

Early Twentieth Century Photograph of Wall Street (provided by Con Edison)

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Phase 1B Archaeological Monitoring Report Stone Street Historic District (LP-1938)

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Prepared By: New York City Landmarks Preservation Commission
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Introduction

In 1996, the New York City Landmarks Preservation Commission was awarded an \$800,000 grant (ISTEA Grant #X550.23) from the NYS DOT ISTEA (Transportation Enhancement Program) to fund streetscape improvements for the Stone Street Historic District (LP-1938), an historic district in lower Manhattan (Figure 1). These will consist of laying new pavement for both the streetbed and sidewalks. The existing asphalt roadway and concrete sidewalks will be replaced with bluestone flags for the sidewalk, granite curbs, granite slab crosswalks, and a granite block roadbed (Figure 2). The depth of disturbance for this work will be no more than 22" (Figure 3).

In compliance with federal, state, and city guidelines the Landmarks Preservation Commission as lead agency conducted a prospective assessment of possible archaeological resources which might be impacted by the proposed work, including all sidewalks and streetbeds within the district. The study was performed in two stages. The first was a documentary study, including SHPO Section 106 review and approval, that concluded that there is archaeological potential for the recovery of 17th century-19th century archaeological remains. Specifically, there is potential to recover building foundations and their trenches for structures built before S. William Street was cut through from Mill Lane to William Street in the late 17th century, before Mill Lane was widened in the late eighteenth century, before Stone Street and Hanover Square were widened in the early nineteenth century, and before Coenties Alley was realigned in this century. Additionally, there is the potential for recovery of colonial through early-nineteenth century street debris and recovery of early streetbeds and utilities in all portions of the project area (Landmarks Preservation Commission 1997).

The second phase of the study consisted of monitoring pre-excavation test trenches dug by Empire City Subway (ECS) and Con Edison to learn which, if any, archaeological resources might be impacted by the proposed streetscape work. This was done by archaeologists from the New York City Landmarks Preservation Commission. ECS (working for Bell Atlantic Telephone) and Con Edison needed these pre-excavation test trenches to confirm the location of telephone and electric duct banks and natural gas lines below the streetbeds of the Stone Street Historic District and the streets immediately adjacent to it. Test trenches were excavated in Stone Street, Pearl Street, Hanover Square, South William Street, and Coenties Slip. This report completes this phase of the project.

Monitoring Duration and Staff

Excavation of the test trenches began on October 28, 1997, and was completed on November 23, 1997. Excavation proceeded in the order outlined in the Scope of Work (Appendix A). Trenches 1-16 were excavated by ECS; trenches

100-125 by Con Edison. A weekday work schedule (Monday through Friday from 7AM to 3 PM) was maintained until November 8, at which time Saturday (8AM to 4 PM) and Sunday (9AM to 4 PM) hours were also begun. November 4 (Election Day), November 11 (Veterans' Day), and November 28-30 (Thanksgiving). Two days were lost to rain.

Monitoring was supervised by Dr. H. Arthur Bankoff (SOPA-certified), Archaeology Advisor to the Landmarks Preservation Commission. Amanda Sutphin (SOPA-certified), Christopher Ricciardi (SOPA-certified), Brad Bentz (Ph.D. candidate, University of Pennsylvania), Edith Coleman (Ph.D. candidate, University of Virginia), and Alyssa Loorya (Ph.D. candidate, CUNY Graduate Center) assisted in the project, as did twelve undergraduate volunteers from Brooklyn College and other local institutions.

All excavation of each trench was monitored. Asphalt removal was accomplished by means of a jackhammer, or by use of a backhoe, after the trench outline had been saw-cut. Once under the asphalt and the concrete underbedding, excavation by the ECS or Con Edison crews proceeded by hand until the utility ducts and/or pipes had been located. In all but one case (T105), maximum depth reached in the pre-excavation test trenches was 1.5 m; most of the trenches stopped at a lesser depth when the pipes or ducts were sufficiently exposed. In those trenches designated in the Scope of Work as sample units, all artifact-bearing contexts were excavated by the archaeological monitoring team using small tools. In other trenches, all contexts judged to be undisturbed were so excavated, while disturbed contexts were excavated by the utility crews under close supervision by the archaeological monitoring team. All soil from undisturbed contexts, as well as all soil from all contexts in the sample trenches, was sifted through 5mm (1/4") screens. Soil from disturbed contexts and backfill in trenches other than the sample trenches was sifted as deemed necessary by the archaeologists. Excavation was stratigraphic; units were changed with perceived change in matrix. Standardized pre-printed unit sheets were completed for every unit, as well as narrative, scale drawings of plans and relevant profiles, and photodocumentation. Artifacts and ecofacts were bagged by unit, and removed to the laboratory of the Brooklyn College Archaeological Research Center for cleaning, conservation, inventory, and preliminary analysis.

Monitoring Results: Stratigraphy of the Pre-excavation Trenches

Stone Street Trenches

Trench number: T1

Location: Stone Street/Hanover Square

Dimensions: 1.5 m (5') N-S x 1.2m (3') E-W

Date excavated: 10/30/97

Excavated by: ECS

Comments: Easternmost Stone Street trench, actually in Hanover Square. Digging around the curb exposed plated Con Edison lines and modern fill, with subway beneath.

Unit 1: Blacktop, approximately 10-15cm (4-6") thick, was removed with a jackhammer across the entire trench. Below this was the concrete underbedding, which was 15 cm (6") thick, gray-white in color with large gravel pieces mixed in.

Unit 2: At depths varying from 10cm (4") in the northeast corner to 70cm (27") in the southwest (mean = ca. 30cm (11")), in modern fill (concrete and gravel) metal plate covered the bottom of the trench on the south and east; pipes/ducts on north and west. No artifacts.

Trench number: T2

Location: Stone Street

Dimensions: 1.5 m (5') N-S x 2.5m (8'4") E-W

Illustration: Figure 5

Date excavated: 11/5/97

Excavated by: ECS

Comments: On north side of street, joined T3.

Unit 1: Blacktop, approximately 10-15cm (4-6") thick, was removed with a jackhammer across the entire trench. Below this was the concrete underbedding, which was 15 cm (6") thick, gray-white in color with large gravel pieces mixed in.

Unit 2: Dark (10YR3/4) loam with gravel inclusions, dug to a depth of 60cm (24"). Old telephone duct runs toward the north at -55cm (22"). Northeast corner has a cellar grate (unexcavated), northwest corner concrete was left unbroken. T3 adjoins this trench to the southwest.

Trench number: T3

Location: 68 Stone Street

Dimensions: 1.5 m (5') N-S x 1.2m (3') E-W

Illustration: Figure 5

Date excavated: 10/30/97

Excavated by: ECS

Comments: East end of street; excavation stopped after asphalt removal, when solid concrete bottom was exposed. T2 was later (11/5) opened to the north of

T3; combined with it.

Trench number: T4

Location: Stone Street

Dimensions: North side: 2.4 m (7'10") N-S x 3.4m (11'1") E-W; South side: 2.5m (8'2") N-S x 3m (9'9") E-W

Illustration: Figures 6-7, Plate I

Date excavated: 10/30/97, 10/31/97, 11/5/97

Excavated by: ECS

Comments: T4 as shown on ECS plan was later combined with T5 as modified.

Unit 1: Blacktop, approximately 10-15cm (4-6") thick, was removed with a jackhammer across the entire trench. Below this was the concrete underbedding, which was 15 cm (6") thick, gray-white in color with large gravel pieces mixed in.

Unit 2: Fill 11cm (4") thick below the modern road surface in the northernmost meter of the trench; fill is reddish rocky clay 5YR4/4, includes brick pieces; brick cellar vault top exposed in northwest corner of the unit.

Unit 3: Grey-green clay, 5G5/2, in a thin layer over the cellar vault first visible in T4/2.

Unit 4: Brick barrel-shaped vault, 60cm N-S by 80cm E-W in the northwest corner of T4; its top lies at -37 cm. This is part of the cellar construction of 1850's (?) building at 63 (?) Stone Street (Figure 6; Plate I).

Unit 5: South part of trench; mechanically dug. Fill under concrete is clayey loam, 5YR3/1, pottery came mostly from the center and east-center portions at a depth of about 1 meter below grade; bottom of this unit was at -1.10m. Cut by small (gas) and large (water) pipes at a depth of 1.06m and 92 cm respectively.

Unit 6: Sand and brick fill 10YR4/5 south and east of the vault in northern part of trench; unit measures 90cm (N-S) x 140cm (E-W) in the northwest corner of the trench. Bottom elevations (except for NW, which is still the vault top) are at -1.00m. At 95cm below grade, a line of bricks appeared immediately south of the vault. The sand/clay to the east of the vault is 5Y6/2.

Unit 7: South side of trench, south of unit T4/6, beneath T4/5; pipe trenches for two pipes encountered in T4/5. Dark soil fill 5YR3/1 with rock inclusions.

Unit 8: Under the south side of T4/6; in the approximately 30cm between the south vault face and the small pipe in T4/5. Dark 10YR5/4 sandy clay, possibly area undisturbed by either vault or pipe trench. Top elevations are the bottom of T4/6 (ca. -1.00m), bottom of unit approximately -1.30m (Figure 7).

Unit 9: Modern gas pipe trench south of T4/8; rock-filled black loam 5YR3/1; excavated to -1.35-1.45 m.

Unit 10: Under T4/5; mixed fill consisting of green-gray clay (5G5/2), dark soil (5YR3/1), cinder, and sand; excavated to -1.40m around pipes.

Unit 11: Under T4/8 in the northeast side of the trench. Excavation with backhoe to -2.75m below grade; soil was mostly sterile green clayey 5G5/2, northeast trench corner and profile filled with debris from construction of Seligman (?) Building on corner. The T4/4 vault ends at the east building line of

67 Stone Street.

Trench number: T5

Location: Stone Street

Dimensions: 1.03 m (40") N-S x 2.56m (8'5") E-W

Date excavated: 10/31/97

Excavated by: ECS

Comments: Not the same as T5 on ECS plan; a new trench contiguous to T4 on the northwest.

Unit 1: Asphalt, cement and sand removed to a depth of 28cm to uncover the west portion of the vault exposed as T4/4.

Trench number: T6

Location: Stone Street

Dimensions: 1.5 m (5') N-S x 2.5m (8'4") E-W

Date excavated: 10/31/97

Excavated by: ECS

Comments: All 20th century fill over old telephone cable

Unit 1: Blacktop, approximately 10-15cm (4-6") thick, was removed with a jackhammer across the entire trench. Below this was the concrete underbedding, which was 15 cm (6") thick, gray-white in color with large gravel pieces mixed in. Total depth of asphalt and concrete was 25cm (10").

Unit 2: 20th century fill, 2.5YR3/4 to a depth of 55cm (22"), at which point old telephone cable was uncovered. Disturbed context throughout.

Trench number: T7

Location: Stone Street, corner of Mill Lane

Dimensions: 3.5 m (11'6") N-S x 1.3m (50") E-W

Illustration: Figures 8-9

Date excavated: 11/6/97

Excavated by: ECS

Comments: Set at an angle (NW/SE) off the corner of Mill Lane and Stone Street, extending into Stone Street.

Unit 1: Blacktop, approximately 10-15cm (4-6") thick, was removed with a jackhammer across the entire trench. Below this was the concrete underbedding, which was 15 cm (6") thick, gray-white in color with large gravel pieces mixed in. Total depth of asphalt and concrete was approximately 30cm (12").

Unit 2: Thin ca. 10 cm (4") thick layer of red clay 10YR4/3 under the street underbedding, especially in the north side of the trench.

Unit 3: Beneath this was dark modern fill, sandy loam mixed with rocks and bricks 10YR4/4; entire area disturbed by pipes (6 gas and water mains, top

elevations at -70cm to -100cm). Trench bottom dug to -140cm (north side) to -85cm (south side).

Trench number: T8

Location: 59/58 Stone Street

Dimensions: North side: 2.5m (8'4") N-S x 1.5 m (5') E-W; South side: 1.9m N-S x 1.5m (5') E-W

Illustration: Figure 10

Date excavated: 11/8/97 (North side), 11/7/97, 11/10/97 (South side)

Excavated by: ECS

Comments: North side in disturbed location next to fire hydrant; obvious modern asphalt patch indicated previous recent disturbance.

Unit 1: Blacktop, approximately 10-15cm (4-6") thick, was removed with a jackhammer across the northern portion of the trench. Below this was the concrete underbedding, which was 15 cm (6") thick, gray-white in color with large gravel pieces mixed in. Total depth of asphalt and concrete was 25cm (10").

Unit 2: Subsoil under T8/1 in north, modern sandy loam 2.5YR3/4; two pipes run N-S along west wall of trench at approximately -60cm depth, which is bottom of unit.

Unit 3: Blacktop, approximately 10-15cm (4-6") thick, was removed with a jackhammer across the southern portion of the trench. Below this was the concrete underbedding, which was 15-20 cm (6"-8") thick, gray-white in color with large gravel pieces mixed in. Total depth of asphalt and concrete was 30-35cm (12-14").

Unit 4: Dark modern fill with gravel 10YR3/4, continuation of pipe (water service) south from T8/2, ducts and pipes at approximately -80cm run E-W across trench. The trench bottom was at -1.15cm; ducts along the southern curb were uncovered but not completely excavated (Figure 10).

Trench number: T9

Location: 53 Stone Street

Dimensions: 4.72m (15') N-S x 1.5m (5') E-W

Date excavated: 10/28/97- 10/29/97

Illustration: Figures 11-14; Plate II

Excavated by: ECS

Comments: Sample trench

Unit 1: Blacktop, approximately 10-15cm (4-6") thick, was removed with a jackhammer across the entire trench. Below this was the concrete underbedding, which was 15 cm (6") thick, gray-white in color with large gravel pieces mixed in.

Unit 2: At northernmost 2.50m of the trench, under the concrete was modern fill consisting of dirt/pebble mixture, burnt earth and clinker, dark red-brown in color (2.5Y3/2).

Unit 3: Modern pipe trench for gas service to 55 Stone St. 50cm (20") wide in the center of the 1.5m (60") wide trench. At the trench bottom (-80cm below grade) was a 3.5cm (1.5") pipe with a cinder block under it for leveling. The trench was filled with clean soil (5YR4/1) and a fill of broken bricks and cobbles.

Unit 4: Matrix of olive/brown clay (5G5/2) into which the pipe trench was dug. This clay begins immediately below the modern fill of Unit 2 (Figure 11).

Unit 5: Fill of the modern water main trench, located 1 m south of the north edge of the trench. The main runs east-west across the trench; the fill is clean soil (color 7.5YR3/1), which begins under the concrete underbedding (Figure 12).

Unit 6: Brick sidewalk vault, capping a micaceous schist fieldstone cellar foundation of the mid-nineteenth century. This vault occupies the northernmost meter of the trench, and stops at the end of the 55 Stone Street lot. The brick vault begins approximately 80 cm below grade, and continues down into the bottom of the excavated trench. Remains of an abutting vault from the cellar of 53 Stone Street underlie the cobbles of Unit 7 to the east of this unit.

Unit 7: Cobbles mixed with dark earth (7.5YR4/4) lying at 80-90cm below grade in the northernmost meter to the east of Unit 6. These cobbles may represent the remains of a mid-nineteenth century street; certainly they are earlier than the gray clay of Unit T9/4, which overlies them and into which the gas service pipe (probable date given by receipts in possession of ECS is 1924) was laid (Figure 13).

Unit 8: Removal of cobbles of T9/7. Lowest depth reached in trench was 96cm in the southwest; varied up to -83cm in the center. Vault remains underlie this unit (Plate II).

Trench number: T10

Location: Stone Street

Dimensions: 1.5 m (5') N-S x 2.5m (8'4") E-W

Date excavated: 10/31/97

Excavated by: ECS

Comments:

Unit 1: Blacktop, approximately 10-15cm (4-6") thick, was removed with a jackhammer across the entire trench. Below this was the concrete underbedding, which was 15 cm (6") thick, gray-white in color with large gravel pieces mixed in.

Unit 2: Pipe trench 1.05m (42") wide for large water/sewer pipe (10YR3/2) ran through the entire trench center, pipe depth 1.45m (56"). North side of trench had a 6" gas pipe running through it (known from trench 11, 13) at approximately -80cm (32").

Trench number: T11

Location: Stone Street

Dimensions: 2.35m (7'8") N-S x 2.35m (7'8") E-W

Illustration: Figure 15

Date excavated: 11/10/97

Excavated by: ECS

Comments:

Unit 1: Blacktop, approximately 10-15cm (4-6") thick, was removed with a jackhammer across the entire trench. Below this was the concrete underbedding, which was 15 cm (6") thick, gray-white in color with large gravel pieces mixed in. Bottom of this underbedding lay at -28cm.

Unit 2: The modern sand and gravel fill (5YR4/2) below this covered a brick vault with tar waterproofing, extending approximately 1m south into the trench. Stones (at -70cm below grade) south of the brick vault represent the beginning of the cellar wall (Figure 15).

Unit 3: Small (ca. 20cm wide) band of soil between the stones at the bottom of T11/2 and the water pipe to south of it. This did not differ in color or matrix from the preceding unit; it was dug to a depth of about 1m below grade. Stones were followed down to the third course.

Unit 4: Continuation of excavation of T11/3 to a depth of -150cm, at which point it became impossible to excavated further in the restricted space. Same matrix, color 5YR3/4.

Trench number: T12

Location: Stone Street

Dimensions: 4.37 m (14'4") N-S x 1.92m (6'3") E-W

Illustration: Figure 16

Date excavated: 11/7/97, 11/10/97

Excavated by: ECS

Comments:

Unit 1: Blacktop, approximately 10-15cm (4-6") thick, was removed with a jackhammer across the entire trench. Below this was the concrete underbedding, which was 15 cm (6") thick, gray-white in color with large gravel pieces mixed in.

Unit 2: Beneath the underbedding, at a depth of about 25 cm (10-12") down to 50-60cm (20-24") removal of modern fill (7.5YR3/4) uncovered a brick barrel vault along the north trench wall (to approximately 1m south of the north baulk), while south of this the fill was excavated more deeply (to about -1m below grade). The southern 3.35m of the trench were all disturbed by gas and water pipes (tops at 135-145cm below grade).

Trench number: T13

Location: Stone Street

Dimensions: 2.5 m (8'2") N-S x 2.4m (8') E-W

Illustration: Figure

Date excavated: 11/7/97

Excavated by: ECS

Comments:

Unit 1: Blacktop, approximately 10-15cm (4-6") thick, was removed with a jackhammer across the entire trench. Below this was the concrete underbedding, which was 15 cm (6") thick, gray-white in color with large gravel pieces mixed in.

Unit 2: At 40cm (16") below grade, tops of two cellar vaults uncovered (left unexcavated) extending to 80cm (32") south of north baulk. 7cm (3") south of the vault face and parallel to it, is a 103cm (40")-wide pipe trench, distinguished by color (2.5YR6/4) and texture. The pipe was encountered at 1.60cm below grade in the center of this pipe trench. The remaining 60cm (24") to the south baulk was excavated to -1.0m (39"). The color (2.5YR3/3) was similar to the fill in the northern half of the trench.

Trench number: T14

Location: Stone Street/Coenties Slip

Dimensions: 1.5 m (5') N-S x 2.5m (8'4") E-W

Illustration: Figure

Date excavated: 10/29/97

Excavated by: ECS

Comments: Under Coenties Plaza east of 85 Broad St.; modern fill; subsurface destroyed in 1988 foundation construction for 85 Broad Street

Unit 1: Brick removal, concrete slab beneath removed by saw and backhoe, 25 cm (10") deep.

Unit 2: Clean modern gravel fill beneath concrete; 10cm (4") thick over entire trench.

Unit 3: Modern fill to -1.5m, red (10YR4/4) clay on north side, sand (10YR6/6) on south.

Trench number: T15

Location: Stone Street/Coenties Slip

Dimensions: 1.5 m (5') N-S x 2.5m (8'4") E-W

Illustration: Figure

Date excavated: 10/29/97

Excavated by: ECS

Comments: Under Coenties Plaza east of 85 Broad St.; modern fill; actually located over the underground garage for 85 Broad Street; material in fill probably from 85 Broad Street construction; post-1987.

Unit 1: Bricks and concrete removed by hand and with jackhammer. Total depth 25cm (10").

Unit 2: Clean rocky modern fill (10YR4/4), mixed with sand, to 40cm (16") below grade.

Trench number: T110

Location: west side of Stone Street, near 85 Broad

Dimensions: 95cm (3') N-S x 1.5m (5') E-W

Date excavated: 11/6/97

Excavated by: Con Edison

Comments: In 85 Broad St. backfill

Unit 1: Bricks and concrete removed by hand and with jackhammer. Total depth 28cm (11").

