

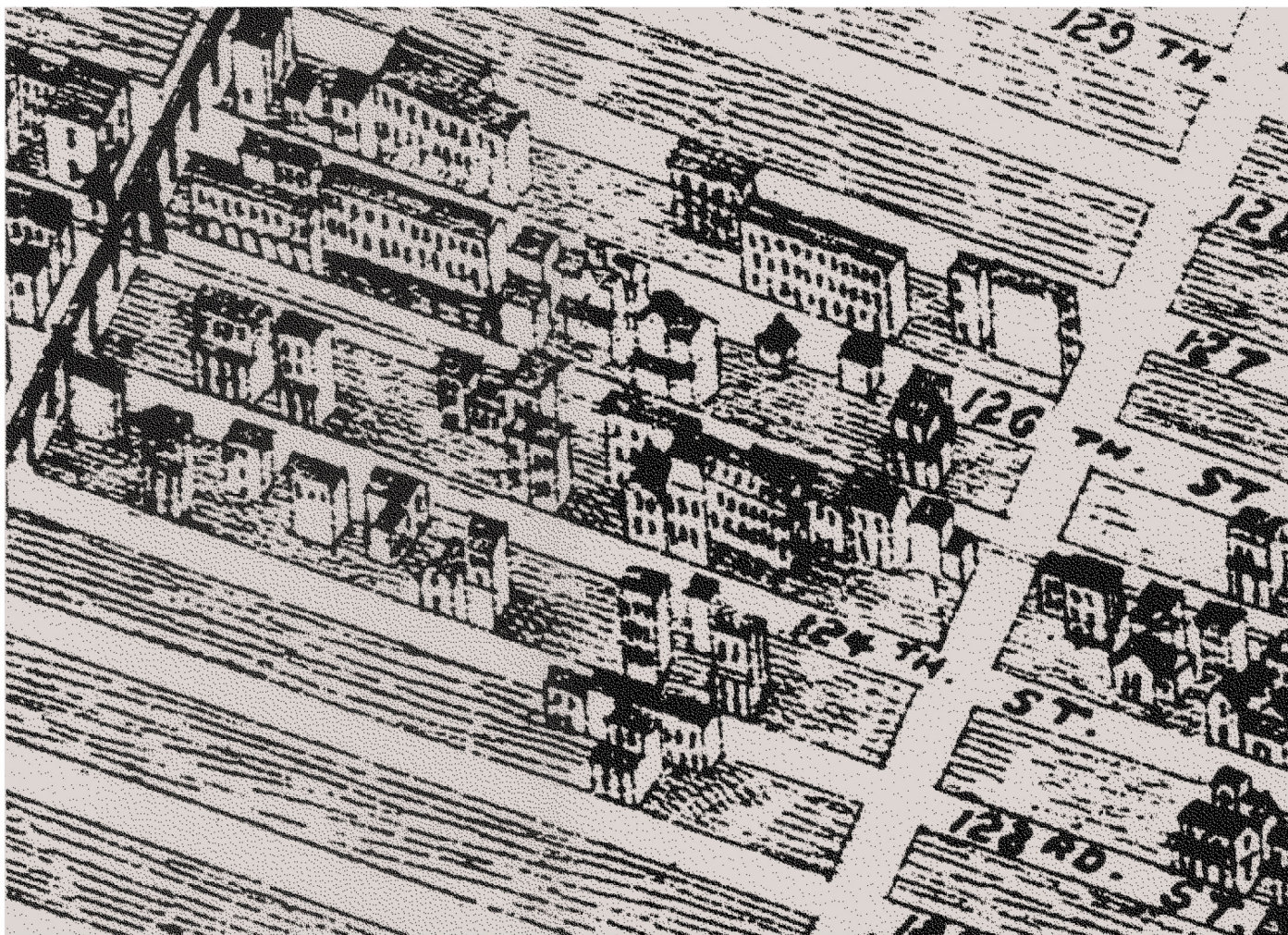
Ennis Francis Houses

2070 Adam Clayton Powell, Jr. Boulevard

Borough of Manhattan

1A Documentary Report

BBL Project No. 1019290057



1879

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Prepared for the Abyssinian Development Corporation (ADC)
Through ALC Environmental
Prepared by Joan H. Geismar, Ph.D., LLC
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ABSTRACT

This 1A documentary report presents the method and findings of research undertaken to assess the archaeological potential of the Ennis Francis Houses, a Large Scale Residential Development (LSRD) located at 2070 Adam Clayton Powell Jr. Boulevard (current Lots 57 and 29) that includes an approved “development site” at 225 West 123rd Street (Block 1929, currently Lot 17) in the Borough of Manhattan (BBL Project No. 1019290057). Joan H. Geismar, Ph.D., LLC, prepared the report for Abyssinian Development Corporation (ADC), the site’s developers, through ALC Environmental. The planned 8-story, 60-unit structure with underground parking is a modification to the existing Ennis Francis Houses. Research focused on the project site’s potential for human remains since an 1851 map identifies all, or at least a large portion, of Block 1929 as a Catholic cemetery.

Documentary research has established that St. John’s German Roman Catholic Church, reorganized as St. John the Baptist in 1871, owned eight lots on the project block from 1848 until the late 19th century. Four lots that fronted on West 123rd Street are included in the development site; four other lots, which adjoined them and fronted on West 124th Street where the Ennis Francis 3-story houses now stand, are identified in city records and maps as a “German Burial Ground” or cemetery. However, no records confirm that the cemetery was active, nor can it be proved that it was not. Lot histories and available soil boring data indicate that the new development site is not sensitive for human remains, nor have any archaeological issues been identified elsewhere on the project site. However, should this or future development affect the rear part of the four West 124th Street lots identified as a 19th-century cemetery (former Lots 45, 46, 47, and particularly Lot 48), it is recommended that subsurface testing precede any disturbance to determine the nature of the soils and assess the potential for human remains. Should testing prove necessary, it is also recommended that, in addition to an approved scope of work, a protocol be developed in consultation with the New York City Landmarks Preservation Commission to address the potential issue of human remains.

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INTRODUCTION

This 1A documentary report presents the method and findings of research undertaken to assess the archaeological potential of the project site, the Ennis Francis Houses, a Large Scale Residential Development (LSRD) located at 2070 Adam Clayton Powell Jr. Boulevard (current Lots 57 and 29) in the Borough of Manhattan (BBL Project No. 1019290057; Figures 1a and 1b). The project site includes a new development site located at 225 West 123rd Street (Block 1929, currently Lot 17). Joan H. Geismar, Ph.D., LLC, prepared the report for Abyssinian Development Corporation (ADC), the site's developers, through ALC Environmental. The approved development, hereafter referred to as the "development site," is a modification to the Ennis Francis housing completed in 1985 (Figure 2a). Plans call for an 8-story, 60-unit structure with underground parking beneath the building and yard (Figure 2b). The New York City Landmarks Preservation Commission (NYCLPC) requested the archaeological study (Santucci 2010) based on an 1851 map of Manhattan that clearly identifies the eastern third of the block as a "Catholic Cemetery" (Dripps 1851; Figure 3). Although a question, it is possible the mapmaker considered all of Block 1929 the site of a Catholic cemetery (see Figure 3).

Intensive record and map research was undertaken by Joan H. Geismar, Ph.D., assisted by Shelly Spritzer, to determine whether the project site might, indeed, harbor human remains. While concentrating on this issue, research ultimately considered the archaeological potential of the entire Ennis Francis complex, that is, not only Lot 17, but also Lots 57 and 29 that had been previously developed but were components in the project's review process.

On August 26, 2010, a site visit was made to photo document existing conditions on the development site (Figures 4a to 5b) and research was carried out at local archives and agencies, such as the New York Historical Society, the New York Public Library, the Municipal Archives, the New York City Register's Office, the Topographical Bureau of the Manhattan Borough President's Office, the Manhattan Sewer Department, and the County Clerk's Office. Research also included contact with religious institutions and offices, among them St. John the Baptist Roman Catholic Church, St. James Roman Catholic Church, the Archdiocese of New York and its various real estate divisions and archives, and the Catholic Library Association. In addition, newspaper and historical accounts were researched via the Internet.

Research has established that rather than the entire block being a Catholic burying ground, only four of its former building lots were identified as such, in this case a "German" or "German Catholic" cemetery. However, not only are none of these lots part of the development site, but also circumstantial evidence suggests the four-lot cemetery may never have been active. However, based on available information, this can be neither proved nor disproved.

The research methods and findings are presented below.

THE GERMAN CATHOLIC BURIAL GROUND

In December 1848, the Trustees of St. John's German Roman Catholic Church, then as now located on West 30th Street but on different sites and, since 1871, reorganized as the Church of St. John the Baptist (Roman Catholic), purchased what had been four 25 by 200-foot land parcels in Manhattan's 12th Ward (original Parcels 14, 15, 16, and 17) from John Stine (Liber of Deeds [LD] 1848 510:336). Nine years earlier, David Codwise, a lawyer and a former Assistant

Master in Chancery (Owen 1843:384), had acquired at auction these and other parcels, then part of a 57-acre holding forfeited by William Wagstaff (Hassler and Loss 1826; not illustrated; LD 408:270; *New-York Evening Post* 1838), and before that, the land of Samson Benson. When Stine purchased his land, the project block had been subdivided into “modern” 25 by 100-foot lots, with the church lots on West 123rd Street then designated Lots 17 to 20 and adjoining them, Lots 45 to 48 on West 124th Street.¹ The development site encompasses Lots 16 to 22 and, therefore, includes the four church lots on West 123rd Street, but not those on West 124th Street.

Ten years later, in 1858, former Lots 45 to 48 on West 124th Street were identified for the first time in tax assessments as a “German Burying Ground” and, as such, exempt from taxes (Tax Assessments [TA] 1858). The four church lots now included in the development site on West 123rd Street were assessed to David Codwise although they had been church property for a decade. This may reflect a time lag in the tax assessment record, which is not uncommon.² What is perhaps most important is that a decade of church ownership passed before any of the lots were identified as a tax-exempt cemetery, and those fronting on west 123rd Street—all four now included in the development site--were never among them.

Despite documented ownership of the four lots on West 123rd Street by the church, they continued to be assessed to Codwise until 1867. He was also assessed for two of the three other lots that comprise the development site, but, as noted, none of the seven development site lots was ever identified as a cemetery and none was tax exempt. Those on West 124th Street, however, are listed in the city’s 19th-century tax assessments from 1858 to 1868 as a tax exempt “German Burying Ground,” or “Cemetery.” While this seems quite straightforward, it becomes complicated when, despite documented ownership by St. John’s Roman German Catholic Church, the four non-cemetery lots (former Lots 17 to 20 on West 123rd Street) are assessed to “St. James R. Church” or “St. James Roman Church” from 1865 until 1871. Yet no deed has been found that documents a change in ownership, nor is there any known 19th-century lease or other association between St. John’s and any other Catholic church in the city (Gasparick 2010: personal communication). However, there was, and still is, a St. James Roman Catholic Church on James Street on the Lower East Side. Since the cemetery lots were exempt from taxes from 1866 to 1871, there is no way of knowing if these lots, too, were associated with St. James Roman Church despite being identified as a German Cemetery. Unfortunately, no records have been found that document any association between the two churches, nor are there any 19th-century burial or death records for St. John’s and St. James’s parishioners.

Beginning in 1866, Lot 46, one of the cemetery lots, is assessed to a J. M. Tytler and is no longer tax-exempt (TA 1866). Since no deed has been located,³ and since the church ultimately sold all four lots on West 124th Street (see below), the church may have leased rather than sold the lot to Mr. Tytler. Five years later, in 1871, the troubled St. John’s German Roman Catholic Church was reorganized as the Church of St. John the Baptist by Bonaventure Frey,

¹ Whenever possible, the lot numbers and configurations cited in the deed index have been used to locate the project lots and the “German Burying Ground” on the report graphics since locations on the older maps are variable.

² Another example of a time lag is the assessment of these lots to the Estate of Samson Benson, the owner before Wagstaff, until 1848 (TA 1848).

³ Tytler, who was from Brooklyn, purchased other lots on the block in 1854 (LD 1854 658:527) but not the church lots.

a Swiss-born Capuchin monk (Anon nd; Gasparick 2010:personal communication).⁴ To accomplish this, and to finance construction of a new—and its current—church edifice (Gasparick 2010:personal communication), Father Bonaventure successfully petitioned the New York State Supreme Court for permission to sell the four church lots on West 123rd Street as well as those on West 124th Street (N.Y. State Supreme Court 1872). It is important to note that neither Father Bonaventure’s petition to the Supreme Court, nor any instrument of record, identifies any of the church lots as an active or former cemetery. That said, however, 1852 and circa 1865 damages maps that document the taking of 25 feet along Seventh Avenue to widen the street, both label the four church lots on West 124th Street as a German cemetery or burying ground (Sage 1852; Figure 6a; Damages Map c. 1865; Figure 6b). Neither, however, agrees with the location or implication of the 1851 Dripps map (e.g., see Figure 7c).

