



SOUTH PIER IMPROVEMENT PROJECT
PHASE 1A CULTURAL RESOURCES SURVEY
BROOKLYN, NEW YORK
(OPRHP PROJECT REVIEW #08PR01278)

PREPARED FOR
ESS GROUP, INC.
EAST PROVIDENCE, RHODE ISLAND

AND
ASTORIA GENERATING COMPANY, L.P.
A US POWER GEN COMPANY
NEW YORK, NEW YORK

BY
JOHN MILNER ASSOCIATES, INC.
CROTON-ON-HUDSON, NEW YORK

JMA architects
archeologists
planners
John Milner Associates, Inc.

MAY 2008

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BROOKLYN, NEW YORK**

(OPRHP PROJECT REVIEW #08PR01278)

PREPARED FOR

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EAST PROVIDENCE, RHODE ISLAND 02915

AND

ASTORIA GENERATING COMPANY, L.P.
A US POWER GEN COMPANY
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BY

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MAY 2008

MANAGEMENT SUMMARY

SHPO Project Review Number (if available): 08PR01278

Involved State and Federal Agencies: NYS Department of Environmental Conservation
US Army Corps of Engineers

Phase of Survey: Phase 1A Cultural Resources Survey

Location Information:
Location: Pier at 28th Street
Brooklyn Waterfront

Municipality: Kings County

Survey Area:
Length: ~700'
Width: ~150'
Number of Acres surveyed: n/a; Phase 1A and disturbance documentation only.

USGS 7.5 Minute Quadrangle Map: *Jersey City, NY/NJ*

Archeological Survey Overview:
Number & interval of shovel tests: -
Number and size of units: -
Width of plowed strips: -
Surface Survey Transect Interval: -

Results of Archeological Survey:
Number/name of pre-contact sites identified: -
Number/name of historic sites identified: -
Sites recommended for Phase 2/avoidance: -

Architectural Resources:
Buildings within the Project Area: -
Number of buildings adjacent to the Project Area: -
Number of existing NRHP-listed/eligible properties: The 29th Street Pier (OPRHP 04701.013596), located less than 100 feet south of Project Area, was previously determined NRHP-eligible in 1985; the pier was demolished and removed ca. 1990s; the proposed Project will not adversely affect the pier because the pier no longer exists.

Number of identified eligible properties: -

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Date of Report: May 2008

MANAGEMENT ABSTRACT

JMA conducted a Phase 1A cultural resources survey for the proposed South Pier Improvement Project (OPRHP Project Review #08PR01278) located in Brooklyn (Kings County), New York. The Phase 1A investigation was conducted for ESS Group, Inc. on behalf of Astoria Generating Company, L.P., a USPowerGen Company (AGC). The project would improve the existing Gowanus Generating Station (GGS) with the addition of approximately 100 megawatts (MW) of new, cleaner, state-of-the-art electric generation while reducing the actual net emissions from the modified facility. The purpose of the Phase 1A investigation is to identify previously recorded archeological or historic-architectural sites that may be affected by the construction or operation of the proposed project. The Phase 1A survey also evaluates the potential for there to be previously unrecorded archeological or historic-architectural resources within the area that will be potentially affected by the project.

The proposed South Pier Improvement Project is located along the Brooklyn waterfront at Gowanus Bay, between 27th and 28th Streets west of 2nd Avenue. The Project Area consists of approximately 2.75 acres, located on an existing pier. The Project includes the proposed construction of a single approximately 100-foot-tall stack. The Project Area is located in an industrial zoned area and several existing stacks of equal or greater heights are located in the surrounding area.

From the time of its late nineteenth century construction to the end of its occupancy by the Shipbuilding Division of Bethlehem Steel, the 28th Street Pier (including the Project Area) was used as a part of a larger ship repair and overhaul facility. Associated components included a plate shop and smaller buildings, as well as cranes, and two floating dry docks, all of which are depicted on historic maps. It was these components that conveyed the pier's historic role and historic significance. The former locations and details concerning these structures are well documented on historic maps and in archival repositories. All of these elements are gone and remnants are limited to demolition debris, building slabs, and portions of crane rails. These few remnants fail to convey either the historic function of the pier or its historic significance. Therefore, in the opinion of JMA the pier does not satisfy National Register of Historic Places (NRHP) eligibility criteria.

The 29th Street Pier (OPRHP 04701.013596), formerly located less than 100 feet south of the Project Area but now demolished, was previously determined eligible for listing on the NRHP during a study conducted by the US Army Corps of Engineers during the 1980s to identify and remove deteriorated waterfront and harbor structures and objects within New York Harbor. The pier was demolished during the 1990s. The NRHP-eligibility of the 29th Street Pier rested on the survival of the early 20th century structure. Because that structure has been demolished, it is the opinion of JMA that the (no-longer existing) pier lacks the historical significance and integrity to be eligible for the National Register. Because the pier no longer exists, the formerly-determined-eligible property cannot be affected by the proposed Project.

In the opinion of JMA, no properties within or immediately adjacent to the Project Area meet the criteria for listing in the NRHP. There is no possibility that potentially significant archeological resources could be affected by the proposed Project because of the extent of previous ground disturbance documented in this report. Visual simulations indicate that the single proposed stack associated with the Project will be consistent in appearance and scale with similar industrial and energy-related structures located in the immediate vicinity. It is therefore the opinion of JMA that the Project will not result in any adverse impacts to significant historical properties, and no additional cultural resources investigations are warranted.

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1.0 INTRODUCTION

1.1 PURPOSE AND GOALS OF THE INVESTIGATION

JMA conducted a Phase 1A cultural resources survey for the proposed South Pier Improvement Project (OPRHP Project Review #08PR01278) located in Brooklyn (Kings County), New York. The Phase 1A investigation was conducted for ESS Group, Inc. on behalf of Astoria Generating Company, L.P. The information and recommendations contained in this report are intended to assist local, state and/or federal agencies in evaluating the potential effects of the project in accordance with their obligations under the New York State Environmental Quality Review Act (SEQRA), Section 14.09 of the New York State Parks, Recreation, and Historic Preservation Law, and/or Section 106 of the National Historic Preservation Act.

