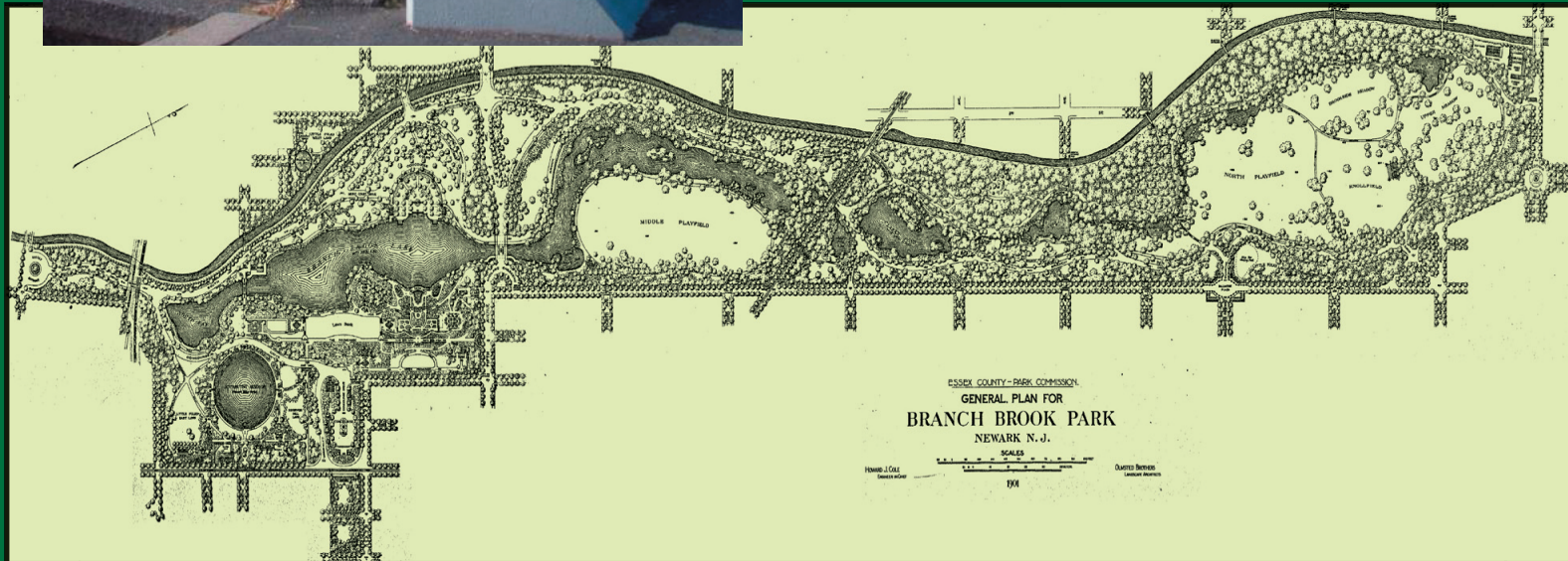


Cultural Landscape Report, Treatment, and Management Plan for Branch Brook Park

Newark, New Jersey

Volume 4: Structures in the Park



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INTRODUCTION

A Cultural Landscape Report prepares the way for the evolving rehabilitation of an historic place over time. This volume of the Cultural Landscape Report for Branch Brook Park contains a detailed review and analysis of the structures within the park. Ranging from small structures, such as sculpture bases, to buildings, to large engineered structures such as vehicular bridges, the variety and diversity of built elements within Branch Brook Park is a reflection of the aesthetic of John C. Olmsted, principal designer of the park, and the legacy of Frederick Law Olmsted, Sr., his adopted father and mentor. A highly skilled landscape architect, John C. Olmsted understood the need for engineers and architects to be involved in the overall design of the park. However, he believed, as did Olmsted, Sr. before him, that it was the landscape architect to whom the responsibility of aesthetic control should fall. He wrote:

“ the landscape architects should be consulted...in all matters affecting the appearance of the parks...; the color of stone, the color of paint used for fences and buildings, the style and color of lamp posts, flag poles, seats, shelters, fences, culverts, bridges, buildings, watering carts...the choice and location of trees and shrubs, perennials, annual and tender plants and all other objects should be passed on by the landscape architects.” (1899) (RHI, v 2 BBP CLR, p.16)

Olmsted felt strongly that, although his firm should have the primary responsibility for the visual quality of the park and its components, *“an architect of first class reputation should also be employed for the architectural works”* (ibid. p.17). The Olmsted firm had collaborated, and would continue to collaborate on many projects, with renowned New York City architects Carrere and Hastings. Their firm was

engaged to design many of the larger structures in the park, although the Olmsted firm played an active role in the design process. As historian Arleyn Levee describes:

“Of their many designs for structures at Branch Brook Park, approximately 15 were constructed, designed in conjunction with Olmsted Brothers’ ‘refinements’. Of these, seven still remain, all in the Southern Division, except one, although all have been altered over the years: the Subways or boulder underpasses...(called East Arch and West Arch on the Olmsted General Plan); the Concert Grove wall, balustrade, and steps; the Octagonal Shelter on Meeker’s Mound; the Children’s Sand Court Shelter; the Playground Comfort Station; and the Ballantine Gates in the Northern Division. The Parker Street shelter, originally similar to the one at the Sand Court, survived until the new Barringer High School was built. The seven elaborate wooden pergolas which enhanced many of the garden and overlook areas and the music court, disappeared over the years, unfortunately, unrecorded in the park reports.” (ibid. p17)

Other architects designed structures in the park, including Babb, Cook and Willard, Charles Ackerman (who designed Branch Brook Park’s now missing music pavilion concurrently with music pavilions at East Side and West Side parks), and Rossiter and Wright. Structures such as the rustic stone bridges which still exist today were designed by the Olmsted firm themselves. As Levee writes: *“great care was taken in both design and in construction oversight to make each bridge unique, yet discreetly recessive into the once-lush woodland setting. In fact, John Olmsted required several of the bridges to be rebuilt to retain the intricate distinctions in stone patterns and proportions which he had intended to differentiate each structure.”* (ibid. p.18)

The following report evaluates each of the 49 structures in the park. Of these, many are buildings, however bridges and other structures, such as remains of walls that surrounded and supported garden terraces are also included. The evaluations are presented in a manner suitable for determining the level of effort required to preserve or rehabilitate a structure so that each structure can be evaluated not only for its own merit, but also, as rehabilitation of the park proceeds, so that its place in the overall integrity of the design of the park may be understood. The text is developed such that recommendations for rehabilitating an individual structure could be used separately from the rest of the report, so that specific projects may be created as rehabilitation funding is available.

Treatment of the historic structures in Branch Brook Park

Determining which structures should be preserved or rehabilitated, or which should eventually be removed, will determine the evolving character of Branch Brook Park as much as any other modification or rehabilitation effort.

- The historic structures, in themselves, represent many years and layers of the unfolding of the park's design, and are part of the 'bones' of Branch Brook Park. They are, therefore, important as defining features of the park.

However:

- It is critical that the park's historic structures not be considered museum pieces or relics, but that they be restored to usefulness so they may once again become

vibrant components of a newly rejuvenated Branch Brook Park.

- It is recommended that the structures considered historic be preserved, though it is reasonable that portions of what is considered historic fabric may be integrated into new construction within the park.
- During the process of developing a future vision for the park, it is possible that the final recommendation for the future of a non-historic structure might be its removal.

Figure 1 shows the locations of the structures in the park. Table 1 provides a summary of the condition of each structure, a designation of historic value, and a designation of the priority of repair needed in order to save the structure from collapse or to correct a hazardous condition. Structures, or remnants of structures, built during the Period of Significance of the park, 1898 to 1937, and those that pre-date the park, such as the Reservoir, are designated with an asterisk (*).

Several of the structures, most notably the Octagon Shelter on the Meeker Mound, are drastically in need of emergency repair and stabilization so that they may be preserved as part of the design legacy of Branch Brook Park. Moreover, two of the structures, the Rock Structure and the High Mound Terrace, have fall hazards that require immediate attention. The restoration of two major bridges, one at Park Avenue, and one at Bloomfield Avenue, is underway at the time of this writing.

EXISTING STRUCTURES SUMMARY ANALYSIS

Urgent: Potential hazard or imminent loss of resource

High: Possible loss of resource

Moderate: Needs action for long-term protection of resource

Low: Structure in acceptable condition; consider keeping, adaptive re-use, or removal (if non-contributing resource)

* Structure of historic value

Number	Structure	Use Status	General Remarks	Significant	Priority
1	Roller Skating Rink & Old Reservoir	In Use	Sidewalls of reservoir need repair; building is recent with inappropriate design	* (Reservoir walls)	High
2	Boat House & Snack Bar	Closed	Building is recent with inappropriate design	*	Moderate
3	Sand Court Shelter Pavilion	Minimal	Most historic fabric in place; masonry and selective carpentry repairs required	*	Moderate
4	Basketball Court Field House	In Use	Building is recent with compatible design	*	Moderate
5	Subway 1 East	Open	Significant masonry restoration required, including walkway	*	Moderate
6	Subway 2 West	Open	Significant masonry restoration required, including walkway	*	Moderate
7	Restroom Facilities around the "Music Court"	Closed	Poor condition; complete rehabilitation required		High
8	Playground Comfort Station	Closed	Poor condition; complete rehabilitation required	*	High
9	Park Avenue Bridge	In Use	Restoration design in process	*	High

Number	Structure	Use Status	General Remarks	Significant	Priority
10	Foot Bridge 1982	In Use	Inappropriate design; good condition		Moderate
11	Dutch Garden Ruins	N/A	Significant masonry repair required	*	High
12	High Mound Terrace	N/A	Significant safety (fall) hazard at the perimeter walls; significant masonry and site restoration required	*	High
13	The Octagon Shelter	Closed	Roof and piers near collapse	*	Urgent
14	Mendelsohn Base	N/A	Statue bust is in storage; base requires modest restoration	*	Moderate
15	Seniors Building	In Use	Well used; requires modest restoration		Moderate
16	Rick Cerone Field House	In Use	Presently being refurbished		High
17	Bloomfield Avenue Bridge	In Use	Rehabilitation in process	*	High
18	Wier 1	In Use	Requires retaining wall and site work	*	Moderate
19	Laurel Wood Boulder Bridge	In Use	Requires modest masonry work	*	Moderate
20	Crossover Drive Bridge	In Use	Requires modest masonry work	*	Moderate
21	Midwood Pool Bridge	In Use	Requires modest masonry work plus site paving	*	Moderate
22	Midwood Drive Bridge	In Use	Requires modest masonry work plus site paving	*	Moderate
23	Wier 2	In Use	Requires retaining wall and site work	*	Moderate
24	Brownstone Bench Bridge	In Use	Requires masonry restoration and bridge paving	*	Moderate
25	Ballantine Gate	Closed	Needs major repointing, replacement of stones, and graffiti and paint removal; requires removal of trip hazards (urgent)	*	Urgent
26	Crossover Bridge	In Use	Brownstone repair required	*	Moderate

Number	Structure	Use Status	General Remarks	Significant	Priority
27	Wier 3	In Use	Requires retaining wall and site work	*	Moderate
28	Wier 4	In Use	Requires retaining wall and site work	*	Moderate
29	Policemen's Memorial	In Use	Adjacent landscape is inappropriate design		Low
30	Brookside Meadow Bridge	In Use	Requires moderate masonry restoration	*	Moderate
31	Brownstone Lintel Bridge	In Use	Brownstone repair required	*	Moderate
32	Maintenance Facility for Essex County Parks	In Use	Visually intrusive; needs screening		Moderate
33	Althea Gibson Tennis Center	In Use	Building is recent with inappropriate design		Moderate
34	Erie Railroad Bridge	Not in use	Bridge is no longer in use; fair condition		High
35	Visitor's Center	In Use	Building is recent with inappropriate design		Moderate
36	Boonton Line Bridge (Greenwood Lake Branch Bridge)	In Use	Active railroad bridge; requires significant concrete repair		High
37	Footbridge 1931	In Use	Poor condition; bridge will continue to deteriorate seriously if not repaired.	*	High
38	North Branch Brook Drive Bridge	In Use	Moderate repairs required		High (structure) Moderate (site)
39	Mt. Prospect Avenue Bridge	In Use	Good condition; modest repairs can add significant service life		Moderate
40	Summer Avenue Bridge	In Use	Severe deterioration of stone as well as foundation; major repairs required		High

Number	Structure	Use Status	General Remarks	Significant	Priority
41	Footbridge	In Use	Good condition; modest repairs can add significant service life		Moderate
42	Belleville Seniors Center	In Use	Fair condition; inappropriate alterations		Moderate
43	Belleville Park Bathrooms	In Use	Good condition; inappropriate design		Moderate
44	Octagon Field House	In Use	Rehabilitation of toilet facilities proposed	*	Moderate
45	South Branch Brook Park Drive Bridge	In Use	Good condition	*	Moderate
46	Prudential Lion Sculptures	N/A	Preserve, though not from period of significance		Moderate
47	Pump House	In Use	Toilet facilities in original pump house building	*	Low
48	Rock Structure	N/A	Significant safety (fall) hazard at open man-hole grates		Urgent
49	Second River Walls	N/A	Historic, but environmental considerations need to be addressed	*	Moderate

1. ROLLER-SKATING RINK AND OLD RESERVOIR

INTRODUCTION

The current rollerskating rink (see Photo 1) was designed by Berger Associates, Architects (Newark, N.J.) in 1991. Construction of the roller-skating rink was completed in 1995. The roller-skating rink is located on the site of the old reservoir, which existed prior to the construction of the park. This reservoir was integrated into the park's design and over time also housed a baseball field, bicycle track, ice-skating and hockey rink and currently the roller-skating rink.

Copies of the original construction drawings are located at the Essex County Department of Parks, Recreation and Cultural Affairs (Newark, NJ). (See Original Drawing1).

The current roller-skating rink is a concrete block structure with an arched standing seam steel roof. Its overall dimensions are approximately 195' – 0" north/south and 212' – 0" east/west. The height of the building is 35' – 0" at the top of the roof.

ROLLER-SKATING RINK

DESCRIPTION/CONDITIONS

SITE

The roller-skating rink is located on the site of the old reservoir. The banks and walls surrounding the building and are constructed from large brownstone blocks, (see Photo 2, and the following section on

the reservoir structure). A paved asphalt road leads up to the building and a large asphalt parking lot surrounds the structure.

BUILDING

The roller-rink is a concrete block structure with an arched standing seam steel roof over a bowstring truss. The weight of the truss is carried by a total of 16 steel columns surrounded by cast-in-place concrete. There are 8 columns on either side of the building bearing on a concrete foundation. The building is in good condition overall showing some signs of normal wear and weathering.

OLD RESERVOIR

INTRODUCTION

The first reservoir on this site was built in 1871 to provide clean drinking water in reaction to the pollution of many local waterways. Constructed out of local brownstone and surmounted by a brownstone wall and iron railing it was 400' – 0" in diameter and 20' – 0" deep. Severe leaking caused the reservoir to be rebuilt in 1875. This design also included a brick pump house that no longer remains. The reservoir was integrated into the park's design and over time also housed a baseball field, bicycle track, ice-skating and hockey rink and currently a roller-skating rink.

The old reservoir is a brownstone block masonry structure laid in an ashlar pattern. (See Photos 3, 4). A circular brownstone quarry-faced masonry wall with a chain link fence on top surrounds the reservoir. (See Photos 5, 9). The wall is approximately 4' – 0" in height on the inside of the reservoir and 12" on the outside and 21" wide. Beveled pitched-faced coping stones, typically 3' – 0" to 5' – 0" long and 12" thick cap the wall.

DESCRIPTION/CONDITIONS

SITE

The walls of the old reservoir that currently surround the rollerskating rink are constructed from large brownstone blocks. Forty percent of the walls are covered with vegetation and there is significant damage to the walls on the southeast side of the site. (See Photos 5, 6). On the southwest side of the reservoir an entrance was made in the wall to provide access to the site via an asphalt paved roadway. (See Photo 7). A circular asphalt paved parking lot services the rollerskating rink and covers approximately 40% of the bottom of the old reservoir site. A concrete staircase descends from the top of the reservoir to the parking lot and the front entrance of the rollerskating rink.

STONE MASONRY

The banks and walls of the old reservoir are constructed from local brownstone set in mortar. Typically, the ashler blocks vary in size from 1' - 0" to 4' - 0" in length. The mortar joints vary greatly in size from 1" to 6", (see Photo 5), on average and are wider in some instances. The banks and walls are covered with invasive vegetation of all kinds including small trees growing out of cracks in the walls. Damage to the walls includes spalling, cracking, chipping, scaling and displacement of stone. (See Photos 8, 9). The most significant damage is located on the southeast and east walls of the reservoir where there is severe displacement of the stone as well as erosion, significant spalling and loss of stone and mortar. Severe erosion and missing brownstone in one location has caused a dangerous situation where a large hole has appeared in the wall. (See Photo 10).

WORK PLAN

1. URGENT AND IMMEDIATE

- 1.1 Secure brownstone block illustrated in photograph
- 1.2 Secure and block off area around wall illustrated in photograph 11.

2. REHABILITATION PLAN

DIVISION 1: GENERAL REQUIREMENTS

- 1.1 General Conditions including supervision, temporary facilities and temporary utilities and security during restoration.
- 1.2 Perform all work consistent with the "Guidelines for Restoration" of the U.S. Secretary of the Interior. Obtain approval from the NJ State Historic Preservation Office (SHPO).
- 1.3 Selectively remove for reinstallation in accordance with SHPO approved plans:
 - 1.3.1 Loose stone.

DIVISION 2: SITE WORK – WITHIN 10' OF WALL

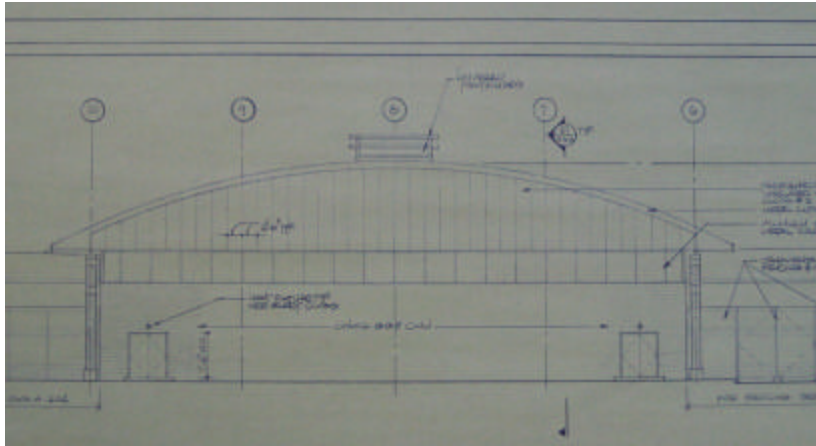
- 2.1 Remove and legally dispose of all debris from site; store all building fabric – for re-use or as model for recreated historic features.
- 2.2 Provide site paving, based on plans approved by SHPO.
- 2.3 Provide site planting, including additional soil based on historic planting plans.
- 2.4 Replace missing and damaged stone to match existing historic in size, color and texture.

DIVISION 4: MASONRY

- 4.1 Stone
 - 4.1.1 Replace all missing and damaged brownstone, with new brownstone to match historic existing in color,

size and texture. Patch selected damaged brownstone, with restoration mortar to match historic brownstone in color and texture.

- 4.1.2 Rake and repoint all brownstone mortar joints with mortar to match original based on scientific sampling.
- 4.1.3 Clean all brownstone masonry including removal of all biological growth and graffiti.



Original Drawing 1
South elevation of the roller rink



Photo 1
The new roller-skating rink constructed in 1991.



Photo 2
The walls of the old reservoir; note that these banked walls were once used as a bicycle track.



Photo 3
A large hole in the old reservoir wall surrounding the roller rink.



Photo 4
The brownstone blocks that line the walls of the reservoir; note the varying widths of the mortar joints.



Photo 5
The wall and chain link fence surrounding the reservoir; note the vines covering the top of the fence as well as the staircase ascending from the parking lot.



Photo 6
Areas of spalled and missing stone along the wall at the top of the reservoir; note that some areas of spalled brownstone are over 40' – 0" in length.



Photo 7
A cut was made in the wall so that a road and parking lot could be built.



Photo 8
The sloped wall near the concrete staircase; note how the brownstone has been significantly displaced, causing the surface to be extremely uneven.



Photo 9
Spalled and missing stone from the wall; note that there is a significant amount of stone missing from this area and the block in the photograph is ready to fall.