Unfortunately, a search for 19th-century burial records for St. John’s mentioned in a WPA guide to New York State’s Catholic cemeteries was unsuccessful (WPA 1941; Gasparik 2010:personal communication), nor are any available from the Church of St. James. An attempt to locate this information through the New York Archdiocese, the Archdiocesan Archives, and local Catholic cemeteries was also unsuccessful. However, it should be noted that Father Francis Gasparik, who has been active in assembling a history of the Church of St. John the Baptist for the church, is totally unaware of an associated burial ground on West 124th Street or any association with St. James Roman Catholic Church (Gasparik 2010:personal communication).

The ownership history discussed here is summarized in Table 1.

SITE DEVELOPMENT

Private ownership on the project block is documented in city records by 1826 (e.g., Index Map 1916 Figure 7a), but the land, which originally was “Company Land,” that is, land owned by the Corporation of the City of New York (Stokes VI:Plate 84B-e), actually was in private ownership by the late 18th century (Riker 1881). With the exception of a structure shown on an 1811 map,⁵ development is first noted on the block in 1851 when the aforementioned Dripps map, despite seeming to identify the entire project block as a Catholic cemetery, documents a structure—possibly a stable—on one of the West 123rd Street church lots (Dripps 1851; Figure 7b). An 1867 map (also by Dripps) shows additional development directly on the development site as well as on one of the cemetery lots (Dripps 1867; Figure 8a). Therefore, development is not only documented on the project block, but also directly on the church property even before Father Bonaventure received permission to sell the church holdings in 1872. Subsequent maps (Perris & Browne 1873; Bromley 1879; Figures 8b and 9a) as well as a less accurate but evocative 1879 panoramic view (Galt & Hoy 1879; Figure 9b), show continuing development.

⁴ Greenleaf, in *A History of the Churches, of All Denominations in the City of New York from First Settlement to the Year 1846*, published in 1846, refers to St. John’s, one of the “German” Catholic churches, as “‘St. John the Baptist’ situated on Thirtieth Street, near Eighth Avenue...” (Greenleaf 1846:340) although 19th-century records refer to it as “St. John’s German Catholic (or Roman Catholic) Church.

⁵ The 1811 map (Bridges 1811; not illustrated) suggests an unidentified building then stood on the centerline of the block just west of the development site. However, a more detailed and accurate survey by John Randel (Randel 1819/ 1820) indicates this relatively small, unidentified structure actually stood south of the block’s centerline but possibly partially in the northeast corner of the development site (Figure 7b). Subsequent development (an early-20th-century police station that covered its two lots; see Figure 10b, No. 2) and subsurface conditions documented in soil borings (see Soil Boring Data in text) render this a moot point.

Table 1. ENNIS FRANCIS HOUSES Deed and Assessment Data *Re* St. John's German Catholic Church and German Cemetery 1839 – 1895 (Block 1929* [Old Block 824 pre 1895])

Grantor	Grantee	Lots	Dated	Date Recorded	Liber/ Page	Selected Tax Records/Remarks
Master in Chancery (William Wagstaff <i>et al.</i> defendants)	David Codwise** (mortgagee)	17 – 24½ 40 – 48	4/15/1839	7/28/1840	408:270	Codwise pays taxes on lots until 1858 (see below)
David Codwise	John Stine	17 – 20 & 45 – 48	11/17/1848	11/22/1848	510:587	
Stine, John	Trustees of Saint John's German Roman Catholic Church	17 – 20 & 45 – 48	12/8/1848	12/9/1848	511:336	
Codwise, David	John O'Higgins	20 – 21	2/21/1850	3/1/1850	536:308	Codwise pays taxes on Lots 17 – 24, 41 – 48
----	----	45 – 48 17 – 21	----	----	----	1858 1 st entry "German Burying Ground"; exempt from taxes through 1870; 1871 "not paying"; taxed thereafter. 1852 -1863 Codwise assessed for these lots
----	----	17 – 20	----	----	----	1864 1 st assessment of St. John's Roman Catholic Church; never tax exempt
		17 – 20				1865 – 1871 Assessed to "St. James R Church" or "St James Roman Church"
----	----	45 – 47 48	----	----	----	1868 Cemetery, now only 3 lots (45, 46, 47), exempt; Lot 48 assessed to J. M. Tytler (no deed)
----	----	45 – 47	----	----	----	1872 Lots 45 – 47 "German Cemetery"; no longer tax exempt
Trustees of Saint John's German Roman Catholic Church	Bonaventure Frey***	19 – 20	11/20/1872	1/21/1880	1524:233	
Trustees of Saint John's German Roman Catholic Church	Zachariah Jacques & Patrick Murphy	45 – 46	5/22/1873	6/7/1873	1263:18	
Trustees of Saint John's German Roman Catholic Church	Paul O'Brien & Martin Janson	18, 47	6/2/1873	7/20/1873	1262:434	
Trustees of Saint John's German Roman Catholic Church	Thomas Cockerill & Bernard Spaulding	17 – 17 ½, 48	6/2/1873	11/10/1873	1275:84	
Bonaventure Frey	David Dinkelspiel	19 – 21	1/20/1880	2/4/1880	1526:194	Last documented sale by church
----	----	----	----	----	----	1883 St John's no longer listed in tax assessments; "German Cemetery" persists despite development until at least 1895, the last available tax record

*General Statement of Early Title: "The southeasterly gore within the Samson Adolphus Benson Farm was in his possession in 1848. The balance, within the Adolph Myer Farm, passed to William Wagstaff in 1826" (References: Farm Histories, Vol. p; Tract Reports, 471, 659; Map of Tracts & Farms, Plate 33 R.D. 383 in Deed Index to Block 1929 prior to 1916).

**David Codwise, Attorney at Law and one of the Masters of the Court in 1839, was Assistant Master in Chancery until his term expired in 1843 (Owen 1843:384).

***Bonaventure Frey, a Capuchin priest from Switzerland, reorganized St. John's German Catholic Church as St. John the Baptist in 1871 and initiated the sale of church property on Block 1929 to finance construction of a new church edifice on West 30th Street (see text). Among the purchasers were Thomas Cockerill and Bernard Spaulding, contractors for the building's masonry work, and Paul O'Brien and Martin Johnson (sic) the carpenters (*NY Times* June 12, 1871). The new church was dedicated on June 23, 1872, with Father Bonaventure the pastor (*NY Times* June 24, 1872).

In 1869, a 3-story brick structure on former Lot 22 was the first identified dwelling on the development site. William S. Vanderbilt, a “merchant tailor,” had purchased the lot in 1860 (LD1087: 427), but his home, where he lived and died, was on St. Lukes Place in Greenwich Village and his store at 403 Broadway (NYC Directories; Federal Census 1860, 1870). A tax increase on Lot 22 from \$500 per annum in 1868 to \$4,500 in 1869 suggests that Vanderbilt had improved the property. Although taxed through 1875, Vanderbilt actually had passed away at the age of 48, four years after acquiring the lot (NY Times 1864). William’s widow, Susan A., continued to reside on St. Lukes Place after her husband’s untimely death, and, in 1867, sold the West 123rd Street property (LD 1007:525). When it was sold again the following year, the deed included a “dwelling house thereon” (LD1087:427). The Vanderbilt ownership was the only private ownership researched in any depth as it included the earliest identified residential structure on the development site, albeit one that appears to have been built by others. Sometime after 1885, a 6-story tenement replaced the 3-story house on former Lot 22 (TA 1885; Robinson & Pidgeon 1885 [not illustrated]; Robinson & Pidgeon 1890; Figure 10a).

By 1890, block development mainly comprised the 4- and 5-story structures that still stand east and west of the development site (the exception being a smaller, 4-story building with what appears to be a 40-foot backyard built on Lot 48, one of the former “cemetery” lots) (Robinson & Pidgeon 1890; see Figure 10a; see also Figure 5b).⁶ Construction of the larger buildings undoubtedly caused a great deal of ground disturbance. All the new tenements had shallow yards and all the new buildings, including the smaller one on Lot 48, were erected after the introduction of street sewers⁷ and the sanitary laws that effectively eliminated the backyard privy pit from new construction where sewers and water were available (e.g., Tenement-House Acts 1868). The only significant change to the development site occurred in May 1912 when the city acquired former Lots 16 and 17 to erect the 28th Precinct Police Station shown on the 1934 Land Map and in a 1940 tax photo (LD 1912 160:87; LD 1912 160:188; Bromley 1934; Figures 10b and 10c). This building entirely filled the two lots.

Although much of the block’s late-19th-century development on West 123rd Street still stands, the development site was vacant by the mid 1980s (e.g., Sanborn 1988; not illustrated). At this writing, as can be seen in site photos, it is paved-over and comprises a central basketball court/play lot with parking lots on either side that service the Ennis Francis Houses (see Figures 4a, 4b, and 5a).

SOIL BORING DATA

ALC Environmental provided soil-boring data from the two parking lots on the development site (see Appendix A for the soil boring locations and logs). The seven available borings document 15 feet of fill throughout the former building lots on either side of what is now the play lot. This not only reflects basement filling after the structures were demolished, but also disturbance in the shallow yards documented on late-19th-century maps and on one from 1934 (see Figures 10a and 10b). Moreover, since construction plans call for a cellar slab 11 feet

⁶ Tax assessments continue to document the “German Cemetery” on Lots 45, 46, and 47 until at least 1895, the last year these records are available. This despite the 5-story buildings constructed on the lots between 1884 and 1885.

⁷ Manhattan Sewer Department records indicate a sewer was installed on Seventh Avenue by 1874 and others on West 123 and 124th Streets by 1940 (Manhattan Sewer Dept. 2010; personal communication). However, documents in the City Register’s Office indicate that sewers on these side streets were actually available by 1876 (NY Supreme Court 1878), suggesting that the 1940 sewers are replacements.

below grade with an additional 3-foot mat foundation below (Carrus 2010:personal communication), it appears that construction planned at this writing, which will include excavation of the entire development site and extend a total of 14 feet below grade, will not penetrate the fill documented in the soil boring logs.

FINDINGS AND RECOMMENDATIONS

Research has determined the 1851 Dripps map, that shows a Catholic Cemetery on much, if not all, of the project block and identified the need for this 1A archaeological study, was mainly, but not entirely, inaccurate. In the latter half of the 19th century, a 100 by 100-foot cemetery—on former Lots 45, 46, 47, and 48 on West 124th Street owned by St. John's German Roman Catholic Church--was located where the 3-story Francis Ennis Houses were built in 1985. The approved development site includes four lots (former Lots 17 to 20) that were never identified as a cemetery, but were also owned by the church from 1848 until the 1870s when all the church lots, including the four cemetery lots, were intermittently sold for development. However, aspects of the church's ownership remain a mystery: why was David Codwise, who acquired the lots at auction in 1839 and then sold them to the church in 1848, assessed for these lots until 1864? And why are the development site lots assessed to St. James Roman Catholic Church from 1866 to 1871 rather than to St. John's German Roman Catholic Church? Neither St. Johns nor St. James, both currently active, were ever located nearby, and no agreements or leases between the two have been found to explain the connection.

In 1872, Bonaventure Frey, the Swiss Capuchin friar who reorganized St. John's German Roman Catholic Church to become the Church of St. John the Baptist, received permission from the state to sell all eight church lots. It is unknown if the German Cemetery, at first located on the four West 124th Street lots, then only on three, ever was active. This is especially so since development, albeit minimal, occurred on portions of these lots while the city's tax rolls identify them as a tax-exempt cemetery. With the exception of former Lot 48, a 4-story structure with a 40-foot backyard, late 19th-century construction mainly comprised 4- and 5-story tenements with shallow rear yards. This construction would have disturbed any possible burials that occurred on three of the four West 124th Street lots or that may have spilled over into the church's abutting lots on West 123rd Street. Disturbance directly on the project site is suggested in soil borings that document 15 feet of fill throughout the tested lots. However, no similar information is available for the four abutting church lots on West 124th Street identified as a former cemetery.

Despite the inability to determine if the four West 124th Street church lots actually served as a burial ground, or to prove they did not, it is not anticipated that the approved development on current Lot 17 on West 123rd Street will disturb—or indeed encounter—any human burials. Nor has any other archaeological issue been identified on the project site that includes the existing Ennis Francis houses on current Lots 29 and 57. However, should the approved or future development affect the rear part of the four former West 124th Street lots identified as a 19th-century cemetery (former Lots 45, 46, 47, and particularly Lot 48), it is recommended that subsurface testing precede any disturbance to determine the nature of the soils and assess their potential for human remains. Should testing prove necessary, it is also recommended that, in addition to an approved scope of work, a protocol be developed in consultation with the New York City Landmarks Preservation Commission to address the potential issue of human remains.

