

ARCHEOLOGICAL INVESTIGATIONS ON BLOCK 427, LOT 30 WITHIN THE COOPER SQUARE URBAN RENEWAL AREA NEW YORK, NEW YORK

Prepared for

Avalon Bay Communities, Inc.

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Submitted by

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MANAGEMENT SUMMARY

John Milner Associates (JMA) conducted archeological field-testing in June 2003 in association with the proposed Cooper Square Urban Renewal Plan (CSURP) on behalf of Avalon Bay Communities, Inc. Archeological testing was conducted in two areas (former Lots 15 and 23) within Lot 30 of Block 427 in New York, New York. These areas were identified as having "archeological potential" in a previous historical overview and sensitivity assessment prepared for the CSURP.

Former Lot 15 is the former rear yard of a now-demolished building at 273 Bowery. German and Irish immigrant families engaged in skilled trades occupied 273 Bowery during the midnineteenth century. From 1903 to 1951 a single-story map-documented structure occupied the rear half of the lot. According to insurance maps this single-story structure did not have a basement; therefore, archeological deposits associated with the mid-nineteenth-century occupation of the building were potentially extant within the rear half of the lot. JMA removed overburden and fill deposits from the rear-yard area in an attempt to identify intact archeological deposits. Although the single-story map-documented structure did not have a recorded basement, the field investigation resulted in the documentation of a series of brick foundation walls that had footings as deep as 11.5 feet below the current ground surface. All soils observed in the vicinity of these foundation walls were previously disturbed deposits of fill. No intact or potentially significant archeological deposits were identified within the rear yard area of former Lot 15.

Former Lot 23 was the location of a portion of the former Society of Friends East Houston Street Cemetery. The cemetery was used as a burying ground between approximately 1800 and the late-1840s. During this time at least 2,000 individuals were interred at Houston Street. According to available records, all of the burials at the cemetery were removed by 1874 preceding the sale of the lot to Trinity Church. JMA conducted archeological testing within the area of former Lot 23 to insure that no intact burials remained at the site. The principal stratigraphic deposit within this area was a uniform strong brown sandy fill that extended from five feet to 8.5 feet below the ground surface and was underlain by yellowish brown medium/coarse sand with gravel and cobbles. The sandy fill included brick demolition rubble, nineteenth-century artifacts, and fragmentary (disarticulated) human skeletal material. In total, JMA recovered 304 fragments of human skeletal material, 18 of which were identifiable in terms of the element or bone that the fragment represented. The fill also included sporadic mottled or streaked areas of brown/grayish brown loam that appear to be associated with the bone fragments and may represent remnants of disturbed grave shafts or burials. Only one possible grave-shaft feature was observed within the fill at approximately six feet below ground surface. The feature was an oval-shaped (in plan view) stain that measured approximately five feet (long) by two feet (wide). The feature extended up to six inches in depth and included both fragments of human bone and nineteenth-century artifacts. The feature may represent a previously disturbed grave shaft that was excavated and refilled during the ca. 1870s removal of burials at the cemetery. No indications of intact burials or undisturbed grave-shaft features were observed within former Lot 23.

Archeological investigations conducted within Block 30 of Lot 427 did not result in the identification of any potentially significant archeological deposits or features. Although fragments of human skeletal material were recovered from within the fill deposits on former Lot 23, no intact burials or undisturbed grave shafts were identified within the area of proposed construction. No additional archeological work is recommended in association with the proposed construction on Lot 30 of Block 427.

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1.0 INTRODUCTION

1.1 **PROJECT BACKGROUND**

John Milner Associates (JMA) conducted archeological field-testing in June 2003 in association with the proposed Cooper Square Urban Renewal Plan (CSURP) on behalf of Avalon Bay Communities, Inc. The Cooper Square Urban Renewal Area is generally bounded by East 5th Street on the north, Second Avenue and Chrystie Street on the east, Stanton Street on the south, and the Bowery on the west. The CSURP proposes the construction of mixed-use residential, commercial, community, and parking-facilities on portions of Blocks 427, 456, and 457 in Manhattan (New York County), New York. The proposed project includes up to 713 units of housing in seven-story to fourteen-story buildings, 175,000 square feet of retail commercial space, a net increase of up to 64,118 square feet of community facility space, and up to 225 onsite parking spaces.

Under the City Environmental Quality Review (CEQR) procedure, the New York City Department of Housing Preservation and Development (HPD) – as CEQR lead agency – was required to determine if the CSURP would have a significant effect on the environment. An environmental assessment was prepared, and HPD issued a revised Negative Declaration for the CSURP on June 7, 2001.

The Negative Declaration references an historical overview and assessment prepared for the CSURP in August 2000 (Parsons 2000). The Negative Declaration also states that based on its review of the documentary study, the NYC Landmarks Preservation Commission (LPC) is "requiring field testing on several lots in order to determine the potential for the recovery of significant nineteenth century resources." One of those lots is Lot 30 of Block 427. [Lot numbers on Block 427 have changed over time. The Lot 30 referred to in the Negative Declaration is a new lot designation incorporating former lots 19 through 35 (former lot numbers and their location on Block 427 are shown on Figure 2). Only those portions of Block 427 comprising new Lot 30 are included within the limits of the CSURP area, and only portions of new Lot 30 are of concern to LPC.

1.2 Area of Archeological Investigation

The archeological fieldwork discussed in this report was conducted within Lot 30 of Block 427 in Manhattan. Block 427 is bounded by Houston Street to the north, East Houston Street on the north, the Bowery on the west, Chrystie Street on the east, and Stanton Street on the south. There are two specific portions of new Lot 30 of concern to LPC that were identified in the Parsons (2000) report and in the CSURP environmental assessment as having "Archaeological Potential" (Figure 3). One of these is described in the environmental assessment as "a narrow strip near the Bowery, next to the building at 271 Bowery, which was the rear yard of a nineteenth century dwelling." This area is the former rear yard of a non-extant structure at 273 Bowery that occupied former Lot 15. JMA conducted archeological testing within the rear yard area of former Lot 15.

The Negative Declaration also notes that the historical overview and assessment identified areas within the CSURP area that "may have potential for discovery of human remains, surviving from the relocation of two nineteenth century cemeteries" (Parsons 2000). One of the cemetery areas is the former Friends Cemetery that occupied former Lot 23 within new Lot 30 of Block 427. The

Friends Cemetery occupied Lot 23 from 1800 until approximately 1874. JMA personnel conducted archeological testing within the southwest portion of former Lot 23.

1.3 PROJECT PERSONNEL

Principal JMA personnel involved in the CSURP archeological field investigation included Dr. Joel Klein (Senior Project Manager) and Patrick J. Heaton (Project Archeologist). The field crew included Geraldine Baldwin, Jessica Reed, and Elizabeth Murphy. Thanks to Bobby Dirito for his skills and patience while operating the excavation machinery. Aaron Madamba prepared the osteological analysis for the Project (included as an Appendix to this report). Sarah Ruch and Scott Parker prepared the graphics and maps, and Margy Schoettle performed editing and layout for the report.

All supporting documentation for the report and recovered archeological materials are currently on file at JMA's office in Croton-on-Hudson, New York. The fragmentary human remains recovered from Block 427 were returned to the New York Quarterly Meeting of the Society of Friends for re-internment at Prospect Park Cemetery.

2.0 BACKGROUND INFORMATION

2.1 PREVIOUS CULTURAL RESOURCES WORK

Previous cultural resources work associated with the CSURP include a Phase 1A historical overview and archeological sensitivity-assessment (Parsons 2000), and a work plan and research design for the field-testing on Block 427 (i.e., the work described in this report)(JMA 2003). Information contained in these earlier documents provided the bulk of the background information presented below. Historical map details from the Parsons (2000) report that are reproduced herein include the 1853 Perris (Figure 4), 1868 Perris (Figure 5), 1875 Robinson (Figure 6), 1877 Perris (Figure 7), 1903 Sanborn (Figure 8), and 1951 Sanborn (Figure 9) atlases.

2.2 HISTORICAL BACKGROUND

In the seventeenth-century, the CSURP area was part of Colonial Governor Peter Stuyvestant's farm, or *bouwerie*, from which the street and surrounding neighborhood derived their name. As the population of New York expanded in the late-eighteenth and early-nineteenth centuries the city expanded northward. Urban development of the Bowery began in earnest after about 1800. By the 1820s the neighborhood was an entertainment center for the city and included numerous theatres, taverns, and oyster bars. After the Civil War the neighborhood entered a period of decline and lost its importance as a commercial and cultural center. The Third Avenue elevated line was constructed along Bowery in 1878, after which middle-class New Yorkers generally avoided the area. In the late-nineteenth century the neighborhood was associated with cheap entertainment, homelessness, drunkenness, and other generally disreputable activities. By 1890 the Bowery was notable for its numerous nickel museums, flophouses, brothels, saloons, and pawnshops (Burrows and Wallace 1999; Parsons 2000:6--7; Jackson 1995). In the 1900s the Bowery gained notoriety "as a place of squalor, alcoholism, and wretchedness" (Jackson 1995:131) and was arguably the most infamous "skid row" in the United States.

2.2.1 FORMER LOT 15

The historical overview and assessment prepared for the CSURP (Parsons 2000) concluded that the rear (eastern) portion of former Lot 15 remained undeveloped throughout the nineteenth and twentieth centuries. Historical cartographic analysis conducted as part of that assessment identified a three-story structure (273 Bowery) that occupied the front half of former Lot 15; this structure is first depicted on the 1851 Dripps survey of New York. Early-twentieth-century insurance atlases (Figures 8 and 9; Sanborn 1903, 1951) identify 273 Bowery as three-story structure with a basement. Between 1903 and 1951 a single-story structure with a corrugated iron roof covered the rear half of the lot; however, this single-story building did not have a basement. Therefore it is possible that archeological deposits associated with earlier occupations of 273 Bowery remained undisturbed within the rear portion of the lot. In 1960 the City of New York condemned and demolished the structures on former Lot 15 to facilitate construction of a subway connector line (the Chrystie Street Connection) that crosses the northeast portion of Block 427.

