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Archaeological Investigations at the Proposed  
West 8th Street Comfort and Lifeguard Stations  
in Connection with the  
United States Army Corps of Engineers  
New York District  
Beach Erosion Control Project  
Atlantic Coast of New York City  
Rockaway Inlet to Norton Point  
(Coney Island Area)  
Brooklyn, Kings County, New York

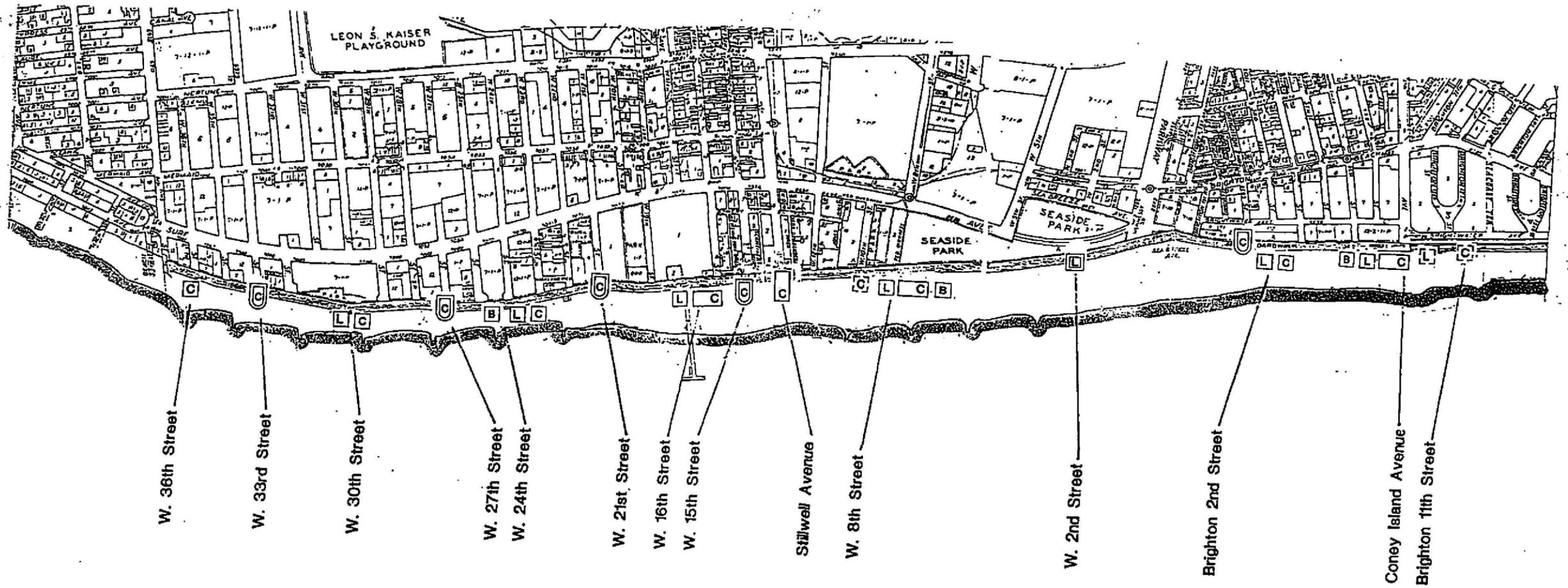
Lynn Rakos  
U.S. Army Corps of Engineers  
New York District  
September 1996

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The U.S. Army Corps of Engineers, New York District (Corps) is planning to construct comfort and lifeguard stations on Coney Island as part of the Atlantic Coast of New York City, Rockaway Inlet to Norton Point (Coney Island Area), Beach Erosion Control Project, Brooklyn, Kings County, New York (Figure 1). A cultural resource reconnaissance of the study area was conducted by the Corps in advance of the beach erosion control project (Pickman 1990) and reviewed by the New York State Historic Preservation Office (NYSHPO). Earlier work and NYSHPO comments identified a concern for potential archaeological resources on the beach itself between West 5th and West 10th Streets where the Dreamland amusement park once stood. It was determined that "deep excavation" could potentially effect archaeological remains of Dreamland. The proposed West 8th Street comfort and lifeguard stations fall within this zone of sensitivity and construction of these structures will require deep excavation. To determine whether remains of Dreamland existed in the project area a program of soil borings was undertaken at West 8th Street and the results of this field effort are presented here. Relevant portions of the Pickman 1990 report are attached (Attachment 1).

The construction of the stations, as proposed, will involve the boring of approximately thirty, one foot diameter, forty foot deep holes to contain pilings, per structure. Sections of the new construction will overlie areas disturbed by the existing facility (Figure 2). Approximately ten to twelve feet of sand, placed during the Corps' recent beach renourishment project, overlie the remaining area.

The history of Coney Island was presented in the initial reconnaissance report (Pickman 1990) and will not be reiterated here. Dreamland was a critical part of the community's amusement park era (c. 1895 - 1920). Dreamland itself opened in 1905 to rival the ambitious Luna Park amusement park located on the opposite side of Surf Avenue. Dreamland was financed by several politicians who raised \$3,500,000 for its construction. The focal point of the park was the Beacon Tower which was 375 feet tall and was festooned with over 100,000 lights. The park featured many innovative rides. Its spectacles of disasters were popular features. A "Midget City" was also on site and has been described as a "Lilliputian village inhabited by 300 midgets" (Kasson 1978:86). Dreamland burned in 1911 (Figure 3). The site was cleared and a park was constructed. Later a number of baths and bathing pavilions were built on part of the Dreamland site in the project vicinity (Sanborn Map Company 1930). These structures were



Plan - Coney Island Beach 

**Key**

-  Comfort Station - To Be Demolished
-  Comfort Station - To Be Sealed
-  Comfort Station - Small
-  Comfort Station - Large
-  Lifeguard Station - To Be Demolished
-  Lifeguard Station - To Be Sealed
-  Lifeguard Station
-  Lifesaving Equipment Storage Shed - Boathouse



United States Army Corps of Engineers  
Coney Island Comfort & Lifeguard Stations



Richard Dattner Architect P.C.