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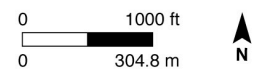
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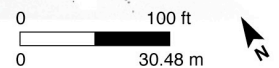
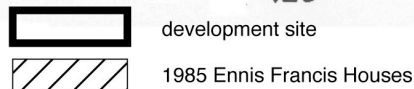
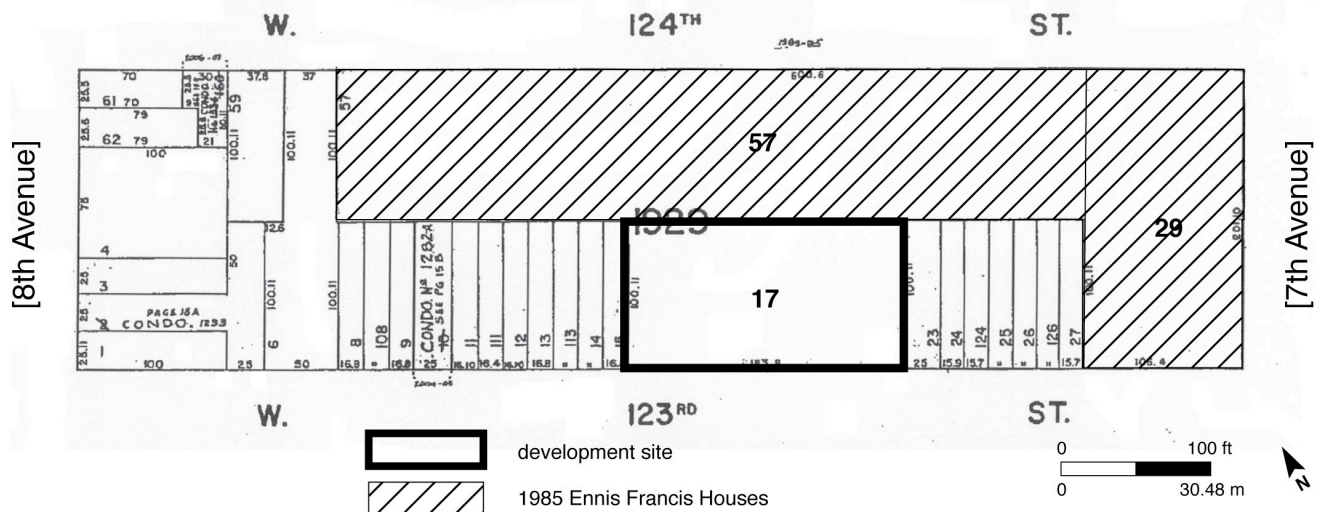
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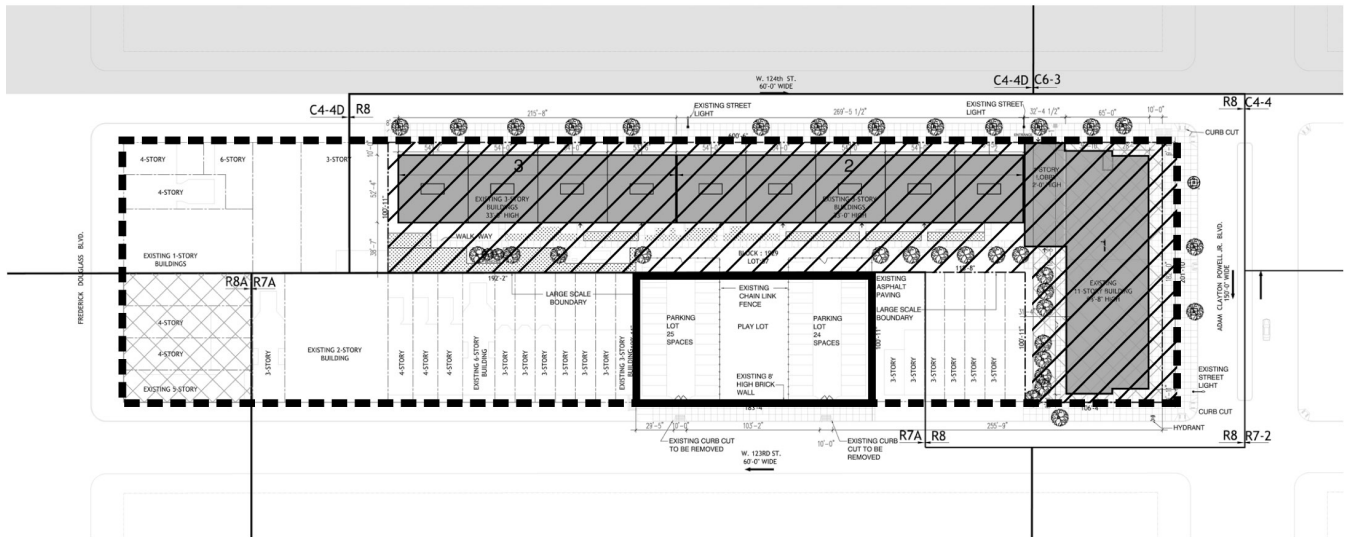
FIGURES



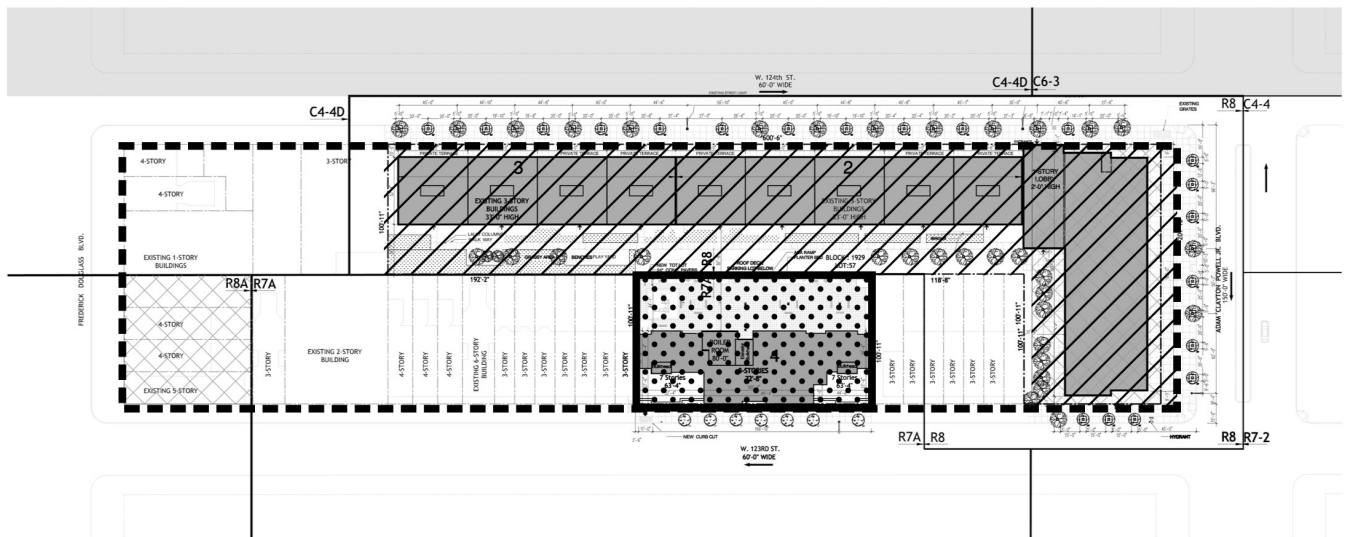
1a Project Location (USGS Central Park Quadrant, 1966/1979)



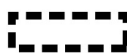
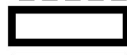
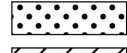

1b Block 1929 (Tax Map [updated] courtesy of ALC Environmental)



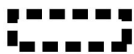
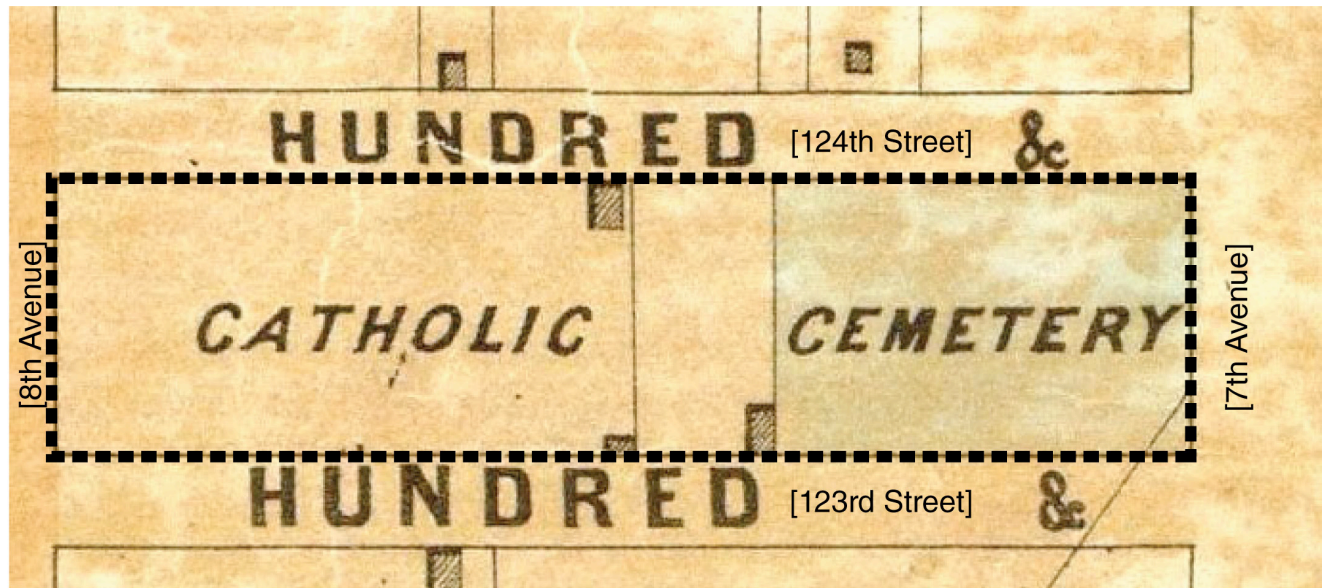
2a Existing Site Plan (Danois 2009a)



2b Proposed Site Plan (Danois 2009b)

-  project block
-  development site
-  planned excavation
-  1985 Ennis Francis Houses





project block

0 100 ft
0 30.48 m





4a Composite photo of the east parking lot looking north and east through the site's chain-link fence on West 123rd Street. The 3-story Ennis Francis Houses are in the background and 317 West 123rd Street, beyond the development site, is to the right. (Geismar 8/26/10)



4b Composite photo of the east parking lot looking west toward the play lot (beyond the chain-link fence) that separates the east and west parking lots. (Geismar 8/26/10)

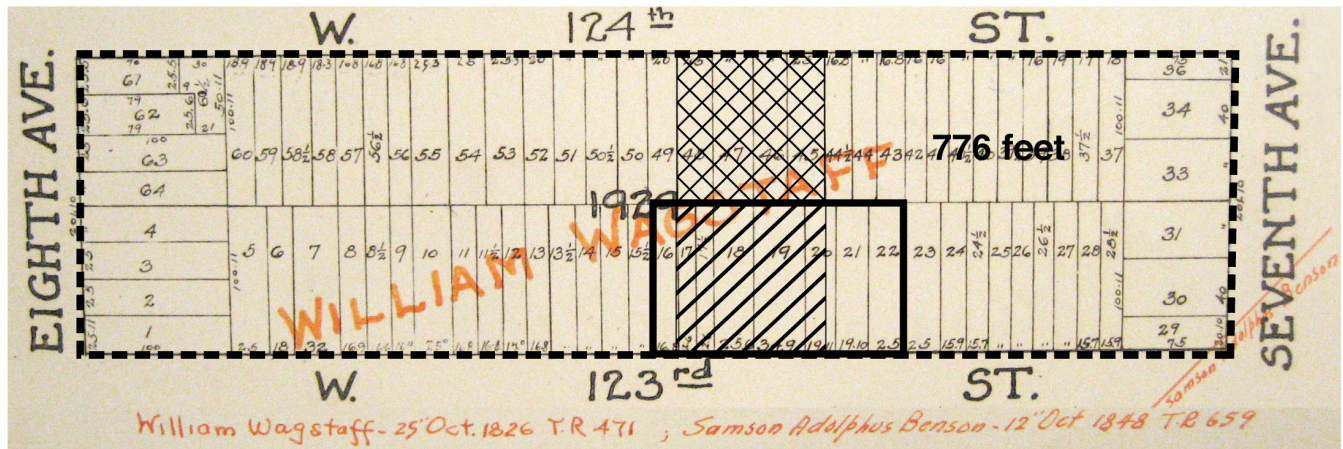


5a The west parking lot looking northeast through the site's chain-link fence on West 123rd Street. To the right is the play lot and to the rear the 3-story Ennis Francis Houses with a larger building on the north side of West 124th Street in the background. (Geismar 8/26/10)