The purpose of the Phase 1A investigation is to identify previously recorded archeological or historic sites that may be affected by the construction or operation of the proposed project. The Phase 1A survey also evaluates the potential for there to be previously unrecorded archeological or historic-architectural resources within the area that will be potentially affected by the project. The information contained in this report is intended to help assess what effects construction of the proposed project would have on archeological or historic-architectural resources. All research and report preparation were conducted in accordance with the New York Archaeological Council's *Standards for Cultural Resources Investigations and the Curation of Archaeological Collections* (NYAC 1994) recommended for use by the New York State Office of Parks, Recreation and Historic Preservation (OPRHP).

1.2 PROJECT LOCATION AND DESCRIPTION

The proposed South Pier Improvement Project (SPIP; the Project) is located along the Brooklyn waterfront at Gowanus Bay, between 27th and 28th Streets west of 2nd Avenue in Kings County, New York (Figure 1). The Astoria Generating Company, L.P., (AGC) a USPowerGen Company, is proposing to improve the existing Gowanus Generating Station (GGS) with the addition of approximately 100 megawatts (MW) of new, cleaner, state-of-the-art electric generation while reducing the actual net emissions from the modified facility. The Project is designed to meet the power needs of communities served by the Gowanus and Greenwood “load pocket” within the City’s distribution system, an area which needs more electricity than can currently be supplied during periods of high electrical demand. The operation of the SPIP will help meet current and future demands for electricity, while reducing the environmental impacts of the existing GGS and other regional displaced facilities.

The Project Area consists of approximately 2.75 acres, located on an existing pier at the GGS (Figure 2). The Project includes the proposed construction of a single approximately 100-foot-tall stack. The SPIP site is located in an industrial (M3-1 District) zoned area and several existing stacks of equal or greater heights are located in the surrounding area (see Appendix I). The existing conditions of the pier at the SPIP project site have been greatly altered from previous construction episodes. The pier has been filled seaward of the original shoreline, as documented on historic maps. The project site is properly characterized as an earthen landmass and consists of compacted fill secured by a steel sheet-piled bulkhead and rip-rap perimeter. There are no standing structures located on the pier and no in-water work is proposed.

2.0 BACKGROUND RESEARCH

2.1 SOILS

The South Pier Improvement Project is located entirely on made land (a pier originally constructed during the late nineteenth century). The pier has been filled seaward of the original shoreline, and consists of compacted fill secured by a steel sheet-piled bulkhead and rip-rap perimeter. JMA reviewed the Natural Resources Conservation Service *New York City Reconnaissance Soil Survey* (NRCS 2005) to identify mapped soils within the Project Area. The NRCS survey identifies the Project Area and adjacent areas as soil map unit 101:

101. Pavement & buildings, wet substratum-Laguardia-Ebbets complex, 0 to 8 percent slopes: Nearly level to gently sloping urbanized areas filled with a mixture of natural soil materials and construction debris over swamp, tidal marsh, or water; a mixture of anthropogenic soils which vary in coarse fragment content, with 50 to 80 percent of the surface covered by impervious pavement and buildings (NRCS 2005:16).

JMA also reviewed a *Geotechnical Evaluation* report recently prepared for the Project (French & Parello 2008). The geotechnical study included the excavation of 13 test borings and 11 test pits on the pier. The test pits, designated TP-1 through TP-11, were excavated to depths between 3.5 and 7 feet below the existing ground surface to estimate the quantity and nature of construction debris within the pier fill. The test borings, designated B-1 through B-13, extended to depths from 102 to 142 feet. The *Geotechnical Evaluation* report describes soil stratigraphy within the Project Area:

The test borings encountered surficial granular fills underlain by marine tidal marsh deposits and glacially deposited soils. The surficial granular fills were encountered from the existing ground surface to depths ranging from approximately 5 to 8 feet and consisted of coarse to fine sand intermixed with medium to fine gravel and various amounts of silt and construction debris including wood, concrete and brick pieces. The tidal marsh deposits consisted of soft, organic silts and ranged from 35 to 50 feet in thickness. An approximately 5 to 10 foot thick layer of glacial drift was encountered below the tidal marsh deposits and generally consisted of coarse to fine sand intermixed with varying amounts of coarse to fine gravel as well as silt and clay sized soil particles... Glacial till was encountered at depths ranging from approximately 60 to 120 feet and consisted of a dense conglomerate of sand, silt, and clay (French & Parello 2008:4-5).

2.2 PREVIOUSLY RECORDED CULTURAL RESOURCES

Sources reviewed by JMA to identify previously recorded historic properties and archeological sites located in the vicinity of the Project Area included:

- the State and National Registers of Historic Places (S/NRHP);
- an inventory of New York City Landmarks (Dolkart and Postal 2004) published by the New York City Landmarks Preservation Commission (NYCLPC);
- the on-line SPHINX database and Building-Structure Inventory maintained by OPRHP;
- the consolidated archeological site files of the OPRHP and the New York State Museum (NYSM);
- syntheses of regional prehistory (e.g., Beauchamp 1900; Cantwell and Wall 2001; Bolton 1920, 1922, 1934; Funk 1976; Parker 1920; Ritchie 1971, 1980; Ritchie and Funk 1973; Skinner 1915, 1920); and,
- previous cultural resources survey reports and historic property evaluations (e.g., Flagg and Raber 1986; GRA 2000; JMA 2002; Raber 1985; Smith 1983).

2.2.1 Archeological Sites

There are twelve previously recorded archeological sites located within two miles of the Project Area (Table 1). These sites include prehistoric Native American sites that were recorded during the early-twentieth century as well as historic-period sites that date between the late-eighteenth and late-nineteenth centuries. More than half of these sites are located on Governor’s Island, located two miles northwest of the Project Area in the Upper Bay of New York Harbor

Table 1. Archeological sites located within two miles of the Project Area.

