 was excavated to a depth of approximately 18.0 feet above msl.

We excavated an area by hand at the bottom of a shallow backhoe trench within the dark grey silt deposit, south of the line of blocks, near the southeast corner of the exposed area (STP 2, "2X" on Fig. 28, p. 39). We determined that the dark grey silt layer was up to two feet thick in this area and that it lay over a layer of light brown silty sand filled with many stones (Fig. 34, p. 43). Near the bottom of the dark grey silt layer, we observed a concentration of brick detritus.

In sum, it appeared that the debris may have been lying partly where it fell and partly spread around in the very dark grey silty layer possibly when the area was leveled for paving. Some of the building detritus may have come from the Whittemore house, while the copious amount of decaying wood was probably left over from the decades when the area was used as a lumber yard.

Fig. 35. (top) AREA C – View of the test trench looking north.

Fig. 36. (bottom left) AREA C – The clinker and slag layer around the excavation square below the concrete, and the yellow sand within the trench below it.

Fig. 37. (bottom right) The test trench at the end of excavation.

5. Area C – (Block 908, Lot 12)

This area was excavated and backfilled on November 13th.

The 1898 Sanborn map recorded two backyard features in this location (Fig. 4, p. 10). These were built after 1873 (Beers) and demolished by 1903. One was a small circular structure, located east of the main building's rear wing, approximately in the center of the lot. The other was a small rectangular building at the rear lot line. The latter was not investigated because the roots of the two young trees growing at its location will have damaged or destroyed any potential archaeological remains associated with it.

A trailer had to be removed from the site of the circular installation and a backhoe was then used to remove the pavement over an area approximately 8 feet square (Fig. 28, p. 39 and Fig. 35, p. 46). Directly below the pavement, we encountered a layer of black soil mixed with copious amounts of slag and clinkers (Fig. 36, p. 46). This approximately 4.0-inch-thick layer was followed by yellow silty sand that continued to a depth of 25.7 feet above msl (about 5.0 feet below the surface, Fig. 37, p. 46). There were no material culture remains in this level.

It is possible that the metal detritus was dumped here by the Morey Machine Co., which owned the property until ca. 1990.[3]

[3] The property was purchased in 2006 by Superior Steel Studs, Inc. and acquired in 2014 by 2030 Astoria Developer LLC, New York City Department of Finance, https://propertyinformationportal.nyc.gov/parcels/parcel/4009060001

V. CONCLUSIONS AND RECOMMENDATIONS

Contrary to expectations, the archaeological testing on the project site yielded no evidence of Native American presence or any privies or cisterns associated with the dwellings or other types of buildings known from historic maps to have existed on the site.

With respect to the absence of evidence for Native American uses of the site, it is possible that shellfish were not abundant on this stretch of the cove due to the strong currents, especially above and below Hell Gate, which may have deposited them further up or down the East River rather than in the salt marshes around the cove. In that case, Native Americans may not have been attracted to the project site area but rather to Hallet's Cove, where their presence has been archaeologically attested. In any case, the soil borings conducted in Area A, at the waterside, did not yield any evidence of a shell midden connected with Native American uses of the site.

The top of the hill overlooking the cove seemed like a promising location for Native American uses, even perhaps a settlement. But our test trenches on the hill, our Area H, revealed at least four feet of mixed early and late 20th century debris.

The Cove was dangerous to mariners because it was dotted with rocks and reefs, so many, the Native Americans said, that their ancestors were able to cross the water by leaping from one outcrop to another. Instead of settling on the north side of Hallett's Point, then, in or near the project site, the early development of Astoria in historic times favored the more protected south and southwest shores of the promontory, perhaps continuing a pattern set by the indigenous peoples.

The areas of the site we tested for privies and cisterns associated with 19th century occupation, Area B, Area C and Area R, had been negatively impacted by multiple repaving or other unrecorded activities. In Area B, in the waterfront portion of the project site, remains potentially associated with the 19th century Whittmore house were poorly preserved and scattered, possibly redistributed by mechanical means during one of the episodes of repaving. In area C we found only a thin layer of clinkers and metal slag over a deep layer of yellow sand. This area may have been negatively impacted by the metal working companies that existed nearby up until the late 20th century. In Area R, the southernmost trench that we opened in the 8th Street easement, we found remains of what appeared to be a 20th century drainage pipe, but while small amounts of brick detritus were noted, there were no signs of a cistern or privy in this trench or in the other two that we excavated further north in the roadway. Instead, we found a deep layer of the yellowish-brown sand also noted in the test trenches excavated on the hilltop and in Area B.

The degree of site disturbance attested in every area tested suggests that the site is unlikely to contain any archaeological remains possessing sufficient integrity to warrant further investigation. We therefore recommend that no additional archaeological testing or archaeological excavation be required on the site.