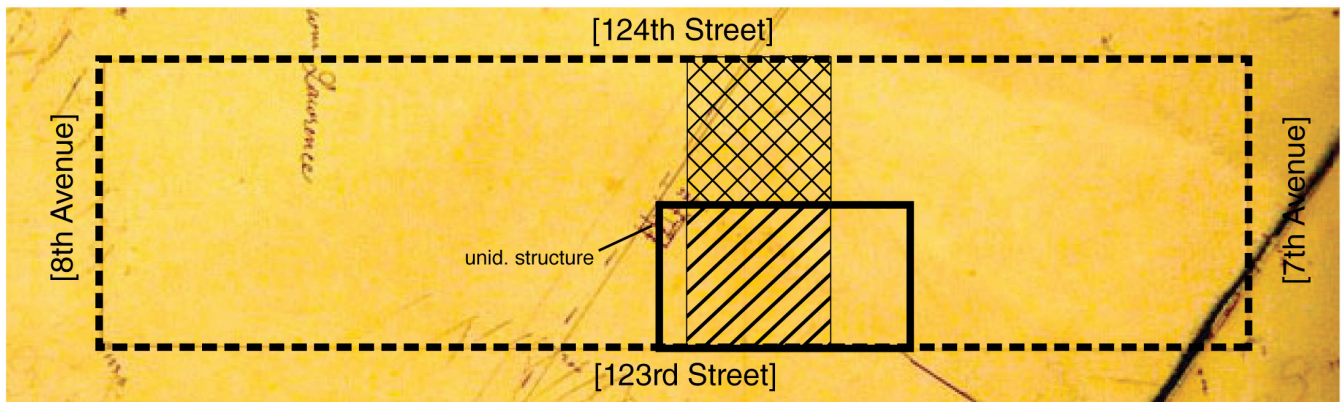


5b Looking east on West 123rd Street. The frame structure to the left is 317 West 123rd Street located beyond the development site. The brownstone tenements are late-19th century structures. (Geismar 8/26/10)

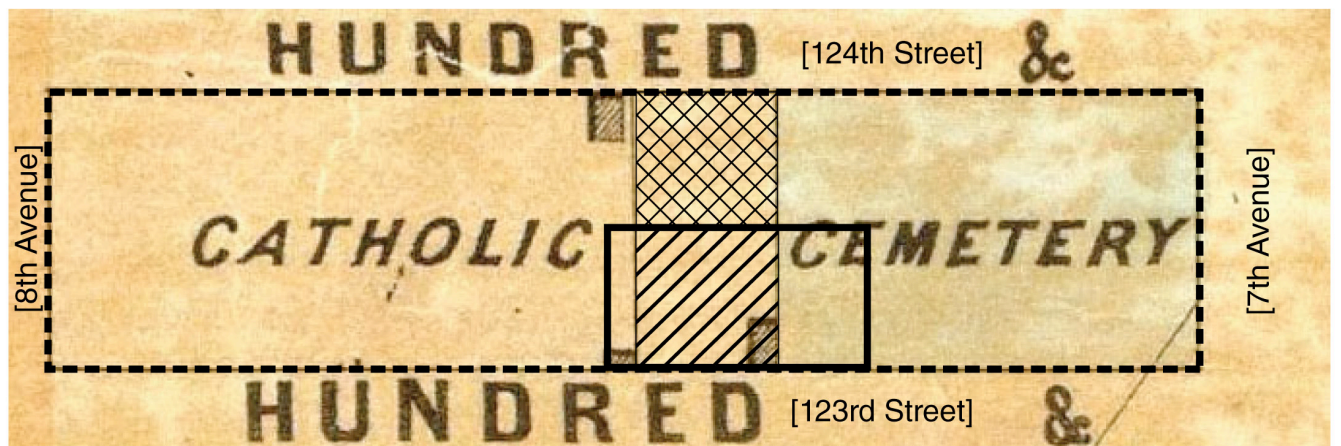




7a 1916 with early ownership indicated (Block 1929 Index Map 1916)

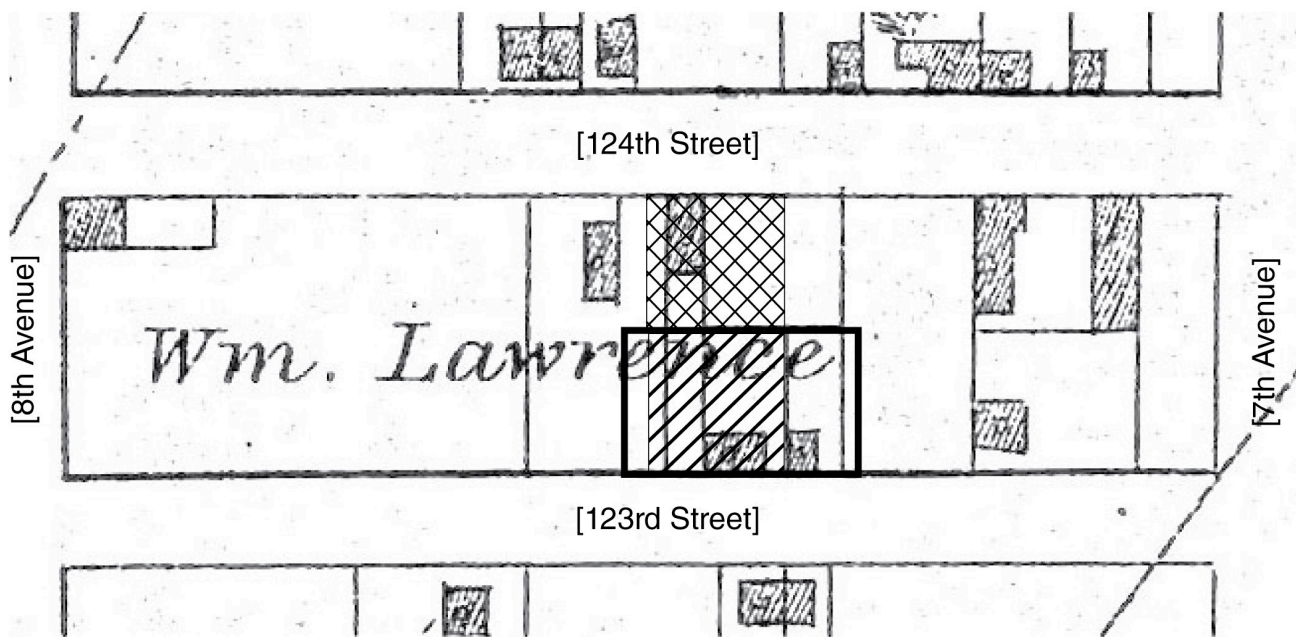


7b Project block and development site 1819/1820 (Randel 1819/1820, detail)

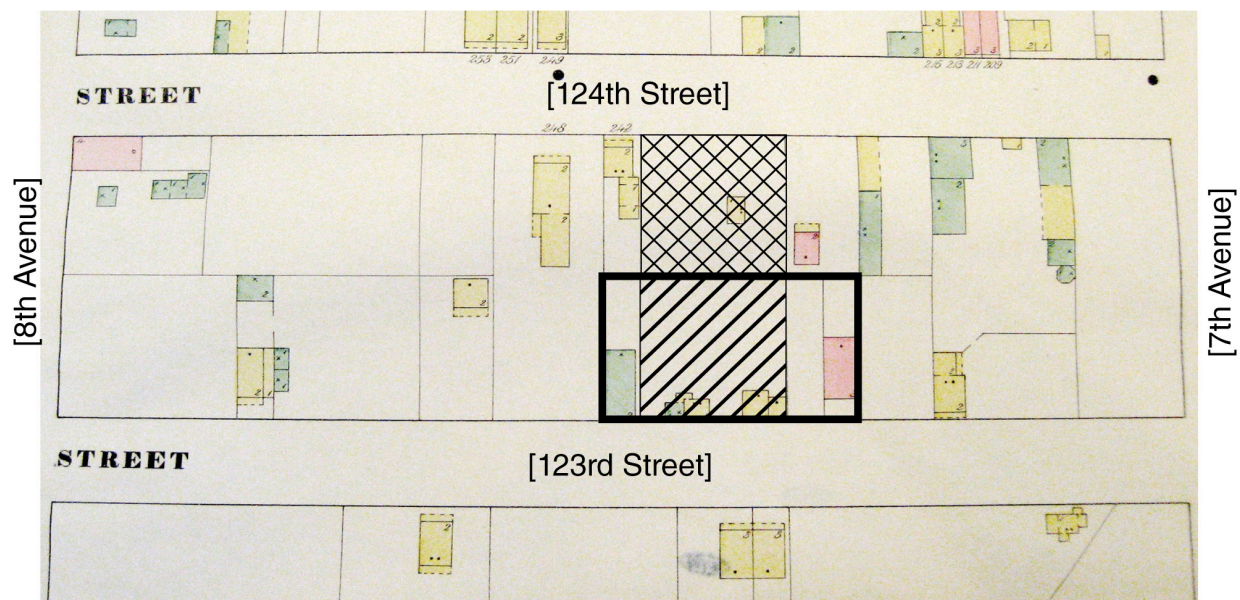
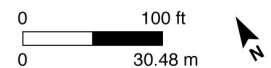


7c Project block and development site 1851 (Dripps 1851, detail)

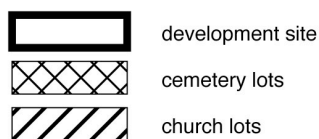
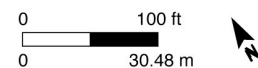



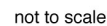


8a Development site 1867 (Dripps 1867, detail)

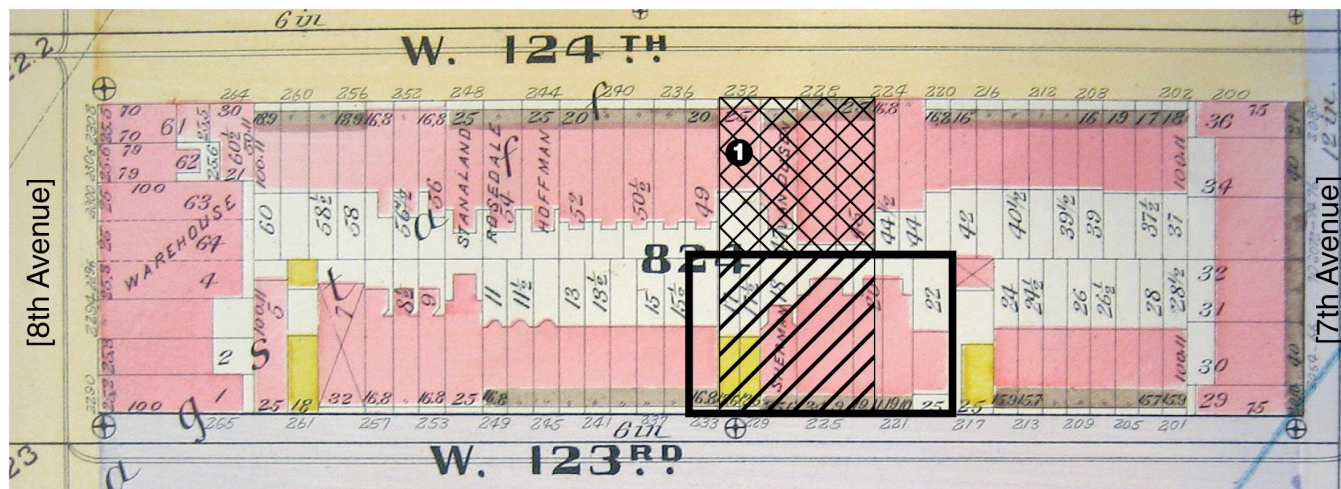


8b Development site 1873 (Perris & Browne 1873, detail)