Unit 2: Clean rocky modern fill (10YR4/4), mixed with sand, to 40cm (16") below grade, electric duct running E-W at about 50cm (20") below grade. Excavation stopped at -60cm (24").

Trench number: T111

Location: west side of Stone Street

Dimensions: 3.85m (12') N-S x 90cm (3") E-W

Date excavated: 11/6/97

Excavated by: Con Edison

Comments: Modern fill with gas service trench through center.

Unit 1: Blacktop, approximately 10-15cm (4-6") thick, was removed with a jackhammer across the entire trench. Below this was the concrete underbedding, which was 15 cm (6") thick, gray-white in color with large gravel pieces mixed in. Unit bottom at -28cm (12").

Unit 2: Clean sandy fill (10YR7/6) throughout the trench to a depth of 75 cm (30"); gas pipe at 110-120cm north of baulk (55cm (23") deep) running E-W within pipe trench 85cm (34") wide beginning 45cm from south baulk.

Trench number: T112

Location: Stone Street

Dimensions: 2.20m (7'3") N-S x 1.10m (3'7") E-W

Date excavated: 11/10/97, 11/14/97

Excavated by: Con Edison

Comments: Old cellar vaults removed in modern construction; modern fill without intrusive pipe trenches.

Unit 1: Blacktop, approximately 10-15cm (4-6") thick, was removed with a jackhammer across the entire trench. Below this was the concrete underbedding, which was 15 cm (6") thick, gray-white in color with large gravel pieces mixed in.

Unit 2: From approximately 20cm (8") below grade to 45cm (18"); dark brown soil (10YR3/2).

Unit 3: Dark red clay (10R3/6) matrix to a depth of 130-140cm below grade. Modern fill, no pipes found.

Conclusions and Recommendations: Stone Street

Seventeen pre-excavation test trenches of various sizes were excavated into the streetbed of Stone Street between Coenties Slip and Hanover Square (Figure 4). These pre-excavation test trenches can be considered shorter or longer transects across a sampling universe of 553.86 m^2 (5,973 sq. ft.) [110.33m (362') long (E-W) and 5.02m (16.5') wide (N-S)] consisting of the length and width of Stone Street. As the documentary study showed, there is a high probability that the area is potentially "archaeologically sensitive" (Landmarks Preservation Commission 1997:14-15). The placement of these transects, although designed to efficiently uncover modern utility lines and installations, may be considered random with respect to the premodern streetbed and topography (Plog 1976). The 17 pre-excavation test trenches (15 ECS, 2 Con Edison,) thus present us with a simple random transect sample of the area (sample fraction of 15.5% of the area [total transect area (86.09 m^2 ; 909.3 sq. ft) divided by the sample universe (553.86 m^2 ; 5,973 sq. ft.)], (for literature see: Brown 1987; Fish and Kowalewski 1990; Hodder and Orton 1976; Nance 1983; Shennan 1985; Thomas 1988)). Note that the universe sampled allows assessment of disturbance only for current streetbed/sidewalk areas. We cannot say anything about the extent of disturbance under standing structures, beyond the sidewalk line distal to the street, or below 5 feet (1.5m) deep. Within these parameters we can, of course, generalize from the sample to the universe (the streetbed of Stone Street) as a whole, which is the purpose of sampling (Mueller 1974; Noble 1996).

With these caveats, the monitoring of the pre-excavation trenches on Stone Street, allows the following observations to be made:

1. Modern asphalt street surface and concrete underbedding extends to 25-30cm (10-12") in each of the Stone Street pre-excavation test trenches. Those on Coenties Alley or the far west side of Stone Street may have a slightly thinner covering (brick rather than asphalt).
2. Brick sidewalk vaults dating to the mid-nineteenth century, set atop stone cellar foundations extending down at least 1.5m (5'), underlie the northern curb of Stone Street. Visual inspection of the existing cellars and sidewalk grates indicates that these foundations go down approximately 3m (10'), below the expected level of the earliest occupation of this area as shown by prior borings (Murphy 1937:vol. 1, sheet 1) and excavation (Rothschild et al.1987). Indeed, the potential archaeological strata of Stone Street east of the Stadt Huys Block may not have been as deep as those to the west, due to the contours of the original ground surface (Boesch et al. 1987:322). These vaults and foundations extend approximately 1m (39") into the current streetbed.
3. The similar sidewalk vaults which extended into the southern part of the streetbed were dismantled/destroyed at some point earlier this century. The banks of Con Edison ducts along the southern curb of Stone Street may overlie

the remains of the corresponding foundations of structures on the south side of the street.

4. The center of the current streetbed is disturbed by water mains/sewer pipes installed earlier in this century. While there are artifacts in the backfill of these pipe trenches, the integrity of the context is disturbed and the deposits cannot be considered to be archaeologically significant.

5. At no point in any Stone Street pre-excavation test trench was there more than 25cm (10") across the width of the trench which might possibly contain intact contexts from prior to ca. 1850. The dense concentration of pipes and utility ducts, as well as the cellar and sidewalk vault intrusions, was constant from the west end of the street (at Coenties Slip) to the east (at Hanover Square).

These observations allow the following conclusions to be drawn:

1. There has been no negative impact from the pre-excavation test trenches on the archaeological resources of Stone Street.

2. The repaving plan for Stone Street should not have any negative effect on any significant archaeological resources.

3. Replacement in kind of any utilities or ducts on Stone Street will have no negative effect on any archaeological resources, providing that the replacements remain within the existing utility lanes at the current depths. Archaeological monitoring and possible mitigation for archaeological resources below five feet are the responsibility of the contractor.

Monitoring Results: Stratigraphy of the Pre-excavation Trenches on Surrounding Streets

Although the Stone Street Historic District repaving project affects only Stone Street itself, pre-excavation test trenches were also dug in the streets which mark the edge of the district. No repaving of the streetbed is planned for these streets. These included trenches across the width of Pearl Street, South William Street, William Street, Hanover Square, and Coenties Alley. These trenches were monitored in the same fashion as the trenches of Stone Street. In all but one trench (T105 on Pearl Street), deposits were either disturbed by pipes and ducts and their emplacement trenches, or were undifferentiated mixed fill.

Pearl Street Trenches

Trench number: T16

Location: Pearl Street/Hanover Street

Dimensions: 1.9 m (6'2") N-S x 4.15m (13'7") E-W

Date excavated: 10/31/97

Excavated by: ECS

Comments:

Unit 1: Blacktop, approximately 10-15cm (4-6") thick, was removed with a jackhammer across the entire trench. Below this was the concrete underbedding, which was 15 cm (6") thick, gray-white in color with large gravel pieces mixed in.

Unit 2: Sand underneath, 1993 fill according to ECS records, sterile to the bottom at 1.5m (4').

Trench number: T100

Location: Pearl Street

Dimensions: 3.95m (13') N-S x 90cm (3') E-W

Illustration: Plate III

Date excavated: 11/16/97

Excavated by: Con Edison

Comments:

Unit 1: Blacktop, approximately 10-15cm (4-6") thick, was removed with a jackhammer across the entire trench. Below this was the concrete underbedding, which was 15 cm (6") thick, gray-white in color with large gravel pieces mixed in.

Unit 2: Dark red (2.5YR3/4) mixed modern sandy fill, excavated to 1m (39") – 1.2m (47") beneath the modern grade. Ducts and pipes crisscross the trench.

Trench number: T101

Location: Pearl Street

Dimensions: 7.0m (22'10") N-S x 1.10m (4') E-W

Illustration: Figure 17

Date excavated: 11/22/97

Excavated by: Con Edison

Comments:

Unit 1: Blacktop, approximately 10-15cm (4-6") thick, was removed with a jackhammer across the entire trench. Below this was the concrete underbedding, which was 15 cm (6") thick, gray-white in color with large gravel pieces mixed in.

Unit 2: Below T101/1, deepening toward the south (to - 75cm (30")) and center (to -1.25m (48")), the matrix is yellowish brown (10YR5/4) sandy with stones, cut by eight pipes and ducts at varying depths to -115cm (42"), which was the bottom of the trench.

Trench number: T102

Location: Pearl Street

Dimensions: 6.20m (20'3") N-S x 1.10m (4') E-W

Date excavated: 11/16/97, 11/22/97

Excavated by: Con Edison

Comments:

Unit 1: Blacktop, approximately 10-15cm (4-6") thick, was removed with a jackhammer across the entire trench. Below this was the concrete underbedding, which was 15 cm (6") thick, gray-white in color with large gravel pieces mixed in.

Unit 2: South 2.10 x 1.10m opened; sandy soil with mixed gravel (5YR4/6); modern fill to about -1m.

Unit 3: North of T102/2, red sandy muddy soil (5YR4/6) below concrete underbedding (T102/1) to a depth of about 1m below grade; modern disturbed fill.

Unit 4: North 2.5m of trench, below T102/1, muddy brown sand (7.5YR4/3) with small stones and shells throughout, to a depth of 75cm (30") below grade.

Trench number: T103

Location: Pearl Street

Dimensions: 6.00m N-S x 1.10m E-W

Date excavated: 11/22/97

Excavated by: Con Edison

Comments: Brick wall is probably the foundation of one of the elevated train support pillars.

Unit 1: Blacktop, approximately 10-15cm (4-6") thick, was removed with a jackhammer across the entire trench. Below this was the concrete underbedding, which was 15 cm (6") thick, gray-white in color with large gravel pieces mixed in.

Unit 2: Barrel vault on north (almost in profile), duct 30cm wide begins at 45 cm south of vault face. At 110-155cm south of the north baulk, a brick wall bisects

the trench, running east to west. Another pipe (20cm wide) runs parallel to this at 170m south. The matrix is dark brown (10YR4/3) rocky and clay fill. Unit was excavated to -1m.

Trench number: T104

Location: Pearl Street

Dimensions: 6.00m N-S x 1.10 E-W

Illustration: Figure 18

Date excavated: 11/16/97

Excavated by: Con Edison

Comments: South and north sides worked separately; north side begins at Unit 7.

Unit 1: Blacktop, approximately 10-15cm (4-6") thick, was removed with a jackhammer across the entire trench. Below this was the concrete underbedding, which was 15 cm (6") thick, gray-white in color with large gravel pieces mixed in.

Unit 2: Began working from the south side; T104/2 is 1.5-2.5m north of south baulk (curb). Soil is dark brown (10YR3/4) clay loam mixed with stones, probably backfill from sewer trench running down street center; dug to about 80cm (32") below grade.

Unit 3: Southernmost 1.5m of trench below the concrete underbedding. This is fill in a modern pipe trench, both sterile yellow sand (10YR6/6), the concrete cap of the pipe trench, and the brown fill (10YR3/4) beneath it to a depth of 85cm. Beneath the concrete was an old N-S running gas service pipe.

Unit 4: Under T104/2, to a depth of about 90cm (36"). Very dark brown clay soil (10YR3/2). Separated from T104/5 because of large quantity of green-edged pearlware.

Unit 5: Under T104/4, to a depth of 130cm (50"), same color and matrix.

Unit 6: Pipe trench and associated pipes, running southwest-northeast across trench beginning at a point about 3.4m north of south baulk and continuing to the pipe ducts running east-west across the trench at 4.75m north of the baulk. Pipes lay at depths from 40-80 cm (18-32") in a matrix of pale yellow sand (2.5YR7/3).

Unit 7: Northernmost 1.25m of trench; crossed by pipes and ducts in a matrix of yellow sandy clay and gravel (2.5YR7/3). Pipes are at depth of 45-50cm.

Unit 8: Under the southernmost 10cm of T104/7; to a depth of -50cm (20"), just south of the pipes is a dark red (2.5YR4/2) patch of sandy soil with large green shell-edged pottery pieces.

Unit 9: Below T104/8, excavated to 150cm (70") below grade, in sandy soil (10R4/3) with thick chunks of red clay (10R3/6) mixed throughout. Sewer pipe runs immediately below this.

Trench number: T105A and 105

Location: Pearl Street, corner of Coenties Slip; 105A is street trench, 105 is

trench under the sidewalk.

Dimensions: combined 7.20m N-S x 1.25m E-W; T105 is southernmost 1.25 x 1.25.

Illustration: Figures 19-23; Plate IV

Date excavated: 11/3/97, 11/5/97, 11/17-11/19/97

Excavated by: Con Edison

Comments: Under the sidewalk on the south side of the trench, in T105, was found the only possibly undisturbed context.

T105A

Unit 1: (North side, in Pearl Street: 3.15m N-S; 1.25m E-W) Asphalt and cement removal with jackhammer on north side of street to a depth of 25cm. Gravel and clean sand beneath the paved surface.

Unit 2: Clean sterile sand fill 2.5Y5/2 over telephone ducts in the southern 70cm of the trench. Bottom depth was about 90cm below grade. Water main (12")

Unit 3: North of T105/2, sandy clay soil mixed with sand patches and gravel 7.5YR4/3. All artifacts from this northern part of the trench come from this unit.

Unit 5: Asphalt and cement removed (3m N-S x 1.25m E-W) from the south side of Pearl Street to a depth of ca. 30cm.

Unit 6: Dark brown sandy fill beneath the cement underbedding of Unit 5.

T105

Unit 1: Cement sidewalk removal with saw and jackhammer to a depth of about 15cm.

Unit 4[T105/3 on profile]: Yellow (2.5YR5/2) sand fill layer beneath cement slanting to the south to a depth of 105cm in the SW and SE corners (40cm at NE and NW). Sterile, covering modern plastic pipe running E-W in the south profile[T105/4 may be unexcavated trench bottom] (Figure 22).

Unit 5: Dusky red soil (2.5YR3/4) mixed with rocks, sand and clay, burning evident; in northern part of the trench (about 40-60cm from N scarp), ca. 20cm thick (thinning toward S and E)

Unit 6: Continuation of T105/5, same color, less burnt with more sand and rocks mixed in; large rocks found in T105/5 removed; bottom elevations to -75 cm (NE and NW).

Unit 7: Continuation of dusky red soil (2.5YR3/4), now mixed with some greenish gray clay; bottom depth -78cm.

Unit 8: unused

Unit 9: Loose layer of mixed stones, brick fragments, and many decayed oyster shells below T105/5-7; color 2.5YR5/2; bottom depth -93cm (NW), -87cm (NE).

Unit 10: Ashy lens (G6/0) in south-central part of T105/9, top at -93 (NW), -87 (NE), bottom at -95; shell still present in quantity, especially along the north balk.

Unit 11: Moist loamy soil (7.5YR5/2) with pebbles and shell inclusions, traces of burnt wood and ash; depth to -101cm (Figure 23).

Unit 12: Ashy clay soil (5YR5/2) at bottom of T105/11; depth -101cm.

Unit 13: West side (40 cm wide from scarp) of northern part of the trench; now visible as pipe trench for the 19th century copper pipe in W profile; coarse sandy loam 5YR3/2; depth to 105-110 cm.

Unit 14: Rest of 120 x 120cm of T105, exclusive of the pipe trench; dark brown (7.5YR5/2), mixed with sand and shell; depth to -110cm.

Unit 15: Below and continuation of T105/14; wet clay and sand. The south part of the layer begins at the bottom of the modern pipe trench; burnt and redder patches (especially burnt in the NE), basic color is 7.5YR5/2. Bottom of layer, thicker in NE, is a 1-2cm black stratum at -112cm.

Unit 16: Bottom of the 19th century pipe trench; reddish (2.5YR3/2) sand with brick fragments in the westernmost 20cm of the trench.

Unit 17: Below both T105/15 and T105/16; clay, brick and shells especially in NE; darker red-brown (2.5YR4/4) to the depth of -115-120cm.

Unit 18: Trench diagonally bisected NW-SE, T105/18 is the NE triangle; matrix is wet clay with brick fragments, 2.5YR4/4, bottom at 125cm.

Unit 19: SW triangle (thus absent from N profile), sandy soil (2.5YR4/2) with gravel and a small rock concentration, may be a pit in T105/17. Begins at -119cm, bottom at -122cm.

Unit 20: Dense layer of shells under T105/18; bottom depth -130-135cm.

Unit 21: NE corner (70 x 90cm) of trench, under T105/20; depth to -145cm.

Unit 22: Below T105/21, black sandy loam 2.5YR3/2 with shells embedded; bottom depth -155cm

Unit 23: West side of trench, under T105/19; sandy loam 2.5YR3/2 with river cobbles. more shell on the NE side; bottom at -135-140cm.

Unit 24: Dark layer below T105/23; brown sand (10YR4/4) bottom at -140cm. This is the pipe trench bottom for another 19th (?) century pipe 30cm E of W scarp at -140cm, running N-S across the trench.

Unit 25: Bottom 2cm under T105/24; brown sand (10YR4/4) in the SW portion of T105; some brick and shell, but otherwise almost sterile.

Excavation stopped due to time and safety constraints.

South William Street Trenches

Trench number: 116

Location: South William Street near Coenties Alley

Dimensions: 1.83m (6') N-S x 97cm (3') E-W

Date excavated: 11/15/97

Excavated by: Con Edison

Comments:

Unit 1: Blacktop, approximately 10-15cm (4-6") thick, was removed with a jackhammer across the entire trench. Below this was the concrete underbedding,

which was 15 cm (6") thick, gray-white in color with large gravel pieces mixed in.
Unit 2: Below T116/1, clean sand fill (2.5YR5/2) in the northern 50cm (20") , darker brown fill (10YR4/4) with artifacts in the southern portion of the trench. Crossed by pipes running E-W at 25cm (10") north of s baulk (depth 37cm (15")), 102 cm (40") north of baulk (depth 44cm (17")), and 145cm (57") north at a depth of 47cm (18"). Trench bottom at 1.0m (40") below grade in the center, sloping up to about 50cm (20") at the north and south edges near the pipes.

Trench number: 117

Location: South William Street

Dimensions: 2.45m (8') N-S x 95cm (3') E-W

Date excavated: 11/15/97

Excavated by: Con Edison

Comments:

Unit 1: Blacktop, approximately 15-20cm (6-8") thick, was removed with a jackhammer across the entire trench. Below this was the concrete underbedding, which was 15 cm (6") thick, gray-white in color with large gravel pieces mixed in.
Unit 2: Sandy fill (10YR4/3) in northern 1.5m (60") of the trench, metal plate in south 1m. Depth from bottom of T117/1 (35cm) to about 1m. Excavation ceased when the backhoe broke a water pipe at this depth.

Trench number: 118

Location: South William Street

Dimensions: 2.45m (8') N-S x 95cm (3') E-W

Date excavated: 11/15/97

Excavated by: Con Edison

Comments: Almost identical to T117.

Unit 1: Blacktop, approximately 15-20cm (6-8") thick, was removed with a jackhammer across the entire trench. Below this was the concrete underbedding, which was 20 cm (8") thick, gray-white in color with large gravel pieces mixed in.
Unit 2: Sandy fill (10YR4/3) in northern 1.5m (60") of the trench, metal plate in south 1m. Depth to trench bottom about 80cm (32")

Trench number: 119

Location: South William Street

Dimensions: 2.45m (8') N-S x 95cm (3') E-W

Date excavated: 11/15/97

Excavated by: Con Edison

Comments:

Unit 1: Blacktop, approximately 10-15cm (4-6") thick, was removed with a jackhammer across the entire trench. Below this was the concrete underbedding, which was 15 cm (6") thick, gray-white in color with large gravel pieces mixed in.

Trench number: 120

Location: S. William near Mill Lane

Dimensions: 1.80m (6') N-S x 90cm (3') E-W

Date excavated: 11/15/97

Excavated by: Con Edison

Comments:

Unit 1: Blacktop, approximately 10-15cm (4-6") thick, was removed with a jackhammer across the entire trench. Below this was the concrete underbedding, which was 15 cm (6") thick, gray-white in color with large gravel pieces mixed in.

Unit 2: Same sandy fill (10YR4/3) as other South William Street trenches. Like T116 and T118, three water and gas pipes run through it; the southernmost (35cm from south edge) is 7cm wide and found at a depth of 58cm (24"), the middle pipe (1m from south edge) is also 7cm wide at -94cm (3'), the northernmost is 23cm (10") wide at a depth of 1.0m (39"). Total depth of excavation was 1.10m (44") at the north and 70cm (28").

William Street Trenches

Trench number: T113

Location: Slightly to the north of corner of Stone and William Streets

Dimensions: 93cm (3') N-S x 1.85m (6') E-W

Date excavated: 11/12/97

Excavated by: Con Edison

Comments: Mostly on the sidewalk

Unit 1: Blacktop, approximately 10-15cm (4-6") thick, was removed with a jackhammer across the entire trench. Below this was the concrete underbedding, which was 15 cm (6") thick, gray-white in color with large gravel pieces mixed in.