VI. BIBLIOGRAPHY

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APPENDIX A

Photographs of completed Area H test trenches

Fig. 36. AREA H – Test trenches, 1 (top left), 2 (top right), 3 (middle and 6 (bottom) at the end of excavation.

Fig. 37. AREA H – Test trenches 7 (top), 8 (middle), 9 (bottom left) and 10 (bottom right) at the end of excavation.

Fig. 38. AREA H – Test trenches 12 (top left), 13 (top right), 14 (bottom left) and 15 (bottom right) at the end of excavation.

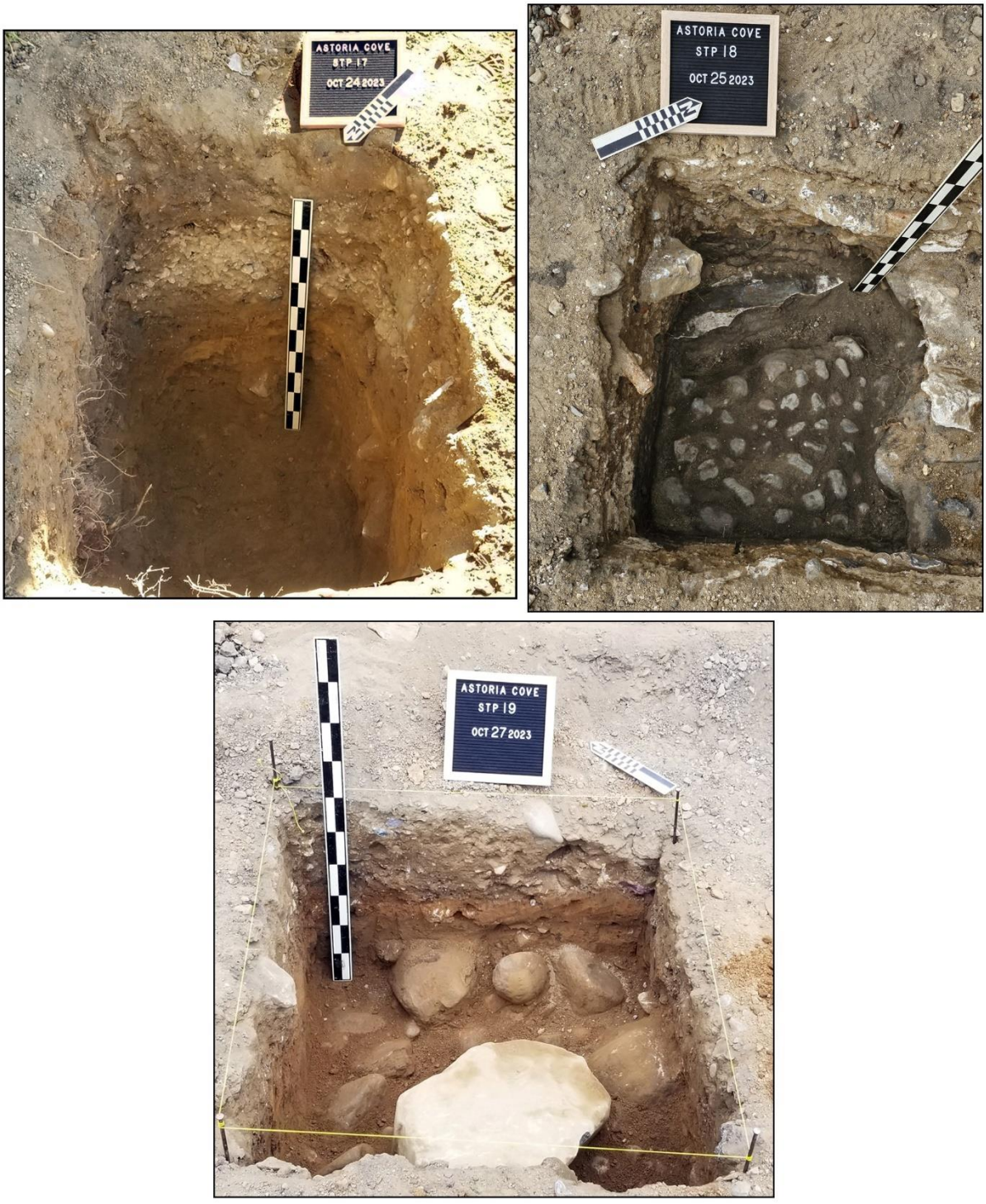


Fig. 39. AREA H - Test trenches 17 (top left), 18 (top right) and 19 (bottom) at the end of excavation.

Fig. 40. AREA H – Test trenches 20 (top), 21 (bottom left) and 22 (bottom right).

Fig. 41. AREA H - Test trenches 25 (top left), 26 (top right), 27 (bottom left) and 28 (bottom right) at the end of excavation.

Fig. 42. AREA H – Test trenches 29 (top left), 30 (top right), 31 (bottom left) and 32 (bottom right) at the end of excavation.