Site Identifier	Site Name	Period & Description	Reference	Location	Distance
-	Indian Station	unknown prehistoric, shell middens	Bolton 1934	Gowanus Bay, vicinity of 37 th Street & Third Avenue	~2500 feet S
A04701.014947	Revolutionary War Mass Grave	late 18 th century	-	Gowanus, 426 Third Avenue	~5800 feet NE
NYSM 3612	-	unknown prehistoric, shell middens	Parker 1920	Prospect Park	~9500 feet E
A04701.000508	Bishop Mugavero Site	mid 19 th -century	-	Bishop Mugavero Geriatric Center	~9500 feet NE
NYSM 3606	Sand Hill	Woodland village/camp	Beauchamp 1900 Parker 1920 Bolton 1934	Flatbush Avenue north of Prospect Park	~2 miles NE
A06101.009528	Governor’s House	ca. 1810 domestic/military	PAL 1997	Governor’s Island	~2 miles NNW
A06101.007420	Governor’s Island Library Parking Lot	18 th -early 19 th cty. 7 human burials	PAL 1997	Governor’s Island	~2 miles NNW
A06101.009527	Fort Jay Midden Site	19 th century domestic/military	PAL 1997	Governor’s Island	~2 miles NNW
A06101.009524	Nolan Park Prehistoric Site	Woodland	PAL 1997	Governor’s Island	~2 miles NNW
A06101.009523	Fort Jay Prehistoric Site	Woodland	PAL 1997	Governor’s Island	~2 miles NNW
A06101.009526	Port Hospital Feature 11	ca. 1840s-1870s military site	PAL 1997	Governor’s Island	~2 miles NNW
A06101.009529	Golf Course Battery	ca. 1813 military site	PAL 1997	Governor’s Island	~2 miles NNW

2.2.2 Historic and Architectural Resources

There are 75 previously identified historic and/or architecturally significant properties and/or historic districts located within two miles of the Project Area (Table 2; Figure 3). These include:

- properties that are listed on the State and/or National Registers of Historic Places (S/NRHP);
- properties that have been previously determined eligible for listing on the NRHP; and/or,
- properties that are designated Landmarks by the NYC Landmarks Preservation Commission (NYCLPC).

Individual properties that are contributing resources to NRHP-Listed and/or NYCLPC-Listed Historic Districts are not identified individually in Table 2 and Figure 3 but are instead subsumed within the broader Historic District.

Table 2. Historic properties located within two miles of the Project Area.

Map Key	Property Name	Property Address	OPRHP USN	Historic Status ¹
1	15th Street/Prospect Park Subway	15th Street & Prospect Park West	04NR05369	NRHP-L
2	4th Avenue Station	b/t 3rd & 4th Avenues, and b/t 10th & 11th Streets	04NR05370	NRHP-L
3	68th Police Precinct Station House & Stable	4302 4th Avenue	90NR01282	NRHP-L/NYCLPC-L
4	9th Avenue Station	9th Avenue at new Utrecht	04NR05368	NRHP-L
5	Congregation Tifereth Isreal	1320 8th Avenue	01NR01811	NRHP-L
6	Cronyn, William B., House	271 9 th Avenue	90NR01284	NRHP-L/NYCLPC-L
7	8th Avenue (14th Regiment) Armory	1402 8th Avenue	94NR00539	NRHP-L/NYCLPC-L
8	Litchfield Villa	Prospect Park West & 5th Street	90NR01307	NRHP-L/NYCLPC-L
9	Old First Reformed Church	729 Carroll Street	97NR01247	NRHP-L
10	Prospect Hall	263 Prospect Avenue	98NR01397	NRHP-L
11	Rankin, John, House	440 Clinton Street	90NR01336	NRHP-L/NYCLPC-L
12	Public Bath #7	227-231 4th Avenue	90NR01306	NRHP-L/NYCLPC-L
13	South Congregational Church	President & Court Streets	90NR01333	NRHP-L/NYCLPC-L
14	St. Paul's Protestant Episcopal Church	199 Carroll Street	90NR03153	NRHP-L
15	U.S. Post Office – Kensington	421 McDonald Avenue	90NR01338	NRHP-L
16	Weir Greenhouse	750-751 5th Avenue	90NR01278	NRHP-L/NYCLPC-L
17	Cuyler Presbyterian Church	360 Pacific Street	00NR01718	NRHP-L
18	Brooklyn Public Library	Grand Army Plaza	01NR01809	NRHP-L/NYCLP-L
19	Public School 39	417 6 th Avenue	90NR01272	NRHP-L/NYCLPC-L
20	The Block House	Governor's Island	90NR00792	NRHP-L
21	The Admiral's House	Governor's Island	90NR00791	NRHP-L
22	The Governor's House	Governor's Island	90NR00688	NRHP-L
23	Captain William's Lighthouse	Governor's Island	90NR00800	NRHP-L
24	Fort Jay	Governor's Island	90NR00640	NRHP-L
25	Federal Building 1 (demolished?)	2nd Ave, west side, at 29th street, south side	04701.000442	NRHP-E(I)
26	Brooklyn Improvement Company Office Building	3rd Ave & 3rd Street	04701.015586	NRHP-E(HD)
27	Burns Bros. Coal Pockets	4th Street Basin near 2 nd Ave	04701.015583	NRHP-E(HD)
28	Third Avenue Bridge	3rd Ave over Gowanus Canal	04701.015582	NRHP-E(HD)
29	Former Brooklyn Rapid Transit Power House	east of Gowanus Canal near 3rd Street	04701.015588	NRHP-E(HD)
30	Foreman Blades Lumber	west of Gowanus Canal b/t 1st & 2nd Streets	04701.015584	NRHP-E(HD)
31	S.W. Bowne Grian Storehouse	west of Gowanus Canal near Bay Street	04701.015585	NRHP-E(HD)
32	Carroll Street Bridge	Carroll Street over Gowanus Canal	04701.000003	NRHP-E(HD)
33	Cobble Hill School for America	347 Baltic Street	04701.015455	NRHP-E(I)
34	John Jay High School	237 Seventh Avenue	04701.015589	NRHP-E(I)
35	PS 169 The Sunset Park School	4305 Seventh Avenue	04701.015092	NRHP-E(I)
36	PS 131	4305 Fort Hamilton Parkway	04701.015366	NRHP-E(I)
37	Brooklyn Public Library, Carroll Gardens Branch	396 Clinton Street	04701.014700	NRHP-E(I)
38	Firehouse, Engine Co. 220	530 11 th Street	04701.000129	NRHP-E(I)
39	Firehouse, Ladder Co. 122	532 11 th Street	04701.000130	NRHP-E(I)
40	Pier 41, Red Hook	Ferris Street and Van Dyke	04701.000085	NRHP-E(I)
41	Graving Dock #1 (aka Dry Dock #1)	Erie Basin, SW of Beard Street	04701.015025	NRHP-E(I)
42	402 7th Street	402 7 th Street	04701.000454	NRHP-E(I)
43	Firehouse, Engine Co. 282	4210 Twelfth Avenue	04701.000153	NRHP-E(I)
44	Public School 164	4211 Fourth Avenue	04701.015930	NRHP-E(I)
45	Public School 230	1 Abermarle Road	04701.014965	NRHP-E(I)
46	Firehouse, Engine Co. 240	1309 Prospect Avenue	04701.000131	NRHP-E(I)
47	1674 Eighth Avenue	1674 Eighth Avenue	04701.014913	NRHP-E(I)
48	Public School 124	515 Fourth Avenue	04701.015995	NRHP-E(I)