Unit 2: Modern clean sand fill (10YR5/4) to 90cm (3') below grade, where a metal plate covering the electric ducts was encountered.

Hanover Square Trenches

Trench number: T114

Location: Corner of Stone and Hanover

Dimensions: 75cm (30") N-S x 7m (23') E-W

Date excavated: 11/17/97, 11/19/97

Excavated by: Con Edison

Comments:

Unit 1: Blacktop, approximately 10-15cm (4-6") thick, was removed with a jackhammer across the entire trench. Below this was the concrete underbedding, which was 15 cm (6") thick, gray-white in color with large gravel pieces mixed in.

West side of trench was plated for later excavation (11/19/97).

Unit 2:

Trench number: T115

Location: Hanover Square, sidewalk in front (east of) of 1 Hanover Square

Dimensions: 1.34 m (53") N-S x 1.15m (45") E-W

Date excavated: 11/7/97

Excavated by: Con Edison

Comments:

Unit 1: Sidewalk saw-cut, removed with hammers, concrete 15cm (6") deep.

Unit 2: Modern sand and gravel fill 10YR7/6 excavated to 1.20m below grade; ends at that depth with a concrete slab across the entire trench bottom (ducts in concrete).

Coenties Alley Trenches

Trench number: T106

Location: Coenties Alley

Dimensions: 90cm (3') N-S x 3.65m (12') E-W

Date excavated: 11/17/97

Excavated by: Con Edison

Comments: Fill from construction of 85 Broad St.

Unit 1: Bricks and concrete removed by hand and with jackhammer. Total depth 25cm (10").

Unit 2: Soil mixed with sand and rock, reddish brown (5YR4/4), excavated to a depth of 1.20m (48").

Trench number: T107

Location: Coenties Alley

Dimensions: 90cm (3') N-S x 6.75m (22') E-W

Date excavated: 11/17/97

Excavated by: Con Edison

Comments: Similar to T106

Unit 1: Bricks and concrete removed by hand and with jackhammer. Total depth 27cm (11").

Unit 2: Soil mixed with sand and rock, reddish brown (5YR4/4), excavated to a depth of 1.20-1.70m (48"-66"). No pipes or ducts found; construction disturbance only.

Trench number: 108

Location: Coenties Alley

Dimensions: 90cm (3') N-S x 6.10m (20') E-W

Date excavated: 11/17/97

Excavated by: Con Edison

Comments: Similar to T106

Unit 1: Bricks and concrete removed by hand and with jackhammer. Total depth 28cm (11").

Unit 2: Soil mixed with sand and rock, dark yellowish brown (10YR4/4), excavated to a depth of 1.20-1.70m (48"- 66"). Various modern features, including a plate (2.3m from W baulk, 45cm south of north end of trench, 45cm down), a high-pressure water pipe at 150cm from the west baulk and 35cm down, another larger water main (low-pressure) at a depth of 135cm immediately west of the high-pressure main. The bottom of the trench was at 120-140cm (48"- 55").

Trench number: 109

Location: Coenties Alley

Dimensions: 90cm (3') N-S x 3.65m (12') E-W

Date excavated: 11/17/97

Excavated by: Con Edison

Comments: Over the underground parking garage for 85 Broad St. All modern redeposited fill.

Unit 1: Bricks and concrete removed by hand and with jackhammer. Total depth 25cm (10").

Unit 2: Soil mixed with sand and rock, reddish brown (5YR4/4), excavated to a depth of 1.20m (48").

Conclusions: Pre-Excavation Trenches Outside of Stone Street

The stratigraphy and artifacts from all but one of the trenches excavated in the streets surrounding the Stone Street Historic District indicate the extent of disturbance of the streetbeds of the whole lower Manhattan area. Undisturbed contexts are very rarely found, at least at the depths to which the monitoring was done. Indeed, the extent of disturbance may be considered total in many cases (Plate V). The Stone Street Scope of Work, based on the documentary study, had posited that contexts undisturbed by later 19th and 20th century activities might most likely be found under the sidewalk rather than in the streetbeds. In fact, the only such context noted in the monitoring project was T105, excavated into the sidewalk on the south side of Pearl Street, actually outside the Historic District. In this small area (approximately 75cm x 75cm (30x 30 inches)) a good stratigraphic column was retrievable. While its integrity is unquestionable, its significance is limited. No architectural features were found. The artifacts and ecofacts from this trench are being analyzed and dated; preliminary analysis indicates that they cover the period from the seventeenth century to the fire of 1835. This is not a location which will be disturbed by the Stone Street Historic District renovation plan, and therefore there will be no effect on the archaeological resources. It should serve as a possible indication of the conditions and locations under which other intact contexts might be found in the area.

Artifacts

Over 3500 artifacts were recovered from the pre-excavation test trenches on Stone Street and the surrounding streetbeds. These included ceramics (Plates VI, VII), metal objects, bottles (Plate VIII), tobacco pipes (Plate IX), and bricks. Ecofactual material included numerous bivalve shells (mostly oyster) and animal bones (Plate X). The mixed and disturbed contexts for the most part were indicated by the usual occurrence of a wide chronological range of artifacts within excavation units. Although most of the material dated to the nineteenth century, both earlier and later artifacts were found.

While we may often be justified in assuming that material found in primary context (Schiffer 1987: 199) within a structure or even within an urban house plot may be connected in some way with the inhabitants/owners/users of that structure or plot, how far can we extend this to the material in the streets adjacent to the property? We know that there were site transformational processes that were constantly at work in urban streets: pigs rooting and vehicular traffic, to name but two known to have been prevalent in New York from the seventeenth through nineteenth centuries. In the pre-excavation test trenches, the strata were further transformed by later excavation, rendering their contents' connection with the neighborhood tenuous at best. The only indication of this connection might be the substantial concentration of large sherds of green-edged pearlware from Trench 104, situated in front of 79 Pearl Street which was occupied by the crockery business of W.B. Thompson and W.H. Lyon in 1851 (Landmarks Preservation Commission 1997: II-12).

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Scope of Work

Phase IB: Archaeological Monitoring Stone Street Historic District

Monitoring has been proposed for all pre-excavation test pits conducted by the excavation crew subcontracted by NYNEX and Con Edison, except for those completely situated above modern grates or vaults (see Map 1). This is equivalent to a Phase IB subsurface testing program employing mechanically and manually-excavated transects (cf. Flannery 1976). The general purposes of the monitoring are: 1) to document the presence or absence of undisturbed archaeological deposits; 2) to ensure that disturbance of intact archaeological deposits is prevented or minimized by limiting the excavations to the existing utility trenches; and 3) to determine the eligibility of potential resources for inclusion on the National Register of Historic Places.

The pre-excavation test pits to be monitored can be considered shorter or longer transects across the area, a sampling universe consisting of the length and width of Stone Street, Mill Lane, Coenties Alley, and half the width of the relevant blocks of Hanover Square, Water Street, Pearl Street, and South William Street (see Map 2 and Table 1). These streets are all part of or immediately adjacent to the Stone Street Historic District, and therefore there is a high probability that the area is potentially "archaeologically sensitive" (CNY 1993:3F-7). These transects may thus expose "sites" or loci of archaeological relevance. The placement of these transects, although designed to efficiently uncover modern utility lines and installations, may be considered random with respect to the premodern streetbed and topography (Plog 1976). The 36 pre-excavation test pits (15 NYNEX, 21 Con Edison, excluding parts of two which are completely situated above modern grates or vaults) present us with a simple random sample of the area (sample fraction of 5.6% of the area [total transect area (1,382 sq. ft) divided by universe (24,452 sq. ft.)], (for literature see: Brown 1987; Fish and Kowalewski 1990; Hodder and Orton 1976; Nance 1983; Shennan 1985; Thomas 1988). All of these pre-excavation test pits will be monitored by archaeologists meeting SOPA certification standards. Note that the universe to be sampled allows assessment of disturbance only for current streetbed/sidewalk areas. We cannot say anything about the extent of disturbance under standing structures, beyond the sidewalk line distal to the street, or in the halves of the streets that lie outside the universe.

The monitoring of the transect survey (pre-excavation test pits) will provide positive or negative evidence of undisturbed archaeological deposits within the sample universe. In any pre-excavation test pit or portion thereof, we may find the following: 1) presence of disturbance in the form of modern trenches, utility tunnels, or sidewalk vaults; 2) presence of undisturbed (since 1835) street

areas; 3) presence of undisturbed (since 1835) off-street areas. Our research design first calls for the preliminary monitoring and test excavations of seven selected pre-excavation test pits, comprising a total of 342 square feet, equivalent to 1.3 percent of the total site area, or 25 percent of the area exposed by the pre-excavation testing. These seven are: NYNEX tests numbers 4, 9, and 14 on Stone Street, and Con Edison numbers 105, 108, 113, 120 on the streets surrounding the Historic District (see Map 1). The NYNEX trenches, each transecting Stone Street from curb to curb, were chosen to give a systematic sample of the sub-surface deposits of this central street of New Amsterdam from east to west. These three trenches comprise 144 square feet, or approximately 25 percent of the area to be exposed on Stone Street. Of the Con Edison test trenches, number 105 (total surface exposure 96 square feet) on the corner of Pearl Street and Coenties Plaza will provide some information about the preservation of archaeological deposits relating to Lot 19, which runs between Pearl and Stone Streets (Map 2). Not only is this lot the closest to the Stadt Huys block, but it is one of the few lots which may contain a complete sequence of possible structural remains documenting continuity and change in land use from the seventeenth through the nineteenth centuries (Rothschild et al 1987). Con Edison test trench number 113 will expose 24 square feet on William Street. It is one of the few trenches on that street which is not located over the subway disturbance, and has the best possibility of uncovering undisturbed off-street deposits. Test trench number 120, comprising 18 square feet in the east side of the block of South William Street also has the highest potential on that street for exposing intact deposits, as well as the highest probability of exposing structural remains. Our selection on Coenties Plaza, trench 108 (60 square feet), is the least likely to have been disturbed, and also may provide some insight into the preservation of deposits relating to Lot 19.

Street	Surface area	# of pre-exc. Trenches	Pre-exc. trench area	# of trenches sampled	Sample area
Stone Street	9500 sq. ft.	17	564 sq. ft.	3	144 sq. ft.
Mill Lane	1400 sq. ft.	0			
South William Street	6900 sq. ft.	5	108 sq. ft.	1	18 sq. ft.
William Street	2300 sq. ft.	4	167 sq. ft.	1	24 sq. ft.
Pearl Street	3600 sq. ft.	6	375 sq. ft.	1	96 sq. ft.
Coenties Plaza	3150 sq. ft.	4	198 sq. ft.	1	60 sq. ft.
Subtotal	26,850 sq. ft.	36	1,412 sq. ft.	7	342 sq. ft.
Less disturbed areas					
Pearl Street (grates)	1650 sq. ft.	0	30 sq. ft.		
Stone Street (grates)	700 sq. ft.				
Pearl Street (Elevated train supports)	48 sq. ft.				
Total	24,452 sq. ft.	36	1,382 sq. ft.	7	342 sq. ft.

Table 1: Synoptic table of project and sample areas

These seven pre-excavation test trenches will provide a representative sample of possible results of the exposure of the sub-surface deposits in other trenches. The first 60 cm (24"), comprising the modern street surface and streetbed, will be mechanically removed. Below that, unless the modern utility lines and trenches are immediately apparent, the backhoe operator will be instructed to excavate slowly in thin increments under constant close monitoring by the supervising archaeologist. All operations will be supervised by SOPA-certified archaeologists or those meeting the standards of the Department of the Interior (1983), assisted by staff who have successfully completed at least one field school (4-5 supervisors and 10-12 experienced undergraduate archaeology students). At the discretion of the archaeologists, contractor's excavation will be stopped for further archaeological testing. All intact archaeological deposits uncovered in the course of monitoring these seven trenches will be completely excavated manually by the archaeological staff and crew utilizing hand tools, and the soil passed through 5 mm (1/4") screens. Soil samples will be taken from closed contexts. The archaeological test trenches excavating these deposits will be excavated into the surface of the natural subsoil, where this is possible (up to 2 meters [7'] as indicated by the cores (Rothschild et al 1987)). Stratigraphy will be recorded on standardized pre-printed provenience forms. Munsell charts will be used to identify matrix colors, and inclusions and matrix composition will be specified.

Maps of each pre-excavation test trench will be drawn to scale showing the location of modern features and archaeologically intact deposits. Top plans and profiles of all excavated deposits will be drawn.

After the excavation of the first seven pre-excavation test trenches, the remainder of the trenches will be mechanically excavated under close archaeological supervision. If no intact archaeological deposits are encountered, no further action will be recommended. When intact streetbeds/surfaces are encountered, a stratigraphic column comprising a 25% areal sample of the deposit will be randomly selected to be excavated and sifted as above. When intact off-street deposits are encountered, at least a 50% areal sample of the deposit will be excavated as above. This sampling strategy will be further refined based upon the individual resources and the results of the monitoring and testing of the first seven pre-excavation trenches.

Laboratory treatment

Laboratory treatment will follow established procedures of the Brooklyn College Archaeological Research Center, where the material will be processed, and will be under the direction of the permanent staff of the Archaeological Research Center. Principles of object conservation will be applied both in the field and in the laboratory. These include: recovery in the field using inert waterproof collection materials; emergency removal techniques as required; cleaning/stabilization procedures in the laboratory; catalog/inventory recording and computerized data entry to provide quantified artifact inventories; accessible storage techniques using museum-quality materials.

Results

The results of this monitoring and testing program will be documented in a report that contains a description of the archaeological work performed and the results of the stratigraphic and artifact analysis. Locations of all excavations, identified features, and recording locations will be depicted on a project map. The report will include descriptions of any modifications or additions to this data recovery plan.

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MAP 1

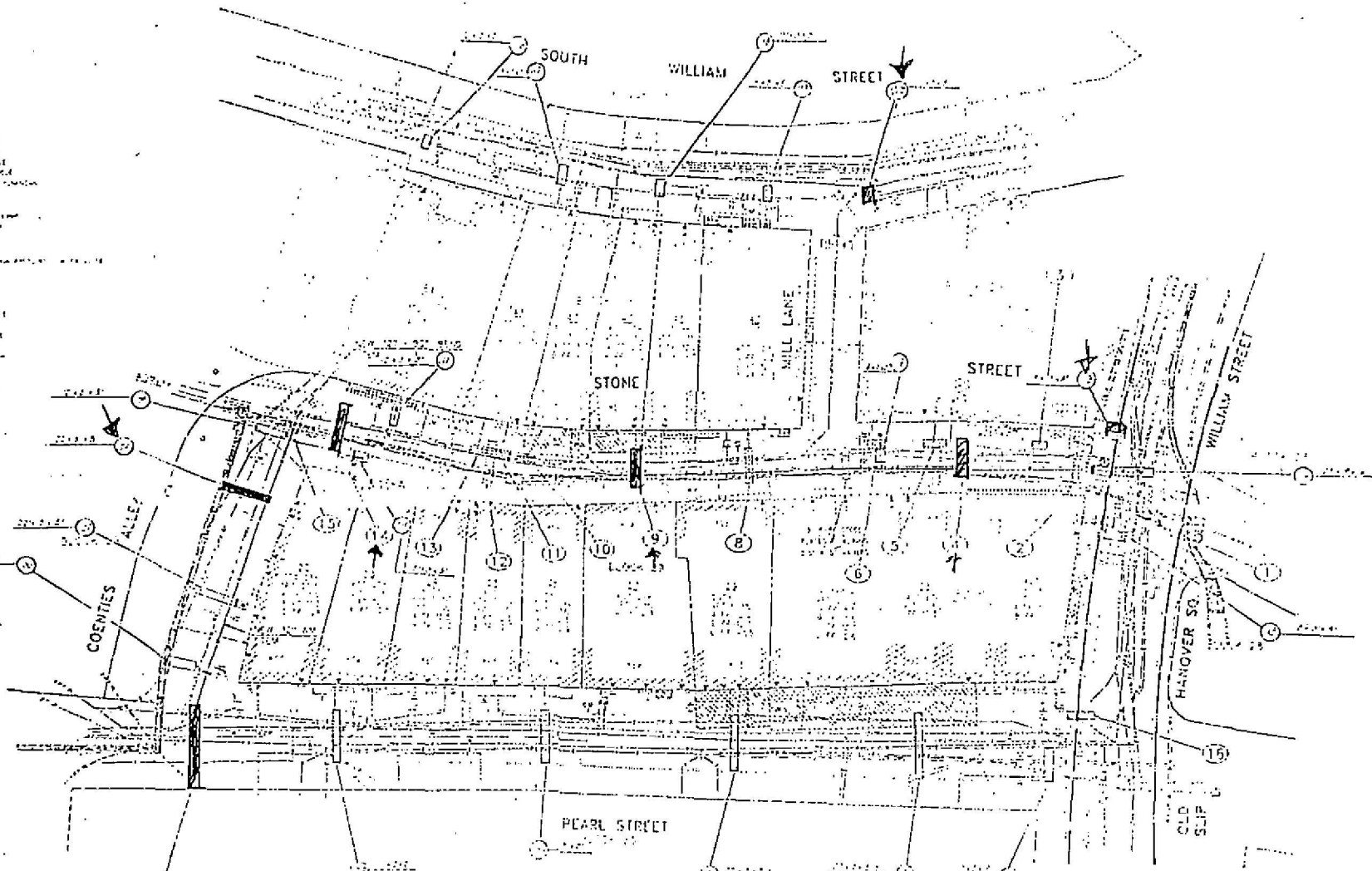
- 1. WATER MAIN
- 2. GAS MAIN
- 3. SEWER MAIN
- 4. ELECTRIC MAIN
- 5. TELEPHONE MAIN
- 6. CABLE MAIN
- 7. STREET LIGHT
- 8. PRIVATE STREET LIGHT
- 9. PUBLIC STREET LIGHT
- 10. FIRE ALARM
- 11. FIRE HYDRANT
- 12. FIRE EXTINGUISHER
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- 100. FIRE EXTINGUISHER

SCALE 1" = 100'

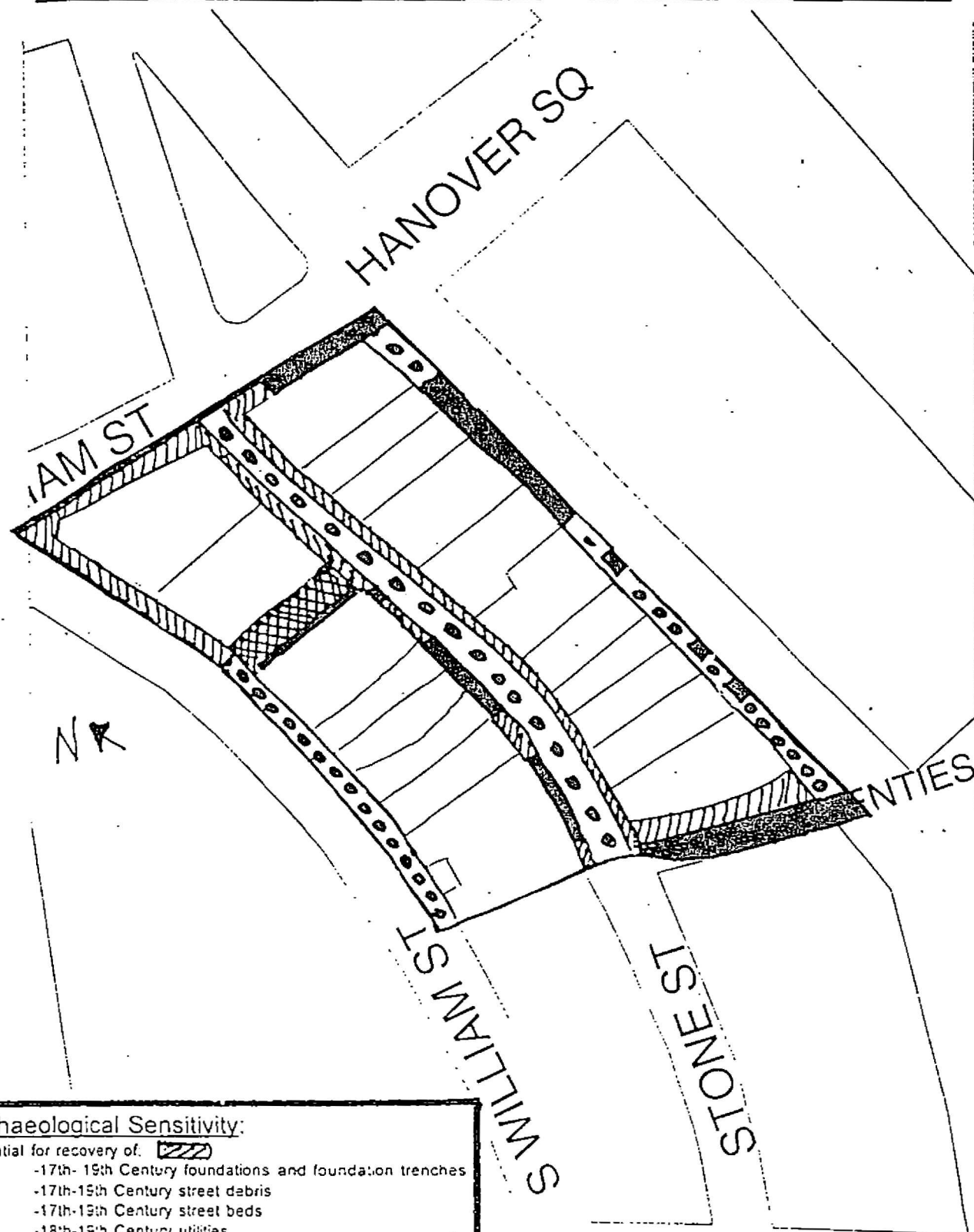
3A

TEST PITS FOR PRELIMINARY MONITORING + EXCAVATING


CITY OF NEW YORK	
DEPARTMENT OF CERES AND CONSTRUCTION	
ECS TEST PITS AND UTILITY PLAN	
STONE STREET	
BOROUGH OF MANHATTAN	
SHEET	OF
CONTRACT NO. 100-1000	




ARCHAEOLOGICAL SENSITIVITY MAP - MAY 2




Archaeological Sensitivity:

Potential for recovery of. 