FIGURE 1.

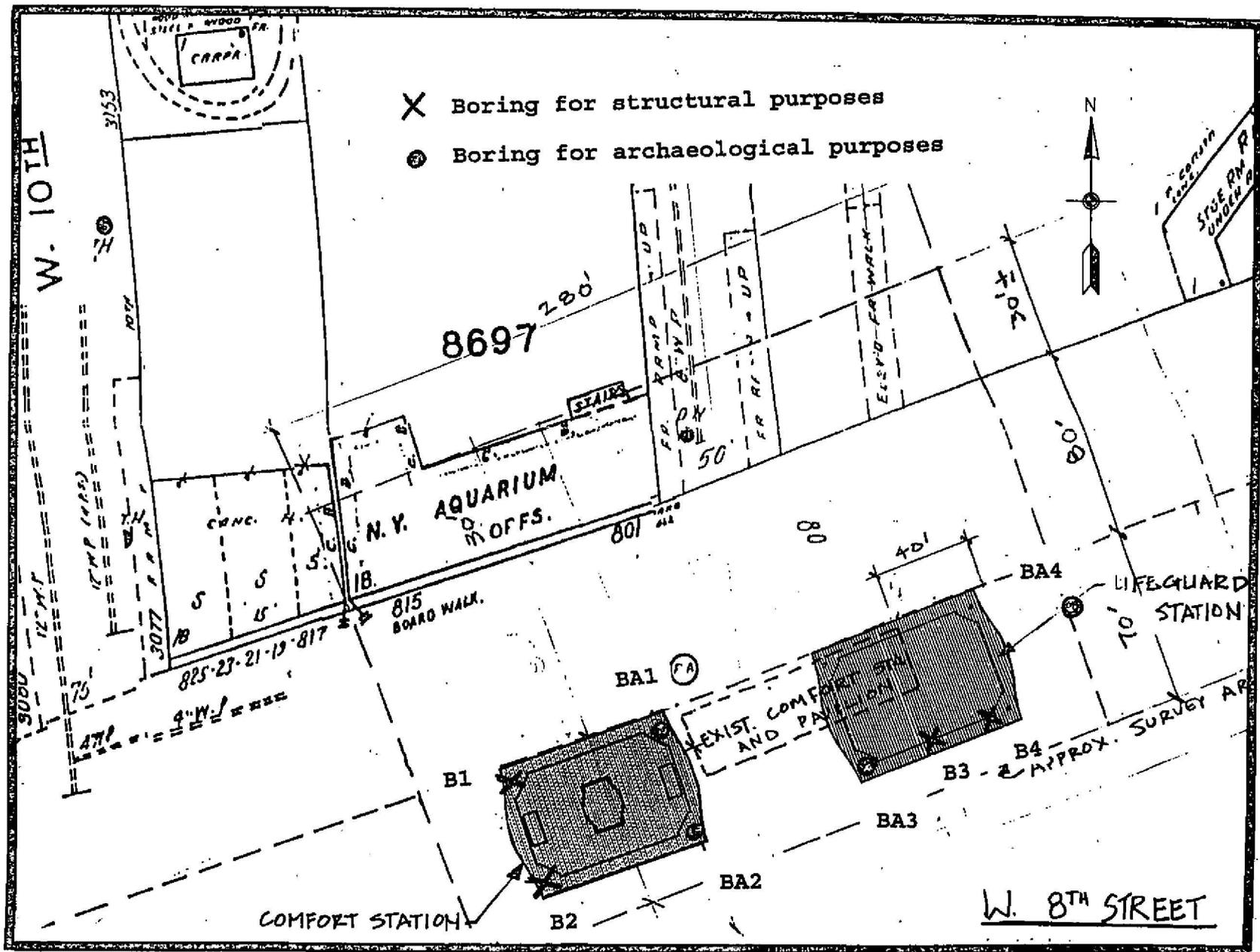


FIGURE 2. Location of soil borings. Scale: 1 inch=60 feet.

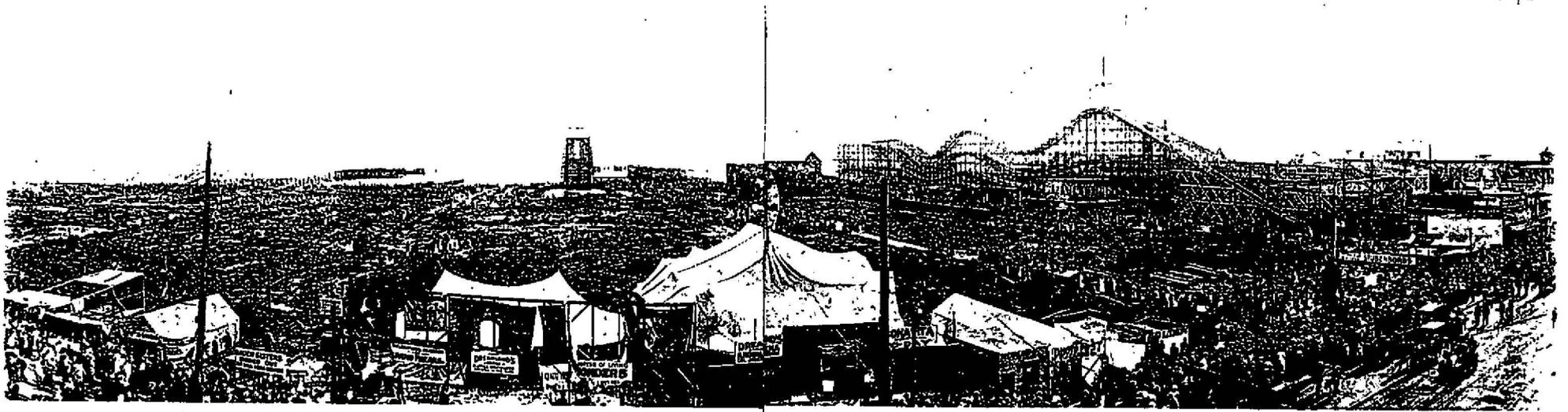


FIGURE 3. Dreamland after the fire. Source Kasson 1978.  
View looking south to Atlantic Ocean.

removed in 1939 or 1940 when Robert Moses initiated a beach redevelopment plan for Coney Island. The boardwalk was constructed along its present alignment at that time (Pickman 1990).