¹ Historic Status: NRHP-L = Listed on the National Register of Historic Places; NYCLPC-L = New York City Landmark; NRHP-E(I) = Individually Eligible for Listing on the National Register of Historic Places; NRHP-E(HD) = Eligible for Listing on the National Register of Historic Places as a Contributing Resource in a Proposed or Existing Historic District.

Table 2. Historic properties located within two miles of the Project Area, continued.

Map Key	Property Name	Property Address	OPRHP USN	Historic Status ²
49	Prospect Park YMCA	357 West 9th Street	04701.015917	NRHP-E(I)
50	Former Brooklyn Printing Plant of the NY Times	59-75 Third Avenue	04701.015872	NRHP-E(I)
51	Firehouse, Squad I	788 Union Street	04701.000128	NRHP-E(I)
52	Red Hook Stores	480-500 Van Brunt Street, Red Hook	04701.015103	NRHP-E(I)
53	Building #2, Erie Basin	41 Beard Street	04701.015027	NRHP-E(I)
54	Buildings #3, 4, and 5, Erie Basin	37 Beard Street	04701.015026	NRHP-E(I)
55	Firehouse, Engine Co. 228	436 39 th Street	04701.000154	NRHP-E(I)
56	St Francis Xavier School	763 President Street	04701.015675	NRHP-E(I)
57	Green-Wood Cemetery Gate	Fifth Avenue at 25th Street		NYCLPC-L
58	Brooklyn Clay Retort & Firebrick Works	Beard & Van Dyke Streets, Red Hook	04701.000069	NYCLPC-L
59	Beard Stores	421-573 Van Brunt Street, Red Hook	04701.013893	NRHP-E(I)
60	Sunset Park Courthouse	4201 4 th Avenue		NYCLPC-L
61	Soldiers' & Sailors' Memorial Arch	Grand Army Plaza		NYCLPC-L
62	Boathouse, Prospect Park Audobon Center	Prospect Park		NYCLPC-L
63	Brooklyn Public Library, Park Slope Branch	431 6 th Avenue		NYCLPC-L
64	Carroll Gardens Historic District	President and Carroll Streets	90NR01316	NRHP-L/NYCLPC-HD
65	Park Slope Historic District	West of Prospect Park	90NR01341	NRHP-L/NYCLPC-HD
66	Sunset Park Historic District	Fourth Ave, 38th St, Seventh Ave, 64th St	90NR01310	NRHP-L
67	U.S. Army Military Ocean Terminal	Second Avenue, 58th to 65th Street	90NR01314	NRHP-L
68	Bush Terminal Complex	Second Avenue, 28th to 50th Street	04701.000057	NRHP-E(HD)
69	29th Street Pier (demolished)	29th Street west of Second Avenue	04701.013596	NRHP-E(I)
70	Greenwood Cemetery	Greenwood Cemetery	94NR00549	NRHP-L
71	Prospect Park	Prospect Park	90NR01313	NRHP-L
72	Governor's Island	Governor's Island	90NR00618	NRHP-L
73	Cobble Hill Historic District	Atlantic Ave, Court, Degraw, & Hicks Streets	90NR01286	NRHP-L/NYCLPC-HD
74	Boerum Hill Historic District	Pacific, Dean, Bergen, Hoyt, Bond, & Nevins Streets	90NR01315	NRHP-L/NYCLPC-HD
75	Gowanus Canal	Gowanus Canal	04701.000001	NRHP-E(HD)

The 29th Street Pier (OPRHP 04701.013596), formerly located less than 100 feet south of the Project Area but now demolished, was previously determined eligible for listing on the National Register of Historic Places during a study conducted by the US Army Corps of Engineers during the 1980s to identify and remove deteriorated waterfront and harbor structures or objects within New York Harbor (Raber 1985). The pier at 29th Street was designated for demolition and removal. The pier was described in 1985 as:

Timber pile, concrete deck, c. 1190x85', with 1-story steel frame, iron sided transit shed 1165x71', finished by New York City c. 1917-24 as later part of South Brooklyn project. Leased for general cargo handling to various steamship lines -1926-1978+. [Condition described as] substantially intact, with continuing deterioration (Raber 1985:47).