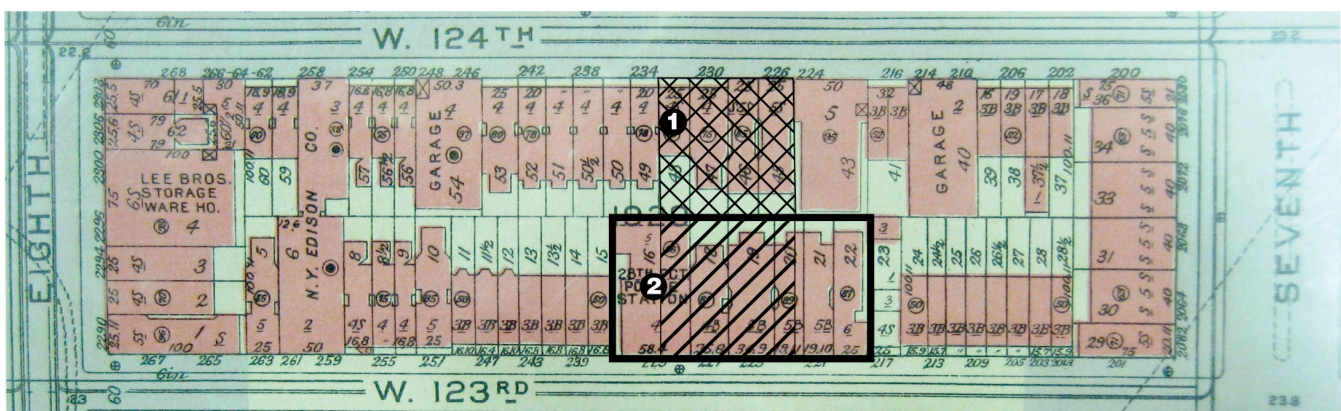
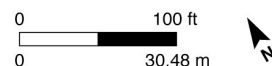




project block



10a Development site 1890 (Robinson & Pidgeon 1890, detail)



10b Development site 1934 (Bromley 1934, detail)



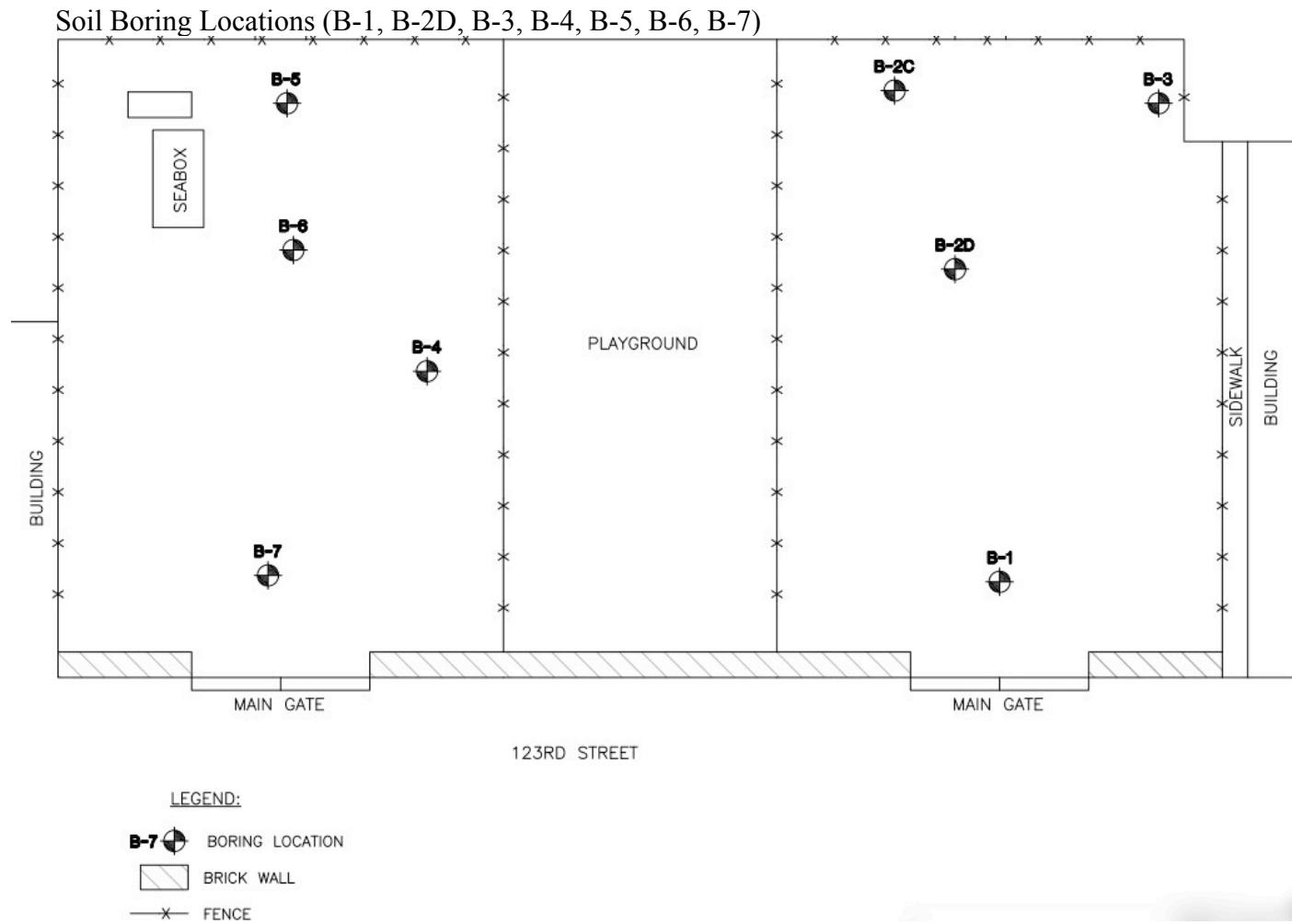
development site cemetery lots church lots 1 Lot 48, structure with yard 2 police station



10c Police station (arrow) and other development site buildings to the right in 1940 (Tax Photo 1940)

APPENIDX A. SOIL BORING LOCATION PLAN AND LOGS (GZA GeoEnvironmental 2008)

SOIL BORING LOCACTION PLAN



Note: Borings B-2a and B-2b are not documented in the plan or in soil boring logs; although indicated on the plan no soil boring log was provided for B-2C

BORING LOG									
GZA GeoEnvironmental of New York <i>Engineers and Scientists</i>				Abyssinian Development Corporation Ennis Francis House Project Harlem, New York			BORING NO.: B-1 SHEET: 1 of 2 PROJECT NO: 41 0161662 00 CHECKED BY: PBP		
GZA Representative: C. Duymaz Drilling Co.: CMI Subsurface Investigations Foreman: Greg Leavitt Type of Drill Rig: Mobile B-61 Truck Rig				Drilling Method: MRC Auger/Casing: Casing O.D./I.D Dia (in.): 4			Boring Location (Northing Easting): See Location Plan Ground Surface Elev. (ft.): 0 Datum: Sidewalk Final Boring Depth (ft.): 52 Date Start/Finish: 8/30/2007 - 8/30/2007		
Hammer Type: Donut Hammer Weight (lb.): 140 Hammer Fall (in.): 30				Sampler Type: SS Sampler O.D. (in.): 2.0 Sampler Length (in.): 24			Groundwater Depth (ft.)		
				Date No		Time Observation		Water Depth Made	
Sampler used throughout unless otherwise noted on the log.									
Depth (ft.)	Sample No.	Depth (ft.)	Pen./ Rec.	Blows per 6"	Sample Description Modified Burmister	USCS	Remarks	PP/Tv (tsf)	Profile Description (NYCBC)
	S-1	1-3	24/18	11 10 9 5	S-1 : Medium dense, gray-red, fine to coarse SAND and Brick fragments, frequent Concrete fragments.		1		0.5 ASPHALT 1.6" 9.5
5	S-2	3-5	24/15	11 13 17 29	S-2 : Red, Brick fragments, frequent Concrete fragments.				
	S-3	5-7	24/6	3 3 11 5	S-3 : Medium dense, gray, Gravel, some medium to coarse SAND, occasional Brick fragments, frequent Concrete fragments.				
	S-4	7-9	24/14	23 22 32 35	S-4 : Gray-red, Brick fragments and Concrete fragments.	2			FILL (7)
10	S-5	10-12	24/3	4 23 4 27	S-5 : No recovery, Washed sample.	3			
15	S-6	15-17	24/1	17 17 15 17	S-6 : No recovery, Washed sample.	4-5			-15 - - - - - 15
20	S-7	20-22	24/4	12 14 7 10	S-7 : Medium dense, brown, medium to coarse SAND, little fine Gravel.	SP			SAND (3b)
25	S-8	25-27	24/0	9 14 8 9	S-8 : No Recovery.				
30									
REMARKS 1. Twenty five (25') feet of casing installed during drilling operations. 2. 7'-15': Very difficult drilling and casing advancement. No wash return throughout fill. 3. Drill bit got broken. Smaller bit used after. 4-5. Change of stratum based on easing of drilling. Second attempt made. No sample recovered.									
All depth measurements are approximate. Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.									B-1

BORING LOG																							
GZA GeoEnvironmental of New York <i>Engineers and Scientists</i>				Abyssinian Development Corporation Ennis Francis House Project Harlem, New York				BORING NO.: B-1 SHEET: 2 of 2 PROJECT NO: 41.0161662.00 CHECKED BY: PBP															
GZA Representative: C. Duymaz Drilling Co.: CMI Subsurface Investigations Foreman: Greg Leavitt Type of Drill Rig: Mobile B-61 Truck Rig				Drilling Method: MRC Auger/Casing: Casing O.D./I.D Dia (in.): 4				Boring Location (Northing Easting): See Location Plan Ground Surface Elev. (ft.): 0 Datum: Sidewalk Final Boring Depth (ft.): 52 Date Start/Finish: 8/30/2007 - 8/30/2007															
Hammer Type: Donut Hammer Weight (lb.): 140 Hammer Fall (in.): 30				Sampler Type: SS Sampler O.D. (in.): 2.0 Sampler Length (in.): 24				<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="4" style="text-align: center;">Groundwater Depth (ft.)</th> </tr> <tr> <th style="width: 25%;">Date</th> <th style="width: 25%;">Time</th> <th style="width: 25%;">Water Depth</th> <th style="width: 25%;">Stab. Time</th> </tr> <tr> <td style="text-align: center;">No</td> <td style="text-align: center;">Observation</td> <td style="text-align: center;">Made</td> <td></td> </tr> </table>				Groundwater Depth (ft.)				Date	Time	Water Depth	Stab. Time	No	Observation	Made	
Groundwater Depth (ft.)																							
Date	Time	Water Depth	Stab. Time																				
No	Observation	Made																					
Sampler used throughout unless otherwise noted on the log.																							
Depth (ft.)	Sample				Sample Description Modified Burmister	USCS	Remark	PP/Tv (tsf)	Elev. (ft.)	Profile Description (NYCBC)	Depth (ft.)												
	No.	Depth (ft.)	Pen./ Rec	Blows per 6"																			
35	S-9	30-32	24/8	8 11 7 9	S-9 : Medium dense, brown, fine to medium SAND, trace Silt.	SP																	
	S-10	35-37	24/9	7 9 9 9	S-10 : Medium dense, brown, fine to medium SAND, trace Silt.	SP																	
40	S-11	40-42	24/1	9 14 14 14	S-11 : No recovery, Washed sample.					SAND (3b)													
45	S-12	45-47	24/10	9 10 11 21	S-12 : Medium dense, brown, medium to coarse SAND, trace Gravel.	SP																	
50	S-13	50-52	24/17	15 11 13 17	S-13 : Medium dense, brown, fine to medium SAND, trace Silt.	SP																	
					End of exploration at 52 feet.				-52		52												
55																							
60																							
REMARKS																							
All depth measurements are approximate. Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.										B-1													