The 1906 Sanborn Map Company map of the West 8th Street area, depicting Dreamland, indicates that "Midget City" stood within the project vicinity (Figure 4). The structures in "Midget City" consisted of single-story "miniature dwellings." Only one structure had a basement. A "circus" was located in this basement. Bathing pavilions were present in the western half of the project area following Dreamland's destruction by fire.

Archaeological investigations were undertaken at the site of the proposed West 8th Street comfort and lifeguard stations between January 16 and 22, 1996. The weather was cold and windy and the beach was snow covered.

A one-story comfort station topped with an open pavilion stands on part of the proposed project site (Plate 1). This brick structure was built in the 1950s. The Corps recently deposited between 10 and 15 feet of sand on the beach as part of the Coney Island beach renourishment project. Most of the present project area is covered with the new sand except in the area immediately surrounding the existing comfort station (Plates 2 and 3).

The presence of the new sand precluded manual archaeological investigations or the use of a backhoe. Soil sampling was therefore accomplished through soil borings excavated from a tractor truck rig. The boring casing was 4-inches in diameter while the sample spoon's diameter was 2 inches. Four borings were conducted for archaeological purposes (borings BA1 - BA4) and four were excavated for structural information (borings B1 - B4) (see Figure 2 and Attachment 2). The locations for the archaeological borings were determined by the location of proposed construction coupled with historic map data. The location of archaeological test BA4 had to be adjusted in the field due to the presence of steps from the boardwalk to beach that were not on the original map used to determine boring locations (Plate 4).

The archaeological borings (BA1 - BA4) entailed an examination of continuous profiles at depths determined to have potential for cultural stratigraphy while two foot soil samples were taken every five feet in borings B1 through B4. Pickman indicated that concrete pilings were observed in a backhoe trench in the project vicinity at depths of 10 feet below pre-beach renourishment ground

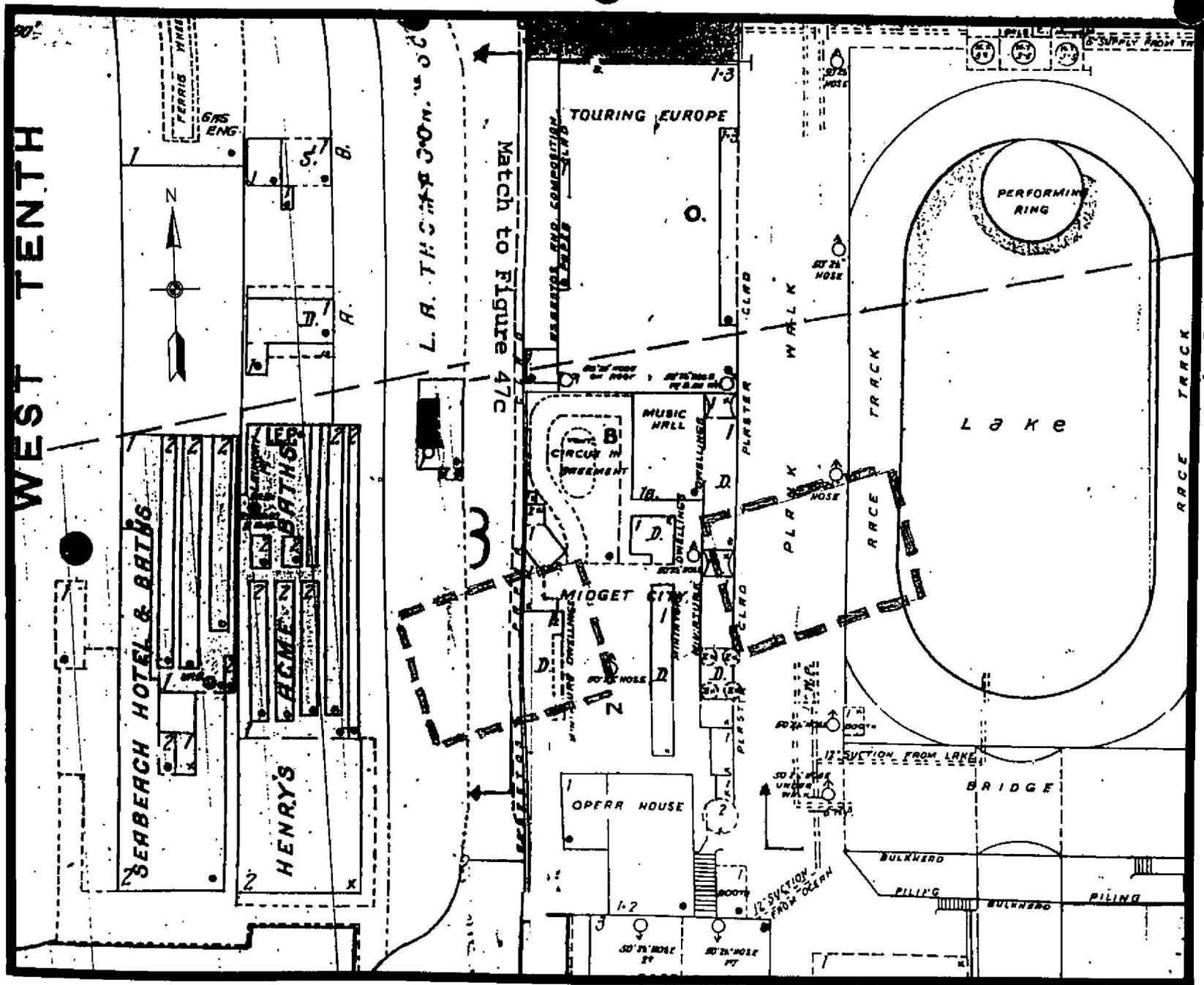


FIGURE 4. Sanborn 1906. Proposed stations are dashed.  
 Scale: 1 inch = 60 feet.