Parsons (2000:37-45) reviewed historical maps, city directories, and census data to identify nineteenth-century occupants of Block 427. City directories from the mid-nineteenth century indicate that Block 427 was occupied by a variety of skilled artisans (such as bakers, cabinet makers, tailors, and piano makers) as well as smaller numbers of white-collar professionals (such as a veterinary surgeon, a dentist, clerks, and notaries). In 1903 a sign painter occupied 273 Bowery. Previous occupants of former Lot 15 were English and German families whose

occupations included saddler, dressmaker, clerk, broker, and merchant (liquors). In general, the residents of Block 427 during the mid-to-late-nineteenth century were German and Irish immigrant families engaged in skilled trades (Parsons 2000:39).

2.2.2 FORMER LOT 23

Former Lot 23 is the location of a portion of the former Friends Cemetery (sometimes referred to as the East Houston Street Cemetery). The Society of Friends (the Quakers) purchased former Lots 20-23 in 1796 for use as a cemetery. Subsequent purchases in 1807 and 1817 expanded the cemetery to include Lots 32-40. Cox (1930:195) reports that Quaker records of an 1874 Property Committee meeting note "In the year 1826 (nearly 50 years ago) the remains of those who had been interred in Friends' burial ground in Liberty Street, this city, were removed and deposited in a brick vault, built for that purpose in the Houston Street Ground."

Parsons (2000) notes that records are unclear about when and for how long the Friends Cemetery was used for primary burials. A 1904 compilation of interments in the cemetery (Haviland 1904, cited in Parsons 2000) provided names, dates of death, and in most cases, age at death for more than 2,000 individuals. This list includes 67 separate interments for the years 1847-1848. This would suggest that new interments were still taking place at that time. However, Cox (1930:194) claims that no burials occurred at the Houston Street cemetery after 1846.

All references examined for the historical overview and assessment agree that the interments at the Friends Cemetery were removed by 1874. The reasons for the removals is unclear, but is believed to be related to the opening of new Friends cemeteries outside Manhattan (Inskeep 2000:86).

The first identified map reference to the cemetery appears on the 1828 A.T. Goodrich "Plan of the City of New York." It is also shown on the 1851 Dripps atlas map, and on Perris insurance atlas maps from 1853 and 1868 (Figures 4 and 5). On the latter maps the northwest corner of what was the cemetery on the 1851 map is shown a separate parcel being used as a marble works. This parcel fronted on Houston Street. Its western boundary was the rear lot lines for Lots 14-18.

In 1875 the Friends Cemetery property was sold to Trinity Church. Both the 1875 Robinson atlas map (Figure 6) and the 1877 Perris insurance map (Figure 7) indicate that the Chapel of St. Augustine (Episcopal) had been built by this time on Lot 23 fronting on East Houston Street. Most of the interior of the lot is shown as undeveloped on both maps.

St. Augustine's Chapel was closed in 1944. In 1958 the New York City initiated condemnation proceedings against numerous lots on Block 427, including Lot 23, in anticipation of construction of the Chrystie Street Connection that now links the BMT and IND subway lines. St. Augustine's was apparently demolished sometime in or after 1960 when condemnation proceedings ended. Parsons (2000) reviewed damage maps and construction photographs for the Chrystie Street Connection in connection with the preparation of the historical overview and assessment. Open cut construction techniques were apparently employed for the portion of construction across Lot 23.

The historical overview and assessment (Parsons 2000) notes that although the graves located within the Friends Cemetery were presumably relocated during the late-nineteenth century, the "process of cemetery relocation was not always systematic or complete." The assessment concluded that "human remains may still be present in apparently clear areas" because unmarked graves, such as those known to have existed in the Friends Cemetery could have been easily

overlooked during subsequent grave relocation activities, and that even marked graves may have been overlooked because their associated headstones may have been missing or moved.

The possibility that some graves may have been missed during the relocation process is increased by the fact that tombstones were not permitted in Quaker cemeteries until 1852, by which time the Friends Cemetery on East Houston Street had been in use for approximately thirty years.

3.0 RESEARCH METHODS

3.1 ARCHEOLOGICAL FIELD METHODS

John Milner Associates (JMA) conducted archeological field-testing between June 2 and June 6, 2003 within portions of Lot 30 of Block 427. JMA conducted machine-aided excavation to remove deposits of fill and overburden until subsoil or a potentially significant archeological deposit was encountered, or until it became clear that twentieth-century construction and/or demolition had destroyed any potential archeological features. JMA recorded representative profiles for each trench and photographed all stages of work.

To investigate depositional stratum encountered during machine-aided excavation JMA field personnel conducted hand excavations within potential archeological deposits. When potentially significant archeological features were encountered the area was cleared by hand excavation (i.e., using shovels and trowels), photographed, and drawn. The purpose of hand excavation was to determine the type of fill present within each feature, the approximate dates of the deposits, and the integrity of deposits within each feature. All excavated soils were passed through one-quarterinch hardware cloth to insure uniform recovery of artifacts. Representative samples of artifacts from the various fill layers and soil deposits were also recovered to date episodes of disturbance across the Project Area. Recovered artifacts were placed in plastic bags labeled with provenience information.

3.2 LABORATORY METHODS

Recovered artifacts were returned to JMA's laboratory in Croton-on-Hudson, New York, for further analysis. All recovered artifacts were cleaned, inventoried, and cataloged. To the extent possible, the recovered artifacts were identified as to material, temporal or cultural/chronological association, style, and function. Artifacts were identified and dated according to standard references (e.g., Brown 1982; Coysh and Henrywood 1982; Jones et al. 1989; Kovel and Kovel 1986; Sussman 1997). The artifacts were placed in heavy duty, archival quality zip-lock plastic bags for permanent storage, and a provenience tag printed on acid-free paper was placed in each bag. The provenience information was also recorded on the outside of the bags, using a permanent marker.

A qualified forensic anthropologist analyzed the human skeletal materials recovered during the field investigation. The osteological analysis is included as Appendix 1 of this report.

4.0 **RESULTS OF FIELDWORK**

4.1 FORMER LOT 15 (ARCHEOLOGICAL TESTING AREA B)

JMA conducted archeological testing within the rear (east) portion of former Lot 15 to determine whether nineteenth-century refuse deposits associated with 273 Bowery were extant. For recording purposes this area was designated Testing Area B. JMA personnel supervised machineaided excavation to remove the asphalt and overburden (Area B, Stratum I) over the rear half of the lot (Plate 1). A trench that measured 23 feet north-to-south by 35 feet east-to-west (Figure 10) was excavated to an initial depth of approximately 3 feet below surface (BS). The overburden along the southern lot-line was not removed due to considerations regarding the footings and structural integrity of the adjacent building (i.e., 271 Bowery).

The tops of brick foundation-wall segments were observed at 3 feet BS (Figure 10; Plate 2). The rear (east) wall of the former structure at 273 Bowery was located 2.5 feet east of the western wall of the trench. Another wall segment extended 18 feet east from the rear wall of 273 Bowery, approximately 2.25 feet south of the north lot-line. The east-west-running wall segment intersected a north-south-running wall segment located at 1.5 feet BS that spanned the breadth of the lot. A poured-concrete chimney stand or footing that measured three feet (north-to-south) by 4 four feet (east-to-west) was located in the southwest corner of this intersection at 2.75 feet BS. These wall segments likely represent the foundation of the single-story structure depicted on insurance atlases that occupied the rear half of the lot. JMA also uncovered the top of a wall segment along the northern lot-line in the easternmost portion of the trench that likely represents the south wall of the former structure at 275 Bowery.

After documenting the locations of the extant wall segments, JMA continued machine-aided excavation within the trench. The eastern portion of the trench (east of the brick-wall segment that spans the lot) was filled with dark reddish brown sandy loam fill (Stratum II) with pockets of dark gray or black sand and ash (Stratum IIA) that extended to 8.5 feet BS (Figure 11; Plates 3 and 4). The fill included numerous cobbles, large fragments of concrete, brick rubble, metal pipes, and plumbing fixtures. JMA collected a representative sample of artifacts from the fill that included clear (white) screw-top glass bottles, yellow ware (plain lead-glaze buff-paste earthenware) ashtrays, and ceramic drainage pipe (Plate 5). JMA concluded that the eastern portion of the lot was extensively disturbed; materials observed within and recovered from the fill date to the early-to-mid-twentieth century. No shaft features or other intact archeological deposits were observed.

JMA also continued excavation within the area bounded by the brick wall segments in the western portion of the trench (Plate 6). The dark reddish brown sandy loam fill (Stratum II) extended just below the tops of the brick wall segments and sloped east-to-west from 2.5 feet to 5.25 feet BS. The fill was underlain by strong brown fine sand (Stratum II) to approximately 6.5 feet BS and yellowish brown fine sand (Stratum IIIA) from 6.5 feet to 11.75 feet BS (Figure 11). The footings at the base of the concrete wall segments were observed at 11.5 BS. No artifacts were observed within the fine sand deposits. The sand appears to represent clean fill that underlay the single-story structure that covered the rear half of the lot. No shaft features or other intact nineteenth-century deposits were observed.