- 17th-19th Century foundations and foundation trenches
- 17th-19th Century street debris
- 17th-19th Century street beds
- 18th-19th Century utilities

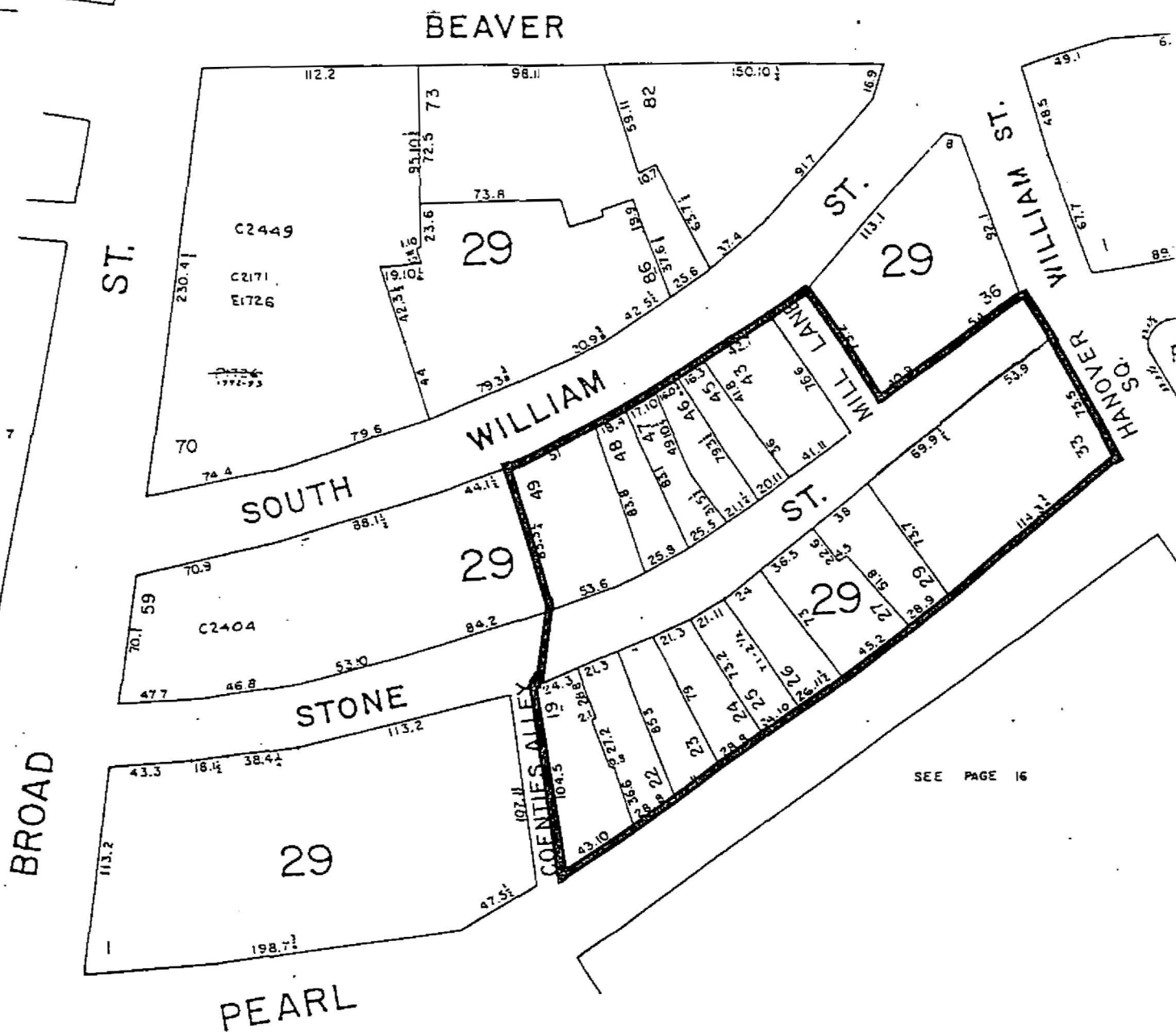
Potential for recovery of. 

- 17th-19th Century foundations and foundation trenches
- 17th-19th Century street debris
- 17th-19th Century street beds

Potential for recovery of. 

- 17th-19th Century street debris
- 17th-19th Century street beds

Disturbed- no further concern. 

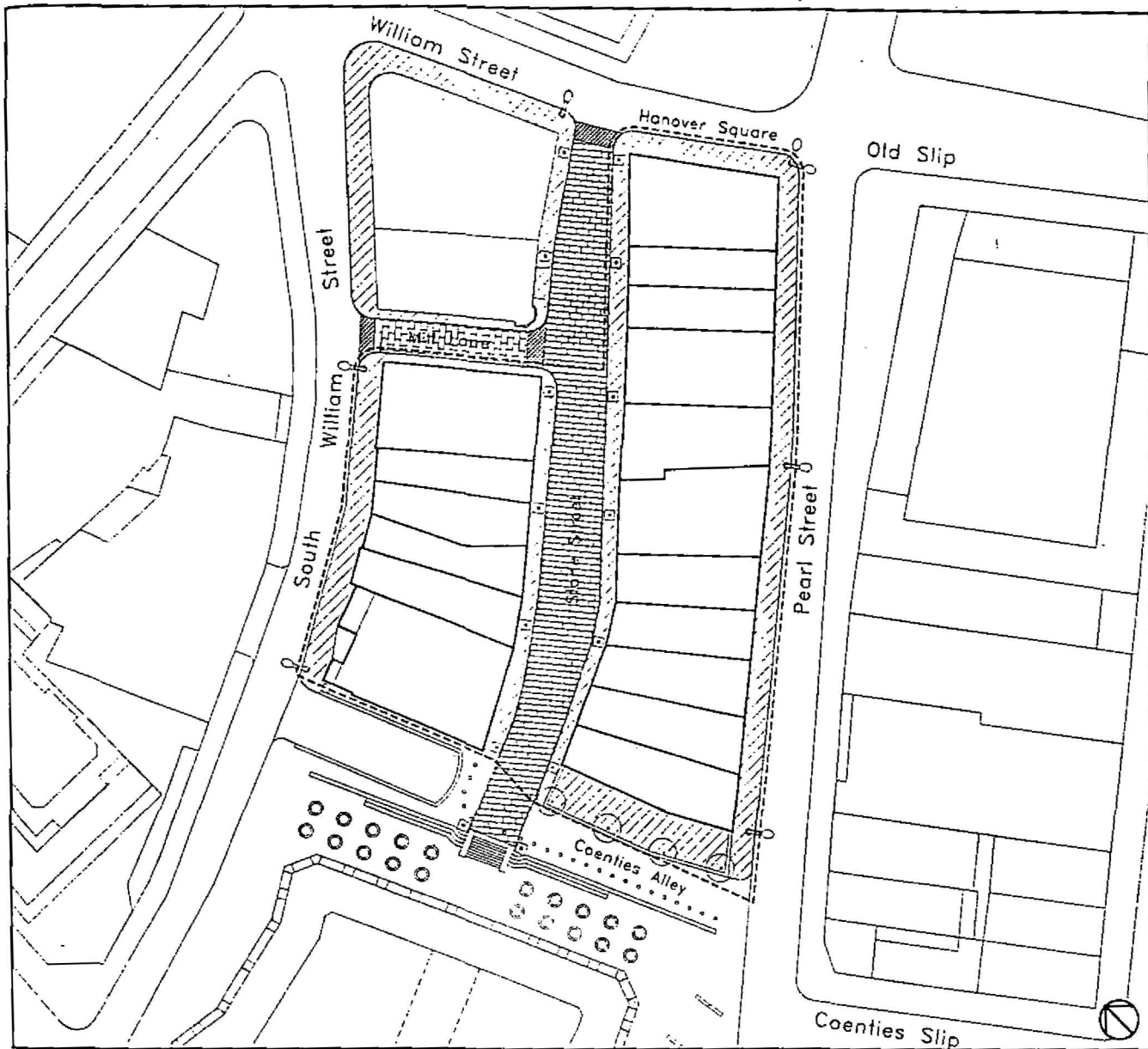


STONE STREET HISTORIC DISTRICT


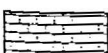




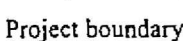
Designated June 25, 1996

Landmarks Preservation Commission

STONE STREET MASTER PLAN



Proposed Streetscape Plan

-  Bluestone flag sidewalk and granite curbs
-  Granite block roadbed
-  Granite crosswalk
-  Honey locust tree
-  Hancock gaslight
-  Bishop's Crook light
-  Project boundary

The proposed streetscape finishes include bluestone sidewalk flags, granite curbs, granite-slab crosswalks, and a granite block roadbed on Stone Street and Mill Lane. There are two proposed streetlight fixture types: a 10 foot high Hancock gaslight and a 20 foot Bishop's Crook. The pedestrian-scaled gaslight would be symmetrically located along Stone Street to accentuate the curvature of the street. The Bishop's Crook light fixture would be located on South William, Hanover Square, and Pearl Street and relate to the larger scale of these thoroughfares. The existing historic "Westchester bracket" light on Stone Street would be restored with a low wattage lamp. Furthermore, Stone Street would become a limited access street with no street parking allowed along its entire length. Two bollards with a removable chain would be installed at either end of the road to prevent the entry of vehicles during designated "pedestrian-only" hours.