Photo 10

Missing brownstone in the wall and large amounts of soil washed away by erosion; note how the coping stones are just "floating" above the ground with no part of the wall supporting them.

2. BOATHOUSE AND SNACK BAR

INTRODUCTION

Architect Frank Wright, in consultation with John Olmsted, built the original boathouse on this site in 1906. The original building was white-painted wood frame and concrete construction. There was a long two-story central structure and a 182' boating platform. In 1942, John and Wilson Ely constructed a new boathouse on the foundation of the 1906 boathouse. This building was destroyed by fire in 1986 and was replaced by the current structure in 1995. The new boathouse, (see Photo 12), was built as part of the roller-skating rink construction project designed by Berger Associates, Architects (Newark, N.J.) in 1991.

Copies of an original construction drawing are located at the Essex County Department of Parks, Recreation and Cultural Affairs (Newark, NJ). (See Original Drawing 2).

The current boathouse is a concrete block structure with an arched standing seam steel roof. Its length is approximately 50' - 0" north/south and it is approximately 40' - 0" wide. Essex County Parks Department staff indicates that currently the building is secured and not used.

DESCRIPTION/CONDITIONS

SITE

The boathouse is located at the southernmost point of Branch Brook Park Lake facing north. (See Photo 12). There is an asphalt paved

road that leads up to the building. A launching platform for boats extends from the front of the building to the west of the structure. Grass surrounds the south and west sides.

BUILDING

The 13-year-old building is a concrete block structure with an arched standing seam steel roof over a bowstring truss. The roof and truss are supported by the walls of building. Rolling steel shutters secure all openings. The building is in good condition overall, showing only a few signs of wear and weathering. The Boathouse was recently painted; there is no sign of peeling paint. There is erosion at the west wall which has exposed some CMU foundation blocks that need remedial repointing.

WORK PLAN

1. REHABILITATION PLAN

DIVISION 1: GENERAL REQUIREMENTS

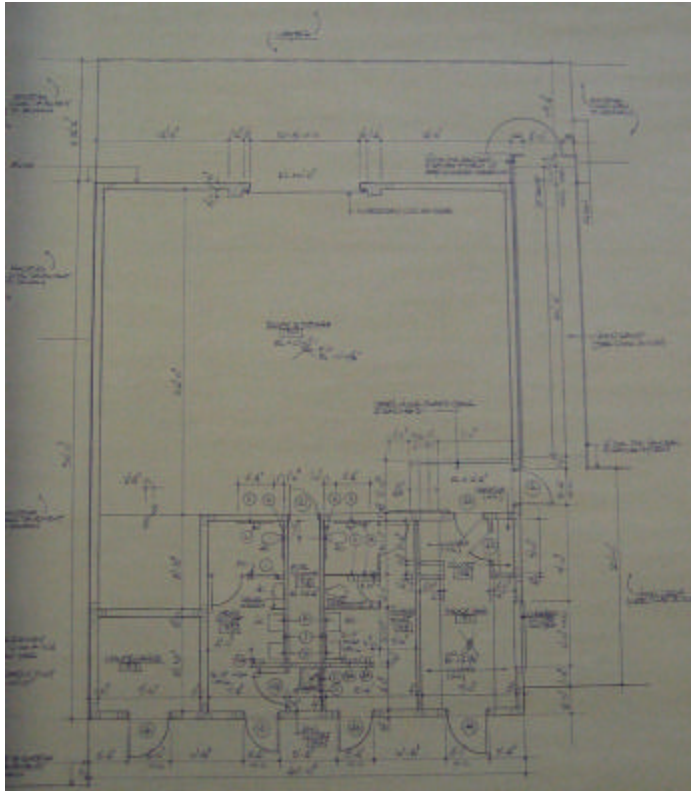
- 1.1 General Conditions including supervision, temporary facilities and temporary utilities and security during restoration.
- 1.2 Perform all work consistent with the "Guidelines for Restoration" of the US Secretary of the Interior. Obtain approval from the NJ State Historic Preservation Office (SHPO).

DIVISION 2: SITE WORK

- 2.1 Reestablish eroded grade along west elevations and provide regrading and drainage as required to eliminate erosion along the building.

DIVISION 4: MASONRY

- 4.1 Repoint approximately 15 square feet of exposed, open CMU mortar joints. Provide parging and damp proofing before grading.



Original Drawing 2
Plan of the boathouse constructed in 1991



Photo 11
The new boathouse constructed in 1991-1995.



Photo 12
The view of Branch Brook Park Lake and the southernmost bridge in the park from the boathouse.

3. THE SAND COURT SHELTER

INTRODUCTION

The Sand Court Shelter, designed by Carrere & Hastings Architects (28 East 41st Street, NYC) in 1899 is sited in the southeast corner of the park. In the Barrett and Bogart plan as well as the Olmsted Brothers plan, this area was to be used for a children's playground. Originally, a porch extended to the west of the shelter and covered the sand court; this area is now paved with asphalt and contains benches. The original design also contained benches that ran around the interior perimeter of the shelter; these have since been removed along with the original gutters, downspouts and terra cotta roof tiles. These changes to the structure can be seen when comparing original working drawings to current configurations and conditions.

Copies of the original architect's drawings are located at the Essex County Department of Parks, Recreation and Cultural Affairs (Newark, NJ) and includes an elevation and plan of the structure. (See Original Drawing & Historic Image 3, 4). The historic images provide configurations and overall dimensions.

The Sand Court Shelter, constructed in 1899, is a four-sided, open pavilion. (See Photos 13, 14). It is a brick masonry structure with limestone trim. The building has a 4-section asphalt shingled hip roof, framed with heavy timber. There are six brick columns on the east and west sides of the shelter and four "L" shaped columns, one on each corner. (See Photo 15). The shelter measures approximately 23' - 0" east/west and 81' - 0" north/south. All four sides are open providing access into the shelter. Annotated photographs provide visual images with detailed condition descriptions. The following are detailed

descriptions, including conditions assessments, and a work plan for proposed remedial work of the Sand Court Shelter.

DESCRIPTION/CONDITIONS

SITE

The Sand Court Shelter currently spans across a paved area and a grass lawn. There is a paved path leading from the south at one of the park's entrances on the corner of Eighth and Clifton Avenues. Another paved pathway extends from the north where the restrooms and basketball courts are located. Directly west of the shelter is a recently installed children's playground.

BRICK AND STONE MASONRY

The Shelter's columns are constructed of brick laid in a Flemish bond pattern with limestone trim. Most of the brick and all the limestone is painted. Each column is approximately 24" wide. The base of each column has six courses of brick topped by vertically tooled beveled limestone column base caps. The bed joints on the base caps are typically in poor condition and need repointing. About 40% of the corners of the base caps are chipped from excessive wear. (See Photo 16). The shaft of each column is brick and interrupted about three-quarters of the way up by a vertically tooled limestone block supported by stone brackets. (See Photo 17). Approximately 10% - 15% of the brick in the shafts and bases of the columns is chipped or cracked. (See Photo 18). The original mortar is tinted to a similar color as the bricks. The dimensions of the bricks vary from 2 1/4" - 2 1/2" in height to 7 1/4" - 7 3/4" in width. The top of each column is unpainted brick, unlike the shafts, and supports the wooden roof structure. There are four "L" shaped columns at each corner of the shelter that measure approximately 3' - 10" on a side. They are

constructed in the same way as the other columns with brick and vertically tooled limestone elements. There has been remedial patching of some of the brick joints; the exact amount is not discernable due to the paint cover. About 35% of the brick joints have failed and need to be repointed. (See Photo 19).

WOOD ROOF STRUCTURE

Painted, heavy timber support beams, 8" x 10", span east/west between the 6 brick columns and 8" x 10" members serve as roof plates around the perimeter of the structure. (See Photo 20). The heavy beams on the perimeter are in turn supported by heavy timber, cantilevered, decorative wood brackets that terminate at the limestone blocks and are bolted into the brick. Smaller rafters 3" x 6" 18" on center, slope up from the perimeter roof plates and frame into a ridge beam. All rafters extend 4' – 0" beyond the face of the shelter and terminate as decorative eave supports. (See Photo 21). On the northeast corner and northeast side of the shelter there is damage to the roof, including a missing eave support and rotting beaded wood board sheathing. There is also cracked and peeling paint on the eave supports and beaded wood board sheathing. (See Photo 22). Deterioration is about 30% in the wood rafters, beams and brackets, this includes checks and notches. Typically, the paint is cracked or peeling at 50% of the wood in the structure.

ASPHALT SHINGLE ROOF

Non-original, asphalt shingles now cover the roof sheathing. This project was completed in 1984 as a partial restoration of the park and its structures by Brown & Hale Architects (Newark, N.J.). The shingles are in good condition except at the edges and corners of the roof where there is no edge trim and they are cracked and chipped.

PAVING

The open interior of the Sand Court Shelter is paved in a herringbone pattern with brick 4" x 8". The brick pavers are in good condition and appear to be draining well.

WORK PLAN

1. REHABILITATION PLAN

DIVISION 1: GENERAL REQUIREMENTS

- 1.1 General Conditions including supervision, temporary facilities and temporary utilities and security during restoration.
- 1.2 Perform all work consistent with the "Guidelines for Restoration" of the U.S. Secretary of the Interior. Obtain approval from the NJ State Historic Preservation Office (SHPO).
- 1.3 Provide shoring and bracing as needed for all removals and as required for all work.
- 1.4 Selectively remove for reinstallation in accordance with SHPO approved plans:
 - 1.4.1 Brick masonry as required for brick repairs
 - 1.4.2 Brick pavers

DIVISION 2: SITE WORK – WITHIN 10' OF BUILDING FACE

- 2.1 Replace missing and damaged brick pavers with pavers to match existing in size, color and texture, or rehabilitate in accordance with Treatment plan.

DIVISION 4: MASONRY

- 4.1 Brick
 - 4.1.1 Replace all missing brick with new brick to match existing historic in size, color and texture. Remove

and replace all non-matching, reconstructed brick features with brick to match as closely as possible, existing historic brick in size, color, and texture.

- 4.1.2 Reset removed brick.
- 4.1.3 Patch selected damaged historic brick with restoration mortar to match existing historic brick in color and texture.
- 4.1.4 Rake and repoint all brick mortar joints with mortar to match original based on scientific sampling.
- 4.1.5 Clean all brick masonry including the removal of all paint and graffiti.

4.2 Stone

- 4.2.1 Patch selected damaged limestone with restoration mortar to match existing in color and texture.
- 4.2.2 Rake and repoint all limestone mortar joints with mortar to match original based on scientific sampling.
- 4.2.3 Clean all stone masonry including removal of all paint and graffiti.

DIVISION 6: CARPENTRY

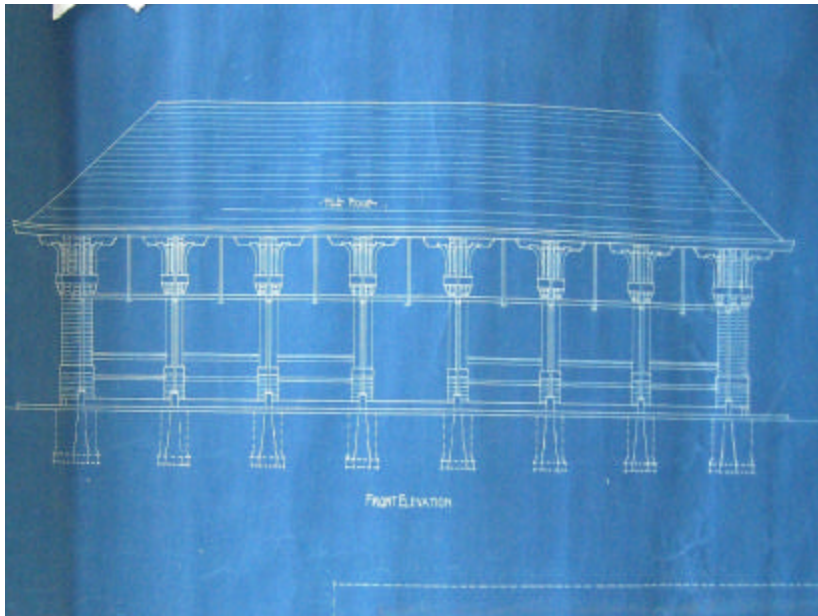
- 6.1 Repair roof support beams and brackets and rafters. Provide epoxy repairs and "Dutchman" if necessary.
- 6.2 Provide selected, new material (heavy timber, laminated wood, or synthetic material) for cornice to replace missing and severely deteriorated pieces.

DIVISION 7: THERMAL AND MOISTURE PROTECTION

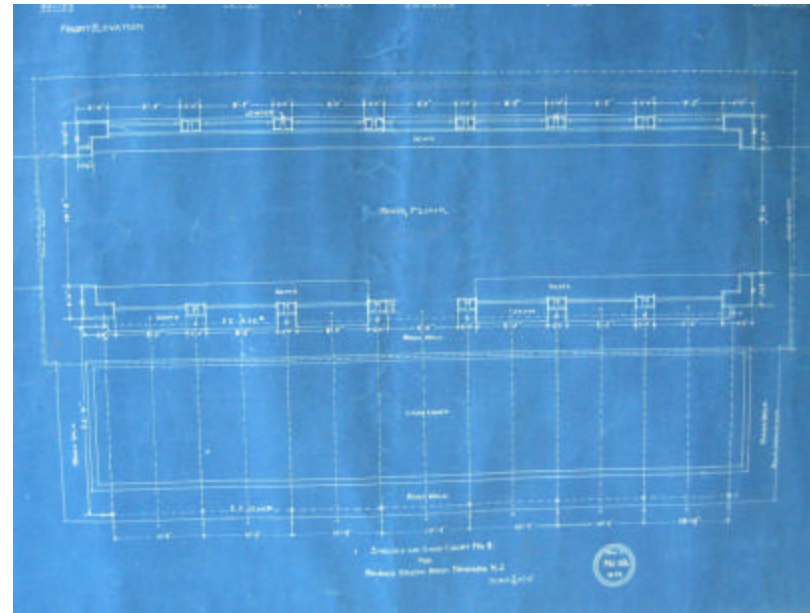
- 7.1 Replace selected damaged asphalt shingles at roof perimeter.

DIVISION 9: FINISHES

- 9.1 Provide stain to match existing on all existing and new exposed wood or simulated wood members.
- 9.2 Prepare and paint existing rusted, steel, bracket bolts.



Original Drawing 3
The front elevation of the Sand Court Shelter; note that originally there were benches on the interior.



Original Drawing 4
Plan of the Sand Court Shelter; note that there was a porch over the original sand court in front of the shelter.



Photo 13
View of the shelter looking northeast; note that it is accessible from all sides.



Photo 14
View across the recently-installed playground looking towards the Sand Court Shelter.



Photo 15
One of the "L" columns at the southwest corner; note the brick and limestone have been painted and that the mortar is deeply eroded.



Photo 16
Significant chipping and wear to one of the limestone base caps.



Photo 17
The limestone block and brackets above one of the "L" columns; note the staining and cracking of the wooden brackets.



Photo 18
Typical chipping on the corner of the columns.



Photo 19
Deeply eroded joints in one of the columns; note that the bottom right portion has been patched and the mortar joints painted over.



Photo 20
The heavy timber framing that supports the roof structure; note the unpainted bricks above the limestone block.



Photo 21
The elaborately cut detailing of the eave supports; note that most of the framing members have decorated ends.



Photo 22
Damage to eaves and roofing; note that one of the eave supports is missing.

4. BASKETBALL COURTS FIELD HOUSE

INTRODUCTION

A building has existed in this location at least since 1915. Although a 1964 map shows the building at this location to be a tool shed, the structure's construction, similar to that of the early park buildings indicates that the Field House is an original or very early structure. The Basketball Courts Field House was renovated in 1984 from documents prepared by Brown & Hale Architects, (Newark, N.J.). In addition to the new toilet facilities and large skylight, the work included a barrier-free ramp. The Field House contains men's and women's toilets and an office. The facilities are in good condition.

Copies of drawings of the current building are located at the Essex County Department of Parks, Recreation and Cultural Affairs (Newark, NJ). They include plans and elevations. (See Originals 5, 6). These drawings provide configurations and overall dimensions.

The current building is 24' – 9" north/south and 40' – 8" east/west. It is a concrete block structure with a rough stucco finish which is similar to the pebble finish on most of the early park structures. The building has a non-original wooden cornice with aluminum edge trim. The asphalt shingle roof is in good condition. All the window openings are currently filled with glass block. A large skylight was added to the south façade of the building when it was renovated in 1984. Annotated photographs provide visual images with detailed condition descriptions. The following are detailed descriptions, including conditions assessments, and a work plan for proposed remedial work of the Basketball Courts Field House.

DESCRIPTION/CONDITIONS

SITE

The Basketball Courts Field House is located between the High Mound Terrace and the Playground Comfort Station. Clifton Avenue is directly east of the building, while the roller rink and old reservoir are to the southwest. Two basketball courts and bleachers are directly south of the building.

BRICK AND STONE MASONRY

The Basketball Courts Field House is constructed from concrete block covered by a painted rough stucco finish. Typically, the walls are in good condition with slight peeling of paint and cracking of stucco mostly along the base and corners of the building.

WOOD CORNICE

A wood and aluminum cornice surrounds the top of the building. The cornice is in good condition but there are some areas of peeling paint and cracked wood.

ASPHALT SHINGLE ROOF

A new asphalt shingle roof was put on the building in 1984. The shingles are in good condition except on the edges and corners of the roof where they have cracked and chipped.

WORK PLAN

1. REHABILITATION PLAN

DIVISION 1: GENERAL REQUIREMENTS

- 1.1 General Conditions including supervision, temporary facilities and temporary utilities and security during restoration.
- 1.2 Provide shoring and bracing as needed for all removals and as required for all work.

DIVISION 3: CONCRETE

- 3.1 Patch selected damaged concrete with mortar to match existing in color and texture

DIVISION 6: CARPENTRY

- 6.1 Repair cornice with epoxy.
- 6.2 Provide selected, new material where required (synthetic material) for cornice to replace deteriorated pieces.

DIVISION 7: THERMAL AND MOISTURE PROTECTION

- 7.1 Replace selected damaged asphalt shingles at roof perimeter.

DIVISION 9: FINISHES

- 9.1 Provide new stucco over masonry block to match historic conditions.
- 9.2 Paint over stucco to match historic paint colors.



Photo 23
Overall view of the main façade of the field house; note the large skylight and glass block windows.



Photo 24
The field house, rear elevation; note that the stucco and roof are in good condition.

5. SUBWAY 1, EAST

INTRODUCTION

Subway 1 is an underpass designed by Carrere & Hastings Architects (28 East 41st Street, NYC) in 1898 and is located on the eastern side of the Branch Brook Lake. (See Photo 25). Originally called east arch on the Olmsted Brothers general plan, its design and siting were changed when the Olmsted Brothers took over the design of the park from Barrett and Bogart. The initial location and design of the underpass was of concern to the Olmsted Brothers for the narrowness of its passage and its peculiar alignment in a design where other axes were rectilinear.

An original construction drawing is located at the Essex County Department of Parks, Recreation and Cultural Affairs (Newark, NJ), (see Original Drawing 7).

Subway 1, was constructed in 1898-1900, it is a granite faced underpass that was originally designed to help avoid pedestrian, equestrian and carriage traffic conflicts. Currently an asphalt paved roadway used by cars goes over the underpass. (See Photo 26). The traffic below is pedestrian and the space is not frequently used. (See Photo 27). The granite structure has a barrel vaulted, brick-lined interior. The floor of the passageway is bare earth. (See Photo 28). It has suffered severely from vandalism and a lack of care and maintenance. Annotated photographs provide visual images with detailed condition descriptions. The following are detailed descriptions, including conditions assessments, and a work plan for proposed remedial work of Subway 1.

DESCRIPTION/CONDITIONS

SITE

There is a single unpaved pedestrian path that runs east/west underneath the Subway 1. There is significant debris, both natural and manmade, around the site, both adjacent to and under the structure.

BRICK AND STONE MASONRY

The west side of the underpass has a segmental arched opening of rusticated granite masonry. The face of the archway is finished with alternating blocks of granite. Large projecting blocks have bush-hammered faces and alternating smaller blocks have dressed and beveled faces. (See Photo 29). The stonework that comprises the vertical face of this side of the underpass is laid in a random ashlar pattern. (See Photo 30). There are two buttresses on either side of the archway that span the tripartite construction of the underpass. The lower sections of the buttresses are laid in alternating courses of granite finished with either a beveled or bush hammered face. (See Photos 31, 32). Three blocks of granite cap the top of the buttress; the middle piece has a vertically tooled surface, while the other two have decorated surfaces. The conditions of the mortar joints on this side of the subway vary from good to poor with many open joints. The surface of the stone is soiled and covered with graffiti and efflorescence.