Plate 1. West 8th Street, Coney Island, Borough of Brooklyn, Kings County, New York. View looking east northeast towards existing comfort station, as soil boring BA1 is excavated (Photographer: Lynn Rakos, 16 January 1996).



Plate 2. West 8th Street, Coney Island, Borough of Brooklyn, Kings County, New York. View looking north east at the southeast corner of existing comfort station; the boardwalk is in center of photograph. Soil Boring BA1 was located at base of slope, near the existing comfort station and boardwalk. The comfort station is at the grade of beach prior to the Corps' beach renourishment project (Photographer: Lynn Rakos, 16 January 1996).



Plate 3. West 8th Street, Coney Island, Borough of Brooklyn, Kings County, New York. View looking west northwest along beach. Drill rig is located at soil boring BA2; existing comfort station is to right, the Parachute Jump, listed on the National Register of Historic Places, can be seen in center of photograph (Photographer: Lynn Rakos, 16 January 1996).



Plate 4. West 8th Street, Coney Island, Borough of Brooklyn, Kings County, New York. View looking north; east side of existing comfort station to left; the "Cyclone" roller coaster is in background. Soil boring BA4 was moved upslope, to south and east, of location originally proposed due to presence of stairs to beach, visible at right of photograph (Photographer: Lynn Rakos, 16 January 1996).

surface (Pickman 1990:28-29). To evaluate Pickman's observations, continuous profiles were excavated between 5 and 20 feet below the new beach elevation in borings BA2, BA3 and BA4. In BA1, where the beach elevation has not been altered, the boring was continuous from ground surface to 13 feet below surface.

The soil profiles for BA1 through BA4 were recorded by the Corps project archaeologist. Soils in borings B3 and B4 were observed by the Corps archaeologist but were recorded by the rig operators. As no strata with intact evidence of human occupation were identified in the six previously excavated tests there was no archaeological oversight of borings B1 and B2. However on-site staff were clearly cautioned to contact the project archaeologist if deposits different from those previously encountered were observed.

Boring BA1 consisted of numerous strata of primarily brown sands of various hues. A small quantity of cinder was encountered between 4'6" and 5'0" below surface. Four brick fragments were recovered from 7'5" below surface. At approximately 13 feet below surface in borings BA2 and BA3 concrete fragments were recovered from brown sand in BA2 and from a black/dark brown sandy loam in BA3. This elevation corresponds with the beach surface prior to the Corps beach renourishment project.

Grey sand was exhibited in all soil borings at a depth of approximately 13 to 14 feet below surface. The grey sand was in turn underlain by reddish brown sand with fine gravel in boring BA1, B3 and B4. The drill rig operators had observed this stratigraphy in most tests they had conducted along the beach. Grey sand was encountered in B3 and B4 at five feet below original ground surface. Several fragments of a black concretion were found in boring B3 between 5 and 7 feet below surface.

Subsurface excavations in the vicinity of the West 8th Street comfort station indicate that there are no remains of Dreamland in this area. The site appears to have been thoroughly cleared following the fire which destroyed the amusement park. No evidence of intact structural remains were encountered. It was considered unlikely from the outset that actual structural remains would be encountered in the core samples taken. It was anticipated that stratigraphy associated with Dreamland, particularly burnt layers, if present, would be visible in the small diameter borings. No

evidence of burning was observed and no artifacts were recovered. Based on the results of archaeological monitoring of soil borings there are no historic properties at the Coney Island West 8th Street comfort station and no further cultural resource investigations are recommended.

## REFERENCES

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1990 Cultural Resources Reconnaissance Atlantic Coast of New York Borough of Brooklyn Rockaway Inlet to Norton's Point. On file, U.S. Army Corps of Engineers, New York District, New York.

Sanborn Map Company

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1930 Insurance Maps, Borough of Brooklyn, City of New York. Volume 18. New York.

ATTACHMENT 1.

CULTURAL RESOURCES RECONNAISSANCE  
ATLANTIC COAST OF NEW YORK CITY  
BOROUGH OF BROOKLYN  
ROCKAWAY INLET TO NORTON'S POINT

by  
Arnold Pickman

Submitted to:  
U.S. Army Corps of Engineers  
New York District

August 1990

Work Performed Under Contract No. DACW51-88-M-1036

*Arnold Pickman*  
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Arnold Pickman  
Principal Investigator

1933 on the shoreline change map is apparently due to the artificial widening of the beach which occurred in the 1920's. Examination of maps dating from 1890-1930 indicate that the boardwalk was constructed seaward of the locations of the wooden pavilions which lined the shore in this area. The maps show that most of these structures had been built between 1890 and 1905. They were apparently constructed on pilings over the water, and analysis of the maps indicate that most extended some 25-75 feet beyond the shoreline. The only structure in this section which would have protruded beyond the present location of the Boardwalk was the wooden West End Pier, which is shown on maps dating to 1880 (Figure 14) and 1886 (Figure 16) at about the present location of West 29th Street.

### 3. West 15th Street to Ocean Parkway

The situation in this area is more complex than in those discussed above. The shoreline change map indicates that between 1876 and 1885, a substantial amount of accretion occurred in this area with the shore bulging southward a maximum of 500-600 feet in the area of West 8th Street. Examination of maps and photographs suggest that most of this accretion occurred toward the end of this period. When the two Iron Piers were constructed in 1879 and 1880 their shoreward ends were approximately at the high water mark (see Figures 24a-b and 25) and they are so shown on the Beers map of 1886 (Figure 16). However, the 1890 Robinson atlas (Figure 32) shows the shoreward ends of these structures several hundred feet inland.

Construction took place on this newly created land between 1890 and 1906, most notably the construction of the Dreamland amusement park between West 10th and West 5th Streets. When Dreamland was destroyed by fire in 1911, the land for the most part remained vacant. When the Boardwalk was constructed in 1923, a small part of this formerly occupied land was included in the area beneath the Boardwalk and within the expanded beach zone. When the Boardwalk was moved further to the north in 1941, an even greater portion of this tract of land was included within the area occupied by the new Boardwalk and beach. In this section of the project area, therefore, the area occupied by the present Boardwalk and beach was formerly the locus of a portion of Dreamland and other structures located west of Dreamland between West 15th and West 10th Streets.