The original portion of the 29th Street Pier was completed by 1917. It measured 1,215 feet in length and 80 feet in width and was initially leased to the U.S. and Brazil Steamship Company (Brooklyn Daily Eagle 1917:493). The 29th Street Pier was recommended to be historically significant in the New York Harbor Drift Removal Study (Raber 1985: Appendix 2):

² Historic Status: NRHP-L = Listed on the National Register of Historic Places; NYCLPC-L = New York City Landmark; NYCLPC-HD = New York City Landmarks Preservation Commission Listed Historic District; NRHP-E(I) = Individually Eligible for Listing on the National Register of Historic Places; NRHP-E(HD) = Eligible for Listing on the National Register of Historic Places as a Contributing Resource in a Proposed or Existing Historic District.

The 29th Street Pier (RM5-1)[Removal Item 5-1] was the shortest and last of the South Brooklyn piers built by the Department of Docks and Ferries, completed c. 1917-24. It incorporated the innovations in concrete deck design associated with the South Brooklyn project, and with its intact steel framed, iron sided transit shed remains the best preserved of the five original piers. The shed is a good example of a typical, but increasingly rare, type of waterfront construction at the port. This site has significant associations with an important innovation in pier construction, and is the only intact component of the city's projected municipalization of the Brooklyn waterfront beginning in 1906 (Raber 1985:58).

Based on the data provided in the New York Harbor Drift Removal Study (Raber 1985), the New York SHPO recommended that the 29th Street Pier was eligible for listing on the National Register of Historic Places. This opinion read in part:

It is the opinion of the SHPO that the 29th Street Pier meets the criteria for National Register listing and is eligible for nomination. During the early 20th century, the New York City Department of Docks and Ferries planned to build an extensive steamship facility based on the nearby Bush Terminal Complex and envisioned the eventual municipalization of the Brooklyn waterfront with modern piers, warehouses, and rail connections. The department completed only part of this plan, constructing five innovative concrete slats piers from 29th St. to 35th St. The 29th St. Pier is the most intact remnant of New York City's early 20th century waterfront development. The 29th Street Pier and Shed is scheduled for removal, an action that will be an adverse effect to the property (Stokes 1985).

Aerial photographs dating between 1954 and the present depict late-twentieth-century changes within the Project Area and at the 29th Street Pier (see Figure 4). The 1954 aerial depicts the 29th Street Pier during its period of active use. The 1980 and 1987 aerial photographs illustrate how the 29th and 30th Street piers were used as cribbing, and the area between these structures filled and paved for use as a parking area. Following the completion of this filling episode, the 29th and 30th Street piers were demolished and removed during the 1990s. The 2008 aerial photograph image illustrates existing conditions, including the notable absence of the 29th Street Pier (Figure 4).

The New York Harbor Drift Removal Study (Raber 1985) also described the bulkhead located at the north (landward) end of the 29th Street Pier:

Timber bulkhead on timber cribbing, built c. 1909 as temporary bulkhead at north end of New York City South Brooklyn project; c. 500 feet long; replaced by concrete, probably relieving platform, probably early 1960s. No known use -1965; used for general cargo handling -1965-1978+ with -1965 steel frame, concrete block bulkhead shed.

The bulkhead at the landward end of the 29th Street Pier is still extant and occupied by a ca. 1959 concrete block and steel shed (described above as ca. 1965). The shed is not depicted on the 1954 aerial photograph of the waterfront, but is shown on all subsequent aerial photographs (Figure 4). The bulkhead and shed were evaluated as *not significant* in the New York Harbor Drift Removal Study (Raber 1985:47).

2.3 HISTORY OF THE PROJECT AREA

JMA personnel conducted research for the Project at the following repositories: the Brooklyn Public Library, Brooklyn Collection (Grand Army Plaza), the Business Library at the Brooklyn Heights Branch of the Brooklyn Public Library, the Brooklyn Historical Society, and the Hagley Library (Wilmington, Delaware), as well as on-line using databases provided by the New York State Library. Information reviewed included historic maps,

historic photographs, journals, magazines and newspapers, manuscripts, and pamphlets issued by the Bethlehem Steel Company.

For most of its history, the 28th Street Pier was part of a larger shipyard. The first shipyard use of the area predates the pier itself. In April 1867, Theodore A. Crane relocated a shipyard to 27th Street that he had established at 16th Street, Brooklyn, a year earlier. Crane operated a shipyard at 27th Street until 1900 when the facility relocated to Erie Basin, a short distance north. During its tenure at 27th Street, he constructed over 1,000 harbor vessels and was, according to his grandson, the first shipyard in New York Harbor to launch a ship sideways (Bethlehem Steel Archival Collection).

By 1888, the present 28th Street Pier had been constructed (Figure 5). At that time, the landward end of the pier contained several small buildings including a carpenter shop, a supply room, and an office, while the outer end was indicated as containing Arnott's stores with the indication that the foundation for the inward portion of the storehouse would be built in May 1888. Arnott was David S. Arnott, a prominent Brooklyn businessman. A native of Scotland, he was engaged in the monumental stone business. He was also a local Republican politician and served as the president of the Long Branch and Atlantic Highland Railroad Company (New Jersey) (Anonymous 1895).

In 1890, the 27th Street Pier was identified as Arnott's Pier (Brooklyn Daily Eagle 1890:173). This warehouse apparently only stood for a few years. Its destruction by fire was chronicled in a November 1894 article in the *Brooklyn Eagle*. At the time of its destruction, the warehouse, designated as No. 2, contained cotton bales (Anonymous 1894).

From the turn-of-the-century until 1913, the former shipyard was occupied by a number of small companies such as the Brooklyn Dry Dock and Warehouse Company, the McCaulding Brothers Towing Company, Ross Iron Works, Empire Repair Company, Pally Drydocks, the Gowanus Lumber Company, Rabb Iron Works, Reilly Machine and Foundry Company, and the West End Dry Dock Company. At the time of the 1906 Sanborn fire insurance map, the pier had two needle piers projecting from its northwest end (Figure 6). The pier itself was used for lime storage by Crescent Brick and Supply Company.