The top of the underpass is constructed of large granite blocks that serve as railings on both sides of the roadway. (See Photo 33). Both railings are covered with a gray anti-graffiti paint. The railing on the west side is in good condition. The lintel course directly below the railing has open vertical and horizontal joints and there is vegetation

growing at those areas. The railing on the east side has open joints in poor condition that are typically 3/8"-1/2" wider than the 1/2" joints on the west side. (See Photo 34). One of the large granite blocks that comprise the railing has been displaced and its vertical and horizontal joints are wide open. The east side of the underpass has a segmental arched opening of quarry-faced granite masonry. (See Photos 35, 36). Again, the stonework on this side of the underpass is laid in a random ashlar pattern. There are two buttresses on either side of the archway that span the tripartite construction of the underpass. The lower sections of the buttresses are both finished with quarry-faced stone. Three blocks of granite cap the top of the buttress; the middle piece has a vertically tooled surface, while the other two have decorated surfaces.

A yellow face-brick, barrel vaulted passageway connects the two archways. Most of these mortar joints are open and there is spalling of the brick from water penetration and the adverse effects of freezing and thawing cycles as well as the migration of salts and other minerals to the surface of the granite caused by runoff leeching down from the roadway. (See Photo 37). In some cases, these mineral deposits have formed stalactites on the surface of the granite. Vertically tooled, granite sills that serve as a spring course run along both sides of the passageway. The spring course of the passageway is in poor condition, most joints are open and there is significant wear and spalling of the stone. (See Photo 38). Large sections of the structure, including most walls, are soiled and covered with graffiti and efflorescence.

WORK PLAN

1. REHABILITATION PLAN

DIVISION 1: GENERAL REQUIREMENTS

- 1.1 General Conditions including supervision, temporary facilities and temporary utilities and security during restoration.
- 1.2 Perform all work consistent with the "Guidelines for Restoration" of the U.S. Secretary of the Interior. Obtain approval from the NJ State Historic Preservation Office (SHPO).
- 1.3 Provide shoring and bracing as needed for all removals and as required for all work.
- 1.4 Selectively remove for reinstallation in accordance with SHPO approved plans:
 - 1.4.1 Brick masonry as required for brick repairs.

DIVISION 2: SITE WORK – WITHIN 10' OF UNDERPASS

- 2.1 Remove and legally dispose of all debris from site; store all building fabric – for re-use or as model for recreated historic features.
- 2.2 Remove any trees or vegetation whose roots are damaging the structure.
- 2.3 Provide site paving, based on plans in accordance with Treatment plans and as approved by SHPO, with particular emphasis on new materials and drainage under the roadway.
- 2.4 Provide site planting, including additional soil based on historic planting plans and Treatment plans.

DIVISION 4: MASONRY

- 4.1 Brick
 - 4.1.1 Replace all missing brick with new brick to match existing historic in size, color and texture
 - 4.1.2 Reset removed brick.
 - 4.1.3 Patch selected damaged historic brick with restoration mortar to match existing historic brick in color and texture.
 - 4.1.4 Rake and repoint all brick mortar joints with mortar to

match original based on scientific sampling. Work to include all barrel vault brick joints up to 2' - 0" below grade.

4.1.5 Clean all brick masonry including the removal of all graffiti and mineral deposits.

4.2 Stone

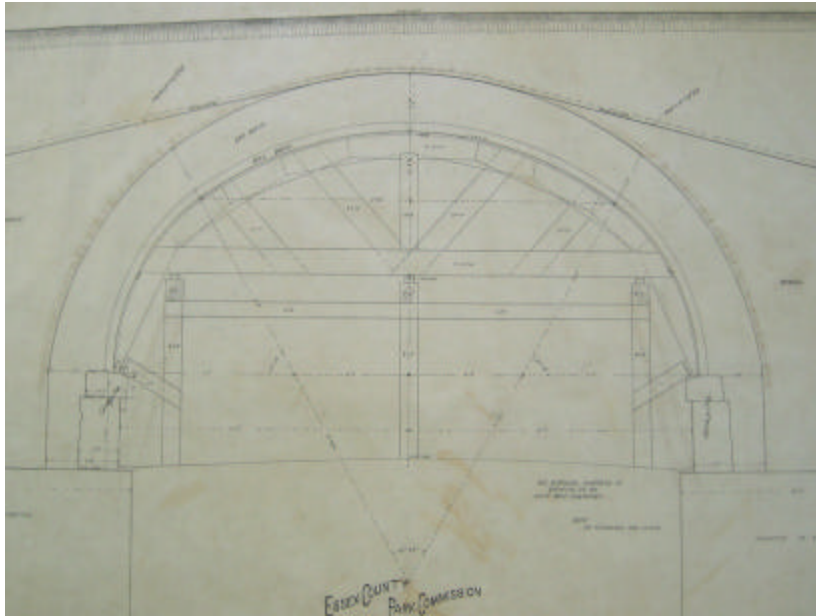
4.2.2 Patch selected damaged granite, with restoration mortar to match existing in color and texture.

4.2.3 Rake and repoint all stone mortar joints, except at exterior coping stones with mortar to match original based on scientific sampling.

4.2.4 Clean all stone masonry including removal of all graffiti and mineral deposits.

DIVISION 7: THERMAL AND MOISTURE PROTECTION

7.1 Provide backer rods and sealant at the tops and sides of all coping stones



Original Drawing 7
A drawing of the subway showing the shoring used for construction.



Photo 25
Subway 1, view looking east; note the graffiti and biological growth.



Photo 26
The paved asphalt roadway over subway.



Photo 27
The underside of Subway 1; note the barrel vault construction of the underpass and the debris on the floor of the underpass.



Photo 28
Arched opening of the west side of Subway 1; note the segmental arch construction and soiled, graffiti-covered granite.



Photo 29
Detail of the alternating large projecting bush-hammered granite blocks and smaller, dressed and beveled granite blocks on the west side of the archway; note the efflorescence on the stones and bricks.



Photo 30
The face of the west side of Subway 1; note the random ashlar pattern of the granite stonework on the vertical face of the underpass and the graffiti covering the surface.



Photo 31
Close-up of one of the buttresses on the west side of Subway 1; note the soiling of the stone surface.



Photo 32
The east side of Subway 1; note the different stonework, a quarry-faced finish on this side of the underpass.



Photo 33
The railing on the east side of Subway 1; note the displacement of the large block of granite and the open vertical and horizontal joints.



Photo 34
Plants growing out of the cracks in the lintel course below the railing.



Photo 35
Close-up of keystone on the east archway; note the quarry-faced finish of the stone.



Photo 36
Stonework on the east side, archway and buttress; note the discoloration of the stone.



Photo 37
The effects of freeze-thaw on bricks; note the face of some bricks has spalled off and there is loose or missing mortar around most of the brick joints.



Photo 38

The interior of Subway 1; note the erosion of dirt on the floor of the passageway and the graffiti covering the walls and the spring course sill.

6. SUBWAY 2, WEST

INTRODUCTION

Subway 2, is an underpass designed by Carrere & Hastings Architects (28 East 41st Street, NYC) in 1898 and is located on the western side of the Branch Brook Lake. (See Photo 39). This underpass was originally called west arch on the Olmsted Brothers' general plan.

An original construction drawing is located at the Essex County Department of Parks, Recreation and Cultural Affairs (Newark, NJ). (See Original Drawing 8).

Subway 2, was constructed in 1898-1900, it is a granite faced underpass that was originally designed to help avoid pedestrian, equestrian and carriage traffic conflicts. Currently an asphalt paved roadway used by cars goes over the underpass. The traffic below is pedestrian and the space is not frequently used. The granite structure has a barrel vaulted brick-lined interior. The floor passageway is bare earth. (See Photo 40). It has suffered greatly from vandalism and a lack of maintenance. Annotated photographs provide visual images with detailed condition descriptions. The following are detailed descriptions, including conditions assessments, and a work plan for proposed remedial work of Subway 2.

DESCRIPTION/CONDITIONS

SITE

A single unpaved pedestrian path runs east/west underneath Subway 2. There is a great amount of vegetation that has overgrown the

earthen banks on all side of the underpass. Large boulders around the site, originally placed on the embankments, are now partially blocking the pedestrian pathway. A paved asphalt road runs north/south on the top of the underpass. There is significant debris, both natural and manmade, around the site.

BRICK AND STONE MASONRY

Both sides of the underpass have a tripartite design, composed of the arched opening, surmounted by a horizontal lintel course and parapet railing. From the road, the lintel course serves as the base and curb of the railing. The east side of the underpass has a segmental arched opening of quarry-faced granite masonry. (See Photo 41). The stonework that comprises the vertical face of this side of the underpass is laid in a broken ashlar pattern. There is a significant amount of graffiti and soiling on this side of the underpass as well as cracking and spalling of the granite. Approximately 30% of the mortar joints have failed or are filled with vegetation. The top of the underpass is constructed of small granite blocks set in mortar topped by large granite coping stones that serve as railings on both sides of the roadway. (See Photo 42).

The west side of the underpass is constructed in the same way as the east side, with quarry-faced masonry. (See Photo 43). There is significant spalling of the granite. (See Photo 44) and failure of mortar joints on the west archway. Efflorescence and mineral deposits cover the underside of the arch. A yellow face-brick, barrel vaulted passageway rises from a granite spring course, (see Photo 46), and connects the two archways. The spring course is in poor condition with signs of spalling, chipping and cracking. Vertically tooled granite sills run along the base of both sides of the passageway. (See Photo 46). One hundred percent of the sills and brickwork in the underpass need to be repointed or replaced. Mortar joints are open and there is

some significant spalling. (See Photo 47) of the brick from water penetration and the adverse effects of freeze-thaw cycles as well as the migration of salts and other minerals to the surface of the granite caused by runoff leeching down from the roadway. In some instances the minerals on the surfaces of the granite are forming stalactites. Where the west granite archway meets the brick vault there is a substantial amount of brick material missing. (See Photos 48, 49). The interior brick walls and granite sills are covered with graffiti and efflorescence.

WORK PLAN

1. URGENT AND IMMEDIATE

- 1.1 Provide shoring and bracing to secure the bricks where the west granite archway meets the brick vault, illustrated in photograph 50.

2. REHABILITATION PLAN

DIVISION 1: GENERAL REQUIREMENTS

- 1.1 General Conditions including supervision, temporary facilities and temporary utilities and security during restoration.
- 1.2 Perform all work consistent with the "Guidelines for Restoration" of the U.S. Secretary of the Interior. Obtain approval from the NJ State Historic Preservation Office (SHPO)
- 1.3 Provide shoring and bracing as needed for all removals and as required for all work.
- 1.4 Selectively remove for reinstallation in accordance with SHPO approved plans:
- 1.4.1 Brick masonry as required for brick repairs.

DIVISION 2: SITE WORK – WITHIN 10' OF UNDERPASS

- 2.1 Remove and legally dispose of all debris from site; store all building fabric – for re-use or as model for recreated historic features.
- 2.2 Remove any trees or large vegetation whose roots are damaging the structure.
- 2.3 Provide site paving, based on Treatment plans approved by SHPO; with particular emphasis on new material and drainage under the roadway
- 2.4 Provide site planting, including additional soil based on historic planting plans and Treatment plans.

DIVISION 4: MASONRY

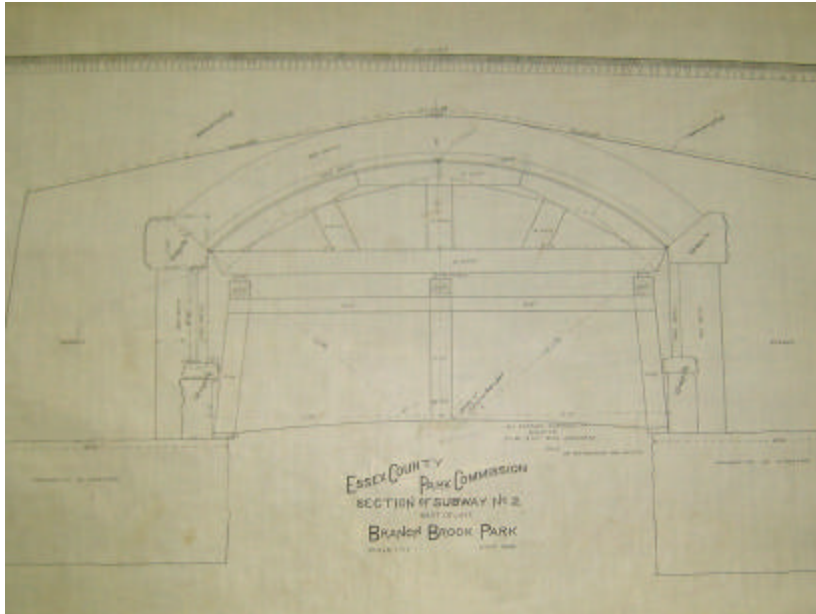
- 4.1 Brick
- 4.1.1 Replace all missing brick with new brick to match existing historic in size, color and texture. Remove and replace all non-matching, reconstructed brick features with brick to match as closely as possible, existing historic brick in size, color, and texture.
- 4.1.2 Reset removed brick.
- 4.1.3 Patch selected damaged historic brick with restoration mortar to match existing historic brick in color and texture.
- 4.1.4 Rake and repoint all brick mortar joints with mortar to match original based on scientific sampling. Work to include all foundation joints up to 2' – 0" below grade.
- 4.1.5 Clean all brick masonry including the removal of all graffiti and mineral deposits.
- 4.2 Stone
- 4.2.1 Patch selected damaged granite with restoration mortar to match existing in color and texture.
- 4.2.2 Rake and repoint all stone mortar joints, except at exterior coping stones with mortar to match original

based on scientific sampling.

- 4.2.3 Clean all stone masonry including removal of all graffiti and mineral deposits.

DIVISION 7: THERMAL AND MOISTURE PROTECTION

- 7.1 Provide backer rods and sealant at the tops and sides of all coping stones



Original Drawing 8
This drawing provides details about the shoring used for construction and basic materials.



Photo 39
Subway 2 view to the west; note the segmental arch construction and the rustic finish on all the granite stonework.



Photo 40
Interior of Subway 2; note the dirt floor and the excessive amount of graffiti and efflorescence.



Photo 41
Quarry-faced finishes on the granite; note the broken ashlar pattern of the granite stonework on the vertical face of the underpass.



Photo 42
Detail of railing on the east side of Subway 2; note the cracking paint and open mortar joints of the railing and coping stones.



Photo 43
View of west side of Subway 2; note the deterioration of the surrounding landscaping.



Photo 44
The keystone on the west side of the underpass; note the spalled granite on its base as well as on the other blocks.



Photo 45
The arch rising from the spring course; note the cracked mortar patching and the black staining of biological growth.



Photo 46
The granite sill along the base of the underpass; note the open joints on the brick and granite.



Photo 47
Spalling of brick caused by freeze-thaw cycles; note the staining and Efflorescence.



Photo 48
Missing brick from the west side of the underpass; note that this was probably caused by soluble salts leeching down from the road.



Photo 49
The bricks are so loose in some places that one can pull them out of the vault.

7. RESTROOM FACILITIES AROUND THE “MUSIC COURT”

INTRODUCTION

These two original restroom facilities were designed by Wilson Ely, Architect in 1920. They are located on opposite sides of the “music court” and are currently vacant. The original Olmsted site plan details a grander vision for the area, around the “music court” including a main concourse, bandstand and a radial system of pathways that leads out from the center. Both restrooms were added to sit beneath pre-existing wooden arbors. There are no vestiges of these additional amenities; there is only the paved-over “music court”. These changes to the design can be seen when comparing original working drawings to current configurations and conditions.

Original architect’s drawings are located at the Essex County Department of Parks, Recreation and Cultural Affairs (Newark, NJ). They include plans and elevations, (see Original Drawings 9, 10). The original drawings provide configurations and overall dimensions.

The restroom facility is a rectangle with 1 bay extending from both the east and west ends. (See Photo 50). They are concrete block structures with a rough stucco finish and Belgian block gutter along the base. (See Photo 51). Both buildings have wooden cornices with aluminum edge trim. The roofing is a bituminous roll material. The roofs of both buildings have 5 – 8 penetrations and are in poor condition. Both buildings measure approximately 36’ – 8” in length and 23’ – 0” in width. They are approximately 12’ – 0” in height. All of the windows that provided light and ventilation have been boarded up or filled in with brick. (See Photo 52). Annotated photographs provide visual

images with detailed condition descriptions. The following are detailed descriptions, including conditions assessments, and a work plan for proposed remedial work of the restroom facilities.

DESCRIPTION/CONDITIONS

SITE

There are restrooms on either side of what was originally the “music court”. The area in the immediate vicinity of the structures is grass covered, while the paved court lies between the two restrooms. There is a boat dock and concrete balustrade between the two restrooms next to the lake. (See Photo 53).

BRICK AND STONE MASONRY

Both restrooms are constructed from concrete block covered by a rough stucco finish. There is cracking in most of the walls, especially below the windows. On the south side of the north restroom there are two full height cracks that go through the stucco and concrete block (See Photo 54). The masonry joints between the Belgian block gutters and both restrooms are cracked, causing the paint and stucco to fall off. (See Photo 55).

WOOD CORNICE

A wood and aluminum cornice surrounds the top of both buildings. There are areas along the cornice where the wood is cracked, typically at the corners. In some cases, (See Photo 56), wood is complexly rotted, exposing the interior. Water penetration has damaged adjacent wood members.

INTERIOR

The interior has a concrete floor, painted CMU walls and exposed wood roof rafters. Most of the fixtures are in place. However, it is vandalized, suffers from water penetration and is in poor condition.

WORK PLAN

1. REHABILITATION PLAN

DIVISION 1: GENERAL REQUIREMENTS

- 1.1 General Conditions including supervision, temporary facilities and temporary utilities and security during restoration.
- 1.2 Evaluate potential for providing new restroom facilities within the structure.
- 1.3 Perform all work consistent with the "Guidelines for Restoration" of the U.S. Secretary of the Interior. Obtain approval from the NJ State Historic Preservation Office (SHPO).
- 1.4 Provide shoring and bracing as needed for all removals and as required for all work.
- 1.5 Selectively Remove in accordance with SHPO approved plans:
 - 1.5.1 All roll roofing.
 - 1.5.2 All roof sheathing.
 - 1.5.3 Broken sections of the cornice.
 - 1.5.4 Plywood over windows

DIVISION 2: SITE WORK – WITHIN 10' OF BUILDING FACE

- 2.1 Remove and legally dispose of all debris from site; store all building fabric – for re-use or as model for recreated historic features.
- 2.2 Provide site rehabilitation, based on Treatment Plans, as approved by SHPO.

- 2.3 Provide site planting, including additional soil based on historic planting plan and in accordance with Treatment Plans.

DIVISION 3: CONCRETE

- 3.1 Replace selected damaged historic concrete block.
- 3.2 Clean the structure, including the removal of all graffiti.

DIVISION 6: CARPENTRY

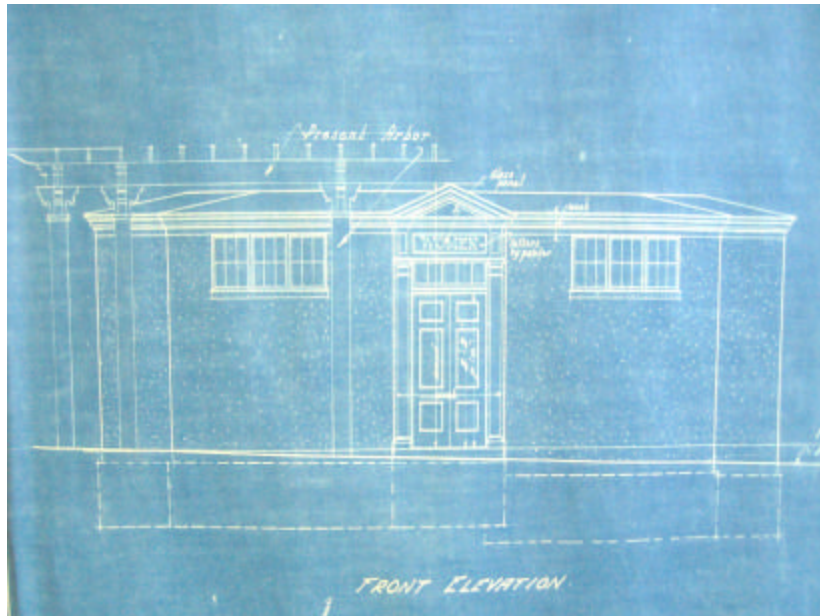
- 6.1 Provide selected, new material (heavy timber, laminated wood or synthetic material for cornice) to replace missing and severely deteriorated pieces, including roof rafters.
- 6.2 Replace existing roof sheathing with new wood sheathing as part of roof replacement.
- 6.3 Repair cornice to remain. Provide "Dutchman" and epoxy repairs.
- 6.4 Consider restoring missing arbors as part of overall restoration.