Fig. 43. AREA H - Test trenches 33 (top left), 34 (top right), 35 (bottom left) and 36 (bottom right) at the end of excavation.

Fig. 44. AREA H - Test trenches 37 (top left), 38 (top right), 39 (bottom left) and 40 (bottom right) at the end of excavation.

Fig. 45. AREA H – Test trench 41 at the end of excavation.

APPENDIX B

AREA H AND AREA R- INVENTORY OF FINDS SAMPLED

AREA H

The layers, as described in Section IV part 1 were: Layer 1 – Asphalt and gravel; Layer 2 – Yellowish-brown sandy silt; and Layer 3 – Dark brown sandy silt.

The finds will be kept by the Principal Investigator until the LPC has completed its review of this report, at which point the applicant may request them or direct that they be disposed of.

TR 1 – Layer 2

One complete clam shell and six fragments, one piece of plastic, one handmade mail, second piece of an unidentified metal object, coke.

TR 2 – Layer 2

Metal stud, large impressed brick fragment – "S…"

TR 3 – Layer 3

Five fragments of shell, one fragment of blue-glazed tile, three handmade nails or similar, two unidentified metal fragments, seven metal fragments probably building materials, i.e. hinges, one metal cylinder of unknown purpose, one small fragment of clear glass, one thick fragment of salt-glazed brown stone ware glazed both sides, two fragments of white ware from open forms, two small pieces of wood, tiny plaster fragments.

TR 6 – Layer 2

One large stake or similar, one complete small medicine bottle (three-part mold), one white glazed tile with part of an impressed name … LINE, one small rim of an open pottery vessel blue glazed exterior and white interior and two fragments of bone.

TR 7 – Layer 3

Two fragments of white glazed tile, one tiny fragment of an open ceramic vessel blue glazed interior and white exterior, one piece of ceramic flower pot, three small pieces of white ware one open form and one large piece of a flat-bottomed white glazed possibly oval tray with straight sides and a rounded rim, four nails or similar, one piece of flat metal sheet, two small fragments of shell.

TR 8 – Layer 1 / Layer 2

Two very large pieces of metal rods either machinery or building-related, one piece of unglazed tile, one fragment of ceramic water pipe, one metal strip fragment, one molded glass fragment with an all-over design of small circles, one green glass fragment, one clear glass fragment with a narrow molded ridged, one fragment of plain clear glass, one small piece of styrofoam.

TR 8 – Layer 2

Four fragments of thick ceramic tile, three fragments open white ware vessels, two flat, milky glass fragments, seven clear glass fragments of which 1 bowl (?) three with a raised ridge and two with

molded decoration, one thick piece ca. 0.8 cm clear glass, one piece green molded glass with grape-like pattern, two flower pot fragments, one brown glass fragment (bottle?), one fragment molded brown glass with ridge and lettering "This bott…", one thick and one thin ceramic fragment with incised ridges probably tiles, three shell fragments, two bone fragments, two small pieces of white-glazed tile with stamped legend "MADE…", five small flat pieces of plastic, one large metal bolt or similar, eight handmade nails or similar hardware.

TR 10 – Layer 2

Twenty-four pieces of metal detritus including nails, bolts, ties, metal sheet, base of a can (?) and two pieces of wire coil, thirteen pieces of clear impressed glass vessels, one thick piece of ceramic pipe probably, eight shell fragments, one sliver of molded brown glass, two porcelain fragments, one tiny green glazed ceramic sherd, one clear glass fragment with green paint or the remains of a decal, four tiny fragments of white ware, one ceramic fragment with blue-glazed interior, one white glazed tile fragment, one flower pot sherd, one fragment of bone.

TR 12 – Ash and gravel fill

Eleven very small pieces of shell, one small fragment of blue-glazed pottery with floral pattern exterior, one piece of wood, two small nails, one thick white-glazed tile with narrow grooves, three pieces of tile of which one blue and one white-glazed, one metal ring with gears, one piece of clear molded glass with all-over pattern of small hexagons, one piece of blue bottle glass, two pieces of very thick unglazed tile (industrial?) one small piece of blue plastic.

TR 13 – Layer 2

One white ware bowl base, one small piece of white ware, one thick-walled dark brown salt glazed stoneware fragment (jug?) two pieces of shell, one small metal strip, five nails, one metal ring disc, one large piece of a white marble fitting about 1 inch thick with one side has a curved top and a curved edge and a boss on the bottom.

TR 13 – Layer 3

One rubber or plastic attachment (furniture? Machinery?) five small pieces of white ware, one nail, one tiny piece of shell, one small flowerpot sherd, three molded clear glass fragments, one bone fragment, one white glazed tile fragment, one brown glazed water pipe fragment, two thick unglazed tile fragments, two small fragments of brown glazed pottery from a large closed vessel.