4.2 FORMER LOT 23 (ARCHEOLOGICAL TESTING AREA A)

JMA conducted archeological testing within the southwest corner of former Lot 23. This area was located west of the ca. 1875 Chapel of St. Augustine and outside of the area of disturbance associated with the Chrystie Street Connection. Archeological testing was conducted by both machine-aided and hand excavation. For recording purposes the area of the former cemetery was designated Testing Area A. Provenience information was recorded relative to a horizontal grid system that was based on a datum at the southwest corner of the lot (i.e., NO E0). In this grid system, the point N15 E25 (for example) refers to the point located 15 feet north of the southern lot line and 25 feet east of the western lot line (see Figure 10).

Test trenches to observe stratigraphy were opened along both the southern (Test Cut 1) and western (Test Cut 2) perimeter of the area (Figure 10). Test Cut 1 (Plate 7) was approximately 6-feet-wide (from N5 to N11) and 45-feet-long (from E10 to E55). Test Cut 2 (Plate 8) was also approximately 6-feet-wide (from E10 to E16) and extended 75 feet in length (from N10 to N85). Soils within Test Cuts 1 and 2 were removed in one-foot increments to observe changes in stratigraphy (Figure 12). In both trenches, the concrete and asphalt paving (Stratum I) was underlain by a thin horizon of grayish brown sandy loam (Stratum II) mottled with dark gray and reddish brown stains that leached from the overlying pavement. A uniform layer of strong brown sandy fill extended from the base of the leached layer to between 8.5 feet and 9.25 feet BS (Stratum III). A low density of nineteenth-century cultural material (primarily glass and ceramic sherds) was observed within Stratum III in the profile of the trench (see below). The fill was underlain by yellowish brown sand with cobbles and gravel that appears to represent intact glacial till or subsoil (Stratum IV).

JMA collected a representative sample of datable materials from the trench-wall profiles in Test Cuts 1 and 2. The sample of cultural material collected from wall profiles within the fill (Stratum III) included glass and ceramic objects that date to the early-to-mid-nineteenth century (Plate 9):

Testing Area A Test Cut I North Wall Profile Stratum III	 I sherd "Rockingharmware" (buff-bodied earthenware, mottled brown iron-oxide decoration on clear lead-glaze), ca. 1812-1900 (Brown 1982) I sherd yellow ware (buff-bodied earthenware, plain lead-glaze), ca. 1827-1922 (Brown 1982) I clay pipe-bowl 2 sherds plain white semi-porcelain I sherd plain white ironstone I sherd (base) press-molded glass tumbler, post-1820s (Jones et al. 1989) 2 fauna (cow and sheep)
Testing Area A Test Cut 2 West Wall Profile Stratum 111	 whiteware bowl - annular/banded (blue and brown) factory-made slipware, ca. 1830-1890 (Sussman 1997) sherd yellow ware, ca. 1827-1922 (Brown 1982) sherds small yellow ware vessel, ca. 1827-1922 (Brown 1982) sherds plain whiteware sherd plain ironstone sherds green bottle glass unidentified/oxidized metal (possible hardware)

Two brick wall segments were observed during test trenching. The western wall of St. Augustine's Chapel was documented within Test Cut 1 (the wall ran north-to-south across the trench) located along the E40 line (Plate 10). Another east-west-running brick wall was documented in Test Cut 2 located along the N65 line (Figure 10). The second wall segment may be associated with the structure depicted at the northeast corner of Archeological Testing Area A on the 1951 Sanborn atlas (Figure 9). North of the wall, the interface between Strata III and IV rose to approximately 5 feet BS (Figure 12).

JMA examined two samples of sediment removed from Test Cut 2 prior to proceeding with machine-aided excavation. Each sample consisted of (approximately) four yards of soil removed by using a toothless bucket to scrape the lower limits of Stratum III and the interface between Strata III and IV. The samples were taken from portions of Test Cut 2 located north and south (respectively) of the east-west-running (N65) brick wall. The soil samples were passed by hand through one-quarter-inch hardware cloth and carefully examined for human remains and/or cultural materials.

Test Cut 2, Sample 1 was excavated from the south side of the brick wall segment at the interface of Strata III and IV (between 8 and 9 feet BS). Sample 1 was taken from the area that extended between N28 and N38 within Test Cut 2. Soils examined from Sample 1 included fragments of human bone that JMA field personnel (preliminarily) identified as cranial fragments (see Appendix 1). The recovered human remains were very disarticulated, in varying states of organic decay, and included 170 fragments of bone. Fragments of identifiable elements recovered from Test Cut 2, Sample 1 are described in detail in Appendix 1. Cultural materials recovered from the soil sample consisted of a sherd of glazed redware, an unidentifiable oxidized fragment of metal, and a sherd of plain whiteware.

Test Cut 2, Sample 2 was excavated from the north side of the N65 brick wall segment (between approximately N73 and N81) at the interface of Strata III and IV (between 4.5 and 5.5 feet BS). Soils examined from Sample 2 did not contain any human remains or cultural material. JMA personnel examined the wall profiles of Test Cut 2 in the vicinity of the two soil samples. No indications of a grave shaft, an intact skeleton, fragmentary human remains, or other cultural feature was observed in the wall profiles. Based on the absence of bone from Sample 2, JMA personnel concentrated subsequent field efforts in the area located south of the east-west-running wall (i.e., the N65 line) and west of the western wall of St. Augustine's Chapel (i.e., the E40 line).

JMA proceeded with machine-aided stripping of the southwest portion of the lot. The tested area ultimately measured approximately 35 feet (east-to-west) by 60 feet (north-to-south) and included the area defined by the brick wall segments excepting approximately 5 feet of fill along the southern and western perimeters of the lot (Figure 10). These 5-foot blocks were not excavated due to concerns over the rear footings of the buildings that front on Bowery located west of the excavation area, as well as practical limits of excavation associated with maintaining the stability of the trench walls. Soils were removed in two-foot increments to observe changes in stratigraphy or possible shaft features. JMA personnel also monitored the back dirt piles during excavation for the presence of human remains; two human bone fragments were recovered from the back dirt during the coarse of machine-aided excavation (see Appendix 1).

JMA personnel observed and documented one possible grave shaft (Feature 1) during machineaided removal of the fill deposit (Stratum III). Feature 1 was located at approximately N50 E12; the feature was observed at 5.9 feet BS and was an oval-shaped stain (in plan view) of brown/grayish brown loam within the Stratum III matrix (Figure 10; Plate 11). Upon observing the possible grave shaft, JMA halted machine-aided excavation and cleared an approximately 10foot by 10-foot area (Test Block N50 E10) surrounding the feature by hand.

Test Block N50 E10 was shovel scraped and approximately 2 inches (depth) of the surrounding soil was screened to determine if human remains were present and collect a sample of artifacts from the matrix surrounding the feature. The soil color and texture in this area was consistent with the rest of Stratum III across the site, however JMA observed small mottled and streaked areas of brown/grayish brown loam (identical to the soil stain designated Feature 1) throughout

the strong brown sand. These mottles and streaks ranged in size from less than an inch to a few inches in diameter or length. All artifacts recovered from the area were collected and returned to the lab for identification. Artifacts recovered from Test Block N50 E10 included nineteenth-century ceramic and glass sherds as well as animal bones and unidentifiable, oxidized metal fragments (Plate 12):

Test Area A	1 sherd "Staffordshire" ware (buff-paste earthenware, clear lead-glaze over combed
Test Block N50 E10	brown iron-oxide design), ca. 1675–1775 (Brown 1982)
Stratum III 5.9–6.2 feet BS	1 sherd (base) blue-transfer-print whiteware plate ("Willow" pattern), ca. 1810-1880 (Coysh and Henrywood 1982)
	1 sherd yellow ware (buff-bodied earthenware, plain lead-glaze), ca. 1827-1922 (Brown 1982)
	I sherd porcelain (partial mark "YDENHAM" and diamond-shaped English registry mark), c. 1854 (Kovel and Kovel 1986)
	I white clay pipe stem
) sherd blue transfer-print porcelain tile
	3 sherds plain whiteware
	4 sherds plain ironstone (basin or chamber pot)
	1 sherd (base) press-molded glass mug, post-1820s (Jones et al. 1989)
	1 sherd (base) blue turn-molded bottle glass, ca. 1870-1920 (Jones et al. 1989)
	I mold-blown prescription-medicine bottle
	1 sherd (base) black bottle glass
	1 sherd plain green bottle glass
	3 sherds clear (white) flat (window) glass
	8 oxidized unidentifiable metal (possible hardware)
	3 oyster shells
	2 fauna (butchered)

The Stratum III matrix within Test Block N50 E10 also included 33 fragments of human skeletal material. Most of these were highly decomposed, minute, and broken or crushed fragments of bone that could not be identified to a specific skeletal element. The bone fragments were generally recovered within or in the vicinity of the brown/grayish brown loam deposits, although none of these deposits was well enough defined to be identified as a distinct feature. Identifiable skeletal elements recovered from the area include fragments of a femur, ulna, scapula, dentition, and mandible that represent between one and four non-adult individuals (see Appendix 1).