DIVISION 7: WATER PROTECTION

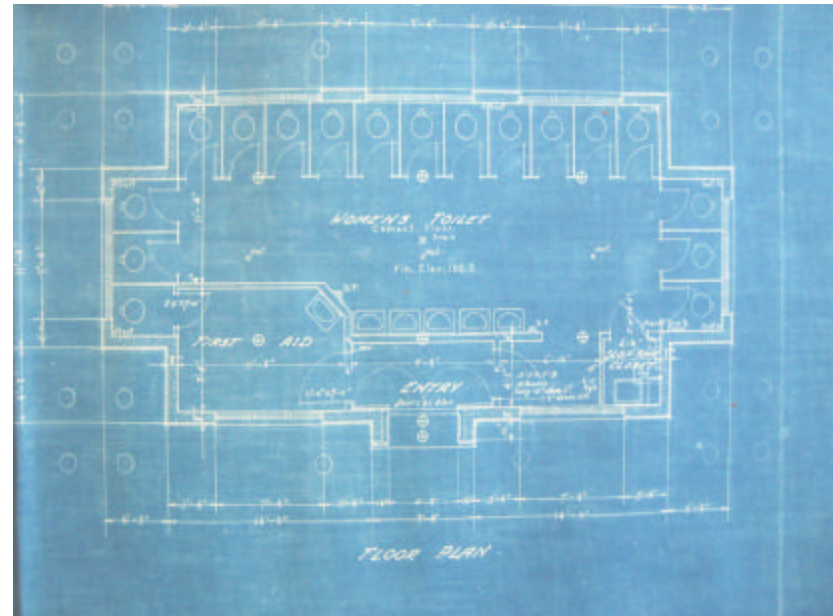
- 7.1 Replace damaged bituminous roll roofing material. Use original existing drawings as model for restoration.

DIVISION 9: FINISHES

- 9.1 Provide new stucco over concrete block to match historic conditions.
- 9.2 Paint over stucco to match historic paint colors.



Original Drawing 9
Elevation of one of the two restrooms; note that the exterior including the arbor, windows and entrance has been dramatically altered.



Original Drawing 10
A plan for one of the restrooms; note the posts for the arbor that surround the building.



Photo 50
Overall view of the south restroom facility; note the extensive changes that have been made to the exterior.



Photo 51
Belgian block pavers for a gutter along the base of the south restroom.



Photo 52
One of the windows that is boarded up on the north restroom; note the plywood covering has rotted because of water damage.



Photo 53
The boat dock is between the two lion sculptures in the distance while the balustrade spans from one restroom to the other.



Photo 54
A full height crack in the south wall of the north restroom.



Photo 55
Stucco and mortar that has detached from the base of the north restroom.



Photo 56
Damage to the wood cornice of the south restroom; note that there is a hole in the wall and that wood has rotted considerably.

8. PLAYGROUND COMFORT STATION

INTRODUCTION

This restroom facility was designed by Carrere & Hastings Architects (28 East 41st Street, NYC) in 1899 and is located on the eastern side of the playground next to Clifton Avenue. (See Photo 57). In the Barrett and Bogart plan as well as the Olmsted Brothers plan this southeastern area of the park was to be used for a children's playground. The original design included gutters and downspouts as well as terra cotta roofing tiles. All these original features have since been removed. These changes to the structure can be seen when comparing original working drawings to current configurations and conditions.

Original architect's drawings are located at the Essex County Department of Parks, Recreation and Cultural Affairs (Newark, NJ) and include an elevation and plan. (See Original Drawings 11, 12). The original drawings provide configurations and overall dimensions.

The Playground Comfort Station, constructed in 1899, is a four-sided, brick masonry structure with limestone trim. The building rests on a granite foundation. The building has a four-section asphalt shingled hip roof, with 5 penetrations framed with heavy timber. (See Photo 58). The building measures approximately 57' - 0" in length and 19' - 0" in width. All of the windows that provided light and ventilation in the original plan have been covered. Two new doors have been added to the front façade where small windows were originally located. The building is currently vacant. It was vandalized, plumbing fixtures were broken and water service was terminated. Annotated photographs provide visual images with detailed condition

descriptions. The following are detailed descriptions, including conditions assessments, and a work plan for proposed remedial work of the Playground Comfort Station.

DESCRIPTION/CONDITIONS

SITE

The Playground Comfort Station is sited between the Sand Court Shelter and the Basketball Courts Field House. There is a paved path leading from the south at a park entrance on the corner of Eighth Avenue and Clifton Avenue. Another paved pathway extends from the north where the basketball courts are located. Northwest of the comfort station is a staircase and a terrace where a wooden arbor was located.

BRICK AND STONE MASONRY

The walls of the comfort station are composed of painted brick laid in a Flemish bond pattern with limestone trim bearing on a granite base. Brick quoins reinforce the corners of the building and are designed to imitate stonework. Above the granite base there are 4 - 6 courses of brick, depending on the grade, capped by a vertically tooled limestone belt course. These bricks are in poor condition and need 100% repointing. Typically the vertical and bed joints of the limestone belt course are in poor condition and also need repointing. The brick walls are surmounted by a vertically tooled limestone wall cap. (See Photo 59). Approximately 40% of the vertical and bed joints of the wall cap are open, exposed and need repointing. The original mortar is tinted to a similar color as the bricks. The dimensions of the bricks vary from 2 1/4" - 2 1/2" in height to 7 1/4" - 7 3/4" in width. Small granite stoops at the entrance to the original doorways are in good condition and only display slight wear. (See Photo 60). The

brickwork on the north side of the building is in poor condition and needs 100% repointing. Bricks are missing from the northeast and northwest corners as well as the center of the north wall. (See Photos 61, 62). The east wall is in fair to poor condition and needs 30% repointing. (See Photo 63). The south and west walls are in fair condition and need repointing around the base. 100% of the brick and stone masonry is painted red or white, either to deter or cover up graffiti.

WOOD CORNICE

A painted wood and steel cornice wraps around the building. (See Photo 64). On all sides of the cornice there are areas where the wood is cracking and the paint is peeling. There are approximately 15 holes drilled in the cornice directly below the roofline on the east and west sides of the building

WOOD ROOF STRUCTURE

Rafters 3" x 8" at 18" on center, slope down from the top of the roof and extend 4'-0" beyond the face of the comfort station and terminate as decorative eave supports. On the northeast corner and northeast side of the shelter there is damage to the eave supports and beaded wood board sheathing, including rotting wood and cracked, peeling paint. Deterioration is about 15% in the wood rafters and includes checks, notches and cracked, peeling paint. On the east side of the building approximately 60% of the beaded wood board sheathing has been replaced by plywood, many of the other original beaded wood boards are cracked and in poor condition. (See Photo 65).

ASPHALT SHINGLE ROOF

Non-original, asphalt shingles now cover the roof sheathing. This

project was completed in 1984 as a partial restoration of the park and its structures by Brown & Hale Architects (Newark, N.J.). The shingles are in good condition except at the edges and corners of the roof where there is no edge trim and they are cracked and chipped. (See Photo 66).

WORK PLAN

1. REHABILITATION PLAN

DIVISION 1: GENERAL REQUIREMENTS

- 1.1 General Conditions including supervision, temporary facilities and temporary utilities and security during restoration.
- 1.2 Perform all work consistent with the "Guidelines for Restoration" of the U.S. Secretary of the Interior. Obtain approval from the NJ State Historic Preservation Office (SHPO).
- 1.3 Provide shoring and bracing as needed for all removals and as required for all work.
- 1.4 Selectively remove in accordance with SHPO approved plans:
 - 1.4.1 Broken sections of the cornice where holes were drilled.
 - 1.4.2 Plywood over windows
 - 1.4.3 Plywood sheathing
- 1.5 Selectively remove for reinstallation in accordance with SHPO approved plans.
 - 1.5.1 Brick masonry as required for brick repairs.

DIVISION 2: SITE WORK – WITHIN 10' OF BUILDING FACE

- 2.1 Remove and legally dispose of all debris from site; store all building fabric for re-use or as model for recreated historic features.

- 2.2 Provide site paving, based on Treatment Plans approved by SHPO.

DIVISION 4: MASONRY

4.1 Brick

- 4.1.1 Replace all missing brick with new brick to match existing historic in size, color and texture. Remove and replace all non-matching, reconstructed brick features with brick to match as closely as possible, existing historic brick in size, color, and texture.
- 4.1.2 Reset removed brick.
- 4.1.3 Patch selected damaged historic brick with restoration mortar to match existing historic brick in color and texture.
- 4.1.4 Rake and repoint all brick mortar joints with mortar to match original based on scientific sampling. Work to include all foundation joints up to 2' – 0" below grade.
- 4.1.5 Clean all brick masonry including the removal of all paint and graffiti.

4.2 Stone

- 4.2.1 Patch selected damaged limestone with restoration mortar to match existing in color and texture.
- 4.2.2 Rake and repoint all limestone mortar joints with mortar to match original based on scientific sampling.
- 4.2.3 Clean all stone masonry including removal of all paint and graffiti.

DIVISION 6: CARPENTRY

- 6.1 Provide selected, new rafters to replace severely deteriorated rafters. New rafters to be constructed of heavy timber, laminated wood, or synthetic material.
- 6.2 Repair rafters to remain, provide "Dutchman" and epoxy

repairs.

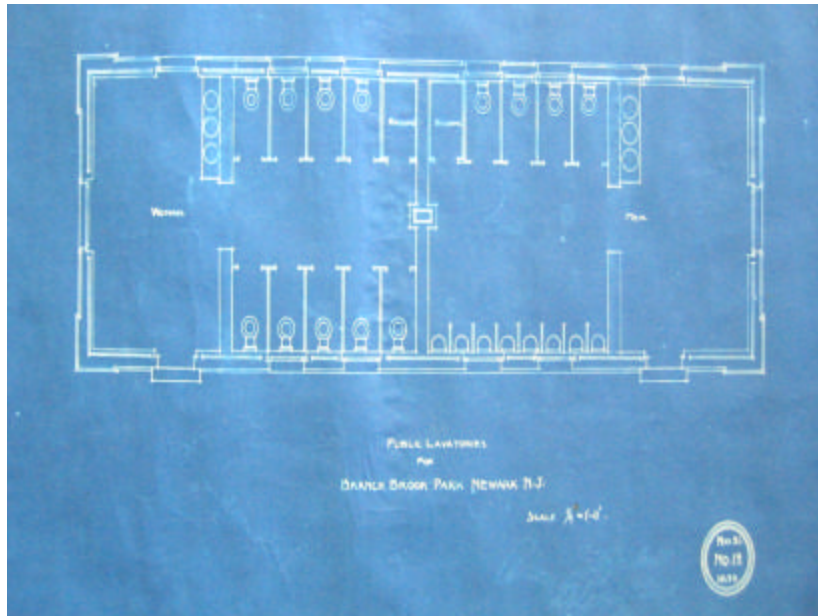
- 6.3 Repair or replace in-kind, historic cornice, including fixing and patching of holes.
- 6.4 Remove plywood from eaves and replace with beaded wood board or synthetic sheathing to match historic material.
- 6.5 Repair or replace in-kind, historic beaded wood board sheathing that has rotted and cracked.

DIVISION 7: WATER PROTECTION

- 7.1 Provide new gutters and downspouts based on original drawings to replace the ones that were removed from the building.
- 7.2 Replace missing or damaged asphalt roofing tiles.

DIVISION 9: FINISHES

- 9.1 Provide stain to match existing on all existing and new exposed wood or synthetic simulated wood members.



Original Drawing 11
Plan of the Playground Comfort Station.



Original Drawing 12
Front elevation; compare with photographs to note how the building has been altered over time.



Photo 57
The front façade of the comfort station.



Photo 58
View looking south with Clifton Avenue on the left; note the damage to the north wall.



Photo 59
Vertically tooled limestone fascia; note both the brick and wall cap have been painted and the vertical joints are open.



Photo 60
Granite stoop at one of the original entrances to the comfort station; note the damage to the metal clad wood door and the wear to the painted limestone trim.



Photo 61
Severely eroded mortar joints and missing brick from the northwest corner of the comfort station; note the brick quoins on the right side of the image.



Photo 62
Missing brick from the northeast corner of the comfort station; note that all the brickwork needs to be repointed.



Photo 63
Detail of bricks on the east wall of the building; note that the mortar has almost fully eroded between the bricks.



Photo 64
Wood and metal cornice on the front façade of the building.



Photo 65
Beaded wood board sheathing on the eastside of the comfort station;
note how the wood has rotted.



Photo 66
Rotted and broken roof sheathing; note that the asphalt roof tile has
failed here and on most edges of the building.

9. PARK AVENUE BRIDGE

INTRODUCTION

The Park Avenue Bridge, (see Photo 67), was designed by the architectural firm of Babb, Cook and Willard (3 West 29th Street, NYC) and constructed in 1907. The original design of 1901 called for the bridge to have two 60-foot spans. One span crossed over the main roadway, the other over the waterway and walks. That design was changed a year later to one 130-foot span over the water, walkways and road and it was this plan that was built. An analysis for the reconstruction and rehabilitation of the bridge and site was prepared by Lichtenstein Consulting Engineers (45 Eisenhower Drive, Paramus, New Jersey) in November 2003. This report was prepared in consultation with that plan.

The Park Avenue Bridge is a steel-reinforced concrete Melan arch bridge. The bridge's main span is 130' – 0" and its width is approximately 70' – 0". It spans a narrow channel of water as well as a roadway and walkways. Automobile and foot traffic currently run across and under the bridge. (See Photo 68). The northeast buttress shows significant signs of spalling concrete, (see Photo 69), as does the bridge's underside. (See Photo 70). The bridge has suffered greatly from vandalism and a lack of maintenance. Annotated photographs provide visual images with detailed condition descriptions. At the time of this writing, detailed bridge restoration plans have been prepared by Lichtenstein Engineers on behalf of Essex County. Restoration will occur pending the findings of this work.

DESCRIPTION/CONDITIONS

SITE

The bridge connects the east and west sides of the park. There is an asphalt paved two-lane road, walkways and water channel underneath the bridge. The walkway on the east side, underneath the bridge, is in poor condition with many cracks and holes in the asphalt pavement. An asphalt paved two-lane road goes over the bridge. There are concrete sidewalks on both sides of the road over the bridge. There is a significant amount of vegetation overgrowing the site as well as building debris from the bridge and garbage.

CONCRETE

The Park Avenue Bridge is constructed of steel-reinforced concrete. There are four octagonal buttresses on the bridge faced with pre-cast concrete panels designed and finished to imitate marble stonework. (See Photo 72). This was accomplished by having the surface of the concrete specially prepared with marble, granite and other stone aggregates included in the mix to provide the desired color and texture. The concrete was then stippled with a pointed tool to remove any trace of formwork giving the surface an even finish. All the buttresses display signs of vandalism and a lack of maintenance. Damage also includes, spalling, cracking, and scaling of the concrete. Fifty percent of the concrete has spalled on the northeast buttress due to severe weathering and the effects of the freeze-thaw cycles. (See Photo 69). Large pieces of pre-cast concrete have lost their steel anchorage because of severe rusting on the upper portion of this buttress and fallen on the sidewalk. (See Photo 72). The three other buttresses display significant signs of deterioration, though not as severe. Failure of the mortar joints is a pervasive problem of all the buttresses. This allows water to penetrate behind many of the pre-cast pieces, causing severe damage. (See Photo 73). The top southwest buttress has open vertical and horizontal joints from 1" – 4" and is

covered with graffiti and biological growth. The southeast buttress is covered with vines whose roots have caused the surface of the concrete to crack. There is significant damage to sections of the pre-cast concrete panels on this buttress as well. Furthermore, the lack of maintenance has caused efflorescence and biological growth to form on all surfaces of the bridge

New aluminum railings have replaced the original terra cotta balustrade and terminate in square concrete pedestals, some of which show signs of severe deterioration. The pedestals do not have separate concrete panel facing. Both the pedestals and posts were assembled from separate blocks of solid concrete. The northeast pedestal has an area, immediately below the cap where 60% of its original concrete has eroded. (See Photo 74). The three other pedestals at the ends of the railings are significantly damaged as well. (See Photo 75). Most of the damage occurs in the same place immediately below the cap at the bed joints. The aluminum railings are still punctuated by the original concrete posts. Twenty-six remain out of the original 28 and are, in some cases, severely damaged from vandalism and a lack of maintenance. (See Photos 76, 77). There are two large posts at the center of the north and south railings approximately twice the size of the others, both have been patched with mortar but still show signs of damage. (See Photo 78). Two posts on the northeast side of the bridge are missing along with the railing and base. A steel vehicular railing has been put in their place. The original concrete base of the railing remains in most other locations, though it suffers from spalling chipping and cracking. The exposed vertical surfaces of the bridge are extremely cracked and soiled. There is considerable cracking and spalling of concrete on the north and south faces of the arch as well as the underside of the bridge. Exposed and rusting steel beams and rebar can be seen on all of these surfaces. (See Photos 79, 80, 81, 82). These areas of damage are from 1' - 0" up to 2' - 0" x 20' - 0". Vines growing from the

southeast embankment cover half the face of the southern side of the bridge and the southeast buttress.

WORK PLAN

1. URGENT AND IMMEDIATE

1.1 Secure concrete post illustrated in photograph 76.

2. REHABILITATION PLAN

Refer to plans at Essex County, by Lichtenstein Engineers.

DIVISION 2: SITE WORK – WITHIN 10' OF UNDERPASS

- 2.1 Remove and legally dispose of all debris from site; store all dislodged building fabric – for re-use or as model for recreated historic features.
- 2.2 Provide site paving, based on Southern Division Treatment Plan and as approved by SHPO.
- 2.3 Provide site planting as well as additional soil and grading based on historic Olmsted planting plans and Treatment Plan.
- 2.4 Provide new bridge walkway and roadway surfaces based on plans by Lichtenstein Engineers, and Southern Division Treatment Plan.



Photo 67
The Park Avenue Bridge from the southwest embankment; note the soiled and fractured face of the arch.



Photo 68
Park Avenue going over the bridge; note the rusted steel vehicular guardrail on both side of the road.



Photo 69
Cracked and spalling concrete on the northeast buttress; note the graffiti, efflorescence and green and black biological growth.



Photo 70
Soiling and spalling on the underside of the bridge; note both the vertical and horizontal cracking.



Photo 71
The southeast butters and lamppost; note that this butters is capped by its original luminary.



Photo 72
The top of the northeast butters and base of the lamppost; note the large amounts of material that have detached.



Photo 73
The effects of freeze-thaw cycles on the top of the southeast buttress; note how many of the joints are open and exposed.



Photo 74
Severe weathering and spalling of concrete on the northeast pedestal; Note that the location is directly below the cap at the bed joint.



Photo 75
Severe weathering and spalling of concrete on the southeast pedestal; note that the damage has occurred in the same place.



Photo 76
Displaced concrete post in the balustrade; note that this is an extremely dangerous situation since this block could fall, causing a fatal injury.



Photo 77
These two posts are severely damaged and missing their caps; note the missing railing as well.



Photo 78
The center railing post on the south side of the bridge; note that it has been patched but still remains in poor condition.



Photo 79
The north side of the bridge; note the heavily soiled surface, cracking and spalling.



Photo 80
The southwest face of the bridge; note the rusted, exposed steel reinforcing in the concrete.



Photo 81
The face of the south arch of the bridge directly below the railing; note that this area of spalling is approximately 10' - 0" long.



Photo 82
Exposed and rusting section of the Melan arch; note that this may cause severe structural damage to the bridge.

10. FOOTBRIDGE 1982

INTRODUCTION

This footbridge is located directly north of the Park Avenue Bridge and was constructed during a project of park redevelopment in 1982 by VEP Associates, Engineers. (See Photo 83).

The footbridge is a steel reinforced arched concrete structure. An aluminum railing spans between 8 concrete posts, 4 on each side of the bridge. The four concrete posts at the ends of each railing are surmounted by steel lamp posts.