TR 14 – Layer 2

Clear glass base fragment with ridged decoration from a container or vessel, one piece of molder clear glass with an all-over hexagon pattern, one piece of clear glass, one small fragment from an open vessel white glazed on the interior, blue and white on the exterior, two open vessel fragments one white glazed the other transfer ware with a black flower, one thick walled brown glazed ceramic fragment possibly from a water pipe, four tiny fragments of white ware, one tiny fragment of porcelain, one oyster shell fragment, one clam shell fragment, two pieces of coke, three pieces of flat plastic, twelve very small clear glass vessel fragments, one very small fragment of brown

glass, five nails, two very small fragments of green glass, one white-glazed tile fragment, one piece of unglazed tile, one bolt, one thick fragment of very dark brown bottle glass with patina.

TR 17 – Layer 2

Five fragments of clear glass vessels one of which has part of a decal, three pieces of white glazed open vessels one with transfer-printed leaves, eight very small shell fragments, four pieces of plastic fittings (?) two pieces of flat white plastic about 0.24 inch thick, one nail, one very small metal rod, two fragments of brown glazed ceramic pipe, one black-glazed tile, ten small white ware fragments including one small handle (tea cup ?) one small grown-glazed ceramic fragment possibly a tile, two ceramic fragments with blue glaze on the exterior and white on the interior.

TR 18 – Layer 3

One small piece of grey salt glazed stoneware from a closed vessel, one small piece of a green glass bottle base, one clear glass fragment with molded decoration, one very small metal hook, one wire coil, two tiny fragments of white ware, two tiny pieces of white porcelain, nine nails or similar, two long spikes, one metal ring, one screw with a large round head, twenty-six fragments of clear glass, four clear glass fragments from the base and wall of a bottle (?) embossed with "S I…" and "D", two joining fragments of a blue glass bottle base, three other blue glass fragments, two thick fragments of clear glass.

TR 19 – Layer 2

Twelve small ceramic fragments white glazed on the interior and blue and white on the exterior probably from plates or saucers, eight white ware fragments of which one is the base of a plate, one oyster and one clam shell fragments, one nail, two pieces of wire coil, one ceramic pipe stem.

TR 25 – Layer 2

Six small bone fragments and one animal tooth, two fragments of white ware, three tiny fragments of blue-printed transfer ware, three small flower pot sherds.

TR 25 – Layer 3

Eight clear glass fragments including two handles and one piece with molded bands, one metal (soda?) bottle cap, two tiny fragments of white ware, three bone fragments, five clam shell fragments, four flowerpot sherds, fourteen metal bolts or nails, one piece of metal ribbon, one large metal bolt, one dark brown bottle fragment from the base, one green glass bottle base fragment one green glass fragment with a white decal, two clear glass fragments one from the neck of a vessel with molded ridges, thirty-two nail, bolts and other assorted hardware, one large curved piece of metal (handle?) two flat metal ribbons, one piece of oyster shell.

TR 30 – Layer 1

One clear glass bottle with embossed letters "…r Cre…", one tiny fragment of a clear glass bottle rim, one tiny fragment of glass with molded decoration, three bone fragments, one fragment from a dark brown glazed open vessel.

TR – 31 – Layer 1

Three nails or bolts, thirty-six tiny shards of clear or milky glass, three green glass fragments, one brown glass fragment, one tiny clear glass fragment with molded decoration, one white glazed tile fragment.

TR 31 – Layer 2

Two large bolts, one large metal strap bent into a backward S chape, one large piece of unidentified metal hardware, nine tiny clear glass shards, one piece of brown-glazed ceramic water pipe, one fragment of a metal band.

TR 31 – Layer 3

One black plastic hair comb fragment, two nails, one small piece of an open brown-glazed ceramic vessel, one fragment of white ware, two clear glass fragments, one with a decal "..ep" (Pepsi).

TR 33 – Layer 2

Four nails or bots, two cylindrical black pieces possibly of graphite, one sliver of shell, three tiny fragment of clear glass with molded decoration.

TR 34 – Layer 2

Six fragments of clam shell, one fragment of oyster shell, fifteen nails mostly not encrusted, three pieces of plastic fittings including one small tube, eight tiny fragments of clear glass, one clear glass fragment of a bottle base, one plastic bottle cap, one large metal strap curled around multiple layers of decaying cloth or leather (?) nine fragments of white ware, two white glazed tile fragments, one bule-glazed tile fragment, small section of a ceramic pipe stem, ceramic fragment white glazed with black stripes, dark brown glazed open vessel possibly a platter, one fragment of slip trailed red ware from an open vessel probably a platter, one thick white glazed piece from a ceramic sanitary fixture

TR 35 – Layer 1

One bone fragment, seven clam shell fragments, five tiny clam and other shells, twenty tiny fragments of white ware, three tiny sherds with blue transfer decorations, one tiny ceramic sherd with one black and one brown stripe, one small fragment of blue glass with molded all-over decoration of circles and another with the same decoration in clear glass, three clear glass bottle rims, two clear glass base fragments one probably from a jar with molded numbers on the base, one electrical component consisting of a glass ampoule with wire in it, one small metal hook, one small flat metal plate, one fragment of a metal hinge (?) three thick fragments of unglazed tile, four flowerpot sherds, one white shell button, one black button.