Feature 1, the oval-shaped stain of brown/grayish brown loam, was oriented west-northwest/eastsoutheast and measured approximately 5 feet long by 2 feet wide. The feature was clearly defined by a change in soil color and texture with a distinct boundary from the surrounding strong brown sandy fill (Stratum III) matrix. JMA excavated the feature by hand. The western and eastern halves of the feature were removed separately. All soils within the deposit were screened. The deposit was uniform in terms of soil color and texture, and included both nineteenth-century artifacts (Plate 13) and human remains:

Test Area A Test Block N45 E10 Feature 1 (west-half)	 sherd plain gray stoneware with brown-slip interior sherds press-molded clear (white) vessel glass sherds clear (white) vessel glass sherds black bottle glass sherds clear (white) flat (window) glass oxidized unidentifiable metal (possible hardware) brick fragments pieces wood (decomposed) charcoal fragments clam shell
Test Area A Test Block N45 E10 Feature 1 (east-half)	 sherd (rim) blue-transfer-print whiteware sherds plain whiteware sherds (including neck) blue turn-molded medicine-bottle glass, ca. 1870-1920 (Jones et al. 1989) sherds clear (white) vessel glass sherds green vessel glass

2 sherds clear (white) flat (window) glass
4 oxidized unidentifiable metal (possible hardware)
1 brick fragment
3 fragments clam shell

Skeletal materials were only recovered from the western half of the deposit; no bone fragments were observed or recovered in the eastern half of the feature. Numerous small, unidentifiable human skeletal fragments in an advanced stage of decomposition were recovered from the feature. A few larger identifiable fragments were recovered that represent elements of the pelvis of a female adult (see Appendix 1). In total, 94 fragments of human skeletal material were recovered from the feature. None of the bones were in anatomical position or in any other way suggestive of an *in situ* burial.

The deposit extended to a depth of 6 inches (6.4 feet BSL) near the western end and sloped gently upwards to 6.2 feet BSL at the center and across the eastern half of the feature (Plate 14). The base of Feature 1 was clearly defined by a distinct transition between the brown/grayish brown loam and underlying strong brown sandy fill. The shape (in plan view) and loamy texture of the soils within the deposit suggest that the feature may represent the bottom of a grave shaft. It is clear, however, that the deposit is previously disturbed because the nineteenth-century artifacts were found throughout the deposit both above and below the recovered skeletal elements and bone fragments. The artifacts within the possible shaft deposit are similar in age and type to those recovered from within Stratum III in other areas of the site, including those recovered from the surrounding Test Block N50 E10.

The stratigraphic context, color, texture, and contents of Feature 1 suggest that the deposit represents the base of a grave shaft that was re-excavated by hand during the ca. 1874 removal of the cemetery and subsequently refilled with the same shaft fill. The minute and decomposed bits of bone recovered by JMA represent small fragments of skeletal material that were missed or not successfully recovered in the 1870s. These proposed episodes of excavation and refilling also account for the mixing of artifacts and bone within the deposit. Another possible interpretation is that Feature 1 is a stain or shadow at the base of a former grave shaft, and the brown loamy deposit derived from organically rich matter that leached down from the coffin prior to the removal of the burials in the 1870s. In either case, the deposit was clearly disturbed and contained no indications of an intact human burial.

No indications of intact burials or possible grave shaft features were observed within Stratum III while conducting machine-aided excavation across the remaining portions of Test Area A. Based on the recovery of fragmentary human remains in Test Cut 2, Sample 1 from the interface of Stratum III and Stratum IV, JMA exposed and examined a large area of the Stratum III/IV interface across the site. Machine-aided excavation with a toothless bucket was conducted until the base of the Stratum III deposit was reached. To establish provenience control across the site, JMA examined the exposed portions of the interface within 10-foot by 10-foot test blocks (Plate 15). Test blocks were designated according to the grid-coordinate of the northeast corner of each 10-foot by 10-foot area (Figure 10). The exposed interface was examined for artifacts and human remains within Test Blocks N20 E40, N20 E30, N30 E40, N30 E30, N40 E40, N40 E30, N50 E40, and N50 E30. No human remains or artifacts were observed on the exposed interface surface.

JMA conducted shovel scraping within Test Blocks N30 E30 and N40 E30 (encompassing the area located east of and adjacent to Test Cut 2, Sample 1) and screened approximately three to four inches (depth) of soil at the interface between Strata III and IV across each test block (Plate 16). No human remains or artifacts were observed or recovered from Test Block N30 E30.

Artifacts were also not recovered from Test Block N40 E30, although JMA did recover fragments of human skeletal material from the latter block. Bone recovered from Test Block N40 E30 consisted of four small fragments derived from a long bone shaft, likely representing portions of the humerus from a single individual (see Appendix 1). Like in the other contexts from which human bone was recovered, these bone fragments were associated with an area of sandy fill mottled with small deposits of brown/grayish brown loam located in the southwest corner of the test block (and adjacent to Test Cut 2, Sample 1).

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5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 SUMMARY AND CONCLUSIONS

JMA conducted archeological testing in two areas (former Lots 15 and 23) within Lot 30 of Block 427 in New York, New York in association with the Cooper Square Urban Renewal Plan (CSURP). These areas were identified as having "archeological potential" in a previous historical overview and sensitivity assessment prepared for the CSURP (Parsons 2000).

Former Lot 15 (JMA Archeological Testing Area B) is the former rear yard of a now-demolished building at 273 Bowery. German and Irish immigrant families engaged in skilled trades occupied 273 Bowery during the mid-nineteenth century. From 1903 to 1951 a single-story mapdocumented structure occupied the rear half of the lot. According to insurance maps this singlestory structure did not have a basement; therefore, archeological deposits associated with the midnineteenth-century occupation of the building were potentially extant within the rear half of the lot.

JMA removed overburden and fill deposits from the rear-yard area in an attempt to identify intact archeological deposits. Although the single-story map-documented structure did not have a recorded basement, the field investigation resulted in the documentation of a series of brick foundation walls that had footings as deep as 11.5 feet below the current ground surface. All soils observed in the vicinity of these foundation walls were previously disturbed deposits of fill. No intact or potentially significant archeological deposits were identified within the rear yard area of former Lot 15.

Former Lot 23 (JMA Archeological Testing Area A) was the location of a portion of the former Society of Friends East Houston Street Cemetery. The cemetery was used as a burying ground between approximately 1800 and the late-1840s. During this time at least 2,000 individuals were interred at Houston Street. According to available records, all of the burials at the cemetery were removed by 1874 preceding the sale of the lot to Trinity Church.

JMA conducted archeological testing within the area of former Lot 23 to insure that no intact burials remained at the site. The principal stratigraphic deposit within this area was a uniform strong brown sandy fill that extended from five feet to 8.5 feet below the ground surface and was underlain by yellowish brown medium/coarse sand with gravel and cobbles. The sandy fill included brick demolition rubble, nineteenth-century artifacts, and fragmentary (disarticulated) human skeletal material. In total, JMA recovered 304 fragments of human skeletal material, 18 of which were identifiable in terms of the element or bone that the fragment represented (Appendix 1). The fill also included sporadic mottled or streaked areas of brown/grayish brown loam that appear to be associated with the bone fragments and may represent remnants of disturbed grave shafts or burials.

Only one possible grave-shaft feature was observed within the fill at approximately six feet below ground surface. The feature was an oval-shaped (in plan view) stain of brown/grayish brown loam that measured approximately five feet (long) by two feet (wide). The feature extended between two inches and six inches in depth and included both fragments of human bone and nineteenth-century artifacts. The feature may represent a previously disturbed grave shaft that was excavated and refilled during the ca. 1870s removal of burials at the cemetery. No indications of intact burials or undisturbed grave-shaft features were observed within former Lot 23.

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5.2 **Recommendations**

Archeological investigations conducted within Block 30 of Lot 427 did not result in the identification of any potentially significant archeological deposits or features. Although fragments of human skeletal material were recovered from within the fill deposits on former Lot 23, no intact burials or undisturbed grave shafts were identified within the area of proposed construction. No additional archeological work is recommended in association with the proposed construction on Lot 30 of Block 427.

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FIGURES



Figure 1. Detail of the Jersey City, N.J.-N.Y. and Brooklyn, N.Y. (USGS 1981, 1979) 7.5-minute quadrangles showing the location of Lot 30 on Block 427.











Figure 4. Detail of the 1853 Perris atlas showing the locations of Archeological Testing Areas A and B, modified from Parsons (2000)



Figure 5. Detail of the 1868 Perris atlas showing the locations of Archeological Testing Areas A and B, modified from Parsons (2000)

Figure 6. Detail of the 1875 Robinson atlas showing the locations of Archeological Testing Areas A and B, modified from Parsons (2000)

Figure 7. Detail of the 1877 Perris atlas showing the locations of Archeological Testing Areas A and B, modified from Parsons (2000)

Figure 8. Detail of the 1903 Sanborn atlas showing the locations of Archeological Testing Areas A and B, modified from Parsons (2000)

Figure 9. Detail of the 1951 Sanborn atlas showing the locations of Archeological Testing Areas A and B, modified from Parsons (2000)

Figure 10. Project plans showing the limits of excavation and features documented during the archeological investigation; photographic views are indicated by Plate Number.

Figure 12. Archeological Testing Area A, west wall profile.

PLATES


Plate 1. Machine-aided excavation during removal of backfill and overburden in Archeological Testing Area B; view to the east-northeast.



Plate 2. Brick foundation-wall segments documented at approximately three feet below surface in Archeological Testing Area B; view to the east.



Plate 3. A deposit of fill and demolition rubble extended to the base of the foundation-wall footings in the eastern portion of Archeological Testing Area B; view to the south.



Plate 4. Limits of excavation and the base of the foundation walls in the eastern portion of Archeological Testing Area B; view to the west.



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Plate 5. Sample of early-twentieth-century artifacts recovered from the fill in the eastern portion of Archeological Testing Area B.



Plate 6. Fill deposits and base of the foundation-wall footings in the western portion of Archeological Testing Area B; view to the east.



Plate 7. Archeological Testing Area B, Test Cut 1; view to the east.