DESCRIPTION/CONDITIONS

SITE

The footbridge is located directly north of the Park Avenue Bridge. (See Photo 84). A dirt and gravel path leads to the concrete deck of the bridge from the east and west. The bridge is directly east of the main north/south park road and it crosses over a channel connecting the two parts of Branch Brook Park Lake.

CONCRETE

The footbridge is a steel reinforced arched concrete structure. The deck and underside of the concrete arch as well as the posts are in good condition with only slight spalling and soiling of the concrete. The concrete posts display signs of cracked and peeling paint. (See Photo 85).

ALUMINUM RAILING

The aluminum railing is in good condition overall and displays signs of normal wear and weathering including oxidation. Sections of the railing are covered with graffiti. (See Photo 86). The design, although matching the bridge above, is heavy and inappropriate for the park.

LIGHTING

The four lampposts, two on each end of the bridge, are in good condition. The painted surface is cracked and peeling in a few locations. A section of glass is broken on the southwest lamppost. (See Photo 87).

WORK PLAN

1. REHABILITATION PLAN

DIVISION 1: GENERAL REQUIREMENTS

- 1.1 General Conditions including supervision, temporary facilities and temporary utilities and security during restoration.
- 1.2 Provide shoring and bracing as needed for all removals and as required for all work.

DIVISION 3: CONCRETE

- 3.1 Clean all concrete surfaces including the removal of all organic growth and graffiti.

DIVISION 5: METALS

- 5.1 Remove all graffiti from aluminum railing.

DIVISION 9: FINISHES

- 9.1 Prepare and paint areas of concrete currently covered with peeling paint.
- 9.2 Prepare and paint all lampposts.

DIVISION 16 LIGHTING

- 16.1 Fix, where broken, all ornamental light fixtures on top of posts, or replace with fixtures appropriate to the park.



Photo 83
The concrete arched footbridge crossing over the channel between the two sections of Branch Brook Lake; note the aluminum railing and lamp posts.



Photo 84
View south towards the footbridge and the Park Avenue Bridge.



Photo 85
Peeling paint on the concrete posts.



Photo 86 A concrete post at the north end of the footbridge; note the A section of the aluminum railing that is covered with graffiti.
A concrete post at the north end of the footbridge; note that the aluminum railing is in good condition overall, but sections are covered with graffiti.



Photo 87
A section of broken glass in the lamppost on the southwest side of the footbridge.

11. THE DUTCH GARDEN RUINS

INTRODUCTION

The Landscape Architecture firm of Barrett and Bogart designed the Dutch Garden in 1897. Barrett and Bogart's design intent for this section of the park included many terraced gardens, each with a different theme. The remains of the Dutch Garden are the most extensive ruins of these thematic gardens in this section of the park, (see Photo 88), and have significant historic design value as original historic fabric.

The ruin that remains is a low retaining wall approximately 104' – 0" long from north to south and 70' – 0" long from east to west. The wall is approximately 3' – 8" at its highest point and 2' – 0" in width. The wall is rubble construction from mostly local brownstone set in mortar. (See Photo 89).

DESCRIPTION/CONDITIONS

SITE

There are two paths leading from the south that run parallel to Dutch Garden ruin. The ground around the wall is covered with thick, predominantly invasive, vegetation and also includes spots where the earth is eroded and has no topsoil. (See Photo 90). There is significant debris, both natural and garbage, around the site. (See Photo 91).

STONE MASONRY

Although the wall of the Dutch Garden is constructed primarily from local brownstone set in mortar, about 2 – 3% of the wall is comprised of slate and other types of local stone. The stone is laid in a broken ashlar pattern that is about 4-5 courses in height. Sections of the top of the wall have been damaged and are missing. Typically, these coping stones are smaller than the ones that compose the main vertical face of the retaining wall. There is a significant amount of invasive plant growth coming out of the top of the wall and overgrowing it as well. Soil is eroded around the entire structure exposing the base of the wall. The wall joints are approximately 1/2" wide and in poor condition. (See Photo 92). Though there is evidence of remedial patching of the masonry 100% of the wall needs to be repointed. A corner on the north side of the wall has broken off. (See Photo 93). Much of the vegetation growing on the surface extends deep into cracks in the wall.

WORK PLAN

1. REHABILITATION PLAN

DIVISION 1: GENERAL REQUIREMENTS

- 1.1 General Conditions including supervision, temporary facilities and temporary utilities and security during restoration.
- 1.2 Perform all work consistent with the "Guidelines for Restoration" of the U.S. Secretary of the Interior. Obtain approval from the NJ State Historic Preservation Office (SHPO).
- 1.3 Selectively remove for reinstallation in accordance with SHPO approved plans:
 - 1.3.1 Loose Stone.

DIVISION 2: SITE WORK – WITHIN 10' OF WALL

- 2.1 Remove and legally dispose of all debris from site; store all building fabric – for re-use or as model for recreated historic features.
- 2.2 Provide site paving, based on Treatment plans approved by SHPO.
- 2.3 Provide site planting, including additional soil based on historic planting plans and on Treatment plans.
- 2.4 Reset all stone – pattern to match existing.
- 2.5 Replace missing and damaged stone to match existing historic in size, color and texture.

DIVISION 4: MASONRY

- 4.1 Stone
 - 4.1.1 Replace all missing and replacement, non-matching stone, with new stone to match existing historic in color, size and texture.
 - 4.1.2 Remove all vegetation from wall joints and replace/reprint stone disturbed from this work.
 - 4.1.3 Patch selected damaged stone, with restoration mortar to match existing historic in color and texture.
 - 4.1.4 Rake and repoint all stone mortar joints with mortar to match original based on scientific sampling.
 - 4.1.5 Clean all stone masonry including removal of all graffiti and biological growth.



Photo 88
View of the remains of the "Dutch Garden" retaining wall; note all the spots of bare earth around the site.



Photo 89
View of wall, stone and mortar details; note the missing coping stones at the top of the wall.



Photo 90
Erosion around the base of the wall; note that the stones at the top of the wall are typically smaller than at the bottom.



Photo 91
Debris around site; note the biological growth on the wall surface.



Photo 92
Remedial patching of the masonry; note the patching in most places is poor and that the wall should be entirely repointed.



Photo 93
Plant growth coming from a cracked corner of the wall.

12. HIGH MOUND TERRACE

INTRODUCTION

The High Mound Terrace is an overlook that was designed by the landscape architecture firm of Barrett and Bogart and maintained as part of the Olmsted plan for the park. It faced west and looked over a statuary garden. Originally, a carriage path led to the top of the mound where there was a place to stop and enjoy the scenery.

The ruin that remains is a retaining wall approximately 212' – 0" long from north to south and 125' – 0" long from east to west. (See Photo 94). The wall height varies depending on the grade from 17' – 0" to 20' – 0". The top of the wall is 21" in width. The wall is constructed from a local brownstone set in mortar. Approximately, 2 – 3% of the wall is made of slate and other types of stone (sedimentary or metamorphic rock). (See Photo 95).

DESCRIPTION/CONDITIONS

SITE

There is a single unpaved pedestrian path that runs north/south in front of the terrace. The back of the terrace slopes down to and faces Clifton Avenue. There is a dirt path that runs to the top of the terrace and provides access to the perimeter walls. Particularly along the south half of the west wall the grade of the earth terrace is even with the top of the wall due to the loss of stones. The terrace wall originally provided a safety barrier; the stones' absence causes a safety hazard. The top of the Terrace is extremely overgrown with vegetation. (See

Photo 96). There is significant debris, both natural and manmade, around the site.

STONE MASONRY

The retaining wall of the high mound terrace is constructed of stone, as described above, laid in a broken ashlar pattern. (See Photo 97). Sections of the top of the wall including the parapet and coping stones are missing. (See Photo 98). The southern half of the site has significantly more missing stones than the north. On half of the terrace along the west stones have been removed down to the level of the earthen terrace. There is a large amount of plant growth coming out of the top of the wall and overgrowing it as well. Graffiti covers large sections of the lower part of the western wall. Soil has eroded around much of the structure and there is a considerable amount of stone missing from the base at the north side of the wall. (See Photo 99). This has caused significant cracks to form and structurally weaken this area of the wall. The wall joints are approximately 1/2" wide and in poor condition and 100% of the wall needs to be repointed. A mortar cap has been applied in many locations but it is cracking and failing. There is evidence of remedial patching of the masonry. Large sections of the wall, approximately 40% have biological growth on the surface, which extends into cracks in the structure. (See Photo 100).

WORK PLAN

1. URGENT AND IMMEDIATE:
 - 1.1 Provide temporary safety fence along sections of the wall which are not at least 3' – 8" above the adjacent terrace grade.
2. REHABILITATION PLAN

DIVISION 1: GENERAL REQUIREMENTS

- 2.1 General Conditions including supervision, temporary facilities and temporary utilities and security during restoration.
- 2.2 Perform all work consistent with the "Guidelines for Restoration" of the U.S. Secretary of the Interior. Obtain approval from the NJ State Historic Preservation Office (SHPO).
- 2.3 Selectively remove for reinstallation in accordance with SHPO approved plans:
 - 2.3.1 Loose stone.

DIVISION 2: SITE WORK – WITHIN 10' OF WALL

- 2.1 Remove and legally dispose of all debris from site; store all building fabric – for re-use or as model for recreated historic features.
- 2.2 Provide site paving, based on plans approved by SHPO and the Treatment Plan.
- 2.3 Provide site planting, including additional soil based on historic planting plans and the Treatment plan.
- 2.4 Reset all stone – pattern to match existing.
- 2.5 Replace missing and damaged stone to match existing historic in size, color and texture.

DIVISION 4: MASONRY

- 4.1 Stone
 - 4.1.1 Replace all missing and replacement, non-matching stone, with new stone to match existing in color, size and texture.
 - 4.1.2 Patch selected damaged stone, with restoration mortar to match existing in color and texture.
 - 4.1.1 Rake and repoint all stone mortar joints with mortar to match original based on scientific sampling.

- 4.1.2 Clean all stone masonry including removal of all graffiti.
- 4.1.3 Add railings appropriate to the design of the park, if access is provided to the top of the terrace, and where existing or rebuilt walls do not provide a 3' – 8" guard.



Photo 94
View looking north, the high mound terrace wall ruin.



Photo 95
Local brownstone comprising the wall; note the pieces of slate and other types of stones used in the construction of the wall.



Photo 96
The top of the terrace is currently overgrown with weeds and covered with building debris and garbage.



Photo 97
The southern section of the high mound terrace; note that the stepping is part of the original design.



Photo 98
Stones missing from the parapet; note that smaller coping stones are also missing and that ivy is overgrowing a large section of the wall.



Photo 99
Large amounts of stone missing from the base at the north side of the wall; note that the wall has cracked here because the wall structure is unstable.



Photo 100

Plants growing from cracks in the top and sides of the wall; note the black staining of biological growth.

13. THE OCTAGON SHELTER

INTRODUCTION

The Octagon Shelter, designed by Carrere & Hastings Architects (28 East 41st Street, NYC) in 1899 was sited on a projection of land on the eastern side of the Branch Brook Lake known as Meeker Mound. (See Photo 101). Initially, the location of the shelter seemed problematic as it disrupted the continuous axial view to the lake from Sixth Avenue. However, because of its distinct elevation and location The Octagon Shelter became one of the highlights of Branch Brook Park, acting as a structure of repose and offering framed views for park visitors. (See Historic Images 1, 2)

Three original architect's drawings are located at the Essex County Department of Parks, Recreation and Cultural Affairs (Newark, NJ) and include a site plan, a plan of the shelter and the rafters, a section, and an elevation. (See Original Drawings 13, 14 and 15). The site plan describes a grander vision for the Shelter, which included perimeter flower beds, steps, and low benches in a similar octagonal configuration. Today, there is no vestige of these additional amenities; it appears that only the Shelter was completed. The original drawings provide configurations and overall dimensions. However, they provide no material notes.

The Octagon Shelter, constructed in 1906, is an 8-sided, open pavilion. (See Photos 101, 102 and 103). It is a brick masonry structure with limestone trim with an 8-section sloped roof, framed with heavy timber roof structure. It measures approximately 13' – 10" on each of its 8 sides and 33' – 9" across. It is approximately 22' – 6" high. Four of the 8 sides have low walls; the other 4 sides are open

providing access into the Shelter. It has suffered greatly from vandalism and a lack of maintenance. The accompanying sketch plan, SK-1, provides orientation and designations for the structure's facades and columns. Annotated photographs provide visual images with detailed condition descriptions. Following are a detailed description, including conditions assessment, and a work plan for proposed remedial work of The Octagon Shelter.

DESCRIPTION/CONDITIONS

SITE

There is a single paved path leading from the north and rising up Meeker Mound to The Octagon Shelter. The area in the immediate vicinity of the structure is devoid of grass or ground cover. The earth is eroded by as much as 3" – 4" and has no topsoil. There is significant debris, both natural and building material, around the site. Remedial treatment of the site is discussed in "Branch Brook Park: Treatment and Management Plans for The Southern Division."

BRICK AND STONE MASONRY

The Shelter's perimeter construction rests on a granite plinth. Each block is 6" thick and bears on brick foundations. The granite blocks serve as thresholds at the 4 entry openings. Soil is eroded around the entire structure exposing up to 3" – 4" of the brick foundation. The exposed foundation joints are in poor condition. There is evidence of settlement below column No. 5.5. (See Photo 104). The granite mortar joints are typically open and in poor condition.

Four sides of The Octagon Shelter have low walls (sides 2, 4, 6 and 8) and the 4 other (sides 1, 3, 5 and 7) have openings into the pavilion. (See Photos 111, 112 and 113). Brick columns frame all low

walls and openings. The 1'-4" thick, brick, low walls and columns rise from a vertically-tooled, 1'-4" high, limestone base. Most mortar joints are open and there is minor stone spalling, typically at vertical mortar joints, from water penetration and the adverse effects of freezing and thawing. The base is covered with painted graffiti. The brick, low walls have recessed panels on both sides and are topped by vertically-tooled limestone sills which run through the columns as a decorative belt course. (See Photo 111). There are 2 significant spalls at the sill/belt course (see Photo 117) and the sill edges are worn and pock marked. Sill mortar joints are in poor condition (see Photo 118). The columns are topped by vertically-tooled, limestone column caps. Bricks are rose-colored, smooth-face, 2 1/4 " x 3 1/2" with lengths varying around 8". Original mortar is tinted similar in color to the bricks and the joints are flush with the brick. Two entire brick columns, Nos. 4.5 and 7.5, were reconstructed. Additionally, one-half of columns 5.5 and 6.5 were rebuilt. Although brick sizes match the original, replacement bricks in the rebuilt columns are wire-cut and textured. (See Photo 117). Replacement mortar joints are gray colored and concave in configuration. They stand out from the original joints. The brick mortar joints are in poor condition, (see Photos 115 and 119), particularly those in the low walls and the lower half of the columns. There are many locations of missing and damaged brick. The low wall masonry below the sill at side 4 is missing. (See Photo 111). About 25% of the column No. 1.5 brick is also gone. (See Photo 110). Removal of additional masonry at this area will likely cause a structural failure. There are about 6 small additional areas of missing bricks. The limestone sill/decorative belt courses and caps were removed at the reconstructed columns. The replacement columns were constructed with only brick; no limestone was used. Without these decorative features, the rebuilt columns look significantly different than the originals. (See Photos 112 and 113). The limestone sill on side 4 was replaced with a concrete sill. All stone and brick masonry is soiled and covered with graffiti.

WOOD ROOF STRUCTURE

Large, heavy timber support beams, (12" wide) faced with 1" boards, span between the 8 brick columns and in turn are supported by heavy timber, cantilevered, decorative, wood brackets. Heavy timber (approximately 5" x 8 1/2") major rafters slope up from each column to a wood compression ring. Smaller roof rafters (3" x 7 1/2", 7 per bay) rise perpendicular to each wall and frame into the major rafters or the ring. All rafters extend 4'-0" beyond the face of the Octagon and terminate as decorative eave supports. One support beam and 2 brackets are missing (side 6); 3 support beam and 3 brackets have major rot and some missing fabric (sides 3, 4 and 7). We were unable to view the top of the support beams but due to the roofing system failure we assume there are significant additional areas of rotted wood.

Approximately 20 roof rafters are significantly deteriorated or have failed. Deterioration includes checks, notches and organic growth. Failure includes missing members or discontinuity of the member. Similar to the condition of the roof support beams, we assume that the tops of many additional rafters are rotted. Beaded, wood board sheathing, approximately 1" x 6" (beads every 3') spans between roof joists. About 40% is missing or severely damaged.

ASPHALT SHINGLE ROOF AND ROOF DRAINAGE SYSTEM

The original roof was a terra cotta tile roof, (see Original Drawing & Historic Image 18), which was typical in many Olmsted and Vaux Parks. Non-original, asphalt shingles now cover the sheathing. The shingles have failed completely. The historic photos and original drawings show a gutter and downspout roof drainage system. However, all that remains of that system is a cast iron downspout

“boot” located at column 3.5, which connected a downspout to the subsurface drainage system. The boot is rusted.

PAVING

The open interior of The Octagon Shelter is paved with brick the same size as the wall and column brick, (2 ¼" x 7 ¾" – 8 ?"). (See Photo 120). The granite plinth blocks serve as thresholds at the 4 entry bays. The brick pavers reveals normal wear including erosion and pock marks. Mortar joints are in poor condition with most gone or repointed. Surprisingly, there appears to be no major settlement. We do not know whether the pavers are set on a concrete or sand base. However, given the limited settlement, there is probably a concrete base.

WORK PLAN

1. URGENT AND IMMEDIATE

- 1.1 Immediately provide temporary shoring and bracing at column No. 1.

2. REHABILITATION PLAN

DIVISION 1: GENERAL REQUIREMENTS

- 1.1 General Conditions including supervision, temporary facilities and temporary utilities and security during restoration.
- 1.2 Perform all work consistent with the “Guidelines for Restoration” of the U.S. Secretary of the Interior. Obtain approval from the NJ State Historic Preservation Office (SHPO).
- 1.3 Provide shoring and bracing as needed for all removals and as required for all work.

- 1.4 Selectively Remove in accordance with SHPO approved plans:
 - 1.4.1 All Shingles.
 - 1.4.2 All roof sheathing.
 - 1.4.3 All significantly damaged and deteriorated roof rafters.
 - 1.4.3 All significantly deteriorated wood support beams and brackets.
 - 1.4.4 Non-original stone, low-wall sill.
- 1.5 Selectively remove for reinstallation in accordance with SHPO approved plans:
 - 1.5.1 Brick masonry as required for brick repairs.
 - 1.5.2 Brick masonry as required for installing of new stone, low-wall sills and column caps.
 - 1.5.3 Brick pavers.

DIVISION 2: SITE WORK – WITHIN 10’ OF BUILDING FACE

- 2.1 Remove and legally dispose of all debris from site; store all building fabric – for re-use or as model for recreated historic features.
- 2.2 Provide site paving, based on plans approved by SHPO.
- 2.3 Provide site planting, including additional soil based on historic planting plans.
- 2.4 Reset all brick pavers – pattern to match existing; provide handicap accessibility for at least one access point.
- 2.5 Replace missing and damaged brick pavers with pavers to match existing in size, color and texture.

DIVISION 3: CONCRETE

- 3.1 Provide miscellaneous concrete as required.

DIVISION 4: MASONRY

- 4.1 Brick

- 4.1.1 Replace all missing brick with new brick to match historic existing in size, color and texture. Remove and replace all non-matching, reconstructed brick features with brick to match as closely as possible, historic existing brick in size, color, and texture.
- 4.1.2 Reset removed brick.
- 4.1.3 Patch selected damaged historic brick with restoration mortar to match existing historic brick in color and texture.
- 4.1.4 Rake and repoint all brick mortar joints with mortar to match original based on scientific sampling. Work to include all foundation joints up to 2' – 0" below grade.
- 4.1.5 Clean all brick masonry including the removal of all graffiti.

4.2 Stone

- 4.2.1 Replace all missing and replacement, non-matching limestone, with new stone sills/belt courses and caps to match existing in color, size and texture.
- 4.2.2 Patch selected damaged stone, (granite and limestone), with restoration mortar to match existing in color and texture.
- 4.2.3 Rake and repoint all stone mortar joints with mortar to match original based on scientific sampling.
- 4.2.4 Clean all stone masonry including removal of all graffiti.

DIVISION 6: CARPENTRY

- 6.1 Provide selected, new wood, roof support beams to replace missing and severely deteriorated beams. Provide 1" x board cladding to match existing in finish. New beams to be constructed of heavy-timber or laminated lumber.