In 1913, the property was acquired by James Shewan and Sons, shipbuilders, who had relocated their operations from Manhattan. Shewan, a Scottish immigrant, was born in 1848 at Rora, near Peterhead, Scotland. In his early teens he was apprenticed to a ship carpenter and came to the United States at 21 after working as crew on several long sea voyages. In New York, he started a dry-dock and ship-repairing business under the name of Shewan & Palmer which later became Shewan & Jenkins. In 1877 he bought out Jenkins and carried out the business independently for 36 years. A biographical account of Shewan described his Brooklyn works opened in 1913:

The ship-building plant consists of machine-shop, boiler-shop, joiner-shop, steam forge, cooper and blacksmith shops, and has every appliance necessary for dry dock and for repairing ocean steamships in all branches of workmanship. It employs regularly about two thousand men, and the firm is one of the busiest in the port of New York. The yard is equipped with a modern electric-lighting plant, thus enabling the work to go on day and night. The largest dry dock can lift out of the water a ship of 12,000 tons...

Shewan died in 1914 shortly after his business relocated to Brooklyn. The enterprise was continued by his sons with James Shewan, president and Edwin A. Shewan, vice-president (Anonymous n.d.)

The scope of their operations is indicated by testimony that Shewan and his general manager gave before a Congressional committee in 1920 investigating procurement for the USS *Leviathan*. John L. Curley, general manager of the company described the company and its facilities. The ten dry docks and associated piers allowed

them to berth thirty steamers at a time. During World War I, employment at the shipyard was as high as 7,000, a total that had dropped to 2,000 by 1920. The facility was the largest ship repair plant in acreage in the port of New York (U.S. House 1920: 1394, 1397).

One of the shipyard's major jobs was deemed worthy of note in *The Marine News*. The shipyard was responsible for the reconstruction of the Yacht *Delphine*, owned by Mrs. Hugh Ditman, the former Anna Thomson Dodge. The yacht, 241.7 feet in length with a gross tonnage of 1,255, had lied submerged in the North River for over two months after it had caught fire and sank (Anonymous 1927:54). In the article, the Shewan facility was described:

The Shewan plant...is the largest ship repair plant in the port of New York. Its ten dry docks are capable of handling practically any size of vessel, and its personnel is thoroughly competent to manage any class of ship repair work. Its shops are equipped with every type of machine and device for efficient and expeditious reconditioning. All told, there are 1,500 regular shipyard employees on the Shewan payroll (Anonymous 1927:55).

A 1920 Belcher Hyde atlas depicted the pier in that year (Figure 7). Several buildings were depicted on the bulkhead (inland) end of the pier. The pier itself, indicated as part of the Shewan shipyard was shown with the building later identified as the plate shop. Two floating drydocks. The 1920-22 Sanborn map depicts a long narrow building landward from the dry docks (Figure 8). This building is identified on other maps as the plate shop. The two floating dry docks are depicted, each accessible by finger piers. A 1926 Sanborn Map shows the Shewans' plate shop, the three finger piers and the two floating dry docks (Figure 9).

The appearance of the pier in 1928 is shown on a New York Harbor Pier map from the Sanborn Map Company (Sanborn 1928) (Figure 10). A bulkhead connected (and still connects) the pier to a pier immediately to its north that lies between 26th and 27th streets. Several buildings were situated on the bulkhead south of 27th Street. The pier itself is indicated as having crane tracks and an elongated single story building. The outer end of the pier was extended in two finger piers to permit floating dry docks numbers 9 and 10.

The 1929 Belcher Hyde map of the pier and vicinity shows several buildings on the pier bulkhead. The pier itself contains the plate shop building, and the two floating dry docks and three piers are at the outer end of the pier (Figure 11). In February 1929, the shipyard was absorbed by United Dry Docks, a company organized to combine six formerly independent shipyards: Morse Dry Dock and Repair Company, James Shewan & Sons, Inc., Staten Island Shipbuilding Company, W. & A. Fletcher Company, New York Harbor Dry Dock Company, Inc., and the Theodore Crane's Sons Company (Anonymous 1929:239). The president of the new company was Edward P. Morse, a veteran shipbuilder and head of the Morse Dry Dock & Repair Company. At the time of its acquisition, the 28th Street Pier contained an elongated single story building on its inland end and two floating dry docks at its forked outer end. The yard was described in a *Marine Engineering* article on the transfer:

The Shewan Plant, located in Brooklyn, close to Third Avenue, with its entrance opposite 25th Street, has a water frontage of about 1000 feet on Gowanus Bay. This plant covers an area of about 42 acres and includes 45 buildings. Of these, the garage, wood-working shop, furnace building, boiler shop, paint shop, burner shop, paint shed, office building, electrical and rigging shop, power house, machine shop, blacksmith shop, pipe and copper shop and storage building are well equipped with 206 machine tools and 106 motors. Six transformers, two motor-generator sets, two balancing sets, three air compressors, four steam engines and generators, four watertube boilers and four fire pumps comprise the power house equipment. The yard has six piers with a total length of 6700 and one bulkhead 300 feet in length (Anonymous 1929b).

The appearance of the shipyard during the Shewan period is shown in numerous historic photographs in the Bethlehem Steel Collection of the Hagley Library (Figures 12 and 13).