Plate 8. Machine-aided trenching in Archeological Testing Area A, Test Cut 2; view to the north.



Plate 9. Sample of nineteenth-century artifacts recovered from the fill (Stratum III) in Archeological Testing Area A.



Plate 10. Brick wall at N5 E40 cut through during machine-aided trenching in Test Cut 1; view to the south.



Plate 11. Archeological Testing Area A, Feature 1 (within Stratum III) prior to excavation; view to the east.



Plate 12. Sample of nineteenth-century artifacts recovered from Test Block N50 E10 within Stratum III.



Plate 13. Sample of nineteenth-century artifacts recovered from within the Feature 1 deposit.



Plate 14. Archeological Testing Area A, Feature 1 (within Stratum III) after excavation; view to the east.



Plate 15. Limits of excavation within Archeological Testing Area A with control-grid designating Test Blocks; view to the south.



Plate 16. Archeological Testing Area A, Test Block N40 E30 after shovel scraping and screening the base of the fill deposit; view to the east.

APPENDIX I:

Osteological Laboratory Report

OSTEOLOGICAL LABORATORY REPORT

FOR

ARCHEOLOGICAL INVESTIGATIONS ON BLOCK 427 WITHIN THE COOPER SQUARE URBAN RENEWAL AREA

NEW YORK, NEW YORK

Prepared for .

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&

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1.0 INTRODUCTION

1.1 **PROJECT BACKGROUND**

In May of 2003, John Milner Associates, Inc. retained Aaron C. Madamba, M.A., as their Project Forensic Anthropologist (bioarchaeologist) for their pre-construction investigation of the former Friends' Cemetery, the former Lot 23 within new Lot 30 of Block 427, located within the confines of the Cooper Square Urban Renewal Area. Mr. Madamba was to remain "on-call" for the duration of the field-testing, in case disarticulated human remains or evidence of possible intact burials were discovered.

Upon completion of the field-testing that took place the week of June 2, 2003, Mr. Madamba was notified that human remains were found and recovered under the supervision of the Project Archaeologist, Patrick Heaton, RPA. It was reported to Mr. Madamba that no intact burials were discovered during the course of field-testing; however, disarticulated fragmentary human remains were recovered from various proveniences within "Test Area A," which denotes the portion of former Lot 23 within new Lot 30 of Block 427, known to be the previous location of the Friends' Cemetery. These proveniences with "Test Area A," are Test Cut 2, Sample 1, Stratum IV; West Wall Profile, ~N30 E5, Stratum III; Test Block N40 E30, Stratum IV; Test Block N50 E10, Stratum III; Test Block N50 E10, Stratum III; Test Block N50 E10, Stratum III, Feature 1; and No Provenience (recovered from back dirt). On June 23, 2003 all human remains recovered were delivered into the custody of Mr. Madamba for osteological analyses.

1.2 METHODS

Due to the absence of any intact burials, examination began with the separation of each set of fragmentary remains into the respective provenience to which they were recovered. Each set of remains was then laid out on a table covered with Ethafoam to reduce the potential for breakage and protect the skeletal materials from abrasion during examination. An inventory of the recovered fragmentary remains was then compiled. The remains were placed into anatomical position, when possible, to: 1) facilitate identification of the skeletal components and aid in the determination of the origin of small fragments; 2) determine the minimum number of individuals represented within a respective provenience; 3) allow an assessment of differential preservation of skeletal components from each burial; and 4) identify patterns of traumatic or pathological lesions. The inventory was than coded onto standardized forms that were adapted from *Standards: For Data Collection From Human Skeletal Remains* (Buikstra and Ubelaker, eds. 1994). Data on sex, age ranges at death, ancestry, location of lesions, and non-metric traits were also recorded onto standardized forms when such information was available from the remains.

2.0 OSTEOLOGICAL LABORATORY RESULTS FOR "TEST AREA A"

2.1 TEST CUT 2, SAMPLE 1, STRATUM IV

Test Cut 2, Sample 1, from the fourth stratum yielded rib fragments and numerous cranial fragments from a single cranium. The majority of the fragments represent the right lateral and anterior portions of the cranium. The cranial elements represent incomplete and fragmented portions of the right *temporal*, right *zygomatic*, right *maxillary*, left nasal, *sphenoid*, right *parietal*, left *parietal*, and frontal.

The rib fragment is a proximal end from the right side. It represents a partial body typical for the third through ninth rib. It demonstrates no pathological anomalies and is in a fair state of preservation. Age estimation is not possible on such a fragment due to the lack of the fusion section of the rib body. Ethnic and sex estimation is not possible on such a fragment due the lack of ethnic or sexual indicators on these skeletal elements.

The right *temporal* has a fragmented *squama* and a detached *petrous* pyramid, primarily due to decomposition. The *zygomatic* process is fragmented with the anterior portion not represented. The *mastoid* process is fragmented inferiorly eliminating the possibility of an accurate measurement yet still indicating European decent in shape and size. There is an absence of any pathological anomalies and all adult sutural areas are unfused, (indicating that the subject was less that thirty years of age at the time of death).

The right *zygomatic* is nearly complete with the fragmented portions limited to sutural areas. The sutural area of the frontal process is partially fragmented, with fragmentation restricted to the frontal sutural point. The *zygomaticorbital* area is also partially fragmented with the distal portion of this region missing.

The right *maxillary* is severely fragmented and incomplete. There are portions of the frontal process, *zygomatic* process, *palatine* process, anterior *lacrimal* crest, and the *maxillary* sinus is present. No *alveolar* portions are present. Mild, healed sinusitis with minor weaving present on the surface of the *maxillary* sinus (Figure 1) was observed. The right nasal is absent, however the left nasal is partially present with the absence of the distal base.



The *sphenoid* is comprised entirely from elements of the right side. This was determined by the general shape and alignment of the fragmentary elements present. These sections include the greater and lesser right wings, and the *pterygoid*. All of the adult sutural areas are unfused, indicating that the subject was less than thirty years of age. There are no pathological anomalies present on this skeletal element.

The right and left parietals consist of fragments from anterior-medial segments. These fragments are primarily comprised from parietal and frontal sutural areas. The ectocranial surface is in an advanced state of decomposition due to erosion. These fragments are in fair to poor states of overall preservation.

The frontal is represented by numerous small fragments. The fragments primarily consist of *parietal* sutural areas with a small section of *sphenoid* sutural area present as well as a large section of the frontal crest. All adult sutures areas are open. The preservation level for these fragments are fair to poor, with advanced decomposition of the ectocranial surface of the poorly preserved fragments due to erosion which is in the third stage of weathering (Buikstra and Ubelaker eds. 1994).

The human remains present for this section of "Test Area A" represent a minimum of one and a maximum of two individuals. The aggregate cranial fragments can be deduced to represent only one individual of European decent with an estimated age of less than thirty years. Sex estimation is not recommend for this individual due to the deficiency of multiple sex indicators present on the cranial fragments and the lack of a precise age category.

2.2 WEST WALL PROFILE, ~N30 E5, STRATUM III

One skeletal element was recovered from the West Wall Profile. It is a non-human faunal, vertebral body. It appears to originate from either a porcine or canine subject and is believed to be from the lumbar region of the spine.

2.3 TEST BLOCK N40 E30, STRATUM IV

This test block yielded small human skeletal fragments derived from a long bone shaft. It can be assumed that all fragments are from a single skeletal element. Given the size, thickness of the cortex, and angulation of the larger long bone fragment present, it can be approximated that these elements are from the superior half of a humerus shaft. These fragments are currently in a fair state of preservation. This area of excavations represents one individual of unknown sex and age.

2.4 TEST BLOCK N50 E10, STRATUM III

The area of Stratum III, within Test Block N50 E10 yielded numerous human skeletal elements. Of those recovered from excavation activities are fragments from a femur, ulna, scapula, dentition, mandible, and minute indeterminate human skeletal fragments. All skeletal elements recovered are in a fair state of preservation and are primarily from non-adult individual(s).

The fragment of the femur consists entirely of the distal epiphyses (condyles) of a left femur. The epiphyses is fragmented slightly inferior to the growth plate rendering age estimation ineffectual; however, given the size of the condyles it can be assumed that this skeletal element is from either a non-adult individual or a rather diminutive adult, with the former being the more likely estimation of general age (Figure 2).



The ulna fragments are shaft fragments. Given that the nutrient foramen are located on the anteromedial section of the ulnar shaft and the curvature of the fragment, it can be determined that this fragment is from the left ulna. Age is indeterminable, due to the incompleteness and placement along the shaft of this fragment.

The fragment of scapula is from a non-adult individual. This fragment represents the acromion of the right scapula. It is a partial fragment primarily consisting of the lateral portion of the *acromion*.

Dentition recovered from this area is comprised solely of the permanent lower left second molar. The crown of the tooth is fully developed and lacks any evidence of nutritional deficiencies or infections. It does not appear that the eruption process has begun. This indicates that the individual was younger that 12 ± 2.5 years of age at the time of death (Ubelaker 1989). The root formation of the molar is also incomplete. However, the extant of formation is indeterminable due to fragmentation of the roots (Figure 3). Age determination from the data available allows for a minimum estimated age of 9 ± 2 years, and a maximum age of 10 ± 2.5 years (Ubelaker 1989).



The mandibular fragments recovered appear to be from one non-adult individual and can be assumed to be associated with the recovered molar due to the overall size and shape of the fragments being consistent with the development of the molar. The larger fragments represent portions of the left ascending ramus and the base of the *corpus*. The fragments of the ascending ramus include the *incisura* and the *gonial* angle. The small section of the *corpus* present is a partial mental eminence.