- 6.2 Provide selected, new, wood, decorative support brackets to replace missing and severely deteriorated brackets; size, finish and decorative characteristics to match existing.
- 6.3 Repair roof support beams and brackets to remain. Provide "Dutchman" and epoxy repairs.
- 6.4 Provide selected, new wood, roof rafters to replace missing and removed rafters. Rafters to match existing in size, finish and decorative characteristics.
- 6.5 Repair selected roof rafters to remain. Provide epoxy repairs.
- 6.6 Provide new beaded board roof sheathing to match existing in size, configuration and finish.

DIVISION 7: WATER PROTECTION

- 7.1 Provide new terra cotta tile roofing to replicate original roofing, based on historic photographs.
- 7.2 Provide roofing felts and underlayment, as required.

DIVISION 9: FINISHES

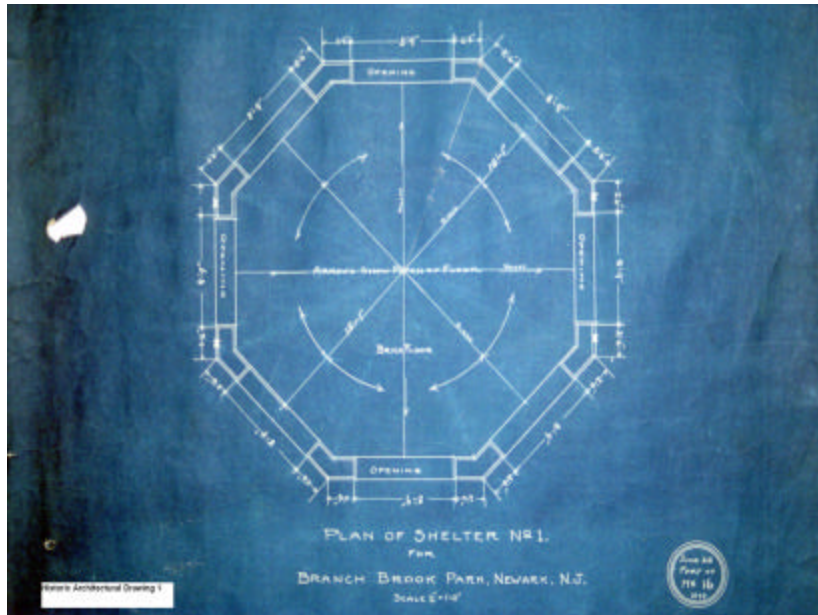
- 9.1 Provide stain to match existing on all existing and new exposed wood members.
- 9.2 Prepare and paint existing rusted, cast iron, downspout boot.



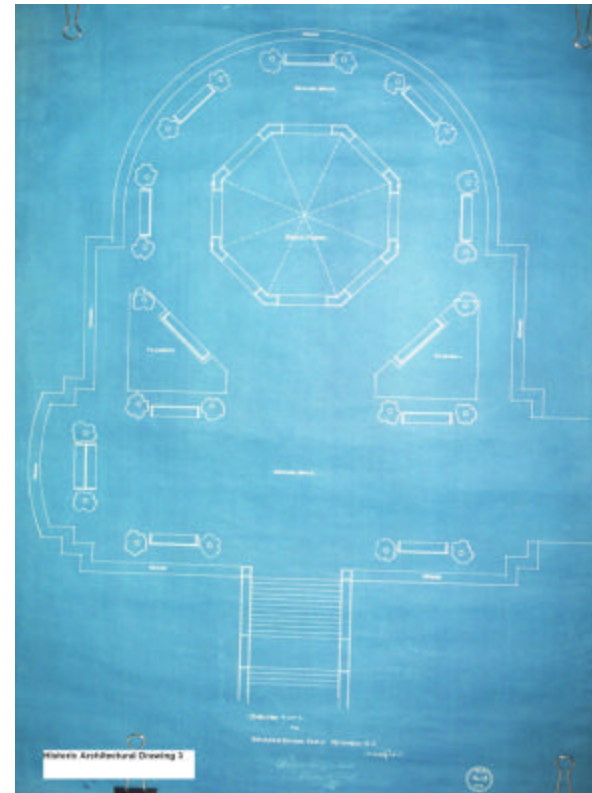
Historic Image 1
Early photograph of the Octagon Shelter.



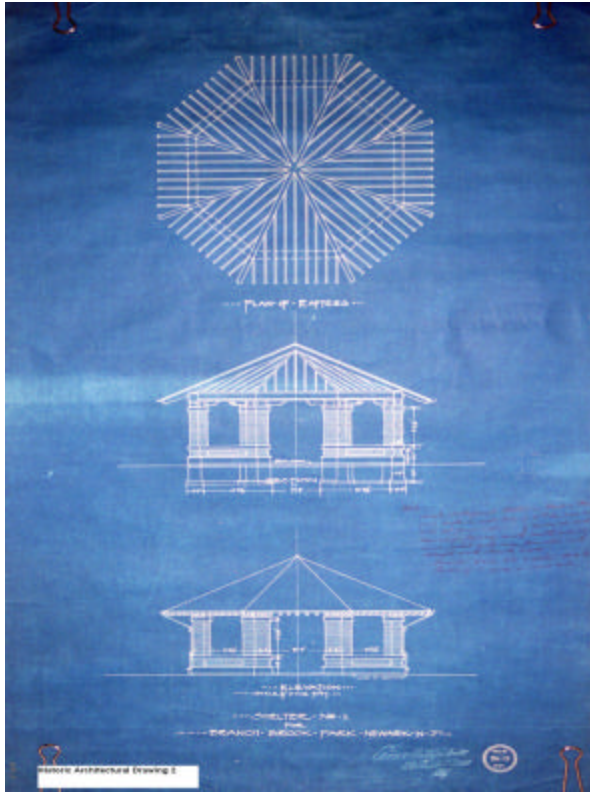
Historic Image 2
View of the Octagon Shelter and Meeker Mound.



Original Drawing 13
Plan of Shelter by Carrere & Hastings, 1899.



Original Drawing 14
Study for Octagon Shelter site, ca. 1899, by Carrere & Hastings.



Original Drawing 15
Elevations, ca. 1899, by Carrere & Hastings.



Photo 101
View of The Octagon Shelter across Branch Brook Lake from the west.



Photo 102
View of The Octagon Shelter from the south; note extensive roof damage and graffiti.



Photo 103
View of The Octagon Shelter from the southwest (side 6 closest); note absence of beams which support wood roof structure.



Photo 104
Detail of The Octagon Shelter, column 6.5, of missing roof support beam showing rot of remaining beam as well rot at adjacent roof rafters; note that the roof rafters extend over the beam as decorative eave supports



Photo 105
Detail of The Octagon Shelter, column 5.5, showing missing roof support beam, over side 6, and rot and failure of roof rafters.



Photo 106
Detail of The Octagon Shelter showing extensive rot of roof support beam; note typical decorative, beam support bracket.



Photo 107
Detail of The Octagon Shelter roof structure; each of 8 major rafters rests on a column and smaller rafters (7 on each side) frame into the major rafters.



Photo 108
Detail of The Octagon Shelter showing missing wood roof sheathing and failed asphalt shingle roofing.



Photo 109
Detail of The Octagon Shelter showing failed asphalt shingle roofing and exposed wood roof sheathing.



Photo 110
Detail of The Octagon Shelter showing missing brick at column 1.5;
note that all masonry surfaces are covered with graffiti.



Photo 111
Detail of The Octagon Shelter showing missing brick at side 4 low
wall; note that the limestone sill now spans between brick columns.



Photo 112
Detail of The Octagon Shelter from the west showing reconstructed brick columns, (No. 7.5 to the left); note that the limestone sills were altered, and do not divide the column as originally constructed.



Photo 113
Detail of The Octagon Shelter, column No. 5.5, showing reconstructed brick column.



Photo 114
Detail of The Octagon Shelter, column No. 5.5 limestone base with brick foundation exposed by soil erosion, under granite plinth; note that the open corner joint indicates some differential settlement.



Photo115
Detail of The Octagon Shelter showing typical brick low wall with eroded mortar joints, selective repointing with non-matching mortar and graffiti; note that the original mortar joints are tinted similar to the brick color.



Photo 116

Detail of The Octagon Shelter showing cracked limestone sill at column No. 2.5; note that, although virtually all stone mortar joints have failed, there is only limited cracking and spalling.

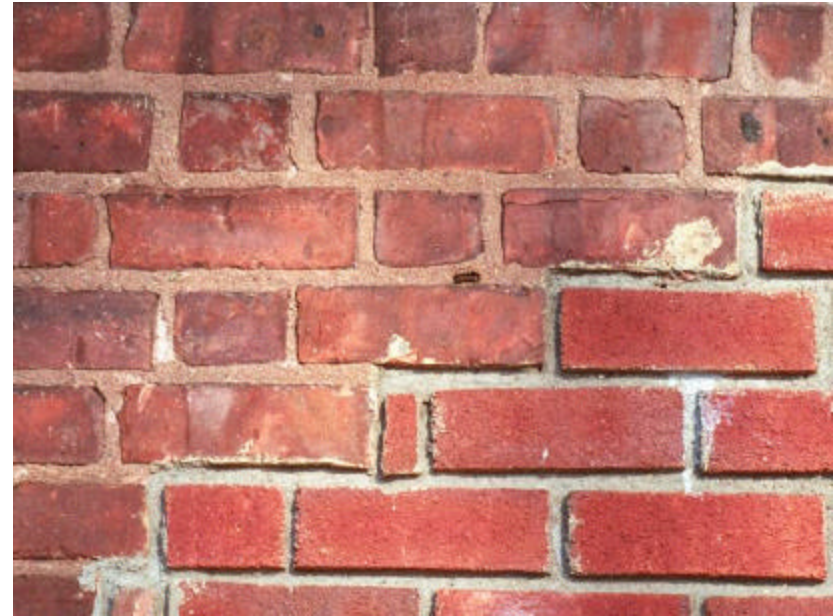


Photo 117

Detail of The Octagon Shelter showing new brick at partially rebuilt, column No. 5.5; note that the new brick matches the original in size and is reasonably close in color. However, the rough texture of the new brick contrasts with the smooth original and the new mortar joints stand out and do not match the original in color, composition or configuration.



Photo 118
Detail of The Octagon Shelter showing limestone column caps above brick column No. 2.5; note that the higher brick mortar joints are in better condition than those closer to the sill.



Photo 119
Detail of The Octagon Shelter showing typical, original, eroded, tinted brick mortar joints; note non-matching gray mortar.

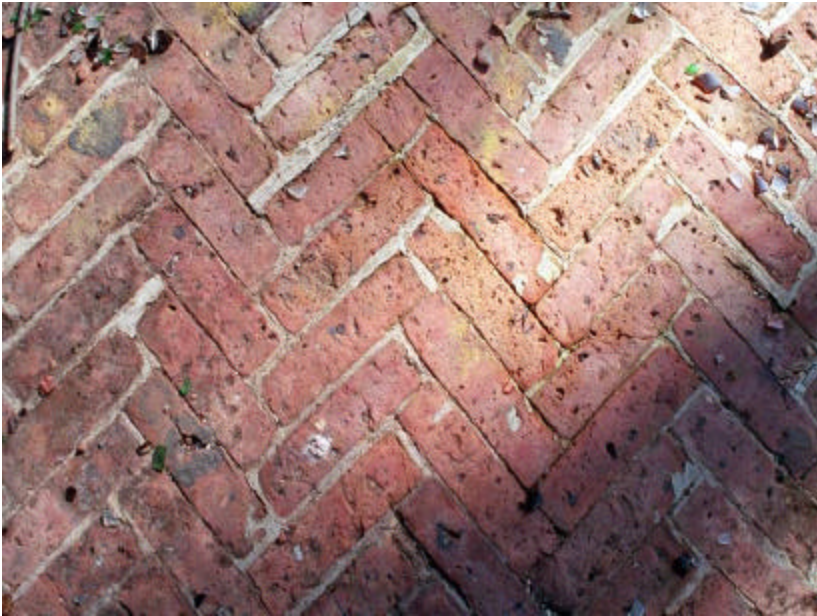


Photo 120
Detail of The Octagon Shelter showing typical “herringbone”-
patterned, brick paving; note that the bricks are typically pitted with
almost all missing, eroded or repointed mortar joints.

14. MENDELSSOHN BASE

INTRODUCTION

The Mendelssohn Base is a sturdy granite pedestal which honors the victory of Newark's United Singers at the National Salnderrest in 1908. It is located in the southern division of Branch Brook Park east of the Octagon Shelter and the Promenade near Barringer High School.

It has suffered from vandalism, and the bronze bust was removed from the stone base for safety and relocated to the entrance lobby of the Essex County Parks Department, Clifton Avenue headquarters. (See Photo124). Annotated photographs provide visual images with detailed descriptions of conditions. Following are detailed descriptions, including conditions assessments for the Mendelssohn Base in the southern division of Branch Brook Park.

DESCRIPTIONS/CONDITIONS

SITES

The Mendelssohn Base is located on a grassy slope east of the Octagon Shelter and The Promenade and immediately south of Barringer High School. (See Photo 121). Plants grow adjacent to and from under the stone plinth.

STONE

The Mendelssohn Base is constructed of granite with a variety of different finishes. A 5' x 5' granite plinth with rough-cut faces supports

the monument "base," which is approximately 6' tall. The monument is classically designed in 3 parts above the plinth with a base, tapered shaft and a capital upon which rested the now-removed bust. The stone is in surprisingly good condition, not withstanding the disfiguring graffiti. The southeast corner of the base has been vandalized and is missing. (See Photo 123). Fortunately this is the only significant breakage. The upper area of the capital has modest spalling. There are a limited number of cracks; all the mortar joints are open. Graffiti disfigures all four faces of the monument.

WORK PLAN

1. REHABILITATION PLAN

DIVISION 1: GENERAL REQUIREMENTS

- 1.1 General Conditions including supervision, temporary facilities and temporary utilities and security during restoration.
- 1.2 Perform all work consistent with the "Guidelines for Restoration" of the U.S. Secretary of the Interior. Obtain approval from NJ State Historic Preservation Office (SHPO).

DIVISION 2: SITEWORK – WITHIN 10' OF BASE

- 2.1 Remove and legally dispose of all bushes and non-grass plant growth from site.
- 2.2 Provide landscape and site paving based on historic site plans, and current needs.

DIVISION 4: MASONRY

- 4.1 Clean all stone including removal of graffiti.
- 4.2 Patch spalled and cracked stone with restoration mortar to match existing stone in color and texture.
- 4.3 Provide stone "Dutchman" at southeast corner of base; stone to match existing in type, color and texture.

- 4.4 Provide detailed sample mock-ups to determine least visible apparent anti-graffiti coating; apply anti-graffiti coating based on samples.

DIVISION 5: METALS

- 5.1 Reset Mendelssohn bust, as part of overall park restoration and redevelopment.



Photo 121
View looking west of the Mendelssohn Base; the 3 part granite base rests on a granite plinth with rough-cut faces.



Photo 122
Detail of extensive graffiti on the Mendelssohn Base.



Photo 123
Detail of the Mendelssohn Base, showing breakage at southeast corner.



Photo 124
The Mendelssohn bust in its Essex County Parks Department headquarters setting, as of November 2004.

15. SENIORS' BUILDING

INTRODUCTION

The first seniors' building on this site was originally the park foreman's office and was constructed around 1950. That building became the Seniors' Building in 1960 but was destroyed by fire in 1985. The current building was designed and built by the Essex County Parks Commission in 1985. (See Photo 125).

The Seniors' Building is 70' – 8" from north/south and 40' – 8" east/west. The building is constructed from gray and brown split face concrete masonry units laid in a running bond pattern. (See Photo 126). Four circular, painted, wood wall medallions, (see Photo 128), are placed on the vertical face of the building directly below the four gable ends of the roof. A wood cornice with aluminum edge trim is immediately below the roof. (See Photo 128). Many sections of the asphalt shingle roof are in poor condition with shingles missing or broken. (See Photos 129, 130). Twenty blind windows are recessed into the walls and constructed from concrete masonry units. There are 13 plexiglas and aluminum windows set into wood frames around the building; 8 on the south façade, 3 on the west façade and 2 on the east façade. Typically they are in poor condition with fogging between the panes of plexiglas most likely caused by broken weather seals. (See Photo 131). The plexiglas surfaces are scratched, discolored and covered with graffiti. Exposed and rusting steel lintels span across the top of each window opening. (See Photo 132). The wood window frames display signs of weathering and small cracks. On the north, south and west façades there are three aluminum and glass doors; all display signs of wear and weathering. Annotated photographs provide visual images with detailed condition

descriptions. Following are detailed descriptions, including conditions assessments, and a work plan for proposed remedial work of the Seniors' Building.

DESCRIPTION/CONDITIONS

SITE

The seniors' building is located in the park's middle division directly south of the Bloomfield Avenue Bridge. A parking lot and the main north/south park road are directly west of the building. Bocce courts and the Rick Cerone field house are east of the building. (See Photo 133). South of the seniors' center are the Middle Division ball fields and Branch Brook Park Lake. The existing Bocce Courts will be relocated and upgraded during rehabilitation of the Middle Division ball fields currently under construction.

CONCRETE MASONRY

The seniors' building is constructed from gray and brown split face concrete masonry units laid in a running bond pattern. Typically, the concrete block walls and joints are in good condition with some open and exposed joints along the base and cornice of the building. There is cracking of the mortar joints on the west and south façades. (See Photos 134, 135, 136). Zigzag cracks are visible along the mortar joints of these walls, evidencing water penetration behind the cornice or settlement of the masonry. Cracking also occurs below windowsills on the south facade. Graffiti covers large areas of masonry on the north and east walls. (See Photo 137). Twenty blind windows each approximately 2' – 0" are constructed from concrete masonry units and recessed into the building's facade. There are six each on the east and west facades and eight on the north façade.

WOOD CORNICE

A wood cornice with aluminum edge trim surrounds the top of the building. The cornice is in good condition but there are some areas of peeling paint and cracked wood. Plywood soffits on the underside of the cornice are in good condition.

ASPHALT SHINGLE ROOF

In certain areas of the roof many asphalt shingles are missing or in poor condition and covered with graffiti. This occurs primarily at the south end of the building, specifically where the roof slopes towards the north and east. In these locations, the shingles are cracked and chipped or missing and exposing the sheathing underneath. Shingles are also missing or graffiti covered at the edge of the roof's north slope.

DOORS AND WINDOWS

The windows are in poor condition and need to be repaired or completely replaced. The plexiglas glazing is scratched and fogged. Moisture has condensed between the plexiglas panes probably caused by broken weather seals. The doors are weathered, although in fair condition overall. The flexible sealant between the windows, doors and their frames has failed and needs to be replaced.

WORK PLAN1. REHABILITATION PLAN

DIVISION 1: GENERAL REQUIREMENTS

- 1.1 General Conditions including supervision, temporary facilities and temporary utilities and security during restoration.
- 1.2 Perform all work consistent with the "Guidelines for Restoration" of the U.S. Secretary of the Interior. Obtain approval from the NJ State Historic Preservation Office (SHPO).

DIVISION 4: MASONRY

- 4.1 Rake and repoint selected concrete masonry unit mortar joints with mortar to match original.
- 4.2 Clean concrete masonry units and masonry joints including the removal of all and graffiti.

DIVISION 7: THERMAL AND MOISTURE PROTECTION

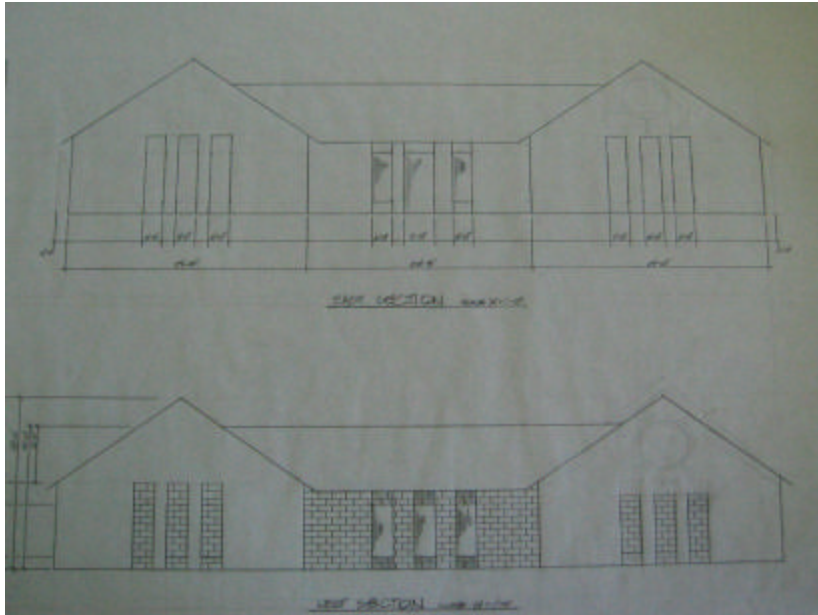
- 7.1 Replace selected damaged missing and graffiti covered asphalt shingles on roof with new asphalt shingles to match original.
- 7.2 Provide flexible sealant around windows frames at intersection with masonry.