TR 36 – Layer 3

One bone fragment, forty-nine fragments of bolts or nails, one fragment of a metal sheet, one metal disc, one small fragment of a metal ring, one metal finial (furniture decoration?), one piece of flat plastic, one molded plastic toy soldier (possibly 1940s or 1950s judging by the style), three small

milk glass fragments from vessels, one fragment of brown glass with molded decoration, one fragment of clear glass with molded decoration, one green glass base fragment (bottle?) two small clear glass fragments and five tiny ones, one brown glass shard, one 2-inch white glazed tile, three small fragments of white ware and fourteen tiny fragments of white ware, three tiny fragments of porcelain, six tiny fragments of blue transfer printed ware, two fragments of clam shell.

TR 39 – Layer 1

One piece of butchered bone, two tiny fragments of clam shell, four tiny fragments of white ware, two small transfer printed ware sherds, one very small sherd of trailed slip ware, three fragments of clear glass with molded decoration, one clear glass bottle rim with part of the neck (milk bottle?) one flowerpot sherd.

TR 39 – Layer 2

One fragment of blue transfer printed ware, one bottle neck and rim (soda?)

TR 40 - Layer 1

One piece of white ware from the rim of a dish, one small fragment of blue transfer printed ware, one 1 inch metal spout.

TR 41 – Layer 1

Five tiny ceramic fragments, five tiny shell fragments, one fragment of green glass, one bone fragment, two nails, two tiny pieces of white porcelain.

AREA R

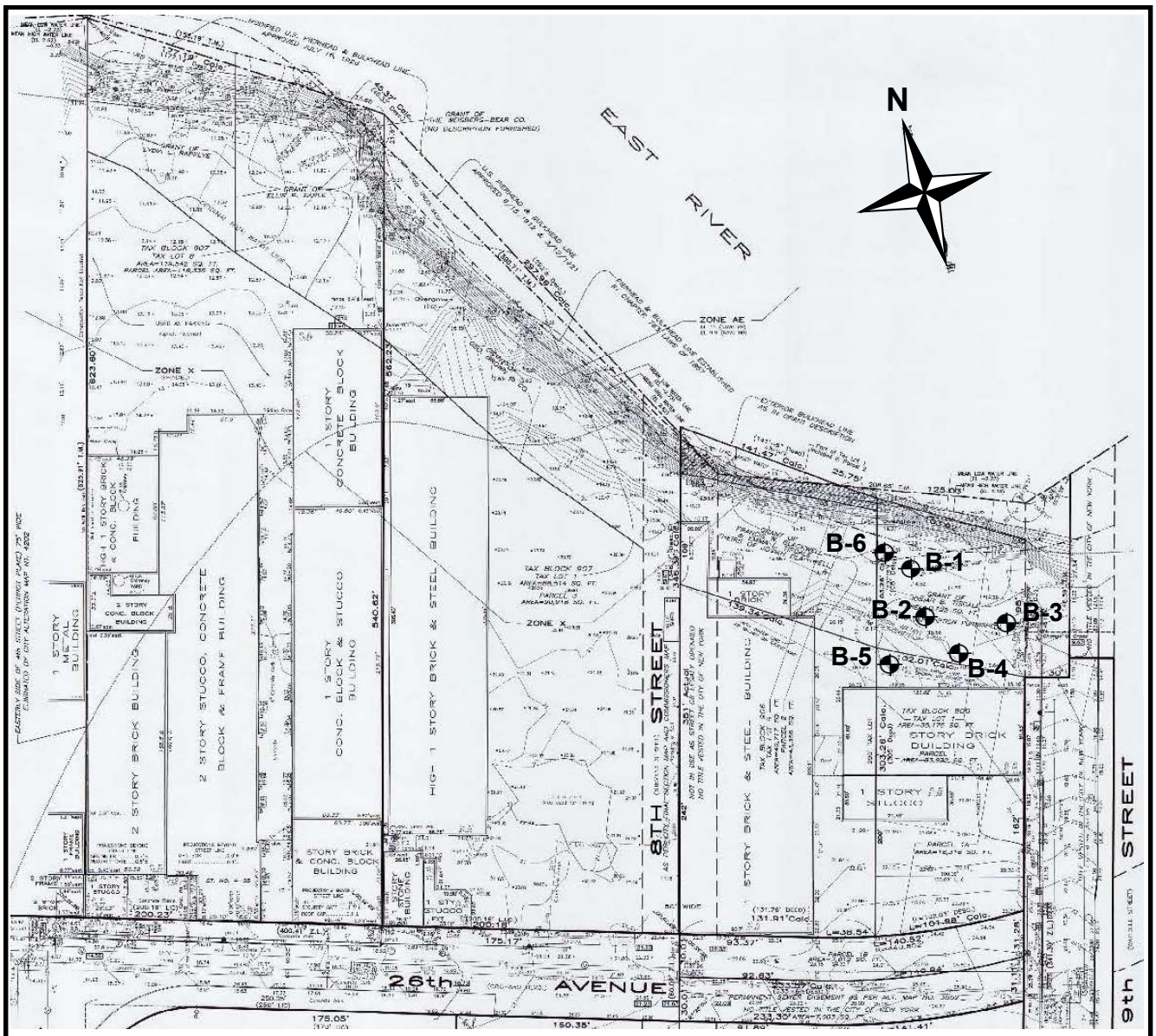
This material was found near the curving pipe.