BORING LOG																					
GZA GeoEnvironmental of New York <i>Engineers and Scientists</i>				Abyssinian Development Corporation Ennis Francis House Project Harlem, New York			BORING NO.: B-2D SHEET: 1 of 2 PROJECT NO: 41.0161662.00 CHECKED BY: PBP														
GZA Representative: C. Duymaz Drilling Co.: CMI Subsurface Investigations Foreman: Greg Leavitt Type of Drill Rig: Mobile B-61 Truck Rig				Drilling Method: MRC Auger/Casing: Casing O.D./I.D Dia (in.): 4			Boring Location (Northing Easting): See Location Plan Ground Surface Elev. (ft.): 0 Datum: Sidewalk Final Boring Depth (ft.): 52 Date Start/Finish: 9/5/2007 - 9/6/2007														
Hammer Type: Donut Hammer Weight (lb.): 140 Hammer Fall (in.): 30				Sampler Type: SS Sampler O.D. (in.): 2.0 Sampler Length (in.): 24			<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="4" style="text-align: center; padding: 2px;">Groundwater Depth (ft.)</th> </tr> <tr> <th style="width: 25%;">Date</th> <th style="width: 25%;">Time</th> <th style="width: 25%;">Water Depth</th> <th style="width: 25%;">Stab. Time</th> </tr> <tr> <td style="text-align: center;">No</td> <td style="text-align: center;">Observation</td> <td style="text-align: center;">Made</td> <td></td> </tr> </table>			Groundwater Depth (ft.)				Date	Time	Water Depth	Stab. Time	No	Observation	Made	
Groundwater Depth (ft.)																					
Date	Time	Water Depth	Stab. Time																		
No	Observation	Made																			
Sampler used throughout unless otherwise noted on the log.																					
Depth (ft.)	Sample No.	Depth (ft.)	Pen./ Rec.	Blows per 6"	Sample Description Modified Burmister	USCS	Remark	PP/Tv (tsf)	Elev. (ft.)	Profile Description (NYCBC)	Depth (ft.)										
	S-1	1-3	24/10	13 6 9 10	S-1 : Brown-red, Brick fragments and fine to medium coarse SAND, occasional Concrete fragments.		1		-0.5	ASPHALT 2"	0.5										
5	S-2	3-3.5	6/6	100/6"	S-2 : Very dense, brown, fine to coarse SAND, occasional Concrete and Brick fragments.																
	S-3	5-7	24/8	7 21 12 28	S-3 : Dense, brown, GRAVEL, occasional Brick fragments and Concrete fragments, trace Sand.		2														
	S-4	7-7.5	6/6	100/6"	S-4 : Very dense, brown, Gravel and fine to coarse SAND, occasional Brick and Concrete fragments.					FILL (7)											
10	S-5	10-12	24/24	10 16 65 74	S-5 : Very dense, red, Brick fragments, little Gravel, little fine to coarse SAND, washed sample.		3														
15	S-6	15-17	24/24	6 7 12 15	S-6 : Medium dense, brown, fine to coarse SAND, some coarse Gravel, trace Silt.	SP	4		-15		15										
20	S-7	20-22	24/5	10 9 8 8	S-7 : Medium dense, brown, fine to coarse SAND, trace Gravel, trace Silt.	SP															
25	S-8	25-27	24/0	7 10 9 10	S-8 : No Recovery.					SAND (3b)											
30																					
REMARKS 1. Twenty five (25) feet of casing installed during drilling operations. 2. 3'-15': Very difficult drilling and casing advancement. No wash return throughout fill. 3. Drill bit broken on obstruction. 4. SPT conducted with 3 inch Diameter Spoon.																					
All depth measurements are approximate. Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.										B-2D											

BORING LOG																							
GZA GeoEnvironmental of New York <i>Engineers and Scientists</i>				Abyssinian Development Corporation Ennis Francis House Project Harlem, New York				BORING NO.: B-2D SHEET: 2 of 2 PROJECT NO: 41 0161662.00 CHECKED BY: PBP															
GZA Representative: C. Duymaz Drilling Co.: CMI Subsurface Investigations Foreman: Greg Leavitt Type of Drill Rig: Mobile B-61 Truck Rig				Drilling Method: MRC Auger/Casing: Casing O.D./I.D Dia (in.): 4				Boring Location (Northing Easting): See Location Plan Ground Surface Elev. (ft.): 0 Datum: Sidewalk Final Boring Depth (ft.): 52 Date Start/Finish: 9/5/2007 - 9/6/2007															
Hammer Type: Donut Hammer Weight (lb.): 140 Hammer Fall (in.): 30				Sampler Type: SS Sampler O.D. (in.): 2.0 Sampler Length (in.): 24				<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="4" style="text-align: center;">Groundwater Depth (ft.)</th> </tr> <tr> <th style="width: 25%;">Date</th> <th style="width: 25%;">Time</th> <th style="width: 25%;">Water Depth</th> <th style="width: 25%;">Stab. Time</th> </tr> <tr> <td style="text-align: center;">No</td> <td style="text-align: center;">Observation</td> <td style="text-align: center;">Made</td> <td></td> </tr> </table>				Groundwater Depth (ft.)				Date	Time	Water Depth	Stab. Time	No	Observation	Made	
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Date	Time	Water Depth	Stab. Time																				
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Sampler used throughout unless otherwise noted on the log.																							
Depth (ft.)	No	Depth (ft.)	Pen./ Rec.	Blows per 6'	Sample Description Modified Burmister	USCS	Remark	PP/Tv (tsf)	Elev. (ft.)	Profile Description (NYCBC)	Depth (ft.)												
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	S-10	35-37	24/6	9 9 9 9	S-10 : Medium dense, brown, fine to medium SAND, trace Gravel, trace Silt.	SP																	
	S-11	40-42	24/24	7 7 7 10	S-11 : Medium dense, brown, fine to medium SAND, little Silt.	SM																	
	S-12	45-47	24/17	8 10 11 13	S-12 : Medium dense, brown, fine to medium SAND, trace Silt.	SP																	
	S-13	50-52	24/21	7 8 9 14	S-13 : Medium dense, brown, fine to medium SAND, little Silt.	SM																	
					End of exploration at 52 feet.				-52		52												
55																							
60																							
<div style="display: flex;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg); border-right: 1px solid black; padding-right: 5px; margin-right: 5px;">REMARKS</div> <div style="flex-grow: 1;"></div> </div>																							
All depth measurements are approximate. Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.										B-2D													

BORING LOG																							
GZA GeoEnvironmental of New York <i>Engineers and Scientists</i>				Abyssinian Development Corporation Ennis Francis House Project Harlem, New York				BORING NO.: B-3 SHEET: 1 of 2 PROJECT NO: 41.0161662.00 CHECKED BY: PBP															
GZA Representative: C. Duymaz Drilling Co.: CMI Subsurface Investigations Foreman: Greg Leavitt Type of Drill Rig: Mobile B-61 Truck Rig				Drilling Method: MRC Auger/Casing: Casing O.D./I.D Dia (in.): 4				Boring Location (Northing Easting): See Location Plan Ground Surface Elev. (ft.): 0 Datum: Sidewalk Final Boring Depth (ft.): 52 Date Start/Finish: 9/4/2007 - 9/4/2007															
Hammer Type: Donut Hammer Weight (lb.): 140 Hammer Fall (in.): 30				Sampler Type: SS Sampler O.D. (in.): 2.0 Sampler Length (in.): 24				<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="4" style="text-align: center;">Groundwater Depth (ft.)</th> </tr> <tr> <th style="width: 25%;">Date</th> <th style="width: 25%;">Time</th> <th style="width: 25%;">Water Depth</th> <th style="width: 25%;">Stab. Time</th> </tr> <tr> <td style="text-align: center;">No</td> <td style="text-align: center;">Observation</td> <td style="text-align: center;">Made</td> <td></td> </tr> </table>				Groundwater Depth (ft.)				Date	Time	Water Depth	Stab. Time	No	Observation	Made	
Groundwater Depth (ft.)																							
Date	Time	Water Depth	Stab. Time																				
No	Observation	Made																					
Sampler used throughout unless otherwise noted on the log.																							
Depth (ft.)	Sample No.	Depth (ft.)	Pen./ Rec.	Blows per 6"	Sample Description Modified Burmister	S.O.S.	Remark	PP/Tv (tsf)	W. (ft.)	Profile Description (NYCBC)	Depth (ft.)												
	S-1	1-3	24/14	23 19 33 45	S-1 : Red, Brick fragments, frequent Concrete fragments.		1		-0.5	ASPHALT 2"	0.5												
5	S-2	3-5	24/6	3 5 12 14	S-2 : Red, Brick and Concrete fragments and fine to coarse SAND.																		
	S-3	5-7	24/3	2 3 4 3	S-3 : No recovery, Washed sample.																		
	S-4	7-9	24/4	3 13 2 2	S-4 : Red, Brick fragments, some fine to coarse SAND and frequent Concrete fragments.		2			FILL (7)													
10	S-5	10-12	24/5	5 6 6 7	S-5 : Medium dense, gray, fine to coarse SAND, frequent Brick and Concrete fragments.																		
15	S-6	15-17	24/8	6 7 7 9	S-6 : Medium dense, brown, medium to coarse SAND, trace Gravel.	SP			-15		15												
20	S-7	20-22	24/9	10 7 9 7	S-7 : Medium dense, brown, fine to coarse SAND, trace Silt, trace Gravel.	SP				SAND (3b)													
25	S-8	25-27	24/10	6 5 6 6	S-8 : Medium dense, brown, fine to coarse SAND, trace Silt, trace Gravel.	SP																	
30																							
REMARKS 1. Twenty (20') feet of casing installed during drilling operations. 2. 7'-15': Very difficult drilling and casing advancement. No wash return throughout fill.																							
All depth measurements are approximate. Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.										B-3													

BORING LOG																							
GZA GeoEnvironmental of New York <i>Engineers and Scientists</i>				Abyssinian Development Corporation Ennis Francis House Project Harlem, New York				BORING NO.: B-3 SHEET: 2 of 2 PROJECT NO: 41.0161662.00 CHECKED BY: PBP															
GZA Representative: C. Duymaz Drilling Co.: CMI Subsurface Investigations Foreman: Greg Leavitt Type of Drill Rig: Mobile B-61 Truck Rig				Drilling Method: MRC Auger/Casing: Casing O.D./I.D Dia (in.): 4				Boring Location (Northing Easting): See Location Plan Ground Surface Elev. (ft.): 0 Datum: Sidewalk Final Boring Depth (ft.): 52 Date Start/Finish: 9/4/2007 - 9/4/2007															
Hammer Type: Donut Hammer Weight (lb.): 140 Hammer Fall (in.): 30				Sampler Type: SS Sampler O.D. (in.): 2.0 Sampler Length (in.): 24				<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="4" style="text-align: center;">Groundwater Depth (ft.)</th> </tr> <tr> <th style="width: 25%;">Date</th> <th style="width: 25%;">Time</th> <th style="width: 25%;">Water Depth</th> <th style="width: 25%;">Stab. Time</th> </tr> <tr> <td style="text-align: center;">No</td> <td style="text-align: center;">Observation</td> <td style="text-align: center;">Made</td> <td></td> </tr> </table>				Groundwater Depth (ft.)				Date	Time	Water Depth	Stab. Time	No	Observation	Made	
Groundwater Depth (ft.)																							
Date	Time	Water Depth	Stab. Time																				
No	Observation	Made																					
Sampler used throughout unless otherwise noted on the log.																							
Depth (ft.)	Sample No.	Depth (ft.)	Pen./ Rec.	Blows per 6"	Sample Description Modified Burmister	USCS	Remarks	PP/Tv (tsf)	Elev. (ft.)	Profile Description (NYC9C)	Depth (ft.)												
	S-9	30-32	24/21	6 5 5 5	S-9 : Loose, brown, fine to medium SAND, trace Silt.	SP																	
35	S-10	35-37	24/17	5 5 6 7	S-10 : Medium dense, brown, fine to medium SAND, little Silt.	SM																	
40	S-11	40-42	24/18	6 6 6 6	S-11 : Medium dense, brown, fine to medium SAND, little Silt.	SM				SAND (3b)													
45	S-12	45-47	24/16	7 7 9 9	S-12 : Medium dense, brown, fine to medium SAND, little Silt.	SM																	
50	S-13	50-52	24/12	9 7 10 11	S-13 : Medium dense, brown, fine to medium SAND, little Silt, trace Clay.	SM																	
					End of exploration at 52 feet.				-52		52												
55																							
60																							
<div style="display: flex;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg); font-weight: bold; margin-right: 10px;">REMARKS</div> <div></div> </div>																							
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BORING LOG																							
GZA GeoEnvironmental of New York <i>Engineers and Scientists</i>				Abyssinian Development Corporation Ennis Francis House Project Harlem, New York				BORING NO.: B-4 SHEET: 1 of 4 PROJECT NO: 41.0161662.00 CHECKED BY: PBP															
GZA Representative: C. Duymaz Drilling Co.: CMI Subsurface Investigations Foreman: Greg Leavitt Type of Drill Rig: Mobile B-61 Truck Rig				Drilling Method: MRC Auger/Casing: Casing O.D./I.D Dia (in.): 4				Boring Location (Northing Easting): See Location Plan Ground Surface Elev. (ft.): 0 Datum: Sidewalk Final Boring Depth (ft.): 102 Date Start/Finish: 8/27/2007 - 8/28/2007															
Hammer Type: Donut Hammer Weight (lb.): 140 Hammer Fall (in.): 30				Sampler Type: SS Sampler O.D. (in.): 2.0 Sampler Length (in.): 24				<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="4" style="text-align: center;">Groundwater Depth (ft.)</th> </tr> <tr> <th style="width: 25%;">Date</th> <th style="width: 25%;">Time</th> <th style="width: 25%;">Water Depth</th> <th style="width: 25%;">Stab. Time</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">No</td> <td style="text-align: center;">Observation</td> <td style="text-align: center;">Made</td> <td></td> </tr> </tbody> </table>				Groundwater Depth (ft.)				Date	Time	Water Depth	Stab. Time	No	Observation	Made	
Groundwater Depth (ft.)																							
Date	Time	Water Depth	Stab. Time																				
No	Observation	Made																					
Sampler used throughout unless otherwise noted on the log.																							
Depth (ft.)	Sample				Sample Description Modified Burmister	USCS	Remarks	PP/Tv (tsf)	Elev. (ft.)	Profile Description (NYCBC)	Depth (ft.)												
	No	Depth (ft.)	Pen./ Rec.	Blows per 6"																			
	S-1	1-3	24/13	6 7 6 10	S-1 : Medium dense, gray, fine to coarse SAND, some Brick fragments little Gravel, trace Asphalt.		1			-0.5	ASPHALT 1.5"	0.5											
5	S-2	3-5	24/18	5 9 8 8	S-2 : Medium dense, gray, fine to coarse SAND, some Gravel, frequent Asphalt and Brick fragments.																		
	S-3	5-7	24/2	8 12 6 6	S-3 : Medium dense, gray, GRAVEL and fine to coarse SAND, washed sample.																		
	S-4	7-7.8	12/6	20 100/3"	S-4 : Medium dense, gray, fine to coarse SAND and GRAVEL, trace Silt.		2			FILL (7)													
10	S-5	10-12	24/7	32 27 4 13	S-5 : Very dense, brown, fine to coarse SAND, some Gravel, trace Silt.																		
15	S-6	15-17	24/6	13 21 12 13	S-6 : Dense, brown, fine to coarse SAND, trace Gravel, trace Silt.	SP			-15		15												
20	S-7	20-22	24/0	11 9 9 14	S-7 : No Recovery.					SAND (3b)													
25	S-8	25-27	24/4	4 4 4 5	S-8 : Loose, brown, fine to coarse SAND, trace Silt.	SP																	
30																							
REMARKS	1. Twenty five (25') feet of casing installed during drilling operations. 2. 7'-15': Very difficult drilling and casing advancement. No wash return throughout fill.																						
All depth measurements are approximate. Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.										B-4													