DIVISION 8: WINDOWS AND DOORS

- 8.1 Repair or replace current windows with aluminum and glass windows, provide impact resistant glazing. Make new windows aesthetically compatible with building rehabilitation and new structures elsewhere in the park.

DIVISION 9: FINISHES

- 9.1 Prepare and paint exposed and rusting steel lintels above all windows. Make colors and finishes compatible with building rehabilitation and new structures elsewhere in the park.



Original Drawing 16
This drawing shows elevations of both the east and west facades and was prepared by the Essex County Parks Commission.



Photo 125
Overall view of the seniors' building; note the six blind windows on east façade as well as the wood medallions and graffiti.



Photo 126
Gray split face concrete masonry units laid in a running bond pattern; note that they are in good condition except for the graffiti.



Photo 127
One of the four wood medallions; note that this one is located on the southeast side of the building.



Photo 128
The painted plywood soffit of the cornice; note that it is in good condition with only slight wear.



Photo 129
Missing and damaged shingles on the south end of the roof.



Photo 130
The north slope of the roof has missing asphalt shingles, exposed roof sheathing and graffiti along its edge.



Photo 131
Three of the windows on the south façade; note the fogged plexiglas and the graffiti.



Photo 132
The rusting steel lintel spanning the window opening; note the weathering of the wood window frame.



Photo 133
The bocce courts located directly east of the of the seniors' building.



Photo 134
Zigzag cracking from the cornice to a window frame on the south façade of the building.



Photo 135
Vertical cracking from a windowsill to the base of the building along one of the mortar joints.



Photo 136
This zigzag crack is approximately 5' – 0" on the west façade of the seniors' building.



Photo 137
The east façade of the seniors' center is covered with graffiti; note the rolling steel security gates that cover the doors and windows at night.

16. RICK CERONE FIELD HOUSE

INTRODUCTION

The construction date of the original field house is unknown. Robert Silverman, Architect (60 Stanley Road, South Orange, N.J.) designed the addition and renovation to the building in 1995. This addition added a new hip roof and nearly doubled the size of the existing structure. (See Photo 138). Currently the second floor of the field house serves as the press box for all Cerone Field baseball games.

The current building enlarged a pre-existing structure. The present dimensions of the building are 16' – 0" in width, 38' – 0" in length and 26' – 0" in height. The building's structure is concrete masonry unit bearing walls with wood joists and roof framing. The first floor of the building is 12" CMU block covered by painted smooth cement plaster. The second floor of the building is a 2"x 4" stud wall @ 16" on center covered by painted 2" x 8" cedar paneling on the top half and painted textured cement plaster over galvanized metal lath on the bottom half. (See Photo 139). The hip roof is covered with asphalt shingles and extends 18" over the edge of the building. Two screened louvers pierce the roof ridge at the east and west ends. The building has 3 windows, 2 sliding aluminum windows on the second floor of the south façade and one service window on the first floor of the north façade. There are two entrances to the field house, one on the north side and another on the south. All doors and windows are covered at night by rolling steel security gates. Annotated photographs provide visual images with detailed condition descriptions. Following are detailed descriptions, including conditions assessments, and a work plan for proposed remedial work of the Rick Cerone field house.

DESCRIPTION/CONDITIONS

SITE

The Rick Cerone field house is located in the middle division of the park directly south of the Bloomfield Avenue Bridge. The building's site is flat and most of the immediate area is unpaved, covered with dirt and small gray gravel approximately 1 cm in diameter. A 4' – 0" high chain-link fence surrounds the field house on three sides and a chain-link baseball back stop lies directly south of the building on the fourth side. The seniors' center, a parking lot, bocce courts, and the main north/south park road are directly west and north of the building. (See Photo 141). An unpaved dirt and gravel path runs from the southeast of the building towards the seniors' center. South of the field house are the middle division ball fields and Branch Brook Park Lake.

CONCRETE MASONRY

The first floor of the field house is constructed from 12" concrete masonry units covered with a painted cement finish. Typically, the concrete block walls and painted cement finish are in good condition with some slight cracking along the base and corners of the building.

WOOD SIDING AND TRIM

The second floor's 2"x 8" painted cedar wood paneling is in good condition with no visible signs of checks or notches in the wood or cracked and peeling paint. Corner and horizontal wood trim are painted and in good condition.

WOOD EAVE

The wood eave at the roof's base is constructed from 2" x 6" rafter extensions, painted cedar boards and 1/2" thick, painted, plywood soffits. The eave is in good condition with areas of slightly peeling paint.

ASPHALT SHINGLE ROOF

The shingles are in good condition with no visible signs of cracking, chipping or exposed sheathing.

WORK PLAN

As part of the county's comprehensive restoration of the middle division's ball fields, the Rick Cerone Field House and Press Box is being renovated and is under construction at this writing. An addition at each end of the building will house toilet facilities for men and women. New services will be provided including field lighting. The existing structure and the additions will receive facades whose design is derived from the park's historic architecture.



Photo 138
Overall view of the Rick Cerone field house with the press box on the second floor; note that the building is in good condition.



Photo 139
A view of the field house showing the different types of exterior finishes, including the smooth and rough cement finishes and the painted cedar siding and trim.



Photo 140
A view looking west towards the field house and the seniors' center.

17. BLOOMFIELD AVENUE BRIDGE

INTRODUCTION

The Bloomfield Avenue Bridge, (see Photo 141) was designed by the architectural firm of Babb, Cook and Willard (3 West 29th Street, NYC) in 1904. The consulting engineers hired to assist the architects were the Concrete – Steel Engineering Co. (Park Row Building, NYC). The engineer for the Essex County Parks Commission was A.W. Reynolds Jr. The original 1904 width of the bridge was approximately 70' – 0". (See Original Drawing & Historic Image 19). During that time, traffic over the bridge consisted of foot, automobile and the Bloomfield Avenue trolley. Between 1951 and 1953 Bloomfield Avenue was widened to have a 100' – 0" right-of-way. This plan included widening the bridge 34' – 0" by constructing a rigid frame concrete arch next to the existing bridge. In addition, a 30" gas main and a 16" water main were laid within the new arch of the bridge. Renovation also included removing the original parapet walls, their pedestals and original curbs. New construction involved installing new pre-cast concrete parapet walls along the bridge's entire length. An analysis for the reconstruction and rehabilitation of the bridge and site was recently prepared by Lichtenstein Consulting Engineers (45 Eisenhower Drive, Paramus, New Jersey) in November 2003. This report was prepared in consultation with that plan.

Original drawings and blueprints of the current bridge as well as previous designs are located at the Essex County Department of Parks, Recreation and Cultural Affairs (Newark, NJ). They include sections and elevations. (See Original Drawing & Historic Image 23, 24). These drawings provide configurations and overall dimensions.

The Bloomfield Avenue Bridge is a combination of a steel reinforced concrete Melan arch and a rigid frame concrete arch. The bridge is approximately 104' – 0" wide and 153' – 0" long. It spans across the main north/south park road. Automobile and foot traffic run across and under the bridge. (See Photos 143, 144). The south side of the bridge displays significant spalling and cracking concrete. (See Photo 144). Spalling on the underside of the bridge has exposed large amounts of the steel reinforcing as well as parts of the steel arch. (See Photo 145). The bridge has suffered greatly from vandalism and a lack of maintenance. Annotated photographs provide visual images with detailed condition descriptions. Following are detailed descriptions, including conditions assessments, and a work plan for proposed remedial work of the Bloomfield Avenue Bridge. Rehabilitation of the bridge is presently being designed by Essex County with Lichtenstein Engineers.

DESCRIPTION/CONDITIONS

SITE

The bridge transverses the park and ramps leading from the bridge's approach connect to the main north/south park road. A paved two-lane road and walkway goes underneath the bridge. A paved four-lane road with concrete sidewalks crosses over the bridge. Soil and rock fill embankments reinforce the cheek walls on each side of the bridge. These embankments are overgrown with plants and trees and strewn with garbage. The south sidewalk on the top of the bridge is covered with organic debris including, grass, dirt and leaves near the parapet wall. North of the bridge is Clark's pond and directly south of the bridge are the seniors' center, Rick Cerone field house and middle division ball fields.

CONCRETE

The Bloomfield Avenue Bridge is constructed from steel-reinforced concrete. The only significant decorative details are two concrete medallions on the south wing walls. (See Photos 146, 147). All other original decorative details were removed during the 1951-1953 renovations. (See Historic Image 1). There is cracking and spalling of concrete in the area around the medallion on the southeast side of the bridge. The medallion itself is in good condition, displaying only surface cracks around the date as well as some slight soiling and spalling. Sixty-percent of the surface has spalled off the medallion on the southwest side of the bridge.

Typically, the spandrel and wing walls (these terms are defined in the report prepared by Lichtenstein Consulting Engineers) are in worse condition on the south side of the bridge than on the north. Problems include cracking and spalling concrete as well as organic growth and mineral deposits on the wall surfaces. On both spandrel and wing walls most cracks occur along cold joints. There is significant cracking on the south spandrel and wing walls. These surfaces have vertical and horizontal cracking and spalling including an extreme crack the entire length of the spandrel wall. (See Photo 141). On the west side of the south spandrel this crack has spalled off an area of concrete approximately 4' – 0" long and 8" wide.

The underside of the bridge has extreme cracking and spalling due to the adverse effects water penetration and de-icing salts. Subsequent freeze-thaw cycles and lack of maintenance have spalled and cracked the concrete arch. (See Photos 144, 145, 146). The worst cracking and spalling is located where the two arches were joined together during the 1951-1953 renovation of the bridge. (See Photos 144, 147). In some instances, this cracking and spalling extends almost the

full length of the arch under the roadway exposing the steel arches and reinforcing. De-icing and other soluble salts and mineral deposits leeching down from the roadway have caused stalactites to form on the underside of the bridge. (See Photo 149). Rusting and delaminating exposed steel reinforcing and beams are exposed and visible from the walkway and road under the bridge.

A pre-cast concrete parapet wall runs along the top of the bridge on both sides. There are signs of spalling and vertical cracking along the wall. (See Photo 150). The post on the north east side of the bridge displays significant spalling on one of its corners. (See Photo 151). The vertical surfaces of the parapet walls are soiled and have been painted to cover graffiti on their surfaces. (See Photo 152). The top of each parapet wall is rough unpainted concrete with visible aggregate at its surface. (See Photo 153). The north side of the bridge is in better condition than the south but there are signs of cracking, spalling and staining. (See Photo 154). A large area of the spandrel and wing wall has been painted on the northwest side of the bridge. (See Photo 155). The painted area extends underneath the bridge along both pathways and is peeling significantly. Spalling and cracking occurs less on the north side of the bridge except in areas where joints occur. (See Photo 156).

WORK PLAN

1. REHABILITATION PLAN

The following work plan is consistent with proposed work by Lichtenstein Consulting Engineers. Additionally, we identified issues relating to the adjacent park areas and to some bridge restoration questions.

DIVISION 1: GENERAL REQUIREMENTS

- 1.1 General Conditions including supervision, temporary facilities and temporary utilities and security during restoration.
- 1.2 Perform all work consistent with the "Guidelines for Restoration" of the U.S. Secretary of the Interior. Obtain approval from the NJ State Historic Preservation Office (SHPO).
- 1.3 Provide shoring and bracing as required for all work.
- 1.4 Selectively remove in accordance with SHPO approved plans:
 - 1.4.1 The existing roadway, sidewalk and curbs between the concrete parapet and spandrel walls.
 - 1.4.2 The existing modern steel vehicular railing system.

DIVISION 2: SITE WORK – WITHIN 10' OF BRIDGE

- 2.1 Remove and legally dispose of all debris from site, including: clearing away plant overgrowth and removal of all garbage.
- 2.2 Remove trees and large plants within 5' of bridge based on consultation with a landscape architect.
- 2.3 Reconstruct asphalt paved bridge deck and concrete sidewalk paving between the concrete parapet and spandrel walls. Reconstruction work to be based on research by Lichtenstein Consulting Engineers and analysis of historical documents and current paving conditions of roadways and sidewalks. Work to include the removal of all roots from paving area and provisions of appropriate base materials. Plans to be approved by SHPO.
- 2.4 Provide planting on bridge embankments based on historic planting plans including additional soil to restore the grade to historic levels and stabilize the embankments adjacent to the wing walls.

- 2.5 Provide grading and drainage of bridge embankments to prevent erosion and aid water runoff.

DIVISION 3: CONCRETE

- 3.1 Remove all deteriorated concrete and replace in-kind based on scientific analysis of original concrete.
- 3.2 Patch all damaged historic concrete with new concrete patching to match existing historic concrete in color, texture composition and finish. All work to be done based on documents prepared by Lichtenstein Consulting Engineers.
- 3.3 Restore both concrete medallions to their original condition based on archival research and historic photographs.
- 3.4 Replace the concrete sidewalk pavements and curbs across the bridge.
- 3.5 Retain and repair the existing parapet wall with restoration mortar.
- 3.6 Prepare and paint all exposed areas of the structural steel arch and reinforcing prior to concrete repairs.
- 3.7 Clean all concrete surfaces including the removal of all graffiti, mineral deposits and organic growth.

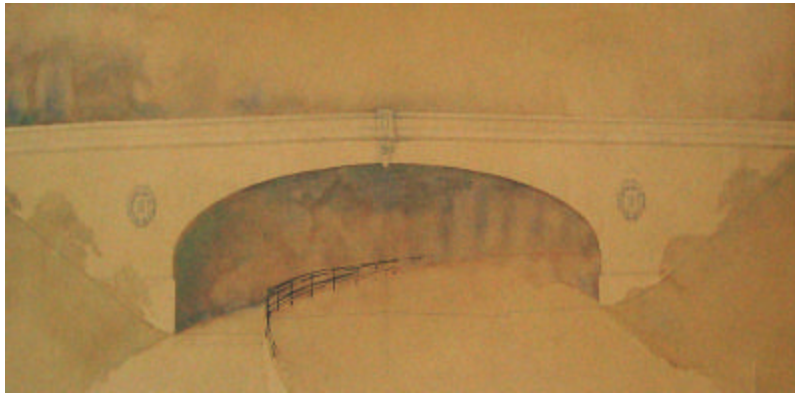
DIVISION 7: THERMAL AND MOISTURE PROTECTION

- 7.1 Repair or replace the spandrel wall, expansion joint fill material.
- 7.2 Seal the longitudinal construction joints along the top of the arch barrel and waterproof the top of the arch and interior faces of the spandrel and wing walls with a liquid applied membrane.

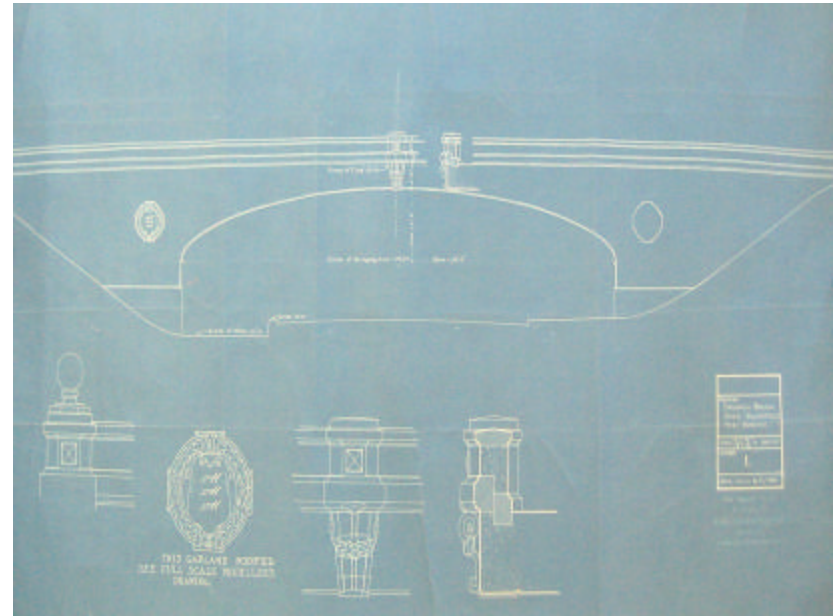
DIVISION 9: FINISHES

- 9.1 Remove existing paint on all bridge surfaces. New coatings to be provided based on performance analysis and

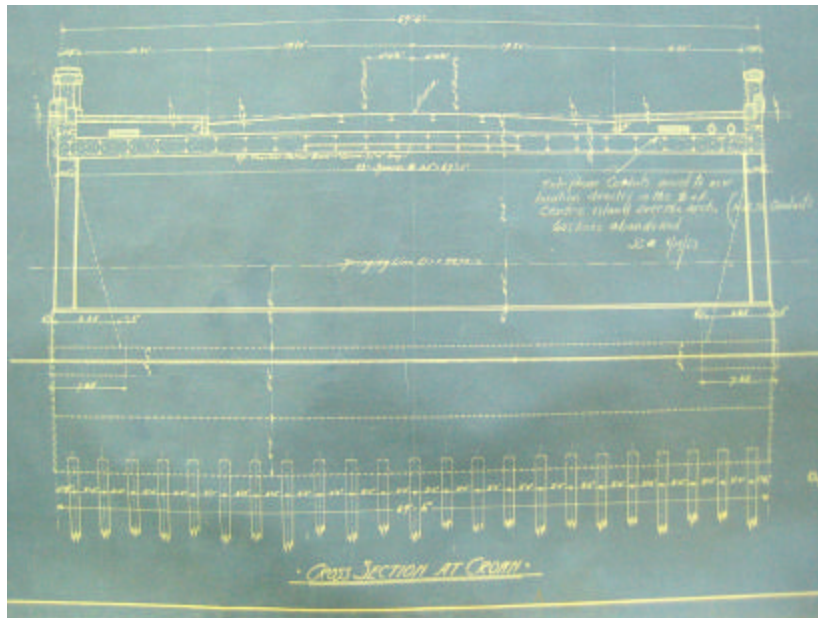
recommendations by Lichtenstein Consulting Engineers and SHPO approval.



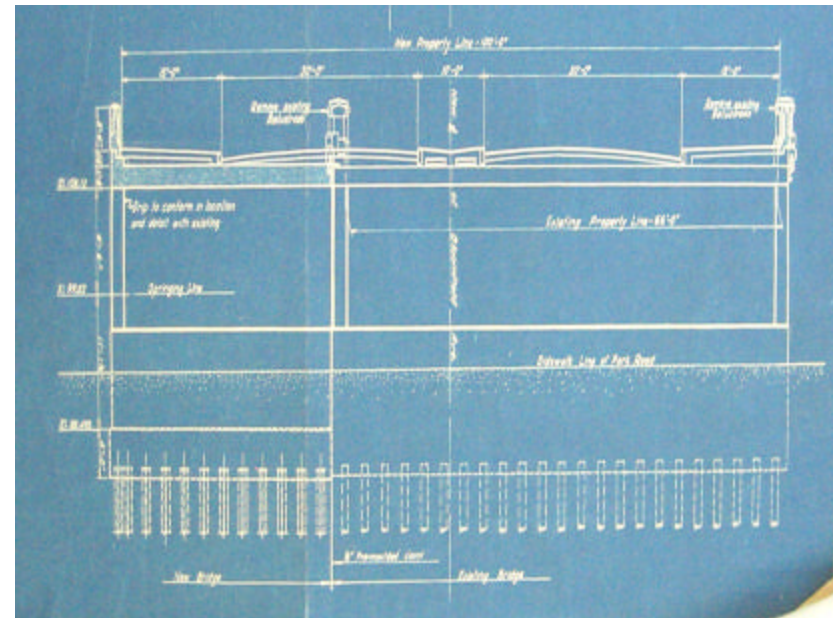
Historic Image 3
A watercolor of the Bloomfield Avenue Bridge in 1904; note how the bridge has changed over the years when compared with current photographs.