A single non-adult individual could seemingly be represented by the remains collected in this area of "Test Area A," since the femur is, in all likelihood, a non-adult skeletal element and the scapula, molar, and mandible are non-adult elements. However, the possibility of multiple individuals remains since this was not an intact burial feature. Given these contrasting interpretations, it can only be assumed that remains excavated from Test Block N50 E10, Stratum III, are those from one to four non-adult individuals.

2.5 TEST BLOCK N50 E10, STRATUM III, FEATURE 1, WEST 1/2

Numerous small, indeterminable, human skeletal fragments in an advanced stage of decomposition were recovered from this feature. The larger, identifiable fragments present can be associated to the right os coxae, since the fragment of the *ischial tuberosity* faces posterolaterally. It was also determined that this is an os coxae of an adult female. When utilizing the fragment of the *auricular* surface to estimate age at death, this individual can be considered to have been minimally in Phase 6 (45-49 years of age) (Buikstra and Ubelaker, eds. 1994). This was determined due to the rough granularity of the fragmentary surface present of the *auricular* surface. Upon examination of the *ischium* and *pubis*, it was determined that this female individual may have given birth. There appear to be stress related striations on the *ischium* and *pubis*, indicating birthing related stressors, however certainty cannot be achieved due to the state of decomposition and erosion.

2.6 NO PROVENIENCE (RECOVERED FROM BACK DIRT)

There were two human skeletal elements recovered from the back dirt during excavations: a humerus and a *scaphoid*. Both elements are from adult subjects and their preservation state is fair. Due to the lack of intermediary skeletal elements, it is unfeasible to determine if the elements are from one or two subjects.

The humerus consisted of the distal half of the shaft and is from the right side of an individual. The shaft fragment begins superiorly about the midpoint of the shaft. Distally, the shaft fragment terminates just superior to the *coronoid fossa*. There are no indications of pathological anomalies on the shaft fragment.

The *scaphoid* is relatively complete with only small segments of cortical bone absent, presumably due to natural decomposition. This *scaphoid* is from the right hand of an individual. It lacks any indication of pathological anomalies; however, the origin and insertion points are slightly pronounced. Given the historical era that these remains originate from, this muscular definition would be considered normal for both male and female subjects do to work related stressors for the time period.

Since these two skeletal elements were recovered from a non-provenienced area, and intermediary skeletal elements were not recovered, it cannot be concluded that these remains are

from a single individual. Therefore, the remains recovered from this area can be assumed to represent one to two adult individuals.

3.0 CONCLUSIONS

3.1 DISCUSSION

Excavations of "Test Area A" from the Friends' Cemetery that occupied former Lot 23 within new Lot 30 of Block 427 of the Cooper Square Urban Renewal Area, yielded a total of nineteen identifiable skeletal elements. One of the nineteen elements recovered is non-human in origin and the eighteen remaining elements are human in origin. Due to the degree of crossion, weathering, and fragmentation, it would have been implausible to accurately establish a sex, age, and ethnic estimation for a basic demographic profile for each individual represented by remains disinterred from the former East Houston Street Cemetery site.

The eighteen identifiable human skeletal elements were derived from various proveniences within "Test Area A," portions of former Lot 23 within new Lot 30 of Block 427, known to be the previous location of the Friends' Cemetery. These proveniences were Test Cut 2, Sample 1, Stratum IV; Test Block N40 E30, Stratum IV, Test Block N50 E10, Stratum III; Test Block N50 E10, Stratum III, Feature 1; and No Provenience (recovered from back dirt). These skeletal elements represented one to five non-adult individual(s) and one to five adult individual(s).

The non-adult individual(s) was derived from Test Block N50 E10, Stratum III and Test Cut 2, Sample 1, Stratum IV. The skeletal elements recovered from Test Block N50 E10, Stratum III, comprise a total of one to four non-adult individual(s). There is the possibility that all skeletal elements recovered from this provenience represent a single, non-adult individual; however this cannot be determined with any degree of certainty due to the state of preservation.

The cranial elements recovered from Test Cut 2, Sample 1, Stratum IV can only be determined to be less than thirty years of age at the time of death. This does not eliminate the possibility that the cranial remains are derived from a juvenile. The possibility of the cranial remains belonging to a juvenile is likely due to the lack of accuracy utilizing sutural areas after infancy, and since the adult sutural areas have not begun to close or fuse. These adult sutural areas do not begin to close or fuse in healthy individuals until at least the age of thirty (Buikstra and Ubelaker, eds. 1994). Given this information, if the cranial elements recovered are from a juvenile, the number of adult individuals recovered would be one to four individual(s).

All skeletal elements recovered lacked any evidence of deficiencies or severe pathological anomalies. The only evidence of any disease or illness present was noted on the surface of the *maxillary* sinus, which was a mild, healed case of sinusitis. This condition is due to a blood-born bacteria which was and remains a common disease (Roberts and Manchester 1995). Therefore, it can be assumed that all individuals represented by the skeletal elements recovered where in a good state of health until the time of death.

3.2 CONCLUSION

Excavations of "Test Area A" from the Friends' Cemetery that occupied former Lot 23 within new Lot 30 of Block 427 of the Cooper Square Urban Renewal Area, resulted in the recovery of eighteen identifiable human skeletal elements that survived burial relocation activities and previous construction activities. These human skeletal elements were not associated with an intact burial and are considered to be fragmentary, incomplete, and possible commingled remains.

The eighteen identifiable human skeletal elements were derived from the various proveniences within "Test Area A," represent a total of two to nine individuals that were in a relatively good state of health until the time of death. Of the individuals represented from the recovered fragmentary skeletal remains, it can be certain that there was at least one non-adult of 10 ± 2.5 years of age, one female of at least 45 years of age, and one individual of European decent.

4.0 REFERENCES

Buikstra, Jane E., and Douglas H. Ubelaker (editors)

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Roberts, Charlotte and Keith Manchester

1995 The Archaeology of Disease. 2nd edition. Cornell University Press, Ithaca, New York.

Ubelaker, Douglas

1989 Human Skeletal Remains. 2nd edition. Taraxacum Press, Washington, D. C.

Appendix A

Master Inventory Recording Form

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Site Name/Number:	Cooper Square	Observer:	Aaron C. Madamba
Job Code:	JMA 2	Date:	June-July 2003
Quadrant/Area:		1	Test Area A
Unit or Feature Number:			
Burial Number/Burial/Skelet	ton Number:		
Present Location:			

Bone	Side	Segment	Completeness	Ct/Wt	Age	Sex	Bag
Temporal	R	-	2	-	< 30	?	9
Zygomatic	R		2		< 30	?	10
Maxillary	R	-	2	-	< 30	?	10,11,12
Nasal	L	-	2	-	< 30	?	10,11,12
Sphenoid	R	-	2	_	< 30	?	10,11,12
Parietal	R	-	2	-	< 30	?	11,12
Parietal	L	-	2	-	< 30	?	11,12
Frontal	-	-	2	-	< 30	?	11,12
Rib	R	-	3	-	?	?	13
Vertebra, non-human	-	-	2	-	-	-	3
Humerus	R	P 1/3	3	-	18+	?	8
Femur	L	DÉ	3		<18	?	6
Ulna	L	P 1/3	3	-	?	?	6
Scapula	R	-	3	-	<18	?	6
2 nd Permanent Lower Molar	L	1	1	-	10± 2.5	?	7
Mandible	L	-	3		<18	?	7
Os Coxa	R	-	3	-	45+	F	4,5
Humerus	R	D 1/3	2	-	18+	?	2
Scaphoid	R	-	1		18+	?	2

Key:

Side: L (left); R (right); B (both); M (midline); ? (Unsideable) Segment: P 1/3 (proximal third); M 1/3 (middle third); D 1/3 (distal third); PE (proximal epiphyses); DE (distal epiphysis); B (vertebral body or centrum); NA (Neural arch) Completeness: 1 = > 75%; 2 = 25 - 75%; 3 = < 25%

Appendix **B**

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Digital Photo Log and Photos

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Cooper Square Site Name/Number:

Date: June-July 2003

JMA 2 Job Code:

Number	Description	Bag #
1	Right Scaphoid - View from Radius	1
2	Right Scaphoid - View from Capitate	1
3	Right Humerus – Anterior View	2
4	Right Humerus – Posterior View	2
5	Faunal Vertebral Body – Anterior View	3
6	Faunal Vertebral Body - Superior View	3
7	Faunal Vertebral Body – Lateral View	3
8	Larger Os Coxae Fragments	4
9	Opposite View of Larger Os Coxae Fragments	4
10	Left Femoral Distal Epiphyses – Anterior View	6
11	Left Femoral Distal Epiphyses – Posterior View	6
12	Ulna Shaft Fragments	6
13	Acromion	7
14	Lower Left Second Molar – Occlusial View	7
15	Lower Left Second Molar – Buccall View	7
16	Mandibular Fragments: (Left) Superior Ramus, (Center) Gonial Angle, (Right) Mental Petruberance	
17	Cranial Fragments	10 - 12
18	Temporal – Lateral View	9
19	Temporal – Medial View	9
20	Cranial Fragments: Right Zygomatic, Sphenoid, Maxillary	10-12
21	Temporal – Lateral View	9
22	Zygomatic – Lateral View	10
23	Larger Cranial Fragments: (Top) Right/Left Parietals, (Bottom) Frontal	12
24	Ulna – Reconstructed	6
25	Right Rib – Superior View	13
26	Right Rib – Inferior View	13
27	Maxillary Sinus – Sinusitis	10-12