One large thick piece of hook-shaped metal, one fragment of a mold-made clear glass oval bottle with a rolled rim, one clear mold-made glass bottle with a flat base and the springing of the handle, one brown glass bottle with a flat base and rectangular body made in a three-part mold, one flowerpot sherd, one medium-sized clear glass bottle base with pontil mark.

APPENDIX C

Boring Logs

Prepared by GTA Engineering Services of New York, P.C.



LEGEND: **B-X** Indicates the numbers and approximate locations of test borings performed for this study.

BORING LOCATION PLAN

211-K Gates Road
Little Ferry, New Jersey 07643
(201) 641-1850
fax (201) 641-1655

GTA ENGINEERING SERVICES OF NEW YORK, P.C.

8-51 26th AVENUE

New York, NY

Prepared For: Slim Astoria 2468 LLC

DESIGN BY: *	DRAWN BY: SM	REVIEWED BY: RD
SCALE: NTS	DATE: NOV 2023	PROJECT #: 3423000049

LOG OF BORING NO. B-1

PROJECT: **8-51 26th Avenue**
PROJECT NO.: **3423000049**
PROJECT LOCATION: **Astoria, Queens**

WATER LEVEL (ft):	15 ft.	NA	BOC
DATE:	11/6/23	11/6/23	11/6/23
CAVED (ft):	In Spoon	NA	BOC

DATE STARTED: **11/6/23**
DATE COMPLETED: **11/6/23**
DRILLING CONTRACTOR: **D.K Drilling of New York, Inc.**
DRILLER: **Dorbal**
DRILLING METHOD: **Continuous**
SAMPLING METHOD: **SPT, 3-inch spoon**

HAMMER TYPE: **Automatic**
GROUND SURFACE ELEVATION: **14+/-**
DATUM: **NAVD88**
EQUIPMENT: **CME 45**
LOGGED BY: **SM**
CHECKED BY: **RD**

SAMPLE NUMBER	SAMPLE DEPTH (ft.)	SAMPLE RECOVERY (in.)	SAMPLE BLOWS/6 inches	N (blows/ft.)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
					14.0	0	FILL		FILL: Brown and gray, moist, Silty Sand with concrete and masonry debris	
S-1	0.0	18				2			-Same, with asphalt	
S-2	2.0	16				4			-Same	
S-4	4.0	20				6			-Same, with concrete	
S-4	6.0	19				8			-Thin layer of shells at 9 ft, concrete present above and below	
S-5	8.0	24				10			-Same, with copper wire	
S-6	10.0	22				12			-Concrete fragment blocked the spoon	
S-7	12.0	6				14			-Same, wet	▼
S-8	14.0	5				16			-Same, with plastic debris	-Switched to 2-inch spoon
S-9	16.0	13								
S-10	18.0	18			-4.0	18	SM		Brown, wet, Silty SAND with Gravel	
					-5.5				End of boring at 19.5 ft. due to refusal	

NOTES: **BOC = Backfilled On Completion, Boring performed for archeological purposes**

GEO-TECHNOLOGY ASSOCIATES, INC.
211-K Gates Road
Little Ferry, NJ 07643

LOG OF BORING NO. B-1

LOG OF BORING NO. B-2

PROJECT: **8-51 26th Avenue**
PROJECT NO.: **3423000049**
PROJECT LOCATION: **Astoria, Queens**

WATER LEVEL (ft):	17 ft.	NA	BOC
DATE:	11/7/23	11/7/23	11/7/23
CAVED (ft):	In Spoon	NA	BOC

DATE STARTED: **11/7/23**
DATE COMPLETED: **11/7/23**
DRILLING CONTRACTOR: **D.K Drilling of New York, Inc.**
DRILLER: **Dorbal**
DRILLING METHOD: **Continuous**
SAMPLING METHOD: **SPT, 3-inch spoon**

HAMMER TYPE: **Automatic**
GROUND SURFACE ELEVATION: **15.5+/-**
DATUM: **NAVD88**
EQUIPMENT: **CME 45**
LOGGED BY: **SM**
CHECKED BY: **RD**