In 1938, the shipyard was acquired by the Bethlehem Shipbuilding Corporation Ltd., a subsidiary of Bethlehem Steel. Its appearance at the time of Bethlehem's acquisition is shown in a general plan of the yard (Figure 14). The

plan depicts the three finger piers that extend from the northwest end of the 28th Street Pier. Pier #1 measured 418 feet long by 10 feet wide, Pier #2 measured 811 feet long by 19 and 15 feet wide, while Pier #2A measured 186 feet long by 8 feet wide. Floating dry dock #4 had a capacity of 1100 tons, while Dry Dock 5 had a capacity of 8,000 tons. The pier itself included the following buildings and structures: a pump house (30), built in 1920; a control house for Dry Dock #5 (31), built in 1936; a hose card house (44), built in 1938; a transformer substation No 2, (47), built in 1935; a plate shop (32), built between 1890 and 1915; a plate and angle furnace building (33), erected in 1919; a welding shop (40), built in 1919-1930; and barge launching ways and bents (42 and 43), built in 1938.

The 27th Street Yard was one of four ship repair yards that Bethlehem operated in New York Harbor during World War II, the others located in Staten Island, Hoboken (New Jersey), and 56th Street. The 27th Street Yard was described in a Bethlehem publication on its ship repair facilities:

The Brooklyn 27th Street Yard handles oceangoing ships and also plays a major role in maintaining in service the hundreds of railroad car floats, lighters, tugs and barges which are essential links in expediting the flow of millions of tons of goods annually in the busiest port in the world. Machine shops of this yard contain many special tools for efficiency and economy in the repair of these craft, and its carpenter, joiner and paint shops are especially adapted for this work (Bethlehem 1947).

The publication indicated that the yard had seven dry docks ranging from 500 to 14,500 tons capacity. Total yard personnel were about 4,000. A rendering from a Bethlehem brochure shows and aerial view of the yard. An undated aerial photograph also depicts an aerial view (Figures 15 and 16).

The 1941 appearance of the 28th Street Pier is shown in a 1951 Sanborn map, corrected up to December 1941 (Figure 17). The pier contained one single story building with a steel truss roof, a plate shop and attached furnace room. At the outer end of the pier were two floating dry docks (Figure 17). In the post World War II period, the yard continued the repair of harbor craft and the repair and conversion of sea going vessels. Among its projects was the conversion of the *S/S Marine Chemist*, the first modern chemical carrier (Hagley Bethlehem Steel Archival Files).

Historic aerial photographs and mapping depict the evolution of the pier. In 1954, at least one of the dry docks was in operations and traces of the outer needle piers remained (Figure 4). The evolution of the shipyard, and particularly the 28th Street Pier, is shown in a 1957 map produced by the Real Estate Department of Bethlehem Steel. The bulkhead end of the pier included a paint shop, the fire department, and acetylene storage. The assembly shop was connected to the elongated plate shop and plate and angle and furnace building by a gantry crane. The west end of the building contained the mold loft. All of these buildings have been demolished, although partial footprints of some are indicated by concrete slabs. At the bay end of the pier, only the larger of the two floating dry docks remained (Figure 18).

After the Bethlehem shipyard closed in the 1960s, the 28th Street Pier and the area to its south was the site of the short-lived Northeast Terminal Containerport. The three-phase project (of which the pier was part of Phase II) was planned to revitalize the Brooklyn waterfront from 28 to 50th Street as a container port. The first phase was completed in 1974, and the second phase was completed in 1977 (NYCDCP 1977:21). By 1980, the plate mill had been demolished and the pier was used for storage of containers (Figure 4). One finger pier remained. However, because the Brooklyn waterfront lacked enough inexpensive land for container storage, much of the region's shipping industry relocated to New Jersey where the Port Authority of New York and New Jersey developed container ports in Elizabeth and Newark (Yarrow 1991).

By 1987 construction of the floating barge generating plants was well underway. The footprint of the 28th Street Pier remained unchanged (Figure 4). By 1995, little change was observable. By 2008, the remaining finger pier was gone (Figure 4).

2.4 EXISTING CONDITIONS

JMA personnel (Patrick Heaton and Douglas McVarish) conducted a pedestrian reconnaissance of the Project Area on April 16, 2008. Existing conditions within the Project Area and its surroundings was recorded with 35 mm color digital photographs. The Project Area is located on the 28th Street Pier, within a fenced property that forms part of the Astoria Generating Company, L.P.'s Gowanus Generating Station. Surrounding land uses include extant portions of the generating station and industrial and waterfront-related buildings and facilities, with the exception of the recently completed MDC Brooklyn, a correctional facility of the Federal Bureau of Prisons.

The Project Area is located entirely on a pier that has been filled seaward of the original shoreline. The pier itself consists of compacted fill secured by a steel sheet-pile bulkhead and rip-rap perimeter. No standing structures remain on the pier (Photographs 1 through 3). The pier surface consists of a mixture of asphalt, concrete (possibly representing former building and structure slabs), and gravel. Remnants of the pier's former use include assorted metal pieces ranging from washers to a steel sheet (Photograph 4); steel rails, which may have been part of a former gantry crane system (Photograph 5); a mooring post on the southwest side of the pier (Photograph 6); and ceramic and brick remnants. The latter may represent debris from demolition of buildings formerly located on the site. As noted in the historic overview, the three finger piers that formerly extended from the northwest end of the larger pier and provided access to floating drydocks have been demolished.

3.0 ARCHEOLOGICAL SENSITIVITY ASSESSMENT

3.1 PREHISTORIC-PERIOD ARCHEOLOGICAL SENSITIVITY ASSESSMENT

The Project Area is located on an existing pier on the Brooklyn waterfront at Gowanus Bay. Historic and archeological records indicate that the coastal areas of Brooklyn were extensively occupied by Native Americans during both the prehistoric and contact periods. In theory, Native American archeological sites from the Paleo-Indian and Archaic Periods (early Holocene, ca. 12,500 to ~6,000 years ago) could be located in submerged contexts off the present shoreline of the Brooklyn waterfront. Archeologists recognize that during the Pleistocene vast quantities of water were trapped as ice in the glaciers. As a result, sea levels were considerably lower than at present and large tracts of the continental shelf were exposed as dry-land. At the height of the glaciation, sea levels were at least 90 meters below their present level and the coast was located as much as 120 miles east of its current position (Cantwell and Wall 2001:14). The retreat of the glaciers initiated a period of dramatic topographic and ecological change, including a rapid rate of sea-level rise beginning ca. 14,000 B.P. This suggests that prehistoric Native American archeological sites could be located in offshore [presently underwater] areas adjacent to the Brooklyn waterfront. However, the present Brooklyn waterfront is an extensively disturbed environment consisting of constructed piers and bulkheads. A geotechnical evaluation conducted for the Project determined that the pier is underlain by 5 to 7 feet of fill overlying tidal marsh deposits that are between 35 and 50 feet thick. This indicates that the shallowest possible depth at which land surfaces that were potentially habitable in prehistory is approximately 40 feet below the existing ground surface.