TRENCH 2 AND 3 UNIT 1 BOTTOM

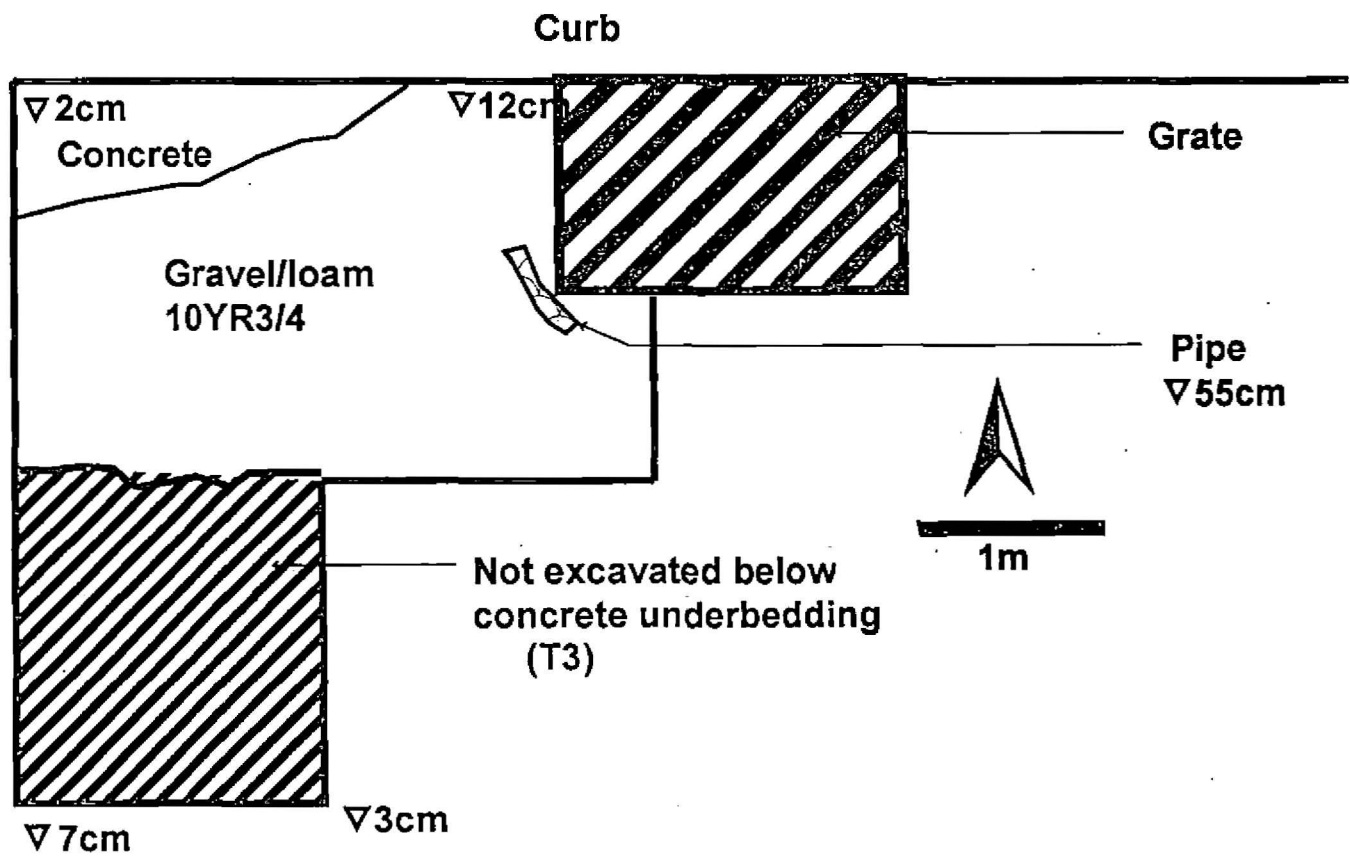


Figure 5

TRENCH 4 UNITS 4-5

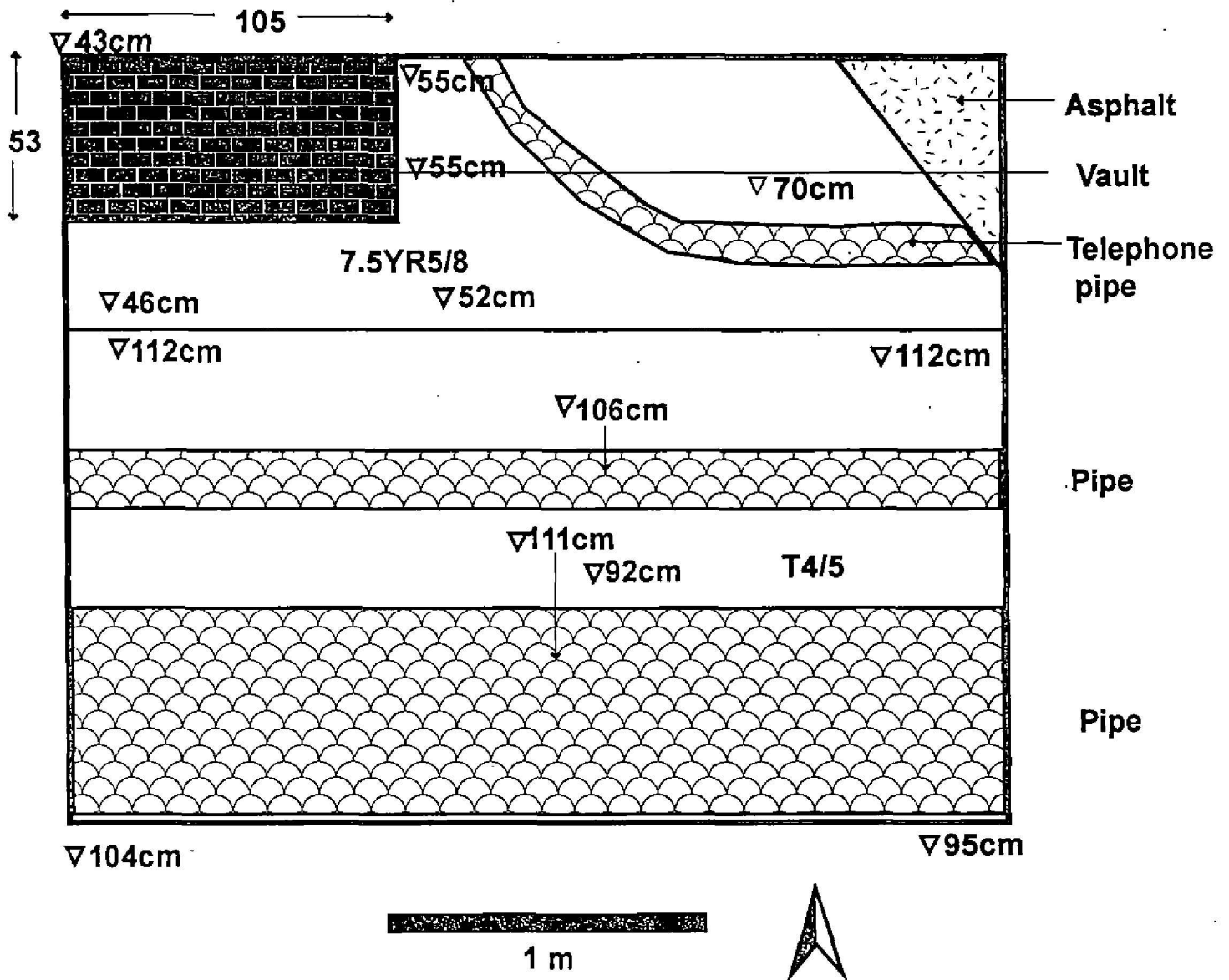


Figure 6

TRENCH 4 NORTH SIDE UNITS 8-9

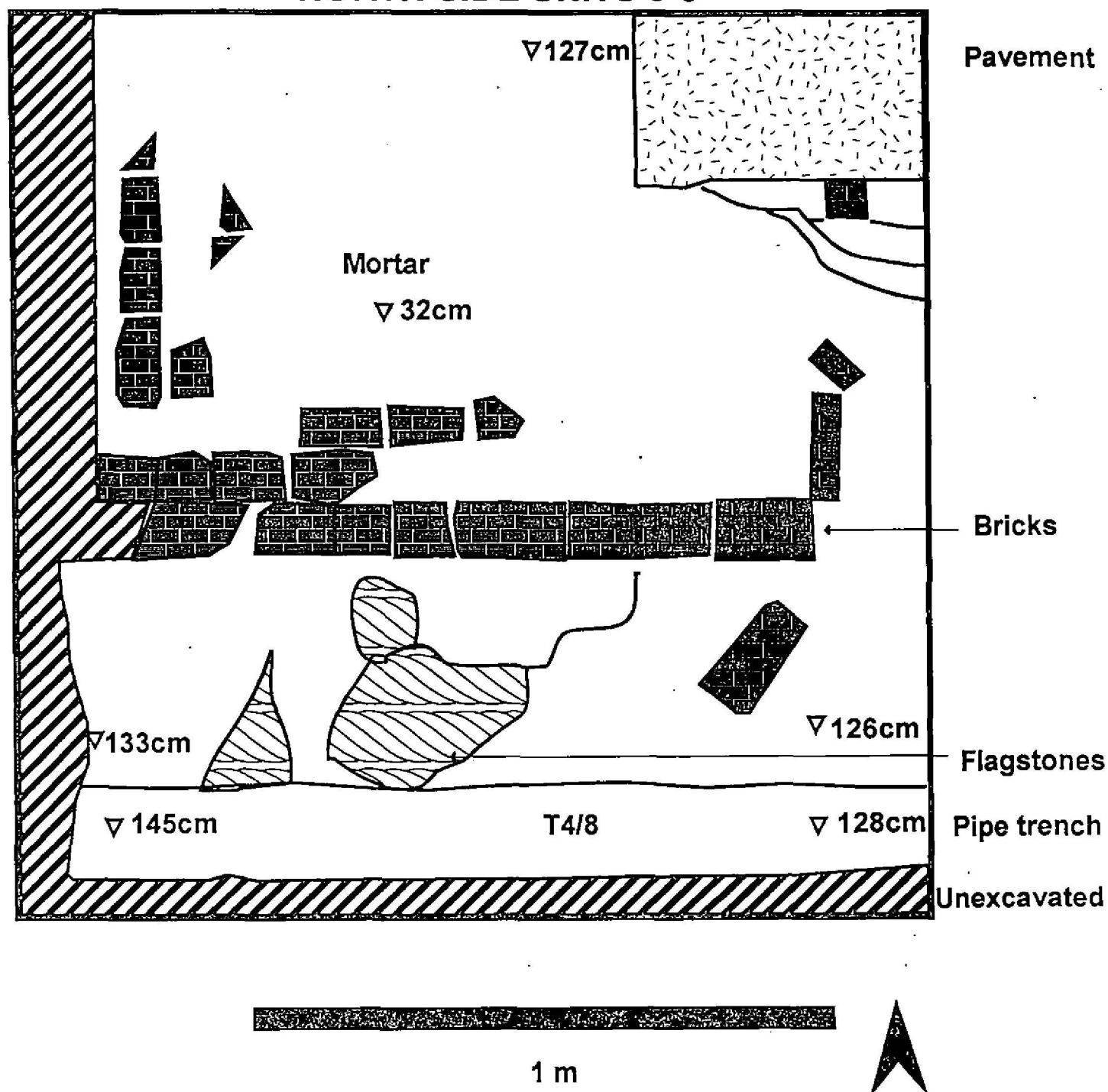
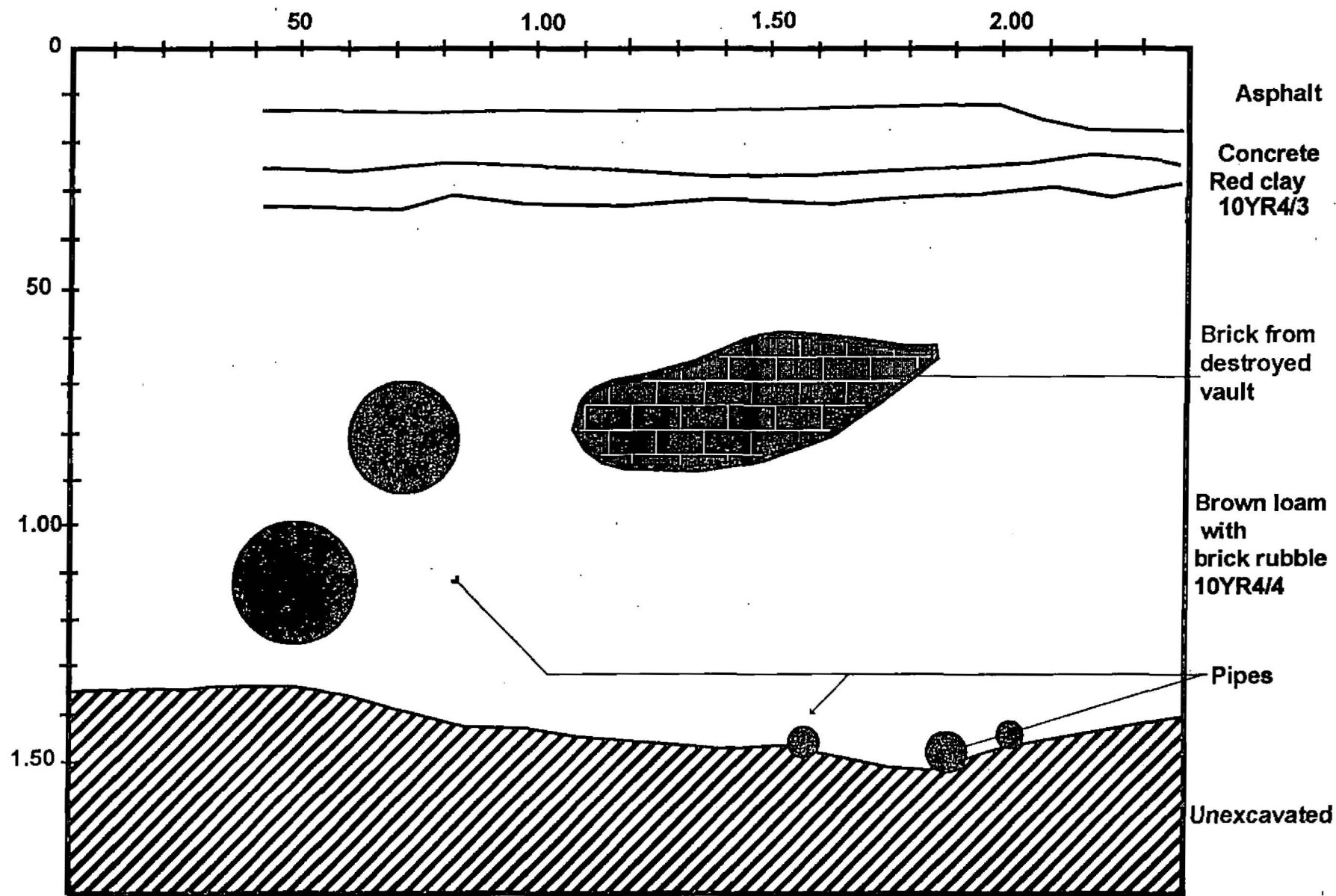


Figure 7



TRENCH 7 WEST PROFILE

Figure 8

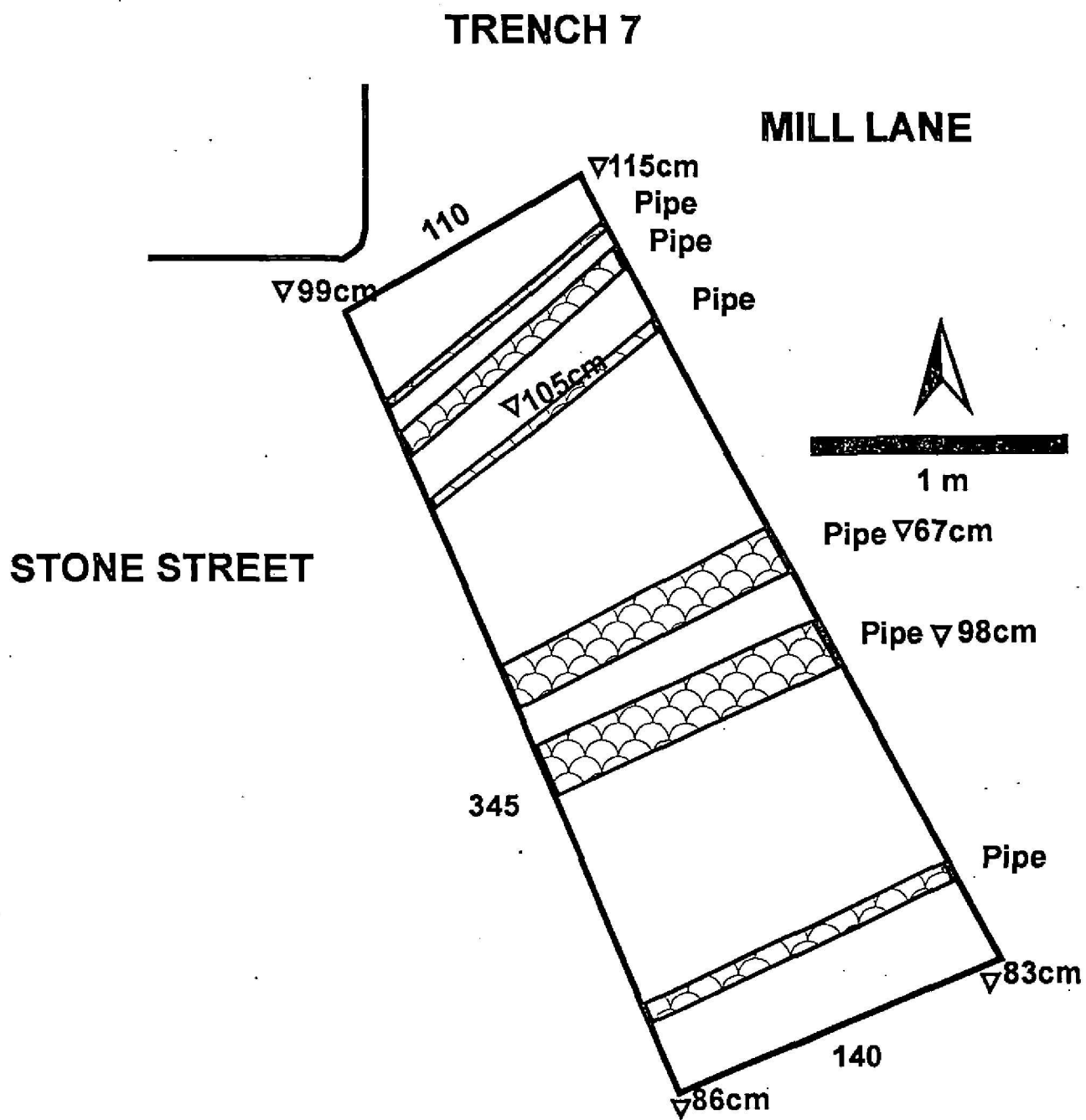


Figure 9

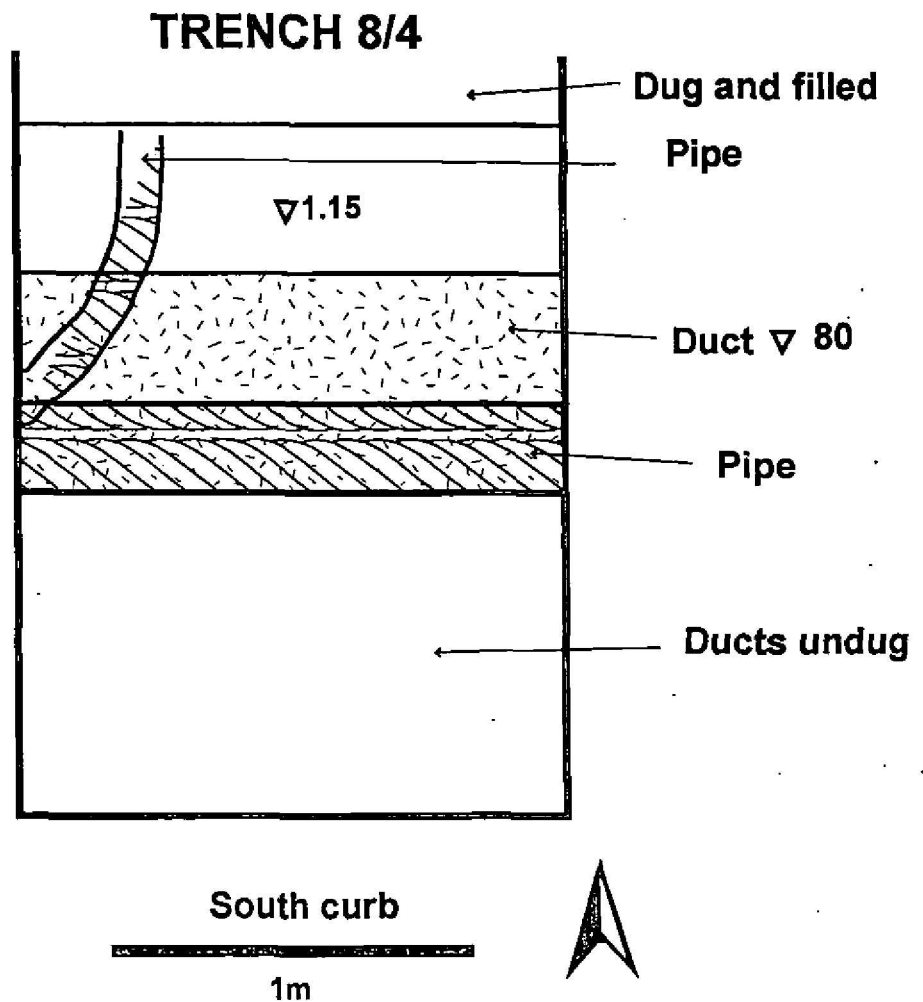


Figure 10

TRENCH 9 UNIT 4

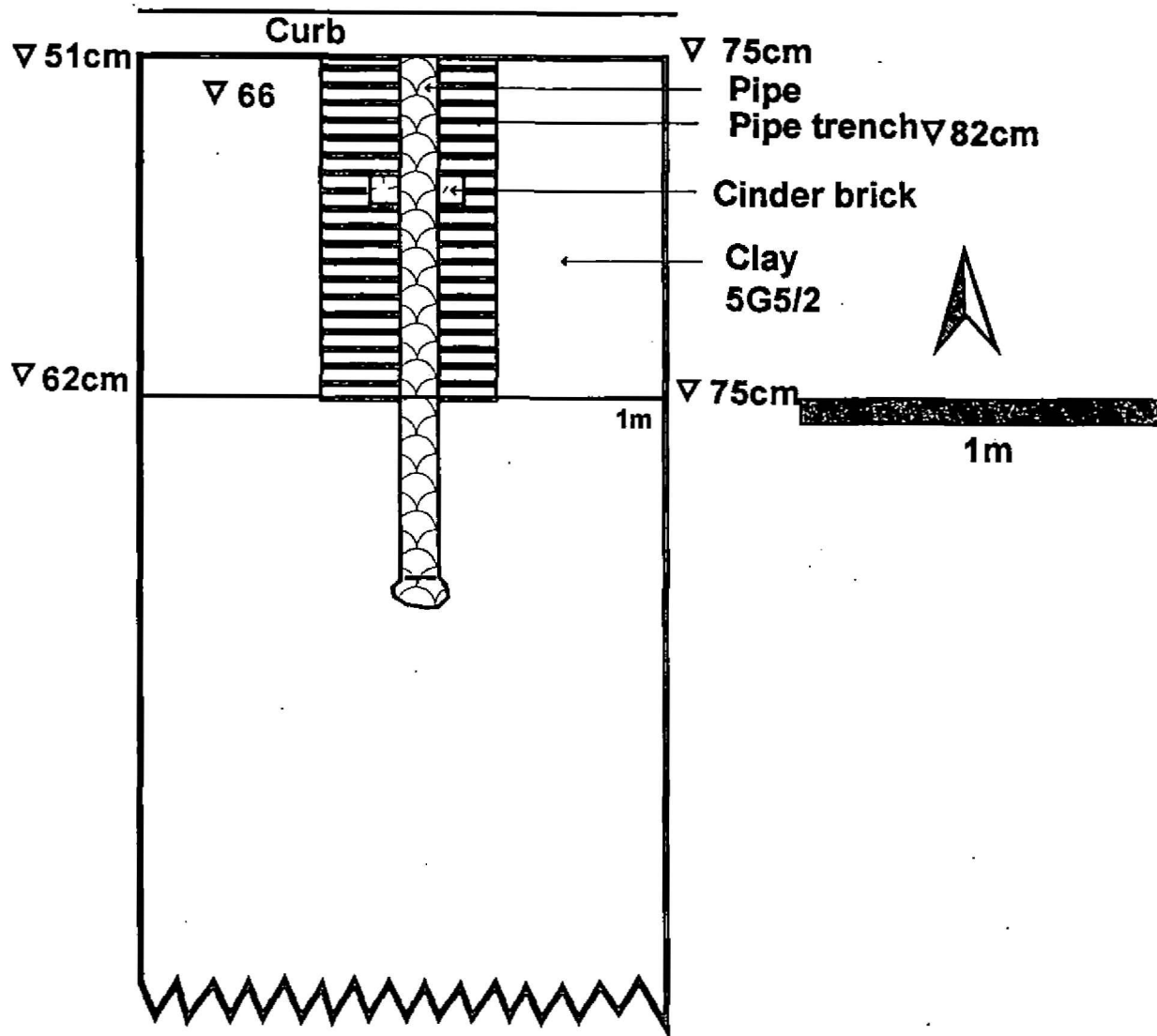
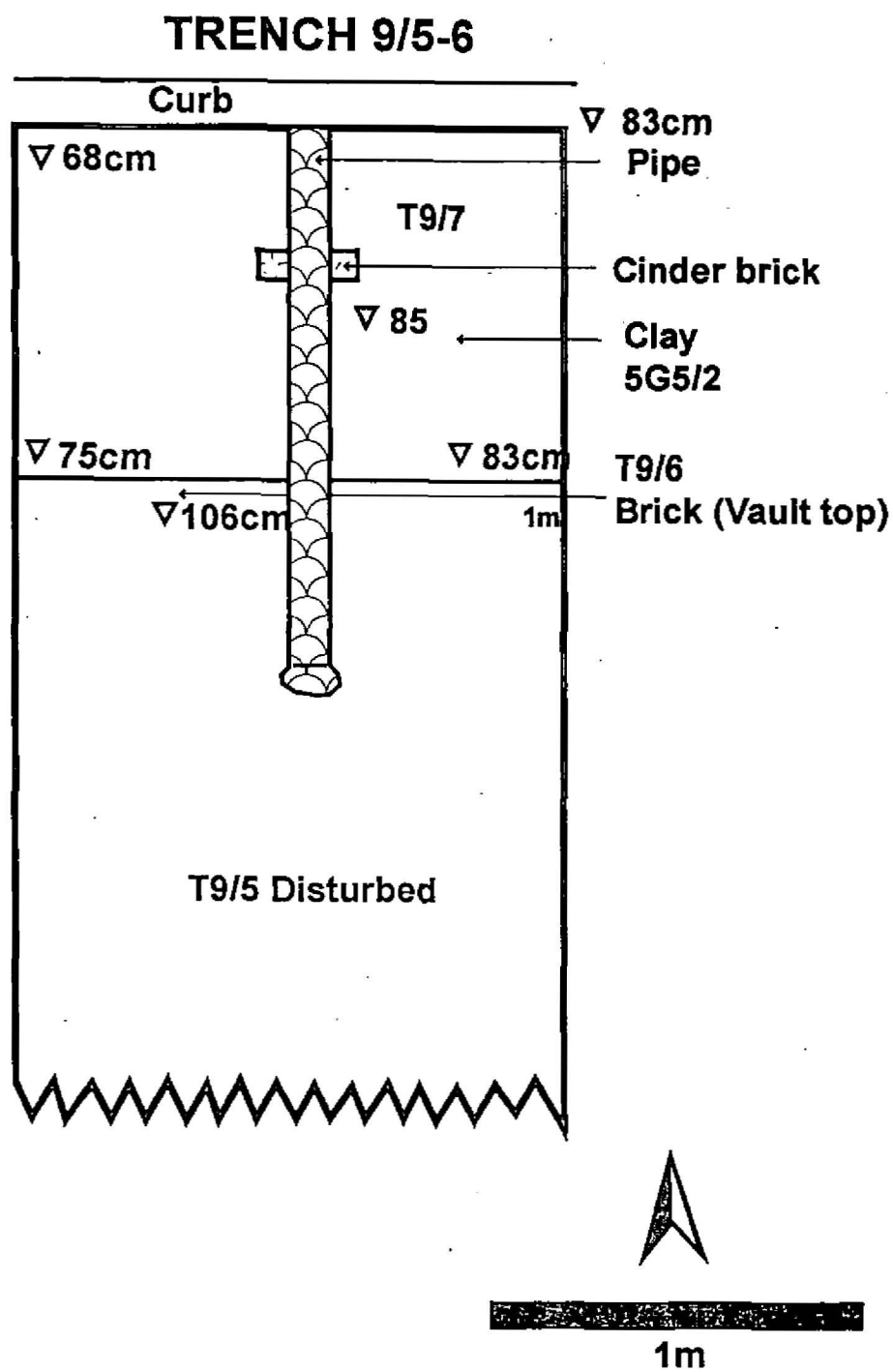