BORING LOG																							
GZA GeoEnvironmental of New York <i>Engineers and Scientists</i>				Abyssinian Development Corporation Ennis Francis House Project Harlem, New York				BORING NO.: B-4 SHEET: 2 of 4 PROJECT NO: 41.0161552.00 CHECKED BY: PBP															
GZA Representative: C. Duymaz Drilling Co.: CMI Subsurface Investigations Foreman: Greg Leavitt Type of Drill Rig: Mobile B-61 Truck Rig				Drilling Method: MRC Auger/Casing: Casing O.D./I.D Dia (in.): 4				Boring Location (Northing Easting): See Location Plan Ground Surface Elev. (ft.): 0 Datum: Sidewalk Final Boring Depth (ft.): 102 Date Start/Finish: 8/27/2007 - 8/28/2007															
Hammer Type: Donut Hammer Weight (lb.): 140 Hammer Fall (in.): 30				Sampler Type: SS Sampler O.D. (in.): 2.0 Sampler Length (in.): 24				<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="4" style="text-align: center;">Groundwater Depth (ft.)</th> </tr> <tr> <th style="width: 25%;">Date</th> <th style="width: 25%;">Time</th> <th style="width: 25%;">Water Depth</th> <th style="width: 25%;">Stab. Time</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">No</td> <td style="text-align: center;">Observation</td> <td style="text-align: center;">Made</td> <td></td> </tr> </tbody> </table>				Groundwater Depth (ft.)				Date	Time	Water Depth	Stab. Time	No	Observation	Made	
Groundwater Depth (ft.)																							
Date	Time	Water Depth	Stab. Time																				
No	Observation	Made																					
Sampler used throughout unless otherwise noted on the log.																							
Depth (ft.)	Sample No.	Depth (ft.)	Pen./ Rec.	Blows per 6"	Sample Description Modified Burmister	USCS	Remarks	PP/Tv (tsf)	S _w (ft.)	Profile Description (NYCBC)	Depth (ft.)												
	S-9	30-32	24/5	5 4 5 8	S-9 : Loose, brown, fine to coarse SAND, trace Gravel, trace Silt.	SP																	
35	S-10	35-37	24/18	5 9 9 9	S-10 : Medium dense, brown, fine to medium SAND, little Silt.	SM																	
40	S-11	40-42	24/20	10 9 15 13	S-11 : Medium dense, brown, fine to medium SAND, trace Silt.	SP																	
45	S-12	45-47	24/19	11 13 18 21	S-12 : Medium dense, brown, fine to medium SAND, little Silt.	SM				SAND (3b)													
50	S-13	50-52	24/17	8 9 9 12	S-13 : Medium dense, brown, fine to medium SAND, trace Silt.	SP																	
55	S-14	55-57	24/16	12 12 12 16	S-14 : Medium dense, brown, fine to medium SAND, little Silt.	SM																	
60																							
<div style="display: flex;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg); border: 1px solid black; padding: 2px; margin-right: 5px;">REMARKS</div> <div style="flex-grow: 1;"></div> </div>																							
All depth measurements are approximate. Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.										B-4													

BORING LOG											
GZA GeoEnvironmental of New York <i>Engineers and Scientists</i>				Abyssinian Development Corporation Ennis Francis House Project Harlem, New York				BORING NO.: B-4 SHEET: 3 of 4 PROJECT NO: 41.0161662.00 CHECKED BY: PBP			
GZA Representative: C. Duymaz Drilling Co.: CMI Subsurface Investigations Foreman: Greg Leavitt Type of Drill Rig: Mobile B-61 Truck Rig				Drilling Method: MRC Auger/Casing: Casing O.D./I.D Dia (in.): 4				Boring Location (Northing Easting): See Location Plan Ground Surface Elev. (ft.): 0 Datum: Sidewalk Final Boring Depth (ft.): 102 Date Start/Finish: 8/27/2007 - 8/28/2007			
Hammer Type: Donut Hammer Weight (lb.): 140 Hammer Fall (in.): 30				Sampler Type: SS Sampler O.D. (in.): 2.0 Sampler Length (in.): 24				Groundwater Depth (ft.)			
				Date				Time			
				No				Observation			
								Water Depth			
								Made			
								Stab. Time			
Sampler used throughout unless otherwise noted on the log.											
Depth (ft.)	Sample No.	Depth (ft.)	Pen./ Rec.	Blows per 6"	Sample Description Modified Burmister	USCS	Remarks	PP/Tv (tsf)	W (ft.)	Profile Description (NYCBC)	Depth (ft.)
65	S-15	60-62	24/20	12 19 13 11	S-15 : Medium dense, brown, fine to medium SAND, trace Silt.	SP				SAND (3b)	63.5
65	S-16	65-67	24/17	18 19 23 19	S-16 : Dense, brown, fine to medium SAND, trace Silt.	SP					
70	S-17	70-72	24/19	14 16 18 20	S-17 : Dense, brown, fine to medium SAND, little Silt.	SM					
75	S-18	75-77	24/17	14 15 15 14	S-18 : Dense, brown, micaceous fine to medium SAND, some Silt.	SM				SAND (3a)	
80	S-19	80-82	24/10	14 15 16 21	S-19 : Dense, brown, fine to medium SAND, little Silt, trace mica.	SM					
85	S-20	85-87	24/21	6 8 12 14	S-20 : Very stiff, grayish brown, SILT and CLAY, trace mica.	ML				SILT & CLAY (5a)	83.5
90											
REMARKS											
All depth measurements are approximate. Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.										B-4	

BORING LOG												
GZA GeoEnvironmental of New York <i>Engineers and Scientists</i>				Abyssinian Development Corporation Ennis Francis House Project Harlem, New York			BORING NO.: B-5 SHEET: 1 of 2 PROJECT NO: 41.0161662.00 CHECKED BY: PBP					
GZA Representative: C. Duymaz Drilling Co.: CMI Subsurface Investigations Foreman: Greg Leavitt Type of Drill Rig: Mobile B-61 Truck Rig				Drilling Method: MRC Auger/Casing: Casing O.D./I.D Dia (in.): 4			Boring Location (Northing Easting): See Location Plan Ground Surface Elev. (ft.): 0 Datum: Sidewalk Final Boring Depth (ft.): 52 Date Start/Finish: 8/20/2007 - 8/23/2007					
Hammer Type: Donut Hammer Weight (lb.): 140 Hammer Fall (in.): 30				Sampler Type: SS Sampler O.D. (in.): 2.0 Sampler Length (in.): 24			Groundwater Depth (ft.)					
				Date		Time		Water Depth	Stab. Time			
				No		Observation		Made				
Sampler used throughout unless otherwise noted on the log.												
Depth (ft.)	Sample				Sample Description Modified Burmister	USCS	Remarks	PP/Tv (tsf)	S _w (%)	Profile Description (NYCBC)	Depth (ft.)	
	No.	Depth (ft.)	Pen./ Rec.	Blows per 6"								
5	S-1	1-3	24/16	10 9 9 8	S-1 : Medium dense, brown, fine to medium SAND, little Silt, trace Clay.	2	1			-0.5	ASPHALT 1.5"	0.5
	S-2	3-5	24/8	3 5 7 14	S-2 : Medium dense, brown, fine to coarse SAND, some Gravel, trace Silt, frequent Brick fragments.							
	S-3	5-7	24/6	3 4 4 13	S-3 : Loose, brown, fine to coarse SAND, trace Gravel, trace Silt.							
	S-4	7-9	24/18	32 36 46 55	S-4 : Very dense, brown, fine to coarse SAND, some coarse Gravel, frequent Concrete fragments, trace Silt.							
10	S-5	10-10.8	12/5	65 100/4"	S-5 : Very dense, brown, fine to coarse GRAVEL, little fine to coarse SAND.	SP				-15		15
15	S-6	15-17	24/5	13 15 13 14	S-6 : Medium dense, brown, medium to coarse SAND, some Gravel, trace Silt.							
20	S-7	20-22	24/0	15 13 10 10	S-7 : No Recovery.							
25	S-8	25-27	24/3	14 8 8 9	S-8 : Medium dense, brown, GRAVEL and fine to coarse SAND, trace Silt.	SP				-28.5	SAND (3b)	28.5
30												
REMARKS 1. Twenty five (25') feet of casing installed during drilling operations. 2. 5'-15': Very difficult drilling and casing advancement. No wash return throughout fill.												
All depth measurements are approximate. Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.										B-5		

BORING LOG											
GZA GeoEnvironmental of New York <i>Engineers and Scientists</i>				Abyssinian Development Corporation Ennis Francis House Project Harlem, New York				BORING NO.: B-5 SHEET: 2 of 2 PROJECT NO: 41.0161662.00 CHECKED BY: PBP			
GZA Representative: C. Duymaz Drilling Co.: CMI Subsurface Investigations Foreman: Greg Leavitt Type of Drill Rig: Mobile B-61 Truck Rig				Drilling Method: MRC Auger/Casing: Casing O.D./I.D Dia (in.): 4				Boring Location (Northing Easting): See Location Plan Ground Surface Elev. (ft.): 0 Datum: Sidewalk Final Boring Depth (ft.): 52 Date Start/Finish: 8/20/2007 - 8/23/2007			
Hammer Type: Donut Hammer Weight (lb.): 140 Hammer Fall (in.): 30				Sampler Type: SS Sampler O.D. (in.): 2.0 Sampler Length (in.): 24				Groundwater Depth (ft.)			
				Date				Time			
				No				Observation			
								Water Depth			
								Made			
								Stab. Time			
Sampler used throughout unless otherwise noted on the log.											
Depth (ft.)	Sample				Sample Description Modified Burmister	S U S	Remark	PP/Tv (tsf)	W L (ft.)	Profile Description (NYCBC)	Depth (ft.)
	No.	Depth (ft.)	Pen./ Rec.	Blows per 6"							
	S-9	30-32	24/6	9 7 9 10	S-9 : Medium dense, brown, fine to coarse SAND, trace Silt.	SP					
35	S-10	35-37	24/6	10 7 7 9	S-10 : Medium dense, brown, fine to coarse SAND, trace Silt.	SP					
40	S-11	40-42	24/11	12 14 12 14	S-11 : Medium dense, brown, fine to coarse SAND, trace Silt.	SP				SAND (3b)	
45	S-12	45-47	24/15	9 13 11 14	S-12 : Medium dense, brown, fine to medium SAND, little Silt.	SM					
50	S-13	50-52	24/14	12 12 17 23	S-13 : Medium dense, brown, fine to medium SAND, little Silt.	SM					
					End of exploration at 52 feet.					-52	52
55											
60											
REMARKS											
All depth measurements are approximate. Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.										B-5	