To determine the location of these structures we overlaid the 1951 Sanborn maps on those dating to 1906 and 1930. Figures 47 and 47a-g, and 48 and 48a-d show this portion of the shorefront in 1906 and 1930, respectively. The location of the northern edge of the present boardwalk is indicated by a heavy broken line on these figures.

The westernmost property to be affected by the 1941 improvements was the Stauch's baths complex. The reconstruction of the boardwalk apparently affected only a small portion of

southernmost part of the building as shown on the 1930 Sanborn Atlas (Figure 48a). Stauch's Bathing Pavilion is shown on maps as early as 1895 (Figure 49). However, comparison of the 1906 and 1930 maps (Figures 47a and 48a) indicate that the Bathing Pavilion had been reconstructed between those dates. The unused structure still stands immediately adjoining the Boardwalk on the West Side of Stillwell Avenue (see Figures 44a-d). The fact that the side of building fronting the boardwalk is a blank wall devoid of ornamentation is probably due to the modifications required when the boardwalk was rebuilt.

Between Stillwell Avenue and West 12th street, the improvements truncated several bath houses which stood in 1930 (Figure 48d). However, none of these structures were in existence in 1906, the Sanborn map of that year showing only a few small frame structures in this area (Figure 47b). The improvements apparently led to the removal of the frame southern extension of Wards Bath House which apparently stood on the west side of West 12th Street as early as 1906 (although possibly reconstructed before 1930).

On the west side of West 10th Street, immediately east of Ward's, the present beach south of the Boardwalk was the location of Petersen's Bathing Pavilion in 1906 (Figure 47c). This was apparently part of the Feltman's complex, as was the Ziz coaster. A part of the coaster site is also within the present beach area. A pavilion is shown at this location on maps as early as 1890 (see Figure 32).

In 1906 the area immediately east of West 10th Street now occupied by the Boardwalk and beach was the site of portions of two bath houses, the Sea Beach Hotel and Baths and Henry's Acme Baths, and immediately east of this was Thompson's Scenic Railway. (Figure 47c). By 1912 the bath houses and Sea Beach Hotel had been replaced by another mechanical ride according to the Hyde atlas of that year. However, the Scenic Railway apparently survived the Dreamland fire and was still in existence (see Figure 50). By 1930 bath houses once again occupied the area (Figure 48c).

Between West 8th Street and West 5th Street the present beach and Boardwalk area was the site of portions of several of the Dreamland attractions. These included a race track, the "Fighting the Flames" production and a ride called "Coasting Through Switzerland", as well as the Dreamland Bathing Pavilion (see Figure 47d). The four piers discussed previously; the Dreamland Pier (Old Iron Pier) the Shoot the Chutes ride, the Leap Frog Railroad and the New Iron Pier projected outward from the 1906 shoreline and were built on pilings. The distances of the seaward end of these structures from the north side of the present boardwalk are estimated as follows: Old Iron Pier - 1500 feet; Shoot the Chutes - 550 feet; Leap Frog Railroad - 725 feet; New Iron Pier - 1000 feet. The original shoreward end of the two Iron Piers were apparently located within the present beach area (see Figures 47d-g).

Balmer's Bathing Pavilion, which stood immediately west of West 5th Street in 1906 (Figure 47d) was also within the present beach zone. Balmer's is shown on maps as early as 1895 (see Figure 51). It was destroyed in the 1911 Dreamland fire. The municipal baths, built in 1911 (see Figure 52), were located immediately east of West 5th Street. Comparison of the 1930 and 1951 Sanborn maps (see Figures 48d and 53) indicate that a large portion of this structure was demolished when the Boardwalk was moved and a part of the site is located in the present beach and boardwalk area. The maps also suggest that part of the original building was preserved and incorporated into a Department of Parks Administration building.

Examination of maps indicates that no substantial structures were ever built south of the present boardwalk location between West 5th Street and Ocean Parkway.

#### 4. Ocean Parkway to Corbin Place.

Between 1835 and 1855-56 a sand bar approximately 12000 feet long and 500 feet wide formed off the eastern part of Coney Island, forming a "pond" or lagoon between the sand bar and the mainland (see Figure 46). By 1876, this sandbar had moved landward and once again joined the shoreline. The formation and removal of this sandbar occurred prior to the occurrence of any substantial construction in the area. Both the 1876 and 1885 shorelines, along which the Brighton Hotel and Brighton Pavilion were built, were seaward of the present-day shoreline (see Figure 46). As previously discussed, shoreline erosion in this area caused the Brighton Hotel to be moved 600 feet northward in 1888. The maps indicate that the Brighton Beach boardwalk was constructed along the shoreline, which was then south of the final location of the Hotel and Pavilion. The original location of the hotel would have been slightly seaward of the present shore line.

#### B. Sources of Disturbance

The factors most strongly affecting the possibility of any intact significant archaeological deposits remaining within the project area are the natural processes operating within beach zones as discussed by Nordstrom et al (1977, 1986). A beach is "one of the earth's most dynamic environments" (Nordstrom et al, 1986:12). "Almost all beaches are in a constant state of flux" (NJSPMP 1981 I:29). Changes in the beach result from a natural system which works to maintain a balance among four factors: waves, water level, beach sand and shape of the beach.

In the short term, beaches undergo a cyclic change with the seasons. During the stormy weather which usually occurs during the winter, waves are generated by winds relatively close to shore. The resulting waves which impact the beach are steep; the wavelength (distance between waves) is only 10 to 20 times greater than the wave height. Such waves dissipate a relatively

it is important to note that the present beach surface is artificial. Episodes of beach filling by New York City have occurred since 1922. In that year 1,700,000 cubic yards of sand were placed between Ocean Parkway and West 37th Street, and an additional 850,000 cubic yards were deposited between Ocean Parkway and Coney Island Avenue. In 1941, 500,000 cubic yards of beach fill were deposited in Coney Island and Brighton Beach and in 1961 an additional 750,000 cubic yards were placed between Coney Island Avenue and West 19th Street.