Figure 11



TRENCH 9 UNIT 7

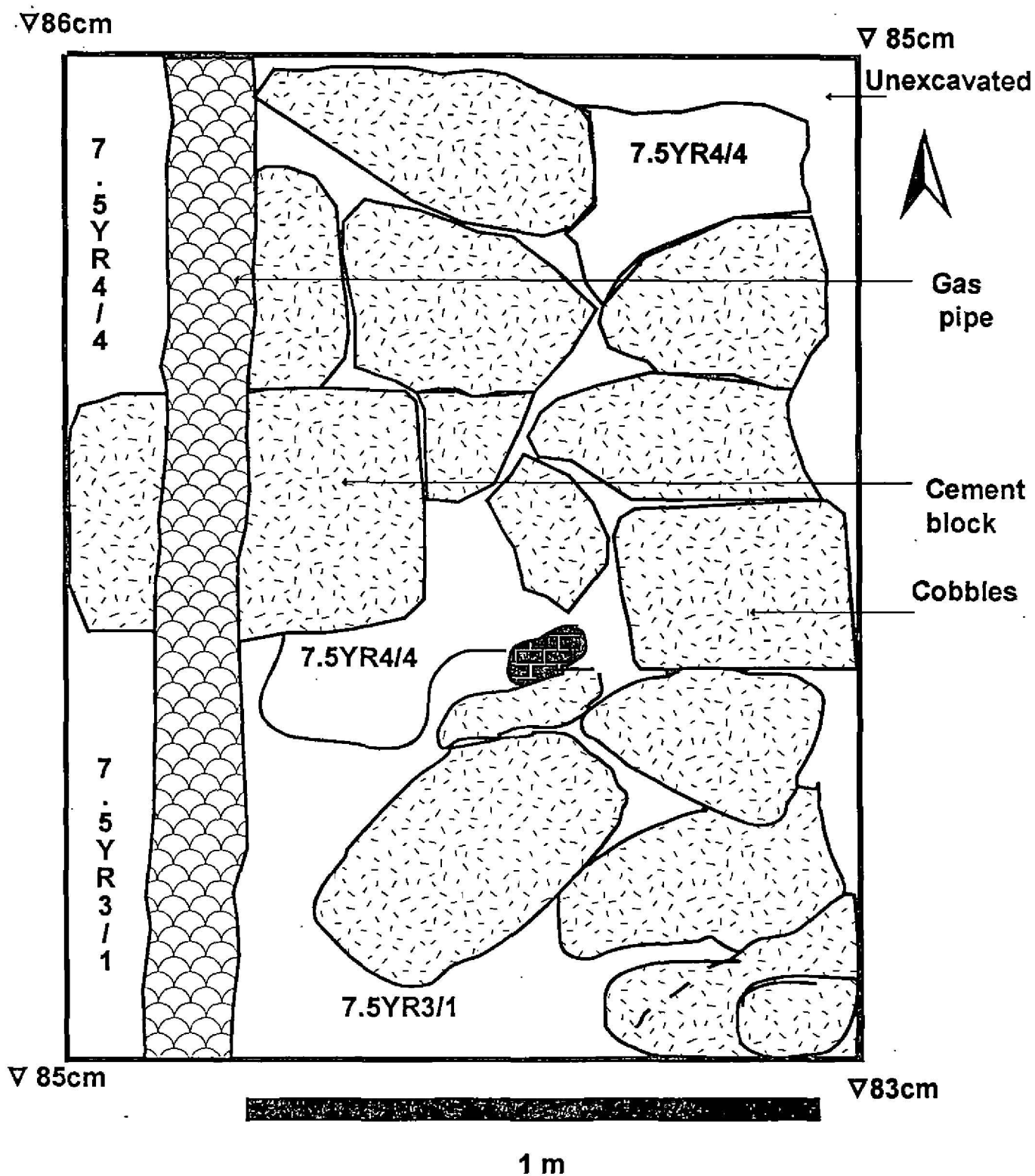


Figure 13

TRENCH 9 EAST PROFILE

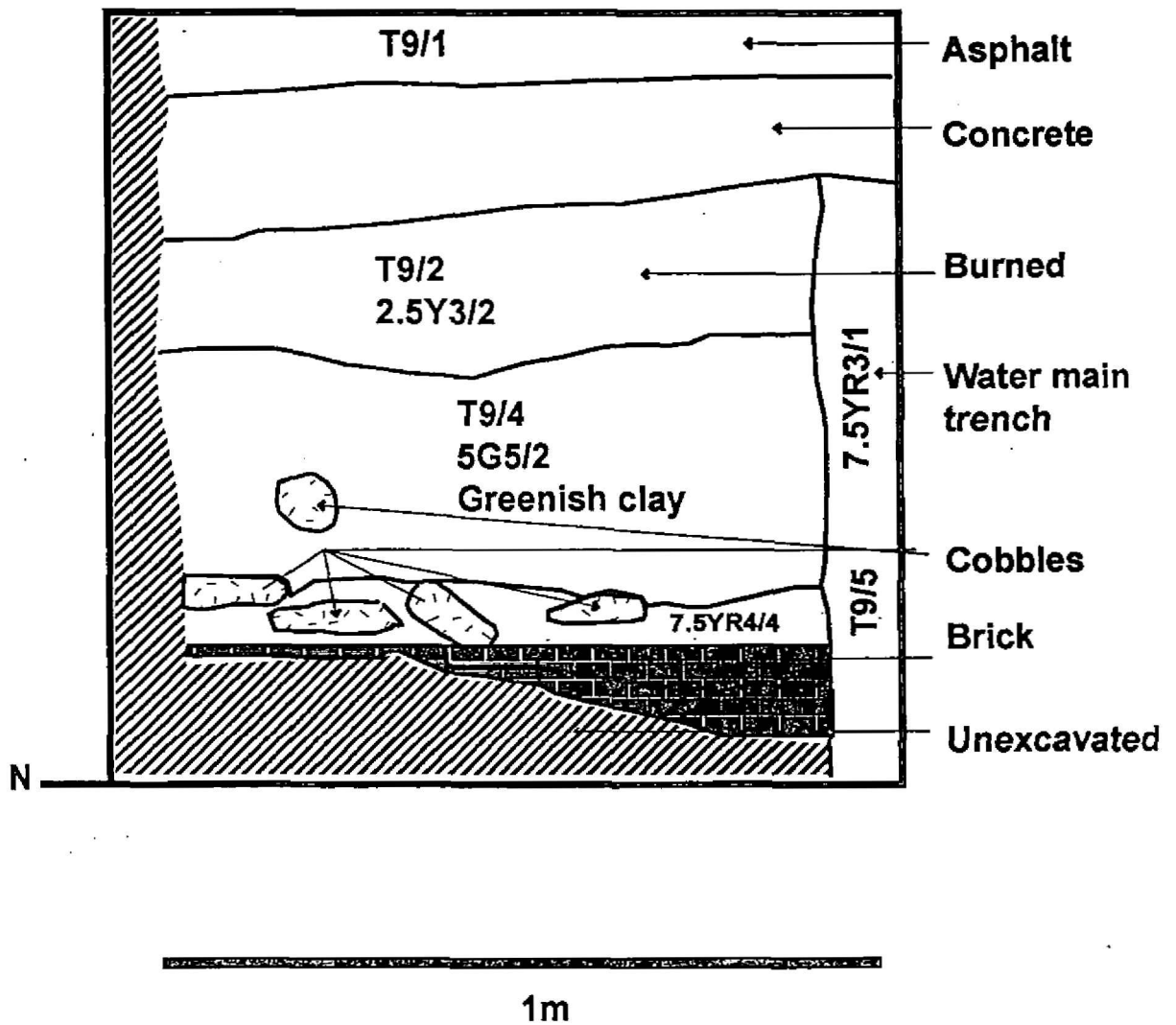


Figure 14

TRENCH 11/2

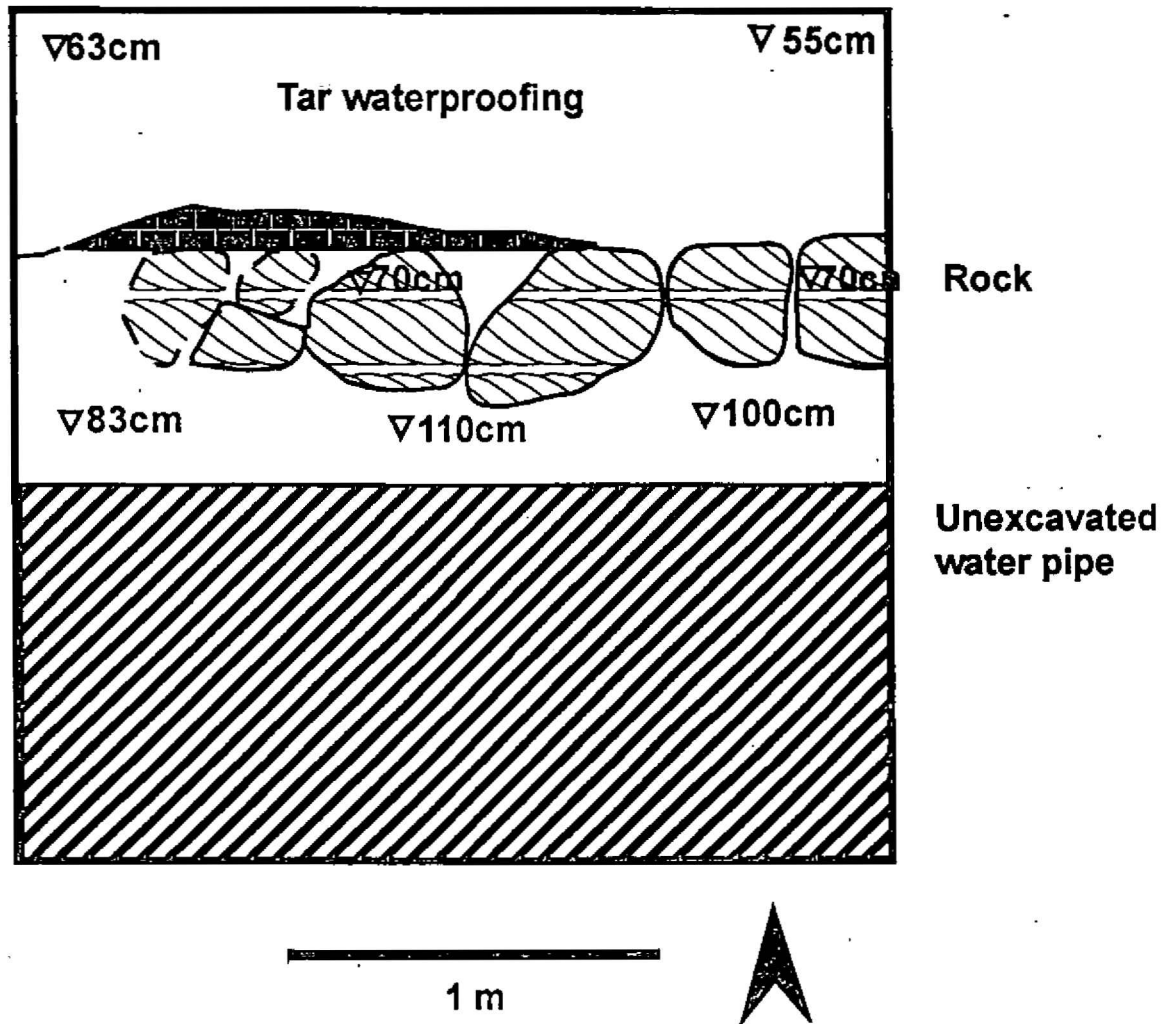


Figure 15

Trench 12

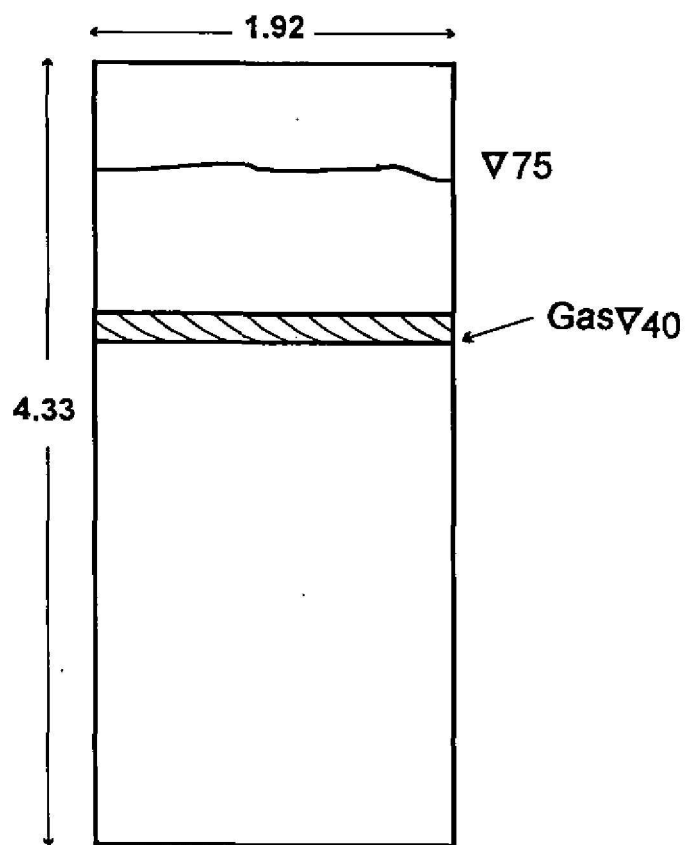


Figure 16



TRENCH 101

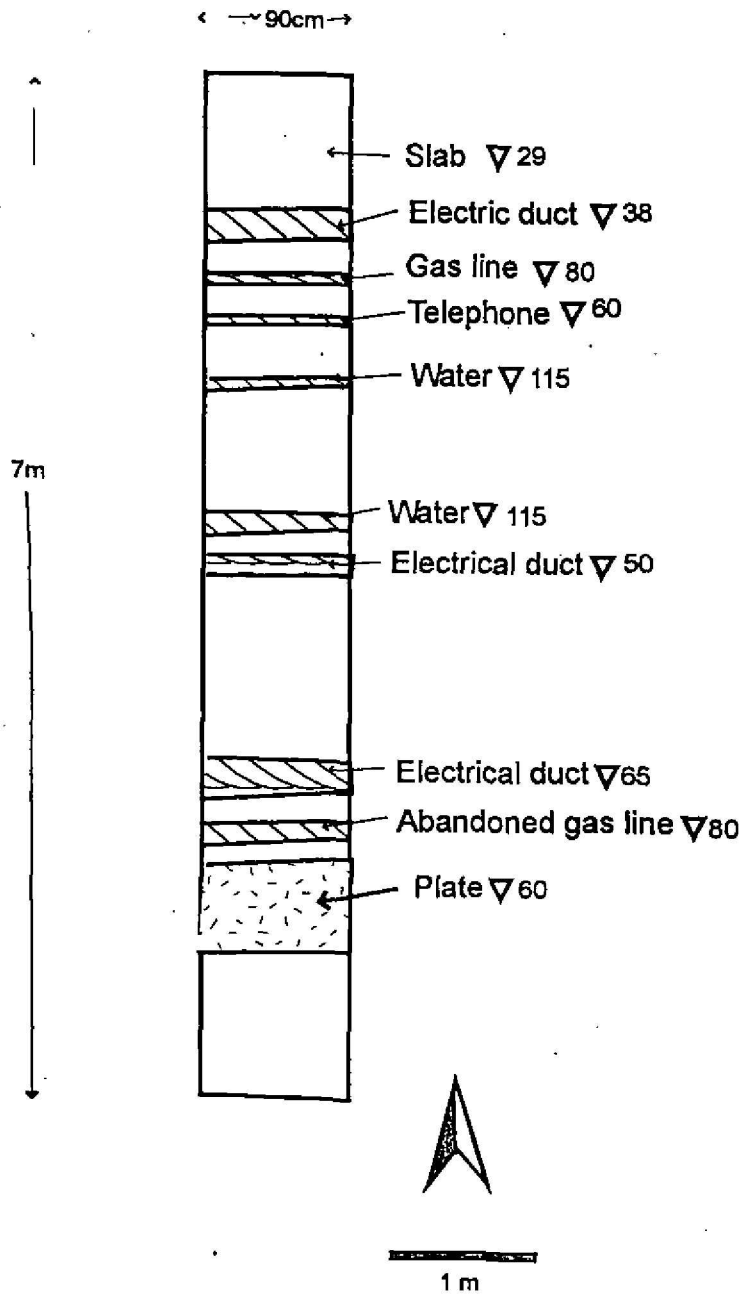


Figure 17

TRENCH 104

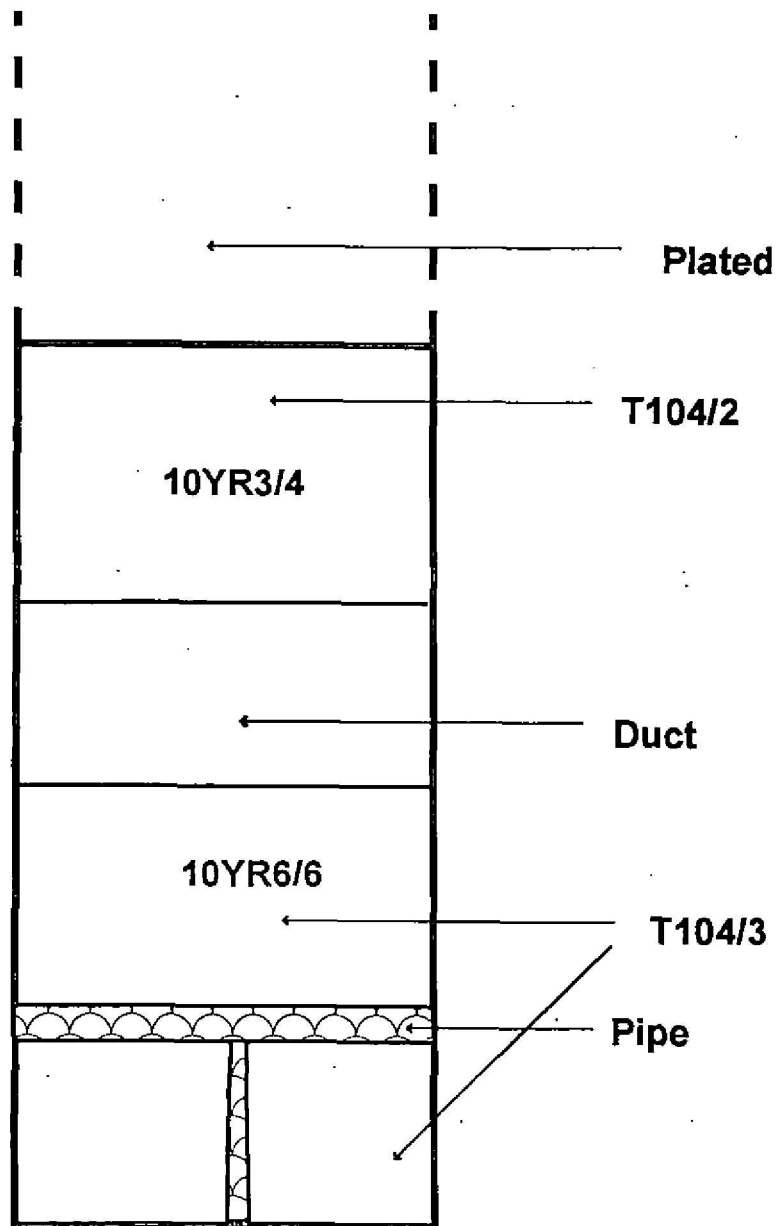


Figure 18



1m

TRENCH 105 NORTH PROFILE

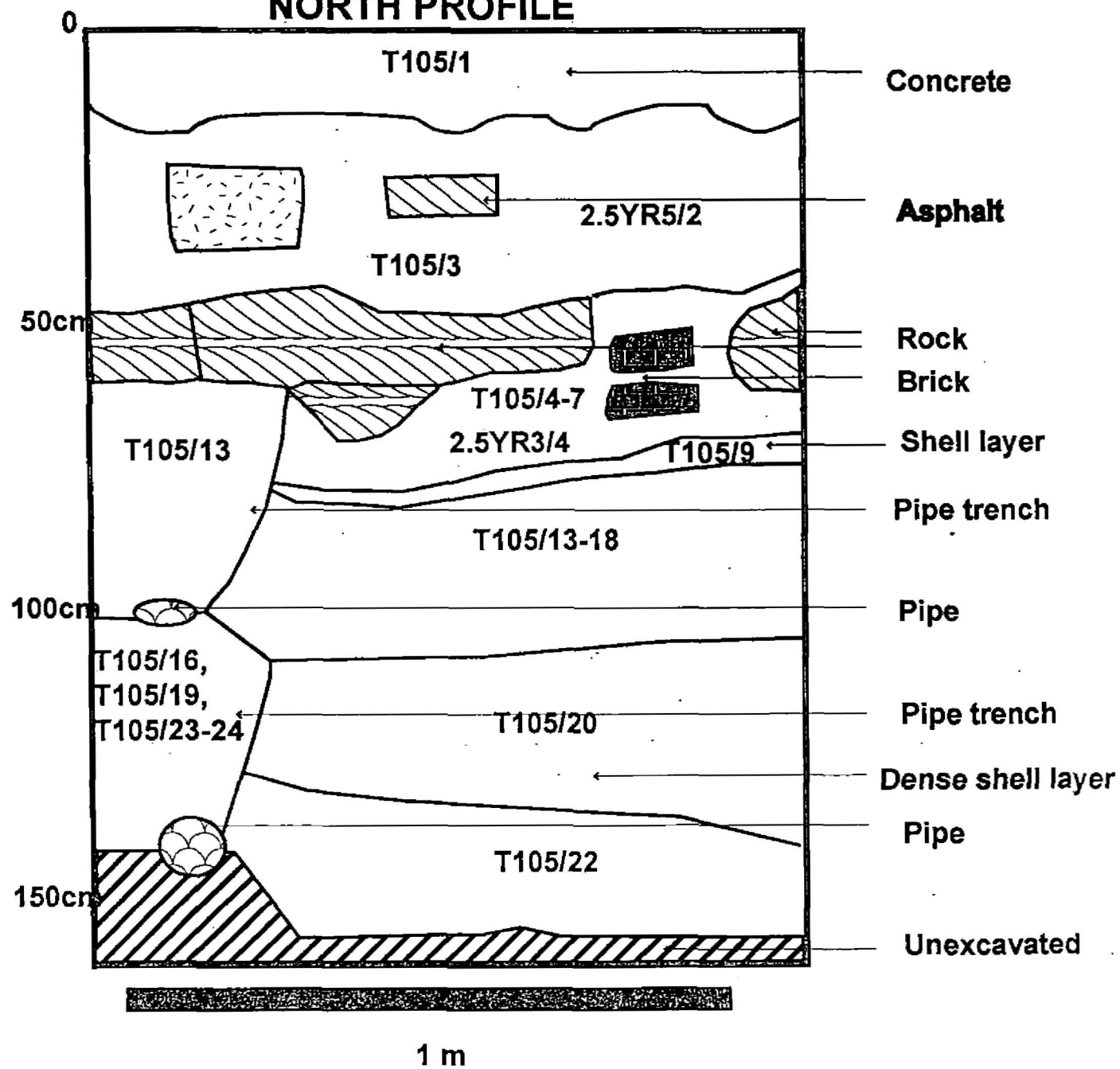


Figure 19