3.2 HISTORIC-PERIOD ARCHEOLOGICAL SENSITIVITY

The Project Area occupies the landward bulkhead portion of a pier that was constructed during the 1880s. The pier formerly included various structures and dry docks for use in ship construction and repair. Structures and facilities associated with the use of the pier as a shipyard are depicted on historic maps and reviewed in Section 2.3. These structures were demolished during the 1950s and the shipyard closed during the 1960s. The existing pier is a paved slab. Remnants of concrete slabs or footers on this paved surface indicate the presence of some of the former map-documented structures. These remnant slabs and footers do not provide any information concerning the location or dimensions of former structures on the pier that is not readily available from historic maps and records. In the opinion of JMA, the existing pier does not include any potentially significant or informative archeological features associated with the former use of the pier.

3.3 PRIOR GROUND DISTURBANCE

The shoreline areas of Brooklyn and adjacent channels have been extensively disturbed by multiple episodes of pier construction and removal, dredging, and channelization. The channels along the Brooklyn waterfront have been subject to repeated dredging and maintenance during the nineteenth and twentieth centuries (GRA 2000). The linear shipping channels depicted on USGS maps and nautical charts of the harbor illustrate the locations of these dredging episodes. Moreover, construction of the piers and bulkheads along the waterfront frequently included dredging as well as the deposition of large quantities of landfill (Raber 1985). In the opinion of JMA, the extent of disturbance associated with these actions makes it highly unlikely that undisturbed prehistoric archeological deposits are located under the bulkheads or immediate offshore areas adjacent to the Brooklyn waterfront. Regardless, no in-water work is proposed for the present Project so there is no possibility that submerged Native American archeological sites (if present) could be affected by the proposed Project.

4.0 CONCLUSIONS AND RECOMMENDATIONS

4.1 ARCHEOLOGICAL RESOURCES

It is the opinion of JMA that there is no likelihood that potentially significant archeological resources could be affected by the proposed Project.

4.2 HISTORIC AND ARCHITECTURAL RESOURCES

There are 75 previously identified historic and/or architecturally significant properties and/or historic districts located within two miles of the proposed Project (Table 2; Figure 3). Visual simulations prepared by ESS Group, Inc. provide representative views of the proposed project from multiple viewpoints in the vicinity of the Project (see Appendix I). These visual simulations indicate that the proposed stack associated with the Project will be consistent in appearance and scale with similar industrial and energy-related structures located in the immediate vicinity. It is the opinion of JMA that the introduction of this Project into the background setting of the Brooklyn waterfront will not result in an adverse visual impact to historic resources in the vicinity.

Two structures that meet the 50-year age consideration for inclusion on the National Register of Historic Places are located within, or in the immediate vicinity of (within 100 feet of), the Project Area: the 28th Street Pier and the 29th Street Pier. JMA evaluated the historical significance of both properties in accordance with the criteria for listing on the National Register of Historic Places as set forth in 36 CFR 63.

4.2.1 28th Street Pier (*the Project Area*)

From the time of its late nineteenth century construction to the end of its occupancy by the Shipbuilding Division of Bethlehem Steel, the 28th Street Pier was used as a part of a larger ship repair and overhaul facility. Associated components included a plate shop and smaller buildings, as well as cranes, and two floating dry docks, all of which are depicted on historic maps. It was these components that conveyed the pier's historic role and historic significance. All of these elements are gone and remnants are limited to demolition debris, building slabs, and portions of crane rails. These few remnants fail to convey either the historic function of the pier or its historic significance. Therefore, in the opinion of JMA the pier does not satisfy National Register of Historic Places eligibility criteria.

4.2.2 29th Street Pier (*OPRHP 04701.013596*)

As mentioned in the New York Harbor Drift Removal Study (Raber 1985) and subsequent SHPO opinion letter (Stokes 1985) concerning the 29th Street Pier, the pier and earlier shed structure that occupied the entire length of the pier were slated for demolition following the 1985 study. The extant (landward) portion of the pier (or bulkhead) contains a cargo shed, measuring 475 feet long and 160 feet wide, that was constructed in 1959 and leased to the Isbrandtsen Company (Anonymous 1959) (Plate 7). This bulkhead and shed was described in the New York Harbor Drift Removal Study, which concluded that they did not satisfy National Register of Historic Places eligibility criteria (Raber 1985:47). In the opinion of JMA, the extant 1959 shed structure is not historically or architecturally significant.

The NRHP-eligibility of the 29th Street Pier rested on the survival of the early 20th century structure. Because that structure has been demolished, it is the opinion of JMA that the (no-longer existing) pier lacks the historical significance and integrity to be eligible for the National Register of Historic Places.

4.3 RECOMMENDATIONS

In the opinion of JMA, no properties within or immediately adjacent to the Project Area meet the criteria for listing in the National Register of Historic Places. There is no possibility that potentially significant archeological resources could be affected by the proposed Project. Visual simulations indicate that the single proposed stack associated with the Project will be consistent in appearance and scale with similar industrial and energy-related structures located in the immediate vicinity. It is therefore the opinion of JMA that the Project will not result in any adverse impacts to significant historical properties, and no additional cultural resources investigations are warranted.

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