SAMPLE NUMBER	SAMPLE DEPTH (ft.)	SAMPLE RECOVERY (in.)	SAMPLE BLOWS/6 inches	N (blows/ft.)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
					15.5	0			2 in. Asphalt	
S-1	0.0	20			15.3		FILL		FILL: Brown, moist, Silty Sand with Concrete and masonry debris	
S-2	2.0	16				2			-Same, with Asphalt and coal debris	
S-3	4.0	14				4			-Same, with Concrete and asphalt debris	
S-4	6.0	10				6			-Same, concrete encountered at 5.5 ft.	-Refusal, moved twice, augered to 6 ft. and sampled with 2-inch spoon
S-5	8.0	22				8			-Same, with asphalt and brick debris	
S-6	10.0	21			5.5	10	SP-SM		Brown, moist, Poorly-graded SAND with Silt and bits of masonry	
S-7	12.0	2				12			-Same, but metal debris blocked spoon	
S-8	14.0	18				14			-Same, weathered boulder encountered	
S-9	16.0	20			0.0	16	SM		Gray, moist to wet, Silty SAND	▼
S-10	18.0	20			-2.5	18	ML		Gray, wet, SILT with Gravel and Sand	
					-4.5	20			Boring terminated at 20 ft. due to hole collapse	

NOTES: **BOC = Backfilled On Completion, Boring performed for archeological purposes**

GEO-TECHNOLOGY ASSOCIATES, INC.
211-K Gates Road
Little Ferry, NJ 07643

LOG OF BORING NO. B-2

LOG OF BORING NO. B-3

PROJECT: **8-51 26th Avenue**
PROJECT NO.: **3423000049**
PROJECT LOCATION: **Astoria, Queens**

WATER LEVEL (ft):	15 ft.	NA	BOC
DATE:	11/6/23	11/6/23	11/6/23
CAVED (ft):	In Spoon	NA	BOC

DATE STARTED: **11/6/23**
DATE COMPLETED: **11/6/23**
DRILLING CONTRACTOR: **D.K Drilling of New York, Inc.**
DRILLER: **Dorbal**
DRILLING METHOD: **Continuous**
SAMPLING METHOD: **SPT, 3-inch spoon**

HAMMER TYPE: **Automatic**
GROUND SURFACE ELEVATION: **14.5+/-**
DATUM: **NAVD88**
EQUIPMENT: **CME 45**
LOGGED BY: **SM**
CHECKED BY: **RD**

SAMPLE NUMBER	SAMPLE DEPTH (ft.)	SAMPLE RECOVERY (in.)	SAMPLE BLOWS/6 inches	N (blows/ft.)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
					14.5	0				
S-1	0.0	18			14.3		FILL		2 in. Asphalt FILL: Brown, moist, Silty Sand with minor debris	
S-2	2.0	24				2			-Same, but gray, with concrete and brick debris	
S-3	4.0	18				4			-Same, concrete encountered 5.5-6 ft.	
S-4	6.0	12				6			-Same	
S-5	8.0	16			6.5	8	SP-SM		Orange-brown, moist, Poorly-graded SAND with Silt and bits of charcoal	
S-6	10.0	0				10			-No recovery	
S-7	12.0	8				12			-Same, with masonry debris	Possible fill
S-8	14.0	22				14			-Same, wet, without masonry debris	▼
S-9	16.0	16				16			-Same	-Switched to 2-inch spoon
S-10	18.0	18				18			-Same	
					-5.5	20			Boring terminated at 20 ft. due to hole collapse	

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GEO-TECHNOLOGY ASSOCIATES, INC.
211-K Gates Road
Little Ferry, NJ 07643

LOG OF BORING NO. B-3

LOG OF BORING NO. B-4

PROJECT: **8-51 26th Avenue**
PROJECT NO.: **3423000049**
PROJECT LOCATION: **Astoria, Queens**

WATER LEVEL (ft):	15 ft.	NA	BOC
DATE:	11/6/23	11/6/23	11/6/23
CAVED (ft):	In Spoon	NA	BOC

DATE STARTED: **11/6/23**
DATE COMPLETED: **11/6/23**
DRILLING CONTRACTOR: **D.K Drilling of New York, Inc.**
DRILLER: **Dorbal**
DRILLING METHOD: **Continuous**
SAMPLING METHOD: **SPT, 3-inch spoon**

HAMMER TYPE: **Automatic**
GROUND SURFACE ELEVATION: **16+/-**
DATUM: **NAVD88**
EQUIPMENT: **CME 45**
LOGGED BY: **SM**
CHECKED BY: **RD**