Digital Photo 2





Digital Photo 4





Digital Photo 6



COOPER SQUARE URBAN RENEWAL AREA BLOCK 427 OSTEOLOGICAL LABORATORY RESULTS APPENDIX B - 6





Digital Photo 9





Digital Photo 11

COOPER SQUARE URBAN RENEWAL AREA BLOCK 427 OSTEOLOGICAL LABORATORY RESULTS





Digital Photo 13

COOPER SQUARE URBAN RENEWAL AREA BLOCK 427 OSTFOLOGICAL LABORATORY RESULTS





Digital Photo 15

COOPER SQUARE URBAN RENEWAL AREA BLOCK 427 OSTEOLOGICAL LABORATORY RESULTS APPENDIX B - 10





Digital Photo 17

COOPER SQUARE URBAN RENEWAL AREA BLOCK 427 OSTEOLOGICAL LABORATORY RESULTS APPENDIX B - 11
















Digital Photo 25

COOPER SQUARE URBAN RENEWAL AREA BLOCK 427 OSTEOLOGICAL LABORATORY RESULTS





Appendix C

Recording Forms for Finds, Commingled, and Incomplete Remains

MASTER INVENTORY RECORDING FORM FOR FINDS, COMINGLED, AND INCOMPLETE REMAINS

Site Name/Number:	Cooper Square	Observer:	Aaron C. Madamba
Job Code:	JMA 2	Date:	June-July 2003
Quadrant/Area:		. /	Test Area A
Unit or Feature Number:			
Burial Number/Burial/Sk	celeton Number	:	
Present Location:	~	1	

Bone	Side	Segment	Completeness	Ct/Wt	Age	Sex	Bag
Temporal	R	-	2	-	< 30	?	9
Zygomatic	R	-	2	-	< 30	?	10
Maxillary	R	-	2	-	< 30	?	10,11,12
Nasal	L	-	2	-	< 30	? _	10,11,12
Sphenoid	R	-	2	-	< 30	?	10,11,12
Parietal	R	-	2	-	< 30	?	11,12
Parietal	L	1	2	-	< 30	?	11,12
Frontal	-	-	2		< 30	?	11,12
Rib	R	I.	3	-	?	?	13
Vertebra, non-human	-	-	2	-	-	-	3
Humerus	R	P 1/3	3	_	18+	?	8
Femur	L	DE	3	-	<18	?	6
Ulna	L	P 1/3	3	-	?	?	6
Scapula	R	-	3	-	<18	?	6
2 nd Permanent Lower Molar	L	-	1	-	10± 2.5	?	7
Mandible	L	-	3	-	<18	?	7
Os Coxa	R	-	3	-	45+	F	4,5
Humerus	R	D 1/3	2	-	18+	?	2
Scaphoid	R	-	1	-	18+	?	2

Key:

Side: L (left); R (right); B (both); M (midline); ? (Unsideable) Segment: P 1/3 (proximal third); M 1/3 (middle third); D 1/3 (distal third); PE (proximal epiphyses); DE (distal epiphysis); B (vertebral body or centrum); NA (Neural arch) Completeness: 1 = > 75%; 2 = 25 - 75%; 3 = < 25%

Adapted from Standards (1994).

Site Name/Number:	Cooper Square	Observer:	Aaron C. Madamba
Job Code:	JMA 2	Date:	June-July 2003
Quadrant/Area:		/	Test Area A
Unit or Feature Number:	Test Cut 2, Samp	le 1, Stratu	m IV
Burial Number/Burial/Skelet	ton Number:		
Bag Number:			
Inventory Number or ID:			
Total Pages:	6 (page 1 of 6)	-	
Bone: multiple crani	al fragments (one :	individual)	
Forms Included:			
Metrics:			Non-Metrics:
Taphonomy I, II, an	d III:		Dentition:
Paleopathology I, II	:		Cranial Deformation:
Visual Recording:			Other:
Description and Comments:	segments i	ncluded, de	scriptions on separate sheets
		right tempo	pral – page 2 of 6
		right zygon	atic – page 3 of 6
-	-	right maxil	ary – page 4 of 6
		Left nasa	ll – page 4 of 6
· · · · · · · · · · · · · · · · · · ·		Right parie	etal – page 5 of 6
		Lett pariet	tal – page 5 of 6
		Sphenoid	- page 5 01 0
-		Right rit	p – page 6 of 6
Photo Log: Vie	w	Digital	b/w
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Site Name/Number:	Cooper Square	Observer:	Aaron C. Madamba
Job Code:	JMA 2	Date:	June-July 2003
Quadrant/Area:			Test Area A
Unit or Feature Number: Burial Number/Burial/Skelet	Test Cut 2,Sample on Number:	e 1, Strat IV	J
Bag Number:	9	6	
Inventory Number or ID:			
Total Pages:	6 (page 2 of 6)		
Bone: Right Tempor	al		_
Forms Included: Metrics: Taphonomy I, II, an Paleopathology I, II Visual Recording:	d III:		Non-Metrics: Dentition: Cranial Deformation: Other:
Description and Comments:		souama	- fragmented
		petrou	s – detached
	ante	rior zygom	atic, process missing
		mastoid fra	anomalies
		- sutur	res are open
······································			
Photo Log:			
Vie	w	Digital	b/w

View latenal view	Digital	b/w 18

Site Name/Number:	Cooper Square	Observer:	Aaron C. Madamba
Job Code:	JMA 2	Date:	June-July 2003
Quadrant/Area:		/	Test Area A
Unit or Feature Number: Burial Number/Burial/Skelet	Test Cut 2, Samp	le 1, Strat I	V
Bag Number:	10		
Inventory Number or ID:	1 		
Total Pages:	6 (3 of 6)		
Bone: Right zygoma	tic		
Forms Included: Metrics: Taphonomy I, II, an Paleopathology I, II Visual Recording:	d 111:		Non-Metrics: Dentition: Cranial Deformation: Other:
Description and Comments:	Slightly fragmente	ed with port	tions of maxilla (affixed with glue)
		- 1 lar	ge for a man
	fragn	nent adjace	nt to temporal process
<u></u>		ppears to b	be a trowel gouge
	- sutured are	a of frontal	process partially fragmented
_	Zygoi		r is partially fragmented
		2	
Photo Log: Vie	w	Digital	b/w

View		Digital		b/w		
		 	-			
_		 				
10 1						

Site Name/Number:	Cooper Square	Observer:	Aaron C. Madamba
Job Code:	JMA 2	Date:	June-July 2003
Quadrant/Area:		. /	Test Area A
Unit or Feature Number:	Test Cut 2, Sampl	e 1, Strat I	v
Burial Number/Burial/Skelet	on Number:		
Bag Number:	10,11,12		
Inventory Number or ID:		NO 10860	
Total Pages:	6 (4 of 6)	· -	
Bone: <u>Right Maxillar</u> Forms Included:	ry - Left Nasal – S	phenoid	
Metrics: Taphonomy I II and	ITT		Dentition:
Paleopathology I, II;			Cranial Deformation:
Visual Recording:			Other:
Description and Comments: Right Ma	axillary: Numerous	fragments	of right maxillary including frontal process.
Z	ygomatic process,	partial pala	atine process, anterior lacrimal crest,
		and partial	maxillary sinus
	Mild - max s	inus, sinusi	itis = weaving is mild – healed
.	Lett Ivas	al: parual i	lasal, inagmented distany
	Sphenoid: righ	t side: grea	ter and lesser wings, pterygoid
			· · · · · · · · · · · · · · · · · · ·

Photo Log:

View Right Maxillary sinusitis	Digital 27	b/w

Site Name/Number:	Cooper Square	Observer:	Aaron C. Madamba	
Job Code:	JMA 2	Date:	June-July 2003	
Quadrant/Area:		/	Test Area A	
Unit or Feature Number: Burial Number/Burial/Skelet	Test Cut 2, Samp	le 2,Strat IV	1	
Bag Number:	11,12			
Inventory Number or ID:				
Total Pages:	6 (5 of 6)			
Bone: Right Parietal	, Left parietal, From	ntal		
Forms Included: Metrics: Taphonomy I, II, an Paleopathology I, II Visual Recording:	d III:		Non-Metrics: Dentition: Cranial Deformation: Other:	
Description and Comments: 	and left parietal; sn	nall, fragme	ntary portions of both elements c	onsisting
10	areas of the anterio	or – medial, anomalies	, mainly sutures of parietal and fro – all sutures are open	ontal
Frontal - 1	numerous small fra	igments, lar	ger fragments are manly from par	ietal sutures
	A portion of - no	anomalies -	- all sutures are open	
			<u> </u>	
Table (ec	tocranial) of all ele	ments is pe	ealing due to decomposition – pre por/fair	servation is
Photo Log:	I			

View cranial fragments	Digital	b/w 14
larger reconstructed		
fragments of right and left		20
parietal and frontal		• • • • • • • •

Site Name/Number:	Cooper Square	Observer:	Aaron C. Madamba	_
Job Code:	JMA 2	Date:	June-July 2003	-
Quadrant/Area:		/	Test Атеа А	_
Unit or Feature Number:	Test Cut 2, Samp	le 1, Strat I	v	
Burial Number/Burial/Ske	eleton Number:			-
Bag Number:	13			•
Inventory Number or ID:	<u> </u>	*		
Total Pages:	6 (page 6 of 6)		-	_
Bone: <u>Rib</u>				
Forms Included: Metrics: Taphonomy I, II, Paleopathology I, Visual Recording	and III: , II: ;:		Non-Metrics: Dentition: Cranial Deformation: Other:	
Description and Comment	is:	Right side	e – proximal end	
		2 nd	or 3 rd rib	_
		No	anomalies	_
	·····			
· · · · ·				_
			· · · · · · · · · · · · · · · · · · ·	_
				_
				_
		×		_
Photo Log:				_
	View	Digital	b/w	
anter	rior view		22	
poste	nor view		23	