TRENCH 105 WEST PROFILE

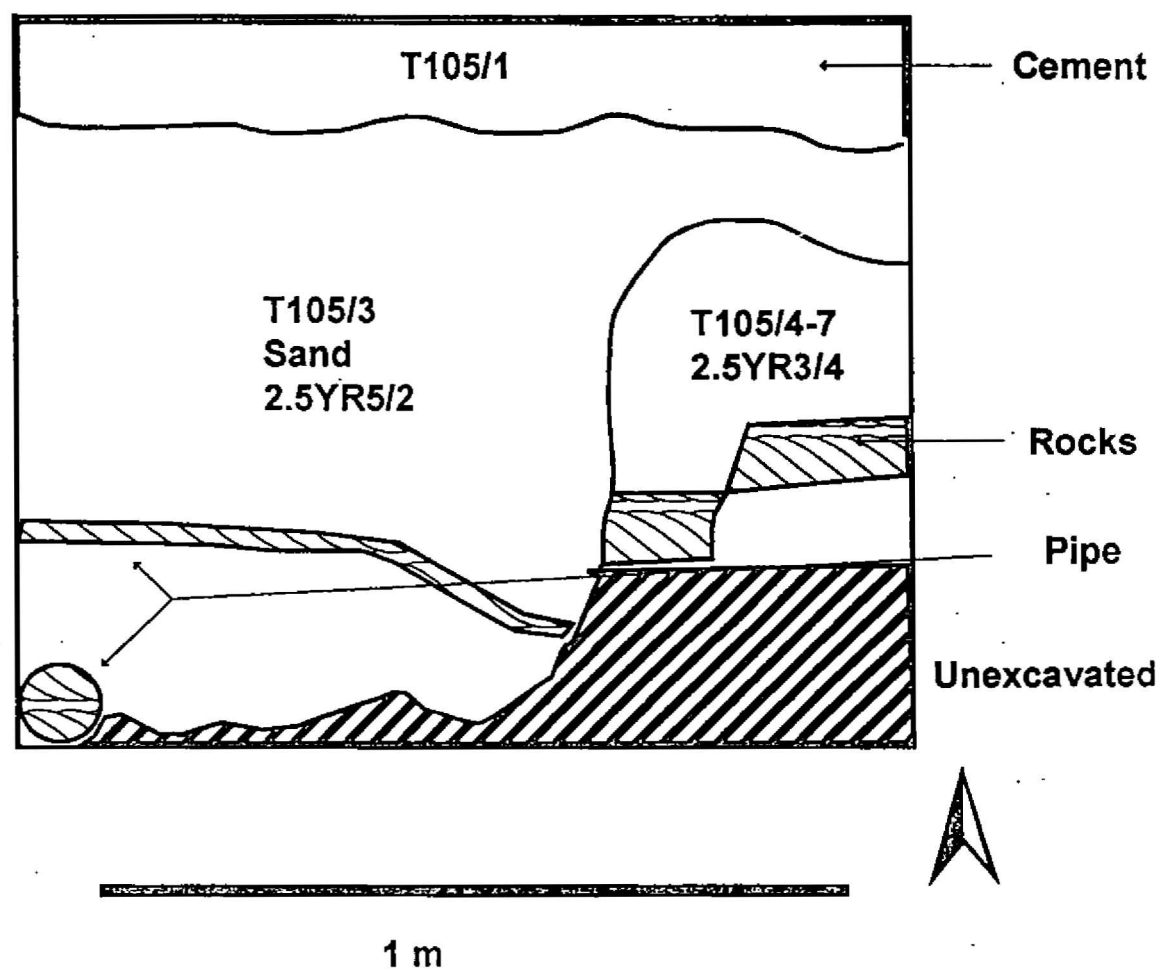


Figure 20

TRENCH 105 EAST PROFILE

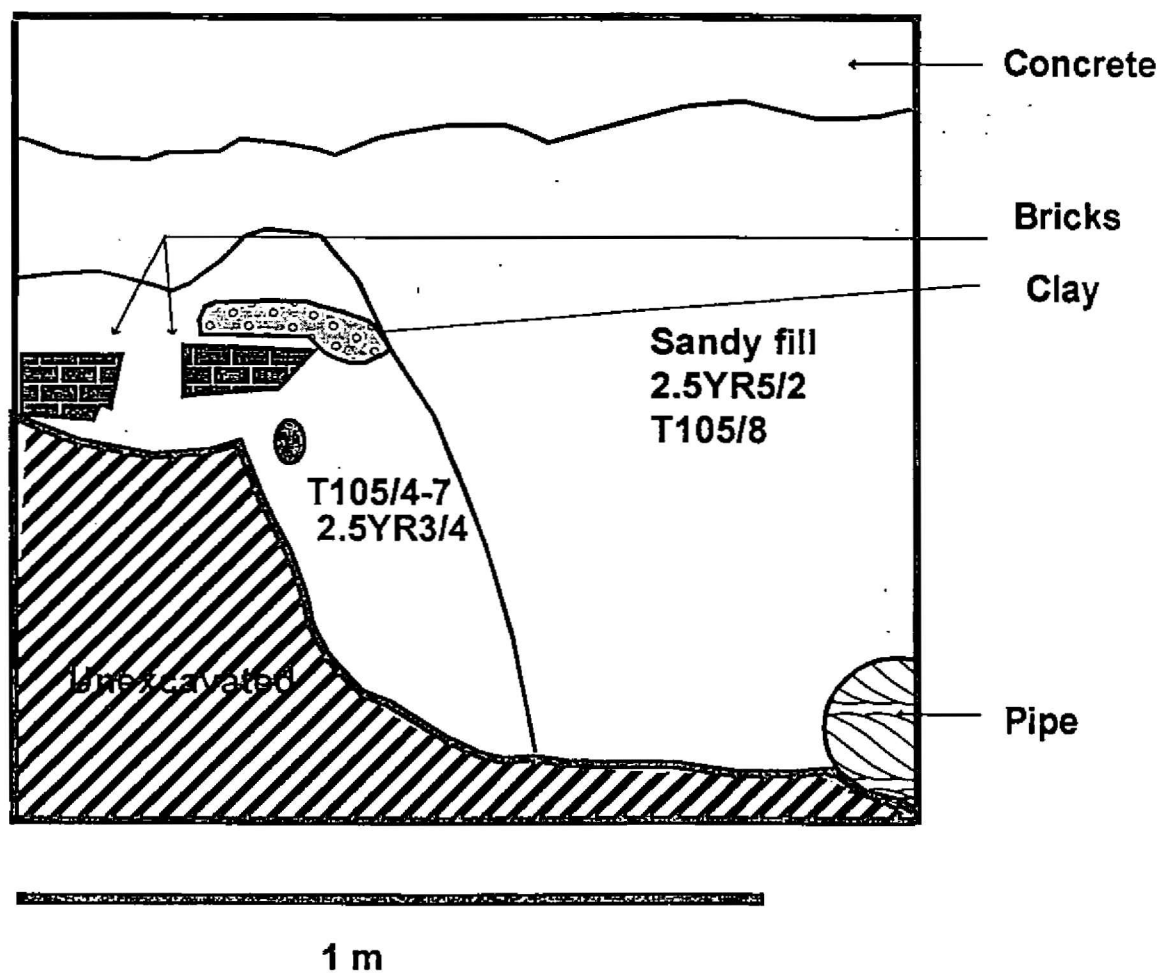


Figure 21

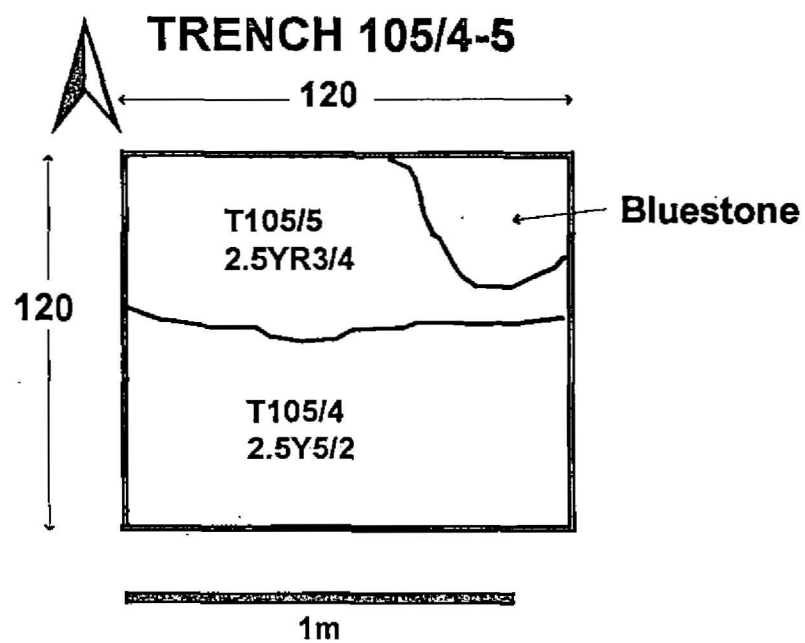


Figure 22

TRENCH 105

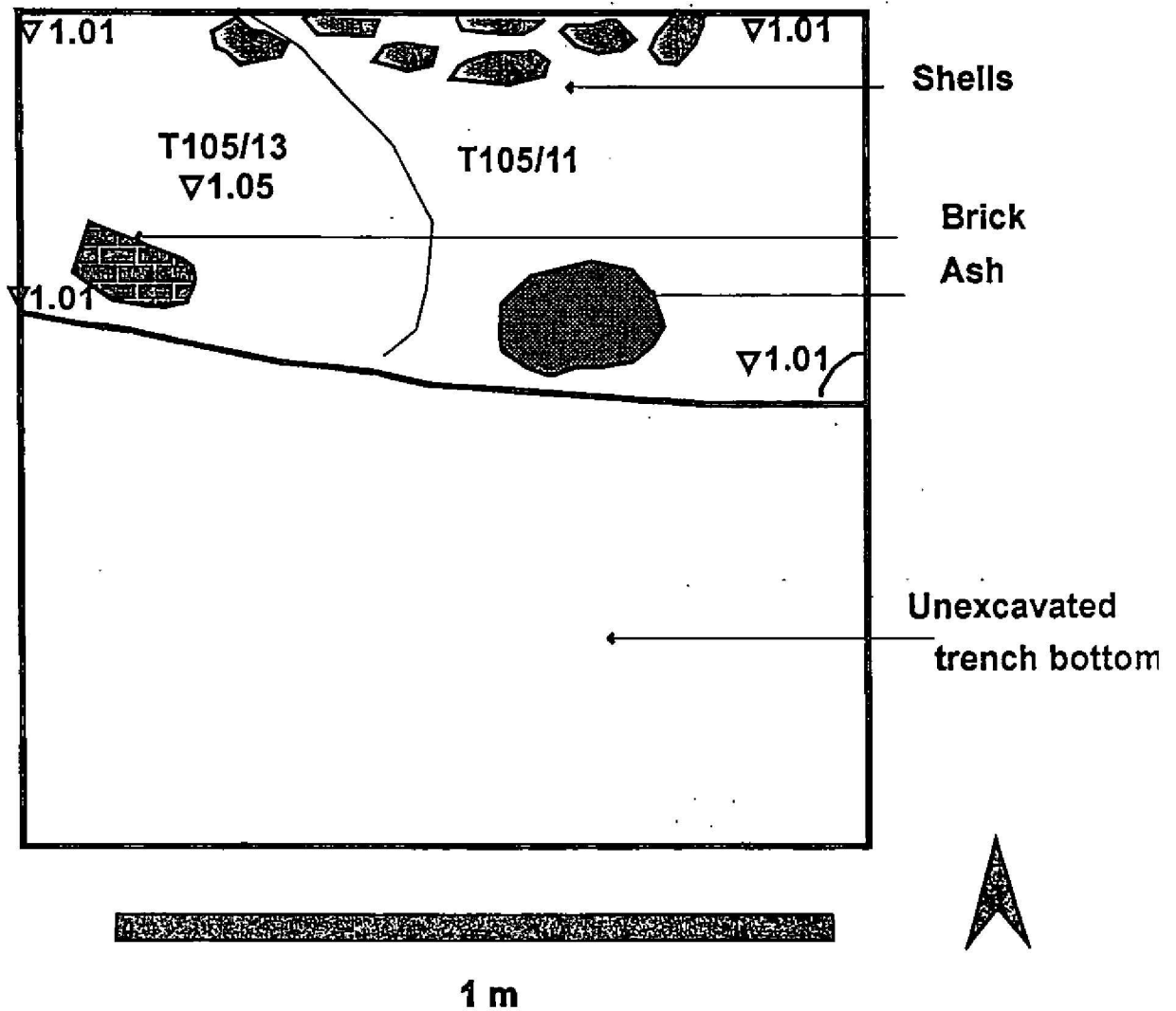


Figure 23

Plate I: Trench 4, Units 8-9 Bottom

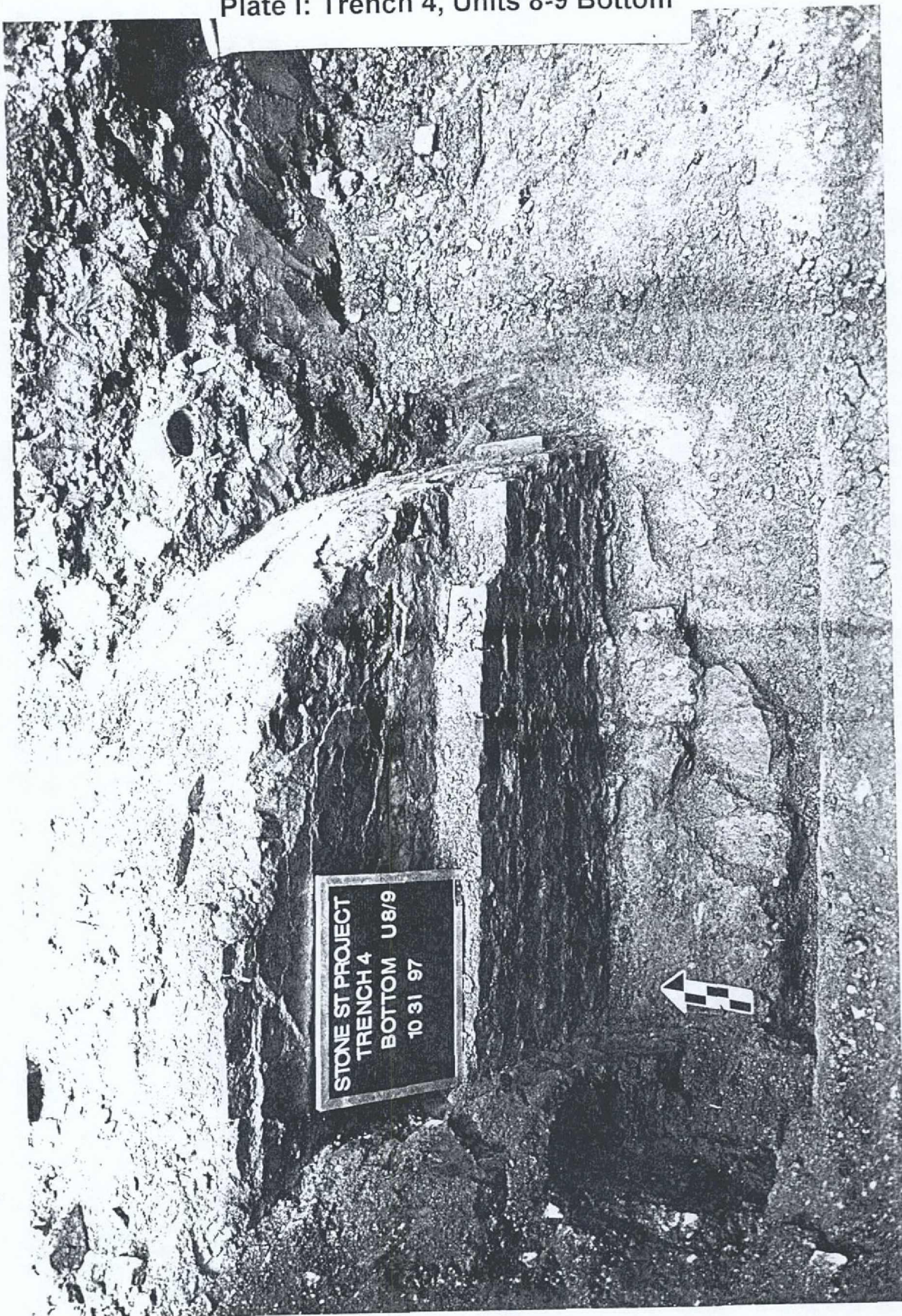


Plate II: Trench 9, Unit 8 Bottom



Plate III: Trench 100



Plate IV: Trench 105, Unit 8 Bottom

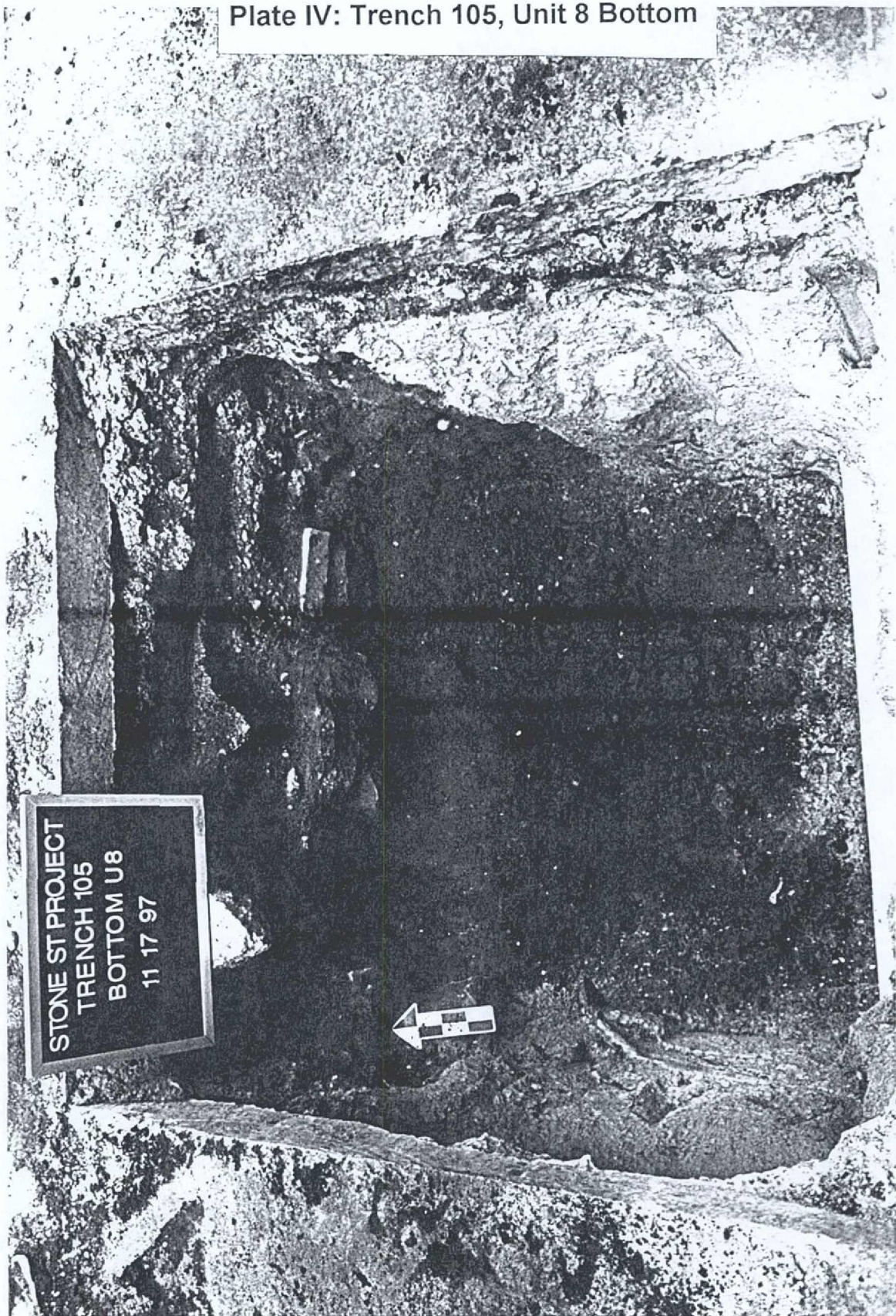