SAMPLE NUMBER	SAMPLE DEPTH (ft.)	SAMPLE RECOVERY (in.)	SAMPLE BLOWS/6 inches	N (blows/ft.)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
					16.0	0			2 in. Asphalt	
S-1	0.0	19			15.8		FILL		FILL: Brown, moist, Silty Sand with minor debris	
S-2	2.0	20				2			-Same, but gray, with concrete and coal debris	
S-3	4.0	18				4			-Same, concrete encountered 5.5-7 ft.	
S-4	6.0	12			9.0	6	SP-SM		Brown, moist, Silty SAND with Gravel and mottling	
S-5	8.0	16				8				
S-6	10.0	24				10			-Same, tip of spoon is wet	
S-7	12.0	17				12			-Same	
S-8	14.0	22				14			-Same	-Switched to 2-inch spoon
S-9	16.0	24				16			-Same	
S-10	18.0	24				18			-Same	
					-4.0	20			Boring terminated at 20 ft. due to hole collapse	

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GEO-TECHNOLOGY ASSOCIATES, INC.
211-K Gates Road
Little Ferry, NJ 07643

LOG OF BORING NO. B-4

LOG OF BORING NO. B-5

PROJECT: **8-51 26th Avenue**
PROJECT NO.: **3423000049**
PROJECT LOCATION: **Astoria, Queens**

WATER LEVEL (ft):	17 ft.	NA	BOC
DATE:	11/7/23	11/7/23	11/7/23
CAVED (ft):	In Spoon	NA	BOC

DATE STARTED: **11/7/23**
DATE COMPLETED: **11/7/23**
DRILLING CONTRACTOR: **D.K Drilling of New York, Inc.**
DRILLER: **Dorbal**
DRILLING METHOD: **Continuous**
SAMPLING METHOD: **SPT, 3-inch spoon**

HAMMER TYPE: **Automatic**
GROUND SURFACE ELEVATION: **19+/-**
DATUM: **NAVD88**
EQUIPMENT: **CME 45**
LOGGED BY: **SM**
CHECKED BY: **RD**

SAMPLE NUMBER	SAMPLE DEPTH (ft.)	SAMPLE RECOVERY (in.)	SAMPLE BLOWS/6 inches	N (blows/ft.)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
					19.0	0				
S-1	0.0	22					FILL		FILL: Brown to gray, moist, Silty Sand with concrete and coal debris	
S-2	2.0	24				2			-Same	
S-3	4.0	6				4			-Same	
S-4	6.0	12				6			-Same, looks like weathered concrete	
S-5	8.0	19			11.0	8	SP-SM		Brown, moist, Poorly-graded SAND with Silt and Gravel	
S-6	10.0	20				10			-Same	
S-7	12.0	22				12			-Same	
S-8	14.0	12				14			-Same	
S-9	16.0	8				16			-Same, wet, foreign odor present	-Switched to 2-inch spoon
S-10	18.0	24				18			-Same	
					-1.0	20			Boring terminated at 20 ft. due to hole collapse	

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GEO-TECHNOLOGY ASSOCIATES, INC.
211-K Gates Road
Little Ferry, NJ 07643

LOG OF BORING NO. B-5

LOG OF BORING NO. B-6

PROJECT: **8-51 26th Avenue**
PROJECT NO.: **3423000049**
PROJECT LOCATION: **Astoria, Queens**

WATER LEVEL (ft):	15 ft.	NA	BOC
DATE:	11/7/23	11/7/23	11/7/23
CAVED (ft):	In Spoon	NA	BOC

DATE STARTED: **11/7/23**
DATE COMPLETED: **11/7/23**
DRILLING CONTRACTOR: **D.K Drilling of New York, Inc.**
DRILLER: **Dorbal**
DRILLING METHOD: **Continuous**
SAMPLING METHOD: **SPT, 3-inch spoon**

HAMMER TYPE: **Automatic**
GROUND SURFACE ELEVATION: **13.8+/-**
DATUM: **NAVD88**
EQUIPMENT: **CME 45**
LOGGED BY: **SM**
CHECKED BY: **RD**

SAMPLE NUMBER	SAMPLE DEPTH (ft.)	SAMPLE RECOVERY (in.)	SAMPLE BLOWS/6 inches	N (blows/ft.)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
					13.8	0			2 in. Asphalt	
S-1	0.0	24			13.6		FILL		FILL: Brown to gray, moist, Silty Sand with concrete and asphalt debris	
S-2	2.0	14				2			-Same	
S-3	4.0	14				4			-Same, 8-inch layer of asphalt recovered	
S-4	6.0	12				6			-Same, with glass and brick	
S-5	8.0	19				8			-Same, 12-inch layer of concrete recovered	
S-6	10.0	20				10			-Same	
S-7	12.0	22			2.3	12	SP-SM		Brown, moist, Poorly-graded SAND with Silt and Gravel	
S-8	14.0	22			-0.2	14	SM		Brown, wet, Silty SAND with Gravel	▼
S-9	16.0	13			-2.2	16	ML		Gray, wet, SILT with Gravel and Sand	
S-10	18.0	20			-4.2	18	OH		Dark gray, wet, Organic SILT with Sand and Shell debris	
					-6.2	20			Boring terminated at 20 ft. due to hole collapse	

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LOG OF BORING NO. B-6