The proposed project will involve the deposition of sand from the offshore borrow areas on the present beach and near-shore areas, where it will be distributed by mechanical means. No excavation would be involved. Any disturbance during the distribution of the new beach sand would occur near the present beach surface.

### C. Possible Archaeological Remains

In most portions of the project area, the natural processes noted above would have destroyed any archaeological deposits which may have accumulated in the beach zone.

The processes affecting the former site of Dreamland and the adjacent area needs to be considered separately since a portion of this area was placed within the present beach zone fairly recently (1941). After the destruction of Dreamland by the 1911 fire, the area was cleared and used as a park (see Figure 50). The extent of surface disturbance during clearing and landscaping is not known.

In 1922, when the Boardwalk was constructed, a small portion of the former Dreamland site was incorporated into the beach zone, and a second, larger portion was added in 1941 when the Boardwalk was moved to the north. At these times the beach surface would have been raised as a result of the deposition of beach fill. After each period of filling, however, the natural processes noted above would have led to the re-working of the newly created beach surface. It is possible, but doubtful, that the net result would have led to the preservation of a ground surface dating to the time of the Dreamland fire. Even if a deeply buried surface did exist beneath the present beach sands, it would not be affected by the surface disturbance caused by the proposed project. Furthermore the nature of the structures and their use suggests that it is unlikely that any significant archaeological or structural deposits would have been present. The 1906 Sanborn maps (Figure 47a-g) do not indicate that any of the Dreamland structures within the present beach zone had basements in which artifacts could have remained after the destruction of the Park.

The two iron piers would have extended south of the present high tide line. Reconnaissance of these areas at low tide suggests that the pilings were removed after the piers were destroyed. However, during the pedestrian reconnaissance we examined an open shored trench extending south of the boardwalk west of West 5th

Street which had apparently been excavated for a sewer construction project. The trench was in the area where the shoreward end of the New Iron Pier was located. On the east side of this trench we noted the remains of what appeared to be three concrete structural supports which rested on attached wooden pilings and had apparently been disturbed by the excavation (see Figures 55a-b). The tops of the concrete supports were approximately 10 feet below the present surface of the beach. It is not certain if these represent structural supports for the Pier. The description of the construction methods for the Old Iron Pier indicate that it rested on iron pilings. It is not known if the New Iron Pier was constructed in a similar fashion, in which case the observed remains could not have been associated with this structure.

Most of the other structures which stood southward of the present boardwalk were pavilions and piers also constructed on pilings. During the pedestrian reconnaissance, we examined the beach for remains of pilings at the sites of these structures. None were noted.

During the operational life of the shoreline structures noted above, it is unlikely that any substantial archaeological deposits would have accumulated. As noted previously, the Brighton Beach Hotel utilized iron tanks, rather than privies, for waste disposal. Although trash disposal procedures are not known, it is most likely that the Hotel, which catered to a relatively affluent clientele, would have arranged for trash to be carted away. Although the 1895 Sanborn map does not indicate that the Brighton Beach Hotel had a basement, the 1906 map indicates the presence of a basement in some portions of the structure (see Figures 56 and 57). The location of the structure at this time, however, was north of the present beach zone. It is not known if basements were present at the original site of the structure, which is beyond the present shoreline. Even if such basements existed, however, the pounding of the surf would have destroyed any archaeological deposits and most likely any structural components as well.

## CHAPTER VI

### CONCLUSIONS AND RECOMMENDATIONS

#### A. Onshore Portion - Subsurface Resources

No reported prehistoric or contact period occupations or archaeological sites on Coney Island have been reported. It is likely that any prehistoric utilization would have been in the form of temporary visits for purposes of shellfish gathering and/or fishing.

In the 19th and early 20th century, wooden pavilions were constructed on pilings along the shore line and extending out over the water. Due to shoreline changes, the location of some of these structures falls within the present beach zone. Two large iron piers constructed ca. 1880 also traversed an area now within the beach zone. In addition, a portion of the early 20th century Dreamland amusement park site, several bath houses, and the original site of the Brighton Beach Hotel are within the present project area.

Consideration of the natural and cultural processes affecting the beach zone indicate that no archaeological deposits associated with the above or other historic period occupations of the project area are likely to have remained intact. The beach zone undergoes a constant cycle of seasonal modifications, and severe storms have resulted in major erosion and shoreline changes. In addition to natural modifications the beach surface is constantly being disturbed by beach cleaning activities. The data indicate, furthermore, that most of the beach surface within the project area is artificial, being formed during several beach filling episodes since the 1920's.

The most likely places where structural remains could be preserved are at the former site of the Dreamland amusement park and the sites of bathhouses between West 15th Street and Ocean Parkway, which were built inland of the present beach zone. After the boardwalk was shifted northward in 1941, however, portions of these sites were located in this zone. Observation of an open excavation in this area raised the possibility that supports for major structures may remain deeply buried beneath beach fill in this portion of the project area. Since the present project will cause only surface disturbance and not involve excavation, it would not affect any such remains.

Further archaeological testing within the onshore portion of the present project area is not recommended. However, if future beach zone construction should result in deep excavation between West 10th and West 5th Streets, the site of Dreamland and the two Iron Piers, further archaeological testing involving the excavation of backhoe trenches should be conducted to detect any structural remains which may be present.