Site Name/Number:	Cooper Square	Observer:	Aaron C. Madamba
Job Code:	JMA 2	Date:	June-July 2003
Quadrant/Area:		/	Test Area A
Unit or Feature Number:	West wall profile,	~ N 30 E	5 Strat IV
Burial Number/Burial/Skelet	on Number:		
Bag Number:	3		
Inventory Number or ID:	8		
Total Pages:			
Bone: Vertebrae			
Forms Included:			
Metrics:			Non-Metrics:
Taphonomy I, II, and	d III:		Dentition:
Paleopathology I, II:			Cranial Deformation:
Visual Recording:			Other:
Description and Comments:			
	1	No Human	– vertebral body
		canine	? - porcine?
	F	probably fro	om lumbar region
,			
			· · · · · · · · · · · · · · · · · · ·
_			
· <u> </u>			
Photo Log:			

View	Digital	b/w
anterior view	5	
posterior view	6	
lateral view	7	

Site Name/Number:	Cooper Square	Observer:	Aaron C. Madamba
Job Code:	JMA 2	Date:	June-July 2003
Quadrant/Area:		. /	Test Area A
Unit or Feature Number:	Test block N 40 E	E 30 Strat I	v
Burial Number/Burial/Skelet	on Number:		
Bag Number:	8		
Inventory Number or ID:	· • • • • • • • • • • • • • • • • • • •		
Total Pages:	1		
Bone: Shaft fragmen	nts – Humerus righ	t	
Forms Included: Metrics: Taphonomy I, II, and	4 III:		Non-Metrics:
Paleopathology I, II:			Cranial Deformation:
Visual Recording:			Other:
Description and Commenter			
Description and Comments:	- large	st element i	is - 41.08 mm in length
		- 17.74	mm in width
		- 4.02	2 mm thick
	-	preservatio	on is "fair" at best
	- cortex thick	ens as it tra	vels – probably humerus shaft
	- size and ang	ulation neg	ate all but humenis and femur
	- cortex appears t	o be too "t	hin" at smallest point to be femur
		- prol	bably adult
. <u> </u>	- outer	layers of c	ortical table are pealing
-			
3 78			
Photo Log: Vie		Divital	1. 1.4

View	Digital	b/w

Site Name/Number:	Cooper Square	Observer:	Aaron C. Madamba
Job Code:	JMA 2	Date:	June-July 2003
Quadrant/Area:	<u>e est</u>	/	Test Area A
Unit or Feature Number: Burial Number/Burial/Skelet	Test block, N 50 I	E 10, Strat	<u>III</u>
Bag Number: Inventory Number or ID: Total Pages:	6 3 (page 1 of 3)		
Bone: Left femur dis Forms Included: Metrics: Taphonomy I, II, an Paleopathology I, II. Visual Recording:	d III:	1 epiphyses	Non-Metrics: Dentition: Cranial Deformation: Other:
Description and Comments:	Fragme	ent of dista condyles b area of gro just" inferio elt or a sma stature ar	epiphysis (left femur) readth 39.84mm wth plate is not present – fragmented or to growth plate Il adult fairly diminutive in both id morphology
Photo Log:			

View	Digital	b/w
anterior view	10	7
posterior	11	8

Site Name/Number:	Cooper Square	Observer:	Aaron C. Madamba
Job Code:	JMA 2	Date:	June-July 2003
Quadrant/Area:		/	Test Area A
Unit or Feature Number: Burial Number/Burial/Skelet	Test block N 50 E	E 10, Strat I	ш
Bag Number: Inventory Number or ID:	6		
Total Pages:	3 (page 2 of 3)		
Bone: Ulna fragmen	t, scapular fragmen	t and misce	ellaneous indeterminable small fragments
Forms Included: Metrics: Taphonomy I, II, an Paleopathology I, II Visual Recording:	d III:		Non-Metrics:
Description and Comments:	Ulna: s	haft fragme	ents 48.69 mm in length
	- placement of nut scapular frage	rient forear ment : parti	m – left superior ½ - age unknown al. non- adult _ right acromion
-			
Photo Log:	Í	Disital	
vie	~	Digitat	U/W

2 9	
.3 10	
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RECORDING FORM FOR FINDS, COMINGLED, AND INCOMPLETE REMAINS

Site Name/N	lumber:	Cooper Square	Observer:	Aaron C. Madamba	
Job Code:		JMA 2	Date:	June-July 2003	
Quadrant/Ar	ea:	<u> </u>	_ /	Test Area A	
Unit or Feat	ure Number:	Test block N 50	E 10 Strat	111	
Burial Numb	er/Burial/Skele	ton Number:			
Bag Number	:	7	1.		
Inventory Nu	umber or ID:		X		
Total Pages:		3 (page 3 of 3)			
Bone:	LMz, Mandil	oular fragments			
Forms Includ Met Tap Pale Visu	led: rics: honomy I, II, ar opathology I, I) nal Recording:	nd III:		Non-Metrics: Dentition: Cranial Deformation: Other:	
Description a	and Comments: - I	Mz. (left. lower. se	econd mola	r) – incomplete root formation – extent	
	ind	eterminable fragme	ent, from ex	tant of root growth – minimum age 9+/-	
	crown is	s fully formed and a	appears – n	o eruption maximum - 12 +/-2.5 10 +/- 2.5	
		Non adult mandibu	lar fragmer and ment	ats: including fragments of left ramus al protuberance	
				······································	
			- 103		

Photo Log:

View	Digital	b/w
occlusial	14	
buccal	15	
mandibular	16	

Site Name/Number:	Cooper Square	Observer:	Aaron C. Madamba
Job Code:	JMA 2	Date:	June-July 2003
Quadrant/Area:		. /	Test Area A Test block N 50 E 10
Unit or Feature Number:	feature 1, west 1/2		
Burial Number/Burial/Skelet	on Number:		·····
Bag Number:	4,5		
Inventory Number or ID:			
Total Pages:	1		
Bone: adult female r fragments	niscellaneous fragn	nents main	y consisting of trabecular bone and os coxae
Forms Included:			
Metrics:	J TTT		Non-Metrics:
Japhonomy I, II, an	a III:		Dentition:
Visual Recording:	·		Other:
·			
Description and Comments:			
fra	igments of pubic, is	schium, an	d illium of adult subject - (right side)
	exact age estimation	on difficult	due to fragmentation and advanced
	decomposition	- small are	a of auricular surface is present
<u>.</u>	large fragm	- small see	tion of auricular surface
	- female , adult 45	5+ osteoart	hritic bone loss, minimum phase 6
<u>-</u>	- possible str	ess related	striations that would indicate
chile	d birthing – indeter	minable du	e to advanced degree of decomposition
			ation in more than the second s
. <u> </u>		preserv	
		<u> </u>	
	· · · · · · · · · · · · · · · · · · ·		
Photo Log: Vie	w	Digital	b/w

View	Digital	b/w
larger fragments of		
os coxae	8	5
	9	6

Site Name/Number:	Cooper Square	Observer:	Aaron C. Madamba
Job Code:	JMA 2	Date:	June-July 2003
Quadrant/Area:		/	Test Area A
Unit or Feature Number:	No provenience		
Burial Number/Burial/Skelet	on Number:		
Bag Number:	2		
Inventory Number or ID:			
Total Pages:	1 (page 1 of 2)		
Bone: Right humerus	– partial distal ha	lf of shaft	
Forms Included:			
Metrics:			Non-Metrics:
Taphonomy I, II, and	i III:		Dentition:
Paleopathology I, II:	64 2600 - 260 		Cranial Deformation:
Visual Recording:			Other:
Description and Comments:			
• 	Fragmented di	stal half of	shaft – fragmented distally just
su	perior to coronoid	fossa and a	t superior origin of medial and lateral
	supercondylar cres	sts- posterio	orly, ~ distal 1/3 of shaft is present
	Max	umum frag	ment length 188mm
	max	mum trage	diameter 67mm
		prob	ably adult
		P.00	
		0 - 200	
		<i>89</i>	
			
<u> </u>			
Photo Log:			

View	Digital	b/w	
		roll 1	
anterior view	3	3	
posterior view	4	4	

Site Name/Number:	Cooper Square	Observer:	Aaron C. Madamba
Job Code:	JMA 2	Date:	June-July 2003
Quadrant/Area:		/	Test Area A
Unit or Feature Number:	No provenience		
Burial Number/Burial/Skele	ton Number:		
Bag Number:	1		
Inventory Number or ID:			-
Total Pages:	2 (page 2 of 2)	-	-
Bone: Right scaphoi	d (adult)	<u>.</u>	· · · · · · · · · · · · · · · · · · ·
Forms Included:			
Metrics:	· · · · · · · · · · · · · · · · · · ·		Non-Metrics:
Taphonomy I, II, an	d III:		Dentition:
Paleopathology I, II	:		Cranial Deformation:
Visual Recording:			Other:
Description and Comments:			
-	Fairly well pres	erved right	scaphoid with some cortical bone
······································	missi	ng probabl	y due to decomposition
10-10-10-10-10-10-10-10-10-10-10-10-10-1		maximum	length 23.09 mm
j e		maximum	width 11.27 mm
i 		<u> </u>	- adult
·	- slightly prono	unce inser	tion/origin points ~ normal/range
5 			
· <u>······</u> ·····························			

Photo Log:

	b/w	
1		
2	2	
	1945.0 11.5 .0 1	
	1 2	