Plate V: Wall Street Streetbed, early Twentieth century

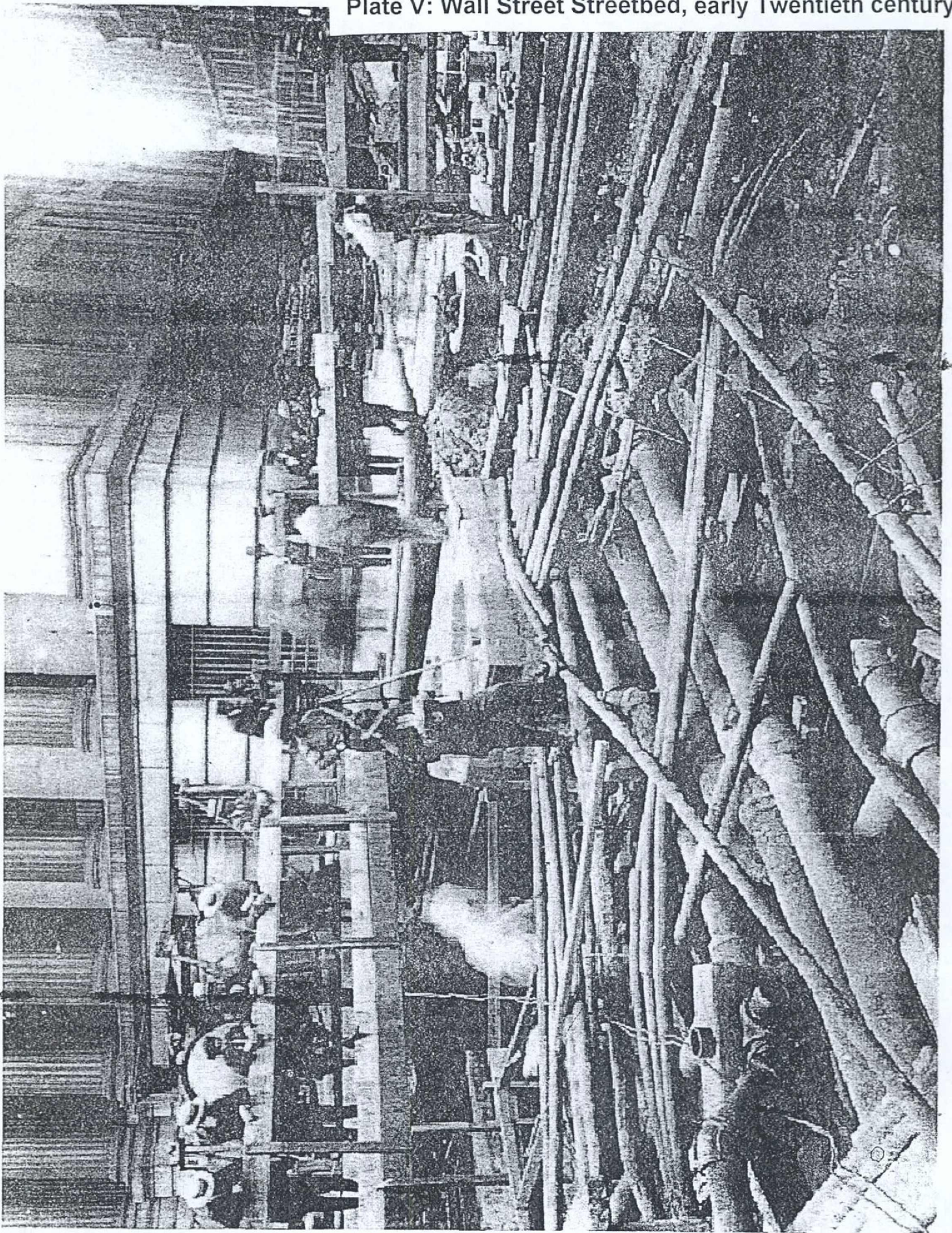


Plate VI: Ceramics from the Pre-excavation Trenches

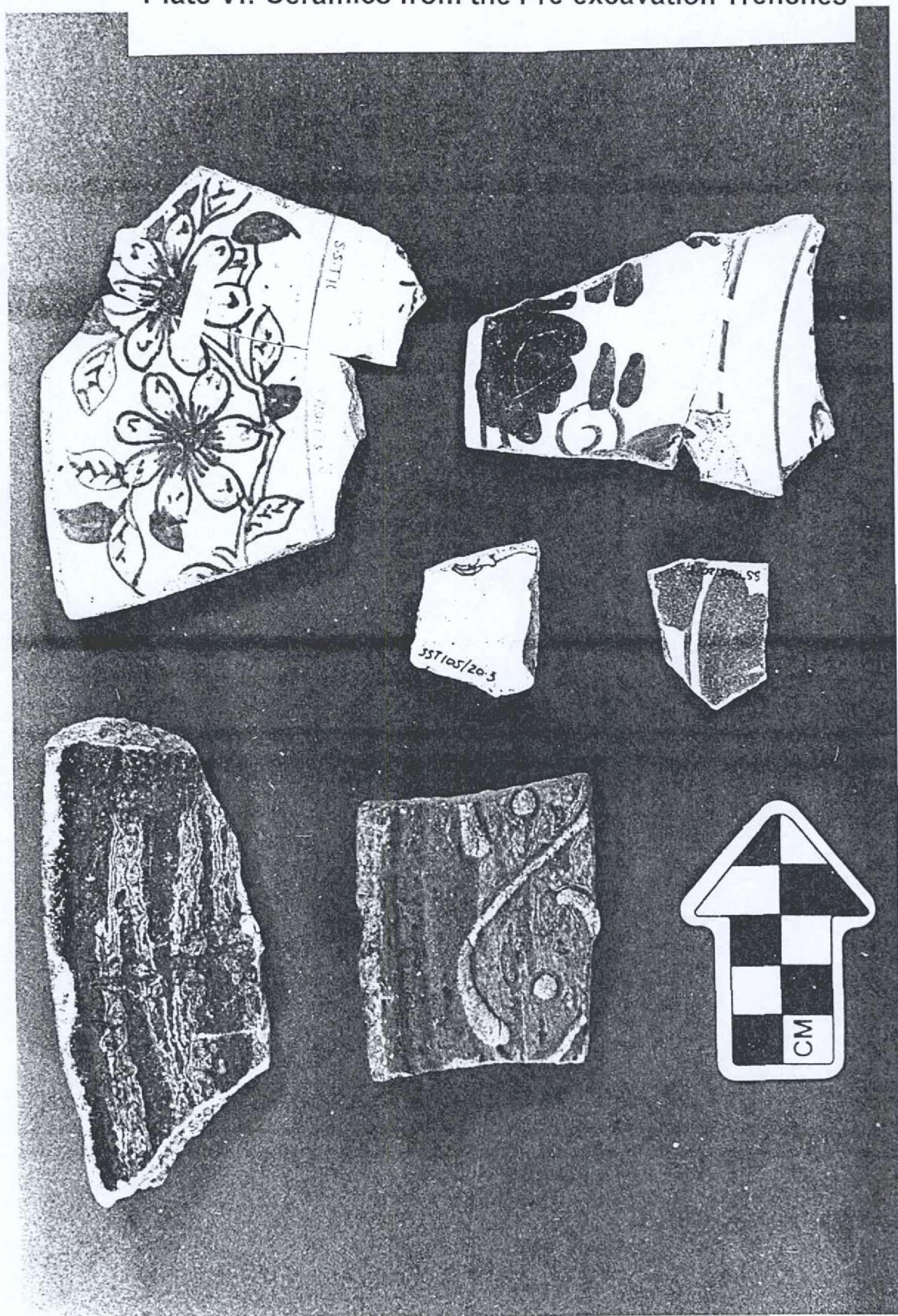


Plate VII: Ceramics from the Pre-excavation Trenches

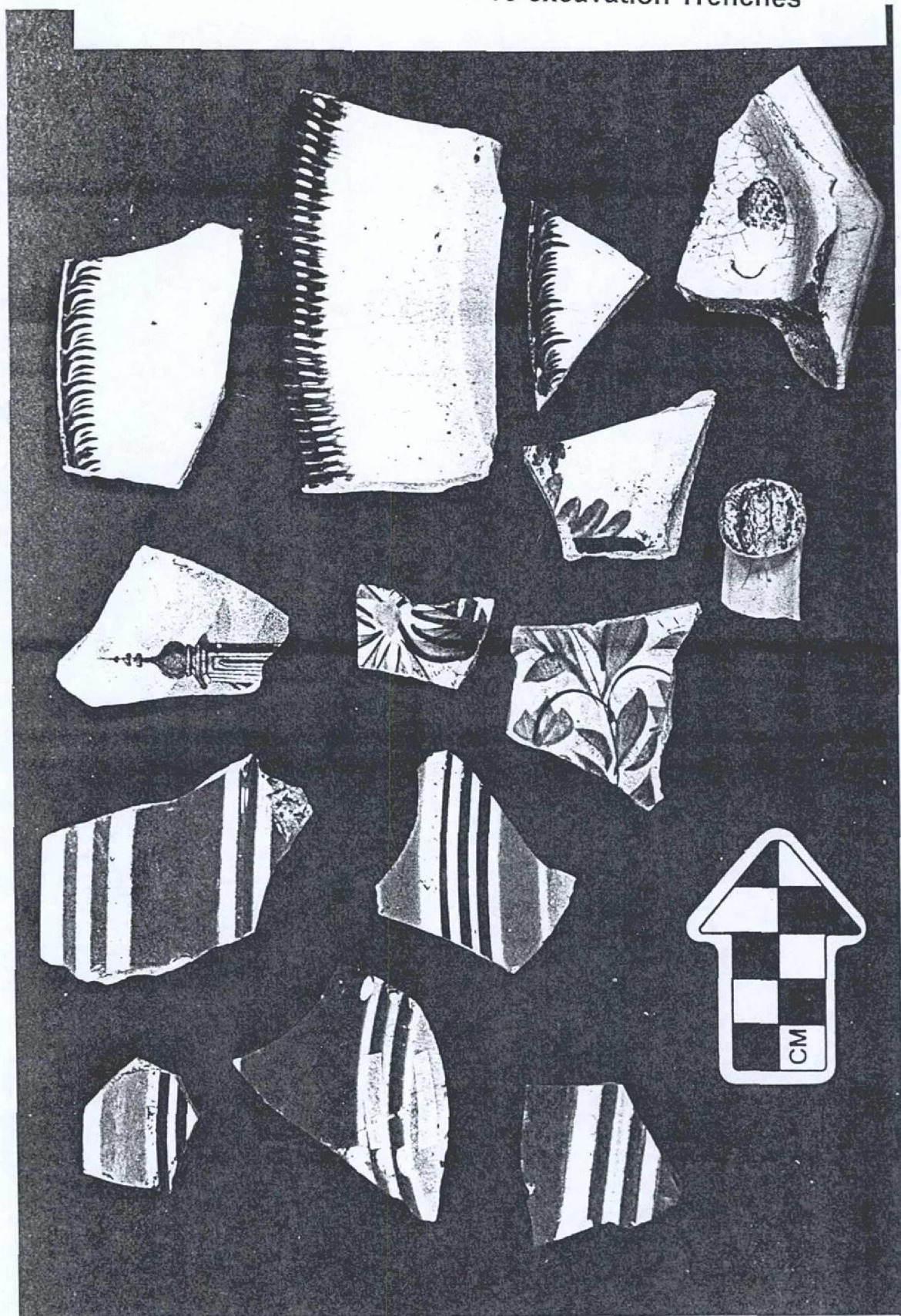


Plate VIII: Bottles from the Pre-excavation Trenches

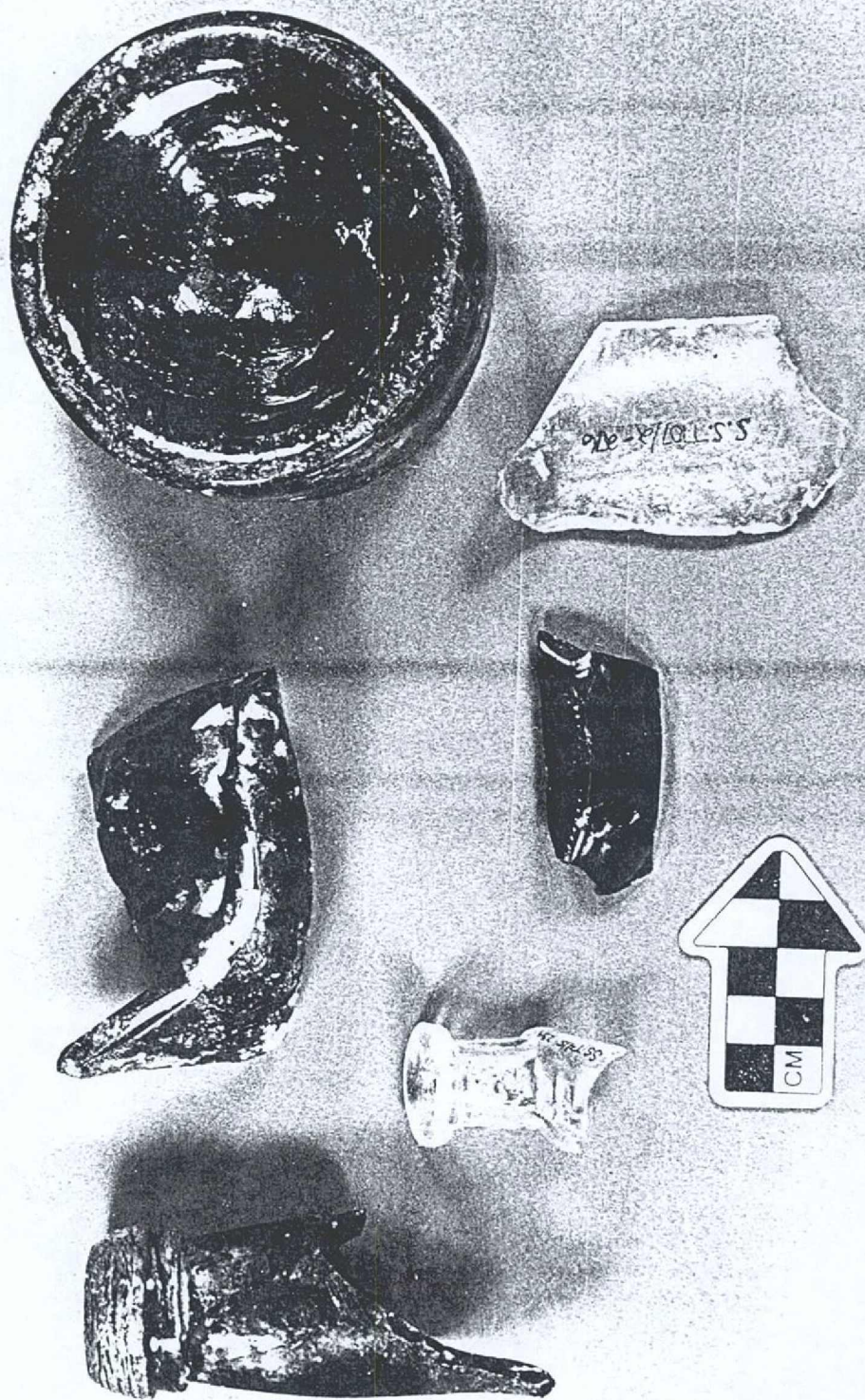


Plate IX: Tobacco Pipes from the Pre-excitation Trenches

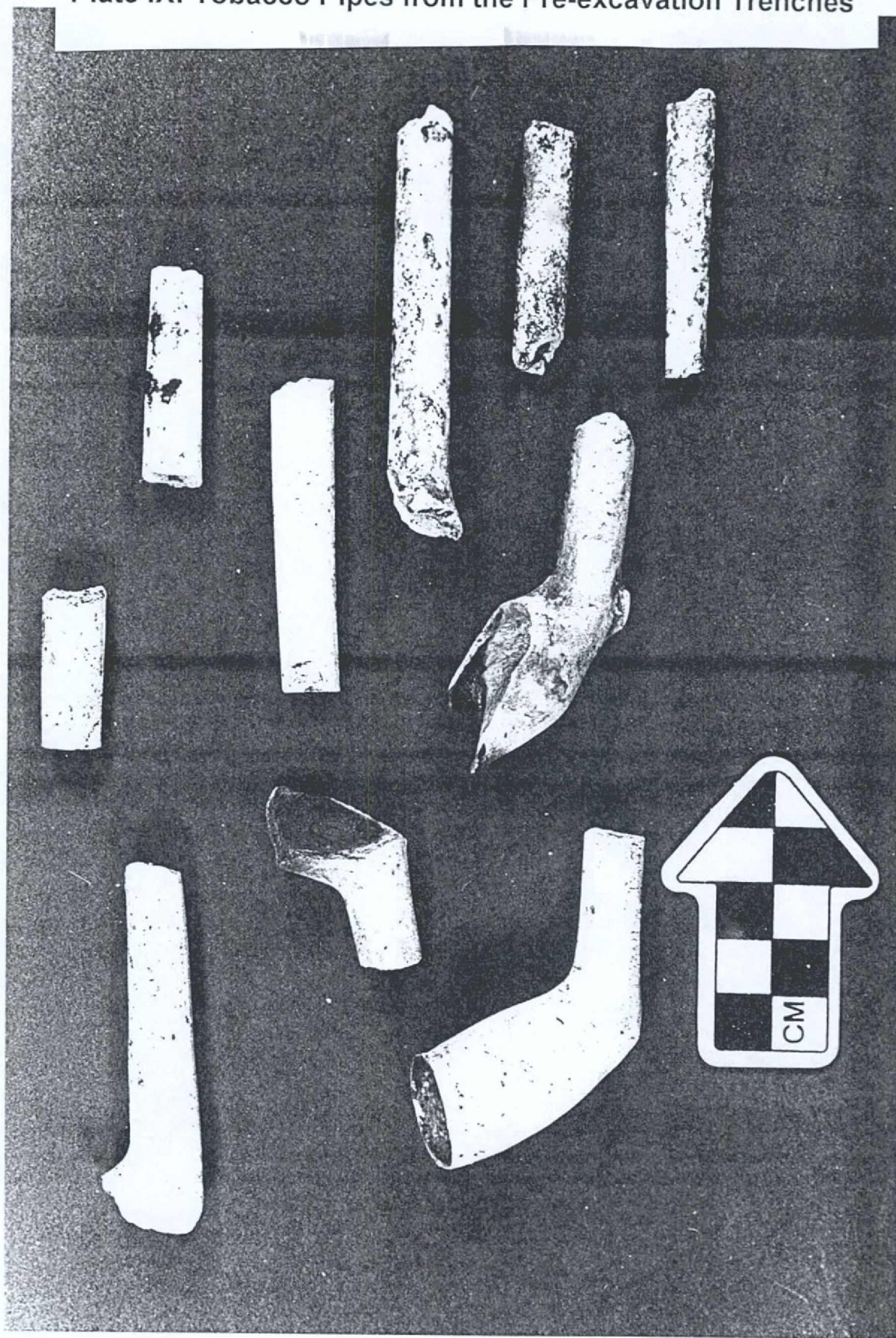


Plate X: Ecofacts from the Pre-excavation Trenches