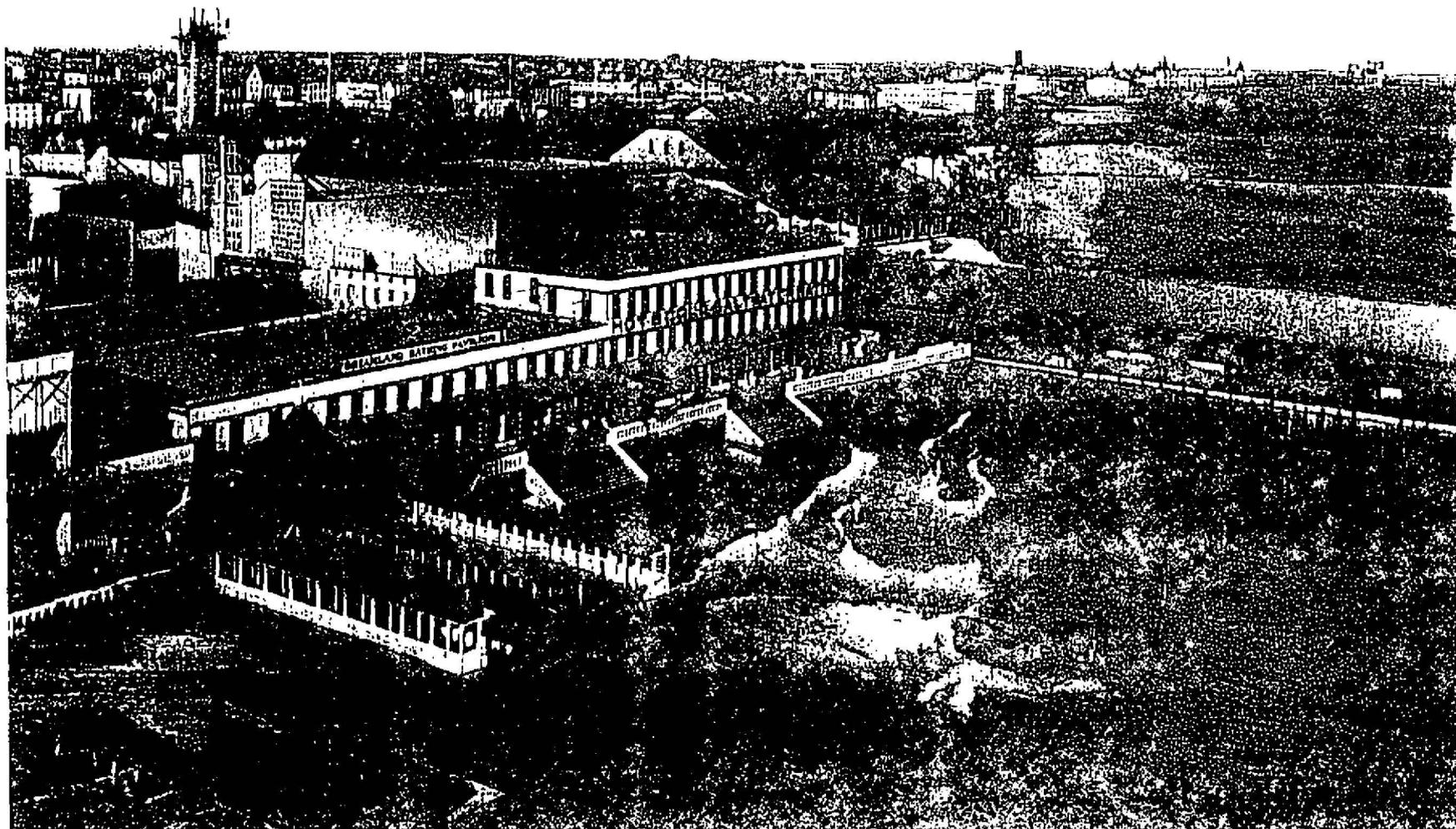
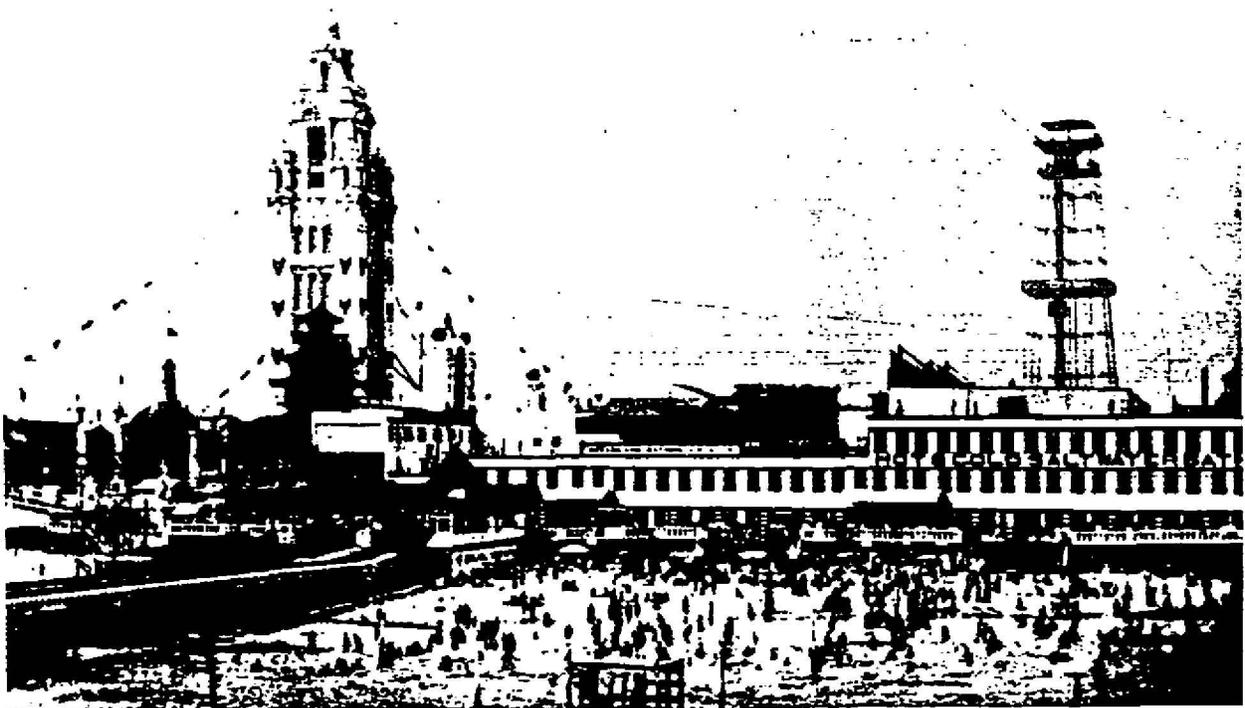


Figure 30  
Dreamland Shorefront - View East Showing Leap Frog Railway,  
Dreamland Pavilion, Pier, and Balmer's Pavilion  
Source: Snow (1984:24)



*The Dreamland Bathing Pavilion, 1905.*

Figure 31  
Dreamland Shorefront and Tower - View North  
Source: Kyriazi (1976:68)

## ATTACHMENT 2

Coney Island, Borough of Brooklyn, Kings County, New York  
West 8th Street Soil Boring Profiles.  
Depths are below ground surface.