BORING LOG																															
GZA GeoEnvironmental of New York <i>Engineers and Scientists</i>				Abyssinian Development Corporation Ennis Francis House Project Harlem, New York				BORING NO.: B-6 SHEET: 1 of 2 PROJECT NO: 41.0161662.00 CHECKED BY: PBP																							
GZA Representative: C. Duymaz Drilling Co.: CMI Subsurface Investigations Foreman: Greg Leavitt Type of Drill Rig: Mobile B-61 Truck Rig				Drilling Method: MRC Auger/Casing: Casing O.D./I.D Dia (in.): 4				Boring Location (Northing Easting): See Location Plan Ground Surface Elev. (ft.): 0 Datum: Sidewalk Final Boring Depth (ft.): 52 Date Start/Finish: 8/23/2007 - 8/26/2007																							
Hammer Type: Donut Hammer Weight (lb.): 140 Hammer Fall (in.): 30				Sampler Type: SS Sampler O.D. (in.): 2.0 Sampler Length (in.): 24				<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="4" style="text-align: center;">Groundwater Depth (ft.)</th> </tr> <tr> <th style="width: 25%;">Date</th> <th style="width: 25%;">Time</th> <th style="width: 25%;">Water Depth</th> <th style="width: 25%;">Stab. Time</th> </tr> </thead> <tbody> <tr> <td>8/27/07</td> <td>9:30 AM</td> <td>13' 6"</td> <td>3 days</td> </tr> <tr> <td>8/29/07</td> <td>12:00 PM</td> <td>17' 3"</td> <td>6 days</td> </tr> <tr> <td>9/5/07</td> <td>10:00 AM</td> <td>17' 5"</td> <td>13 days</td> </tr> </tbody> </table>				Groundwater Depth (ft.)				Date	Time	Water Depth	Stab. Time	8/27/07	9:30 AM	13' 6"	3 days	8/29/07	12:00 PM	17' 3"	6 days	9/5/07	10:00 AM	17' 5"	13 days
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Sampler used throughout unless otherwise noted on the log.																															
Depth (ft.)	Sample No.	Depth (ft.)	Pen./ Rec.	Blows per 6"	Sample Description Modified Burmister	USCS	Remarks	PP/Tv (tsf)	Elev. (ft.)	Profile Description (NYCBC)	Depth (ft.)																				
	S-1	1-3	24/17	18 19 8 17	S-1 : Medium dense, gray, fine to coarse SAND, occasional Concrete fragments, frequent Brick fragments.		1		-0.5	ASPHALT 2"	0.5																				
5	S-2	3-5	24/7	8 12 15 10	S-2 : Medium dense, gray, fine to coarse SAND, trace Silt, trace Gravel, frequent Brick and Concrete fragments.		2																								
	S-3	5-7	24/3	3 5 7 6	S-3 : No recovery, Washed sample.																										
	S-4	7- 7.75	12/2	13 100/2"	S-4 : No recovery, Washed sample.					FILL (7)																					
10	S-5	10- 11.8	24/5	9 21 9 100/3"	S-5 : Medium dense, brown, coarse GRAVEL and fine to coarse SAND, trace Silt																										
15	S-6	15-17	24/0	21 24 12 12	S-6 : No Recovery.				-15		15																				
20	S-7	20-22	24/7	7 7 9 10	S-7 : Medium dense, brown, medium to coarse SAND, little Gravel, trace Silt.	SP				SAND (3b)																					
25	S-8	25-27	24/1	11 9 7 6	S-8 : No recovery, Washed sample.																										
30																															
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BORING LOG																															
GZA GeoEnvironmental of New York <i>Engineers and Scientists</i>				Abyssinian Development Corporation Ennis Francis House Project Harlem, New York				BORING NO.: B-6 SHEET: 2 of 2 PROJECT NO: 41.0161662.00 CHECKED BY: PBP																							
GZA Representative: C. Duymaz Drilling Co.: CMI Subsurface Investigations Foreman: Greg Leavitt Type of Drill Rig: Mobile B-61 Truck Rig				Drilling Method: MRC Auger/Casing: Casing O.D./I.D Dia (in.): 4				Boring Location (Northing Easting): See Location Plan Ground Surface Elev. (ft.): 0 Datum: Sidewalk Final Boring Depth (ft.): 52 Date Start/Finish: 8/23/2007 - 8/26/2007																							
Hammer Type: Donut Hammer Weight (lb.): 140 Hammer Fall (in.): 30				Sampler Type: SS Sampler O.D. (in.): 2.0 Sampler Length (in.): 24				<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="4" style="text-align: center;">Groundwater Depth (ft.)</th> </tr> <tr> <th style="width: 25%;">Date</th> <th style="width: 25%;">Time</th> <th style="width: 25%;">Water Depth</th> <th style="width: 25%;">Stab. Time</th> </tr> </thead> <tbody> <tr> <td>8/27/07</td> <td>9:30 AM</td> <td>13' 6"</td> <td>3 days</td> </tr> <tr> <td>8/29/07</td> <td>12:00 PM</td> <td>17' 3"</td> <td>6 days</td> </tr> <tr> <td>9/6/07</td> <td>10:00 AM</td> <td>17' 5"</td> <td>13 days</td> </tr> </tbody> </table>				Groundwater Depth (ft.)				Date	Time	Water Depth	Stab. Time	8/27/07	9:30 AM	13' 6"	3 days	8/29/07	12:00 PM	17' 3"	6 days	9/6/07	10:00 AM	17' 5"	13 days
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	S-9	30-32	24/11	6 6 7 6	S-9 : Medium dense, brown, fine to medium SAND, trace Silt.	SP																									
35	S-10	35-37	24/24	5 7 8 7	S-10 : Medium dense, brown, fine to medium SAND, little Silt, trace Clay.	SM																									
40	S-11	40-42	24/23	10 8 10 14	S-11 : Medium dense, brown, fine to medium SAND, some Silt, trace Clay.	SM				SAND (3b)																					
45	S-12	45-47	24/24	8 7 7 12	S-12 : Medium dense, brown, SILT, some fine to medium Sand, trace Clay.	ML																									
50	S-13	50-52	24/20	15 10 10 12	S-13 : Medium dense, brown, fine to medium SAND and SILT, trace Clay.	SM	3																								
					End of exploration at 52 feet.						52																				
55																															
60																															
REMARKS 3. Observation well installed to 30'. 20 ft solid 2 inch diameter riser pipe, 10 ft slotted pipe with 7 ft sand pack. Finished at surface with flush-mounted cover.																															
All depth measurements are approximate. Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.										B-6																					

BORING LOG																							
GZA GeoEnvironmental of New York <i>Engineers and Scientists</i>				Abyssinian Development Corporation Ennis Francis House Project Harlem, New York				BORING NO.: B-7 SHEET: 1 of 2 PROJECT NO: 41 0161662.00 CHECKED BY: PBP															
GZA Representative: C. Duymaz Drilling Co.: CMI Subsurface Investigations Foreman: Greg Leavitt Type of Drill Rig: Mobile B-61 Truck Rig				Drilling Method: MRC Auger/Casing: Casing O.D./I.D Dia (in.): 4				Boring Location (Northing Easting): See Location Plan Ground Surface Elev. (ft.): 0 Datum: Sidewalk Final Boring Depth (ft.): 52 Date Start/Finish: 8/24/2007 - 8/27/2007															
Hammer Type: Donut Hammer Weight (lb.): 140 Hammer Fall (in.): 30				Sampler Type: SS Sampler O.D. (in.): 2.0 Sampler Length (in.): 24				<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="4" style="text-align: center;">Groundwater Depth (ft.)</th> </tr> <tr> <th style="width: 25%;">Date</th> <th style="width: 25%;">Time</th> <th style="width: 25%;">Water Depth</th> <th style="width: 25%;">Stab. Time</th> </tr> <tr> <td style="text-align: center;">No</td> <td style="text-align: center;">Observation</td> <td style="text-align: center;">Made</td> <td></td> </tr> </table>				Groundwater Depth (ft.)				Date	Time	Water Depth	Stab. Time	No	Observation	Made	
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Date	Time	Water Depth	Stab. Time																				
No	Observation	Made																					
Sampler used throughout unless otherwise noted on the log.																							
Depth (ft.)	Sample No.	Depth (ft.)	Pen./ Rec.	Blows per 6"	Sample Description Modified Burmister	USCS	Remarks	PP/Tv (tsf)	Elev. (ft.)	Profile Description (NYCBC)	Depth (ft.)												
	S-1	1-3	24/4	26 22 9 15	S-1 : Reddish-brown, Brick fragments, trace fine to medium SAND, frequent Concrete fragments.		1		-0.5	ASPHALT 2"	0.5												
5	S-2	3-5	24/3	14 19 6 17	S-2 : Reddish-brown, Brick fragments, trace fine to medium SAND, frequent Concrete fragments.																		
	S-3	5-7	24/4	9 4 3 6	S-3 : Loose, gray, GRAVEL, little fine to coarse Sand.																		
	S-4	7-9	24/10	3 18 9 4	S-4 : Medium dense, gray, GRAVEL, little fine to coarse Sand.		2			FILL (7)													
10	S-5	10-12	24/1	10 10 6 7	S-5 : No recovery, Washed sample.																		
15	S-6	15-17	24/11	13 18 11 9	S-6 : Medium dense, brown, fine to coarse SAND, trace Gravel, trace Silt.	SP			-15		15												
20	S-7	20-22	24/6	7 8 9 8	S-7 : Medium dense, brown, medium to coarse SAND, trace fine Gravel, trace Silt.	SP				SAND (3b)													
25	S-8	25-27	24/0	7 5 5 5	S-8 : No Recovery.																		
30																							
REMARKS 1. Twenty (20') feet of casing installed during drilling operations. 2. 5'-15': Very difficult drilling and casing advancement. No wash return throughout fill.																							
All depth measurements are approximate. Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.										B-7													

BORING LOG																							
GZA GeoEnvironmental of New York <i>Engineers and Scientists</i>				Abyssinian Development Corporation Ennis Francis House Project Harlem, New York				BORING NO.: B-7 SHEET: 2 of 2 PROJECT NO: 41.0161662.00 CHECKED BY: PBP															
GZA Representative: C. Duymaz Drilling Co.: CMI Subsurface Investigations Foreman: Greg Leavitt Type of Drill Rig: Mobile B-61 Truck Rig				Drilling Method: MRC Auger/Casing: Casing O.D./I.D Dia (in.): 4				Boring Location (Northing Easting): See Location Plan Ground Surface Elev. (ft.): 0 Datum: Sidewalk Final Boring Depth (ft.): 52 Date Start/Finish: 8/24/2007 - 8/27/2007															
Hammer Type: Donut Hammer Weight (lb.): 140 Hammer Fall (in.): 30				Sampler Type: SS Sampler O.D. (in.): 2.0 Sampler Length (in.): 24				<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="4" style="text-align: center;">Groundwater Depth (ft.)</th> </tr> <tr> <th style="width: 25%;">Date</th> <th style="width: 25%;">Time</th> <th style="width: 25%;">Water Depth</th> <th style="width: 25%;">Stab. Time</th> </tr> <tr> <td style="text-align: center;">No</td> <td style="text-align: center;">Observation</td> <td style="text-align: center;">Made</td> <td></td> </tr> </table>				Groundwater Depth (ft.)				Date	Time	Water Depth	Stab. Time	No	Observation	Made	
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Date	Time	Water Depth	Stab. Time																				
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Sampler used throughout unless otherwise noted on the log.																							
Depth (ft.)	Sample				Sample Description Modified Burmister	USCS	Remarks	PP/Tv (tsf)	Elev. (ft.)	Profile Description (NYCBC)	Depth (ft.)												
	No	Depth (ft.)	Pen./ Rec.	Blows per 6"																			
35	S-9	30-32	24/18	5 4 5 8	S-9 : Loose, brown, medium to coarse SAND, trace Silt, trace fine Gravel.	SP																	
	S-10	35-37	24/12	8 8 8 9	S-10 : Medium dense, brown, fine to coarse SAND, trace Silt.	SP																	
40	S-11	40-42	24/17	5 6 7 9	S-11 : Medium dense, brown, fine to medium SAND, little Silt.	SM				SAND (3b)													
45	S-12	45-47	24/16	8 15 17 17	S-12 : Dense, brown, fine to coarse SAND, trace Silt.	SP																	
50	S-13	50-52	24/22	8 10 10 14	S-13 : Medium dense, brown, fine to medium SAND, trace Silt.	SP																	
					End of exploration at 52 feet.				-52		52												
55																							
60																							
<div style="display: flex;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg); font-weight: bold; margin-right: 5px;">REMARKS</div> <div></div> </div>																							
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