BA1 (No new beach fill present in this location)

0	-	0'6"	concrete
0'6"	-	2'0"	missing
2'0"	-	2'3"	gravel
2'3"	-	4'0"	light brown sand
4'0"	-	4'3"	gravel
4'3"	-	4'6"	brown sand
4'6"	-	5'0"	mixed lenses of brown, light brown, grey brown and grey sands with small quantity of cinder fragments
5'0"	-	5'8"	missing
5'8"	-	6'0"	brick fragments in brown sand
6'0"	-	6'2"	dark reddish brown sand
6'2"	-	6'8"	dark grey sand
6'8"	-	6'10"	shell fragments in grey sand
6'10"	-	8'0"	light tan sand (4 brick fragments were recovered at 7'5")
8'0"	-	9'0"	tan sand
9'0"	-	11'5"	grey brown sand
11'5"	-	13'0"	grey sand
13'0"	-	15'0"	not sampled
15'0"	-	15'8"	grey sand
15'8"	-	17'0"	dark grey sand
17'0"	-	20'0"	not sampled
20'0"	-	22'0"	grey sand
22'0"	-	25'0"	not sampled
25'0"	-	27'0"	grey sand
27'0"	-	30'0"	not sampled
30'0"	-	32'0"	reddish brown sand with fine gravel
32'0"	-	35'0"	not sampled
35'0"	-	37'0"	reddish brown sand with fine gravel

Coney Island, Borough of Brooklyn, Kings County, New York  
West 8th Street Soil Boring Profiles.  
Depths are below ground surface.

BA2

0	-	5'0"	not sampled
5'0"	-	7'0"	brown sand
7'0"	-	10'0"	not sampled
10'0"	-	11'0"	missing
11'0"	-	11'9"	reddish brown sand
		11'9"	charcoal fragments
11'9"	-	12'0"	concrete fragments in brown sand
12'0"	-	13'0"	missing
13'0"	-	20'0"	grey sand with occasional narrow bands of shell fragments
20'0"	-	25'0"	not sampled
25'0"	-	27'0"	dark grey sand with occasional narrow bands of shell fragments
27'0"	-	30'0"	not sampled
30'0"	-	32'0"	dark grey sand
32'0"	-	35'0"	not sampled
35'0"	-	37'0"	dark grey sand

Coney Island, Borough of Brooklyn, Kings County, New York  
West 8th Street Soil Boring Profiles.  
Depths are below ground surface.

BA3

0	- 2'0"	brown sand
2'0"	- 5'0"	not sampled
5'0"	- 5'10"	light brown sand
5'10"	- 7'0"	light tannish grey
7'0"	- 7'5"	missing
7'5"	- 9'0"	light brown sand
9'0"	- 9'11"	missing
9'11"	- 10'0"	brown and grey mottled sand with clay lenses
10'0"	- 10'4"	light brown sand
10'4"	- 10'8"	tannish grey sand
10'8"	- 11'0"	slightly reddish brown sand with dark brown sand lenses
11'0"	- 12'0"	missing
12'0"	- 12'4"	light brown sand
12'4"	- 12'10"	reddish brown sand
12'10"	- 13'0"	concrete fragments in black/dark brown sandy loam
13'0"	- 13'4"	missing
13'4"	- 13'8"	light brown sand
13'8"	- 14'6"	light brownish grey sand
14'6"	- 14'8"	shell lenses in grey sand
14'8"	- 15'0"	grey sand
15'0"	- 16'0"	missing
16'0"	- 17'0"	grey sand
17'0"	- 20'0"	not sampled
20'0"	- 21'6"	light brownish grey sand
21'6"	- 22'0"	grey sand
22'0"	- 25'0"	not sampled
25'0"	- 27'0"	grey sand
27'0"	- 30'0"	not sampled
30'0"	- 32'0"	grey sand

Coney Island, Borough of Brooklyn, Kings County, New York  
West 8th Street Soil Boring Profiles.  
Depths are below ground surface.

BA4

0	- 5'0"	not sampled
5'0"	- 7'0"	grey sand
7'0"	- 10'0"	not sampled
10'0"	- 10'8"	tan sand
10'8"	- 11'2"	reddish brown sand
11'2"	- 11'8"	brown sand with 1 piece of coal
11'8"	- 12'0"	light greyish tan sand with darker lenses
12'0"	- 13'0"	missing
13'0"	- 14'0"	grey brown sand
14'0"	- 15'0"	brown sand
15'0"	- 18'0"	greyish brown sand
18'0"	- 20'0"	not sampled
20'0"	- 22'0"	grey brown sand
22'0"	- 25'0"	not sampled
25'0"	- 27'0"	grey sand
27'0"	- 30'0"	not sampled
30'0"	- 32'0"	grey sand

Coney Island, Borough of Brooklyn, Kings County, New York  
West 8th Street Soil Boring Profiles.  
Depths are below ground surface.

B1

0 - 10'0" brown silty fine sand  
10'0" - 38'0" grey silty fine sand

B2

0 - 5'0" light brown silty fine sand  
5'0" - 10'0" brown silty fine sand  
10'0" - 37'0" grey silty fine sand

B3

0 - 5'0" brown silty fine sand  
5'0" - 30'0" grey silty fine sand  
30'0" - 37'0" red brown silty coarse to fine sand,  
trace of gravel

B4

0 - 5'0" brown silty fine sand  
5'0" - 15'0" grey silty fine sand  
15'0" - 30'0" grey silty coarse to fine sand  
30'0" - 37'0" red brown silty coarse to fine sand,  
trace of gravel