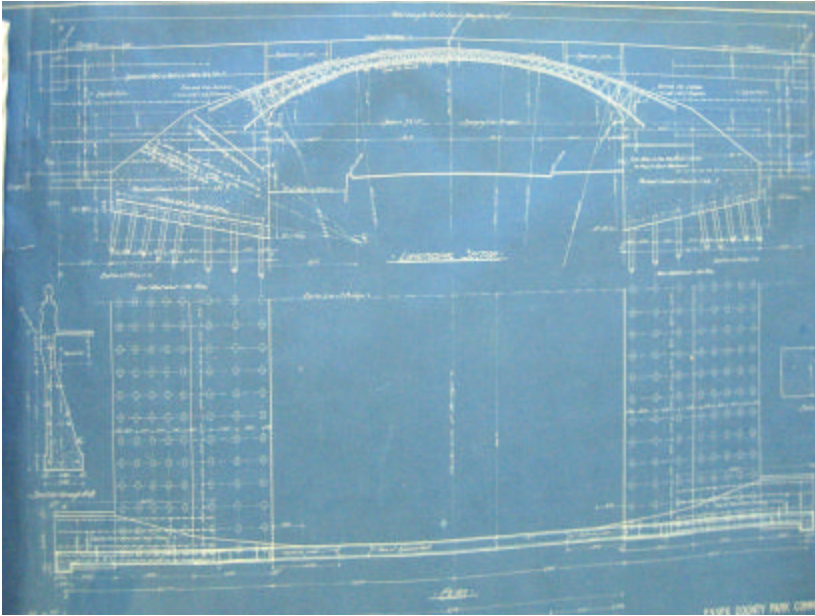
Original Drawing 17
An original blueprint from 1904; note the design details and how they are similar to the Park Avenue Bridge.



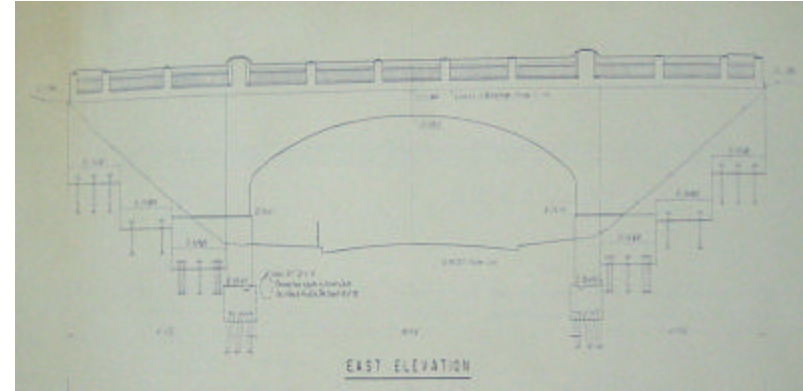
Original Drawing 18
A cross section of the 1904 Bloomfield Avenue Bridge.



Original Drawing 19
A cross section from the 1951 widening of the bridge; note the additional arches that were added as well as the removal of the original balustrades.



Original Drawing 20
A longitudinal section of the 1904 bridge; note the design of the foundation.



Original Drawing 21
An elevation from 1951; note how the foundations have been redesigned.



Photo 141
The Bloomfield Avenue Bridge, view from the south; note that the design of this bridge has changed over the years, compare with Original Drawing 1.



Photo 142
Bloomfield Avenue over the top of the bridge; note the erosion along the sidewalks just east of the bridge.



Photo 143
The south side of the bridge; note the vertical and horizontal cracking and spalling.



Photo 144
The underside of the bridge; note the soiled concrete and exposed, rusted steel reinforcing.



Photo 145
The medallion on the southeast side of the bridge; note the graffiti and the moisture-saturated concrete.



Photo 146
The medallion on the southwest side of the bridge; note that the surface has spalled and the cheek wall is cracking.



Photo 147
Extreme spalling, cracking, soiling and rusting on the underside of the bridge; note that this damage has occurred where the two arches were joined together during the 1951-1953 renovation.



Photo 148
An area of spalling concrete and efflorescence on the underside of the bridge; note the rusted steel beam and rivets.



Photo 149
Efflorescence and mineral deposits forming stalactites on the underside of the bridge; note the reddish-brown discoloration caused by rusting steel.



Photo 150
The south parapet wall; note the debris and vegetation along its base.



Photo 151
Spalling concrete on the end post of the north parapet wall; note that the wall has been painted to cover graffiti.



Photo 152
The soiled and painted south parapet wall; note the organic debris at its base.



Photo 153
The rough, unpainted concrete surface on the top of the parapet wall; note the open horizontal joint between the post and wall.



Photo 154
The north side of the bridge; note the soiled top parapet wall and the painted areas of the spandrel and wing walls.



Photo 155
The north side of the bridge is in good condition but there is some cracking, spalling and soiling; note the non-matching paint.



Photo 156
Concrete cracking on the north spandrel wall; note that the cracking appears below the parapet wall and next to an expansion joint.

18. WEIR 1

INTRODUCTION

Within the northern division of Branch Brook Park there are 4 weirs that were built to keep an adequate supply of water in the brook at all times. These were designed by the landscape architectural firm of Olmsted Brothers (Brookline, Massachusetts) and constructed around 1900 from concrete and local fieldstones. According to John Olmsted, each weir was to be constructed from concrete and fieldstone with a gently sloping face so that water flowing over the surface formed a ripple or rapid. Although the water course and bridges were built in accordance with the Olmsted plans, the four weirs were built with vertical faces, contrary to the firm's directions. Today, what does exist are 4 weirs with vertical faces.

The weirs are each approximately 14' – 0" in length and 3' – 0" in width. The vertical dam across the brook was constructed with concrete. The sides of each weir were built into the banks of the brook, constructed with concrete and covered with local fieldstone. Annotated photographs provide visual images with detailed condition descriptions. Following are detailed descriptions, including conditions assessments for Weir 1 in the northern division of Branch Brook Park.

DESCRIPTION/CONDITIONS

SITES

Weir 1 (see Photo 157) is directly north of Clark's pond and approximately 50' – 0" south of the Laurel Wood Boulder Bridge. This is the only weir retaining a significant amount of brook water. Plants

and wild flowers grow on the banks among the fieldstones. The banks are eroded. Concrete stabilization grids have been applied to the downstream banks and brook bottom to prevent erosion.

CONCRETE / MASONRY

Weir 1, similar to the other weirs, is constructed from concrete and fieldstone. The main vertical wall of the weir is constructed from concrete, while each side of the weir that is built into the bank of the brook is constructed from concrete covered with fieldstones. Weir 1 is approximately 3' – 0" in height, which is the highest among the 4 weirs. It was not possible to survey the concrete due to the water. The fieldstone embankment stones have been displaced, although the cheek walls continue to retain water. Concrete stabilization grids have been applied to the downstream banks and brook bottom to prevent erosion.

WORK PLAN

The work plan for all 4 weirs is part of the overall plan for reconstruction of the Branch Brook Park Waterway. This process involves reconstructing all the historic water features to the period of significance (1898-1937) determined elsewhere in the cultural landscape report. Archeological investigation may be required to determine original configurations. Design by a hydraulic engineer will be required. The reconstruction process involves dredging the brook of sediments and regrading the eroded banks of the brook. The following rehabilitation Plan highlights the technical restoration considerations.

1. REHABILITATION PLAN

DIVISION 1: GENERAL REQUIREMENTS

- 1.1 General Conditions including supervision, temporary facilities and temporary utilities and security during restoration.
- 1.2 Perform all work consistent with the "Guidelines for Restoration" of the U.S. Secretary of the Interior. Obtain approval from the NJ State Historic Preservation Office (SHPO).
- 1.3 Selectively remove for reinstallation in accordance with SHPO approved plans:
 - 1.3.1 Stone masonry as required for masonry repairs.
 - 1.3.2 Non-original, remedial concrete grids on banks and brook bottom.
- 4.2 Reset displaced stone.
- 4.3 Provide new stone to match existing historic stone in type, size, color and texture to replace missing embankment stones.
- 4.4 Rake and repoint all stone mortar joints and provide for through-wall drainage.

DIVISION 2: SITE WORK – WITHIN 10' OF WEIR

- 2.1 Remove and legally dispose of all debris from site, including: clearing away plant overgrowth and removal of all garbage.
- 2.2 Remove trees and large plants within 5' of weir based on consultation with the landscape architect.
- 2.3 Providing site planting based on historic planting plans including additional soil to restore the grade to historic levels and stabilize the earthen banks adjacent to the wing walls and above the river's concrete retaining walls.
- 2.4 Provide grading and drainage to the site to prevent erosion and manage storm water.

DIVISION 3: CONCRETE

- 3.1 Repair all damaged concrete.

DIVISION 4: MASONRY

- 4.1 Replace all severely deteriorated stone with new stone to match existing historic stone in size, color and texture.



Photo 157
Weir 1 is the only weir which continues to retain a significant amount of water and which actually has water flowing over its top.



Photo 158
Plants and bushes grow along the banks at Weir.



Photo 159
View of the extant concrete and fieldstone sidewalls at Weir 1 which (with the later concrete grid stabilization) continue to function along the embankments.

19. LAUREL WOOD BOULDER BRIDGE

INTRODUCTION

The Laurel Wood Boulder Bridge, (see Photo 160), was designed by the landscape architectural firm of Olmsted Brothers (Brookline, Massachusetts) and constructed around 1900 from local fieldstones gathered by workers building the park.

The Laurel Wood Boulder Bridge is a rustic arched boulder footbridge, approximately 8' – 0" wide and 15' – 0" long. This is one of four rustic arched footbridges over Branch Brook, three are constructed from fieldstones and boulders and one from rough-cut and tooled brownstone. Larger boulders, approximately 3' – 0" in diameter, serve as copingstones atop the cheek walls and compose arches on each side of the bridge. Smaller fieldstones, approximately 12" in diameter are laid in a rustic pattern and comprise the vertical face of the cheek walls. An arched concrete culvert lines the passage under the bridge. The top of the arch is exposed above the bridge's deck and displays signs of cracking and spalling. (See Photo 161). Over time, wide mortar joints varying between 1" – 3" have been repointed with mortars of different colors and textures and are in good condition. The bridge carries foot and bicycle traffic across Branch Brook, directly north of where it feeds into Clark's pond. Many of the fieldstones are covered with graffiti or organic growth including moss, lichen and plants. (See Photo 162). Annotated photographs provide visual images with detailed condition descriptions. Following are detailed descriptions, including conditions assessments, and a work plan for proposed remedial work of the Laurel Wood Boulder Bridge.

DESCRIPTION/CONDITIONS

SITE

The Laurel Wood Boulder Bridge crosses Branch Brook between Clark's pond and Midwood pool. (See Photo 163). The direction of the dirt pathway over the bridge is east/west and the bridge is at a roughly perpendicular axis to the brook. The bridge and site are slightly elevated above the surrounding grade. Examinations of the site reveal that the original bridge deck paving is gone and that the site grading has eroded significantly over time, exposing the original rock and soil fill material as well as the top of the concrete arch at the bridge's deck. This rock and dirt fill has compacted and is now the new bridge deck surface. No remnants of the original paving exist; however, preliminary investigations of other park bridges reveal that the pavers may have been brick or stone.

The bridge's deck is extremely rough and uneven with large exposed stones, tree roots and plant growth on its surface. These uneven and eroded surfaces result in poor drainage further eroding dirt and exposing more roots and rock fill. Water runoff from the bridge has eroded a substantial amount of dirt and mortar joints at the bases of all the cheek walls making the joints susceptible to water penetration and the adverse effects of freeze-thaw cycles. There is a significant amount of vegetation and garbage around the site. Trees and large bushes within 5' – 0" of the bridge need to be examined to determine which roots are causing damage to the bridge. Within 10' – 0" of the bridge along both sides of the brook there is a considerable amount of plant growth and garbage including weeds, bottles, cans and plastic bags that need to be removed.

MASONRY AND CONCRETE

The Laurel Wood Boulder Bridge is a fieldstone, arched masonry footbridge constructed in a rustic design. Arched fieldstone openings on each side of the bridge lead to the concrete arched underside. (See Photo 164). This arched underside and the interior surfaces of the south fieldstone arch are covered with organic growth and efflorescence caused by water penetrating from above. (See Photo 165). In certain areas approximately 2"-3" of material at the base of the arched concrete culvert has been completely eroded by the scouring action of the stream. On the bridge's deck, the exposed top of the concrete arch is significantly eroded in certain areas, exposing the stone aggregate. Where the top of the arch meets the cheek walls, concrete has eroded.

The bridge's original mortar may have more closely resembled the color and texture of the fieldstone. Over time the bridge has been completely repointed with mortars of varying colors and textures; at least three campaigns are apparent. This repointing appears to have changed the width of the original mortar joints, widening them with each consecutive repointing. Though in good condition overall, 30% of the mortar is cracked, including hairline cracks at the stones and needs repointing especially along the base of the north and south cheek walls that face the bridge's deck. (See Photo 166). An extensive amount of mortar has eroded from the east end of the south cheek wall although, upon inspection, does not seem to have caused any settling or significant cracking. (See Photo 167). Tree roots are exposed at the east end of the north cheek wall and may be causing damage to its foundations. (See Photo 168). A boulder on the east end of north cheek wall is displaced lying adjacent to the bridge. (See Photo 169). Rising damp and the adverse effects of freeze-thaw cycles have cracked and spalled mortar and fieldstone within 12" of the

bridge's base. Graffiti covers the bridge surface, and there is organic growth including moss, lichen and small plants on many of the fieldstones. Approximately 80% of the mortar joints on the north vertical face of the bridge are covered with moss and 60% of the mortar joints on the south vertical face are covered with moss.

WORK PLAN

STRUCTURAL INVESTIGATION

Examine the underside of the footbridge structure, paying particular attention to the concrete arch to determine its structural integrity. Expose the concrete arch footings (halting the flow of water as necessary) to examine their condition. Probe the top of the arch, exposing some concealed areas to determine its structural integrity.

1. REHABILITATION PLAN

DIVISION 1: GENERAL REQUIREMENTS

- 1.1 General Conditions including supervision, temporary facilities and temporary utilities and security during restoration.
- 1.2 Perform all work consistent with the "Guidelines for Restoration" of the U.S. Secretary of the Interior. Obtain approval from the NJ State Historic Preservation Office (SHPO).
- 1.3 Provide shoring and bracing as needed for all removals and as required for all work.

DIVISION 2: SITE WORK – WITHIN 10' OF FOOTBRIDGE

- 2.1 Remove and legally dispose of all debris from site, including clearing away plant overgrowth and removal of all garbage.

- 2.2 Remove trees and large plants within 5' of footbridge based on consultation with landscape architect and in accordance with historic planting plan.
- 2.3 Recreate historical site paving, based on detailed research of historical documents and analysis of current paving covering path and bridge deck. Work to include the removal of all roots from paving area and provisions of appropriate base materials. Plans to be approved by SHPO.
- 2.4 Provide site planting, based on historic planting plans, including soil adjustments to restore the grade to historic levels and stabilize the earthen banks adjacent to the cheek walls.
- 2.5 Provide grading and drainage to the site to prevent erosion and manage storm water runoff.
- 2.6 Dispose of all removed earth and dredge materials, legally off-site.

DIVISION 3: CONCRETE

- 3.1 Concrete
 - 3.1.1 Repair concrete arched culvert and footings based on detailed inspection of current conditions.
 - 3.1.2 Provide water sealants and coatings at top side of arch as required, based on probes of arch.
 - 3.1.3 Examine and inspect the current conditions of the concrete foundation under the bridge. Based on that inspection, make recommendations for repair as required.

DIVISION 4: MASONRY

- 4.1 Stone
 - 4.1.1 Reset displaced fieldstone on east end of north cheek wall.

- 4.1.2 Patch selected damaged historic fieldstone with restoration mortar to match existing historic fieldstone in color and texture.
- 4.1.3 Rake and repoint selected fieldstone mortar joints with mortar to match original in size, color and texture based on scientific sampling and historic resources; soft mortars to minimize hairline cracking.
- 4.1.4 Clean all fieldstone masonry and mortar joints including removing all plant growth, moss and lichen as well as all graffiti.
- 4.1.5 Provide biocide to remove and limit future organic growth.



Photo 160
The Laurel Wood Boulder Bridge; note the overgrowth of vegetation around the site.



Photo 161
The exposed top of the arched concrete culvert; note the eroded surface exposing aggregate.



Photo 162
Graffiti and organic growth on the surface of the fieldstones and mortar joints.



Photo 163
View south towards the footbridge; note the organic growth on the surface of the cheek wall.



Photo 164
The arched opening on the south side of the footbridge; note the various sizes of fieldstones.



Photo 165
The underside of the fieldstone and concrete arch on the south side of the bridge; note the moss and efflorescence on the surface caused by water migration from above.



Photo 166
Open and exposed mortar joints at the base of the north cheek wall;
note the exposed and eroded top of the concrete arch.



Photo 167
Eroded mortar joints at the base of the south cheek wall; note the
soiled fieldstones and mortar.



Photo 168
Roots at the base of the north cheek wall; note that they may be damaging the footbridge.



Photo 169
Displaced boulder on the north cheek wall; note the debris around the site.

20. CROSSOVER DRIVE BRIDGE

INTRODUCTION

The Crossover Drive Bridge, (see Photo 170), was designed by the landscape architectural firm of Olmsted Brothers (Brookline, Massachusetts) and constructed around 1900 from local fieldstones gathered by workers building the park.

The Crossover Drive Bridge is a rustic fieldstone bridge. This bridge is one of two very wide and relatively flat rustic fieldstone bridges. Originally both these bridges contained roadways that connected the east/west park drives. VEP Associates, Engineers probably removed both of these roadways during a 1981 renovation of the park road and replaced them with the current asphalt pathways. The other fieldstone bridges are much narrower, arched and more in keeping with traditional footbridge design. The design of this bridge consists of two cheek walls constructed from fieldstones set in concrete connected by a concrete box culvert spanning between them. A large rectangular granite slab spans the entrance to the culvert on each wall. Larger boulders approximately 3' – 0" in diameter serve as copingstones atop the walls. Smaller fieldstones approximately 12" in diameter are laid in a rustic pattern and comprise the vertical face of each wall. The highest point of each wall is 3' – 4" above the surrounding grade. Both walls are approximately 2' – 0" wide. Wide mortar joints from about 1" – 5" have over time been repointed with mortars of varying colors and textures and are in good condition. Currently foot and bicycle traffic travel over the bridge on a paved asphalt path 9' – 0" wide in good condition. Between the asphalt path and walls are areas of grass or dirt and patches of dirt covered, broken asphalt. Many of the fieldstones are covered with graffiti or

organic growth. (See Photos 171, 177). Annotated photographs provide visual images with detailed condition descriptions. Following are detailed descriptions, including conditions assessments and a work plan for proposed remedial work of the Crossover Drive Bridge.

DESCRIPTION/CONDITIONS

SITE

This fieldstone bridge crosses Branch Brook between Clark's pond and Midwood pool. The paved asphalt pathway crosses roughly east/west over the bridge at a diagonal axis to the brook. The overall width of the bridge is approximately 44' – 0". Grass and dirt areas are to the south and north (22' – 0" and 13' – 0" in width respectively) of the asphalt pathway. The ground slopes down from the asphalt path (9' – 0" in width) towards the north cheek wall. Significant amounts of vegetation, including bushes and weeds are growing around the site, especially next to and covering the north cheek wall. Trees and large bushes within 5' – 0" of the bridge need to be examined to determine which roots are causing damage to the bridge. Within 10' – 0" of the bridge along both sides of the brook there is a considerable amount of plant growth and garbage including weeds, bottles, cans and plastic bags that need to be removed. Around the base of the south cheek wall, soil has begun to erode and there is little grass left. The stream has silted up and debris is blocking the north opening to the concrete box culvert. (See Photos 172, 173).

MASONRY AND CONCRETE

The Crossover Drive Bridge is a fieldstone, lintel masonry bridge constructed in a rustic design. The bridge's walls are constructed from fieldstone set in mortar. A large horizontal granite lintel,

approximately 6' – 0" in length, spans the opening on each side of the bridge leading to the concrete box culvert underneath the bridge. (See Photo 174). The bottom of the lintel and surfaces of the box culvert are covered with organic growth and efflorescence caused by water penetrating from above. About 3"-4" of material at the base of the concrete box culvert has been completely eroded by scouring action of the stream. The north opening is clogged with debris and garbage, causing water to back up and erode the mortar joints of the cheek wall. (See Photos 172, 173).

Four large fieldstones, approximately 4' – 0" in height and 3" – 0" in width, stand vertically as posts at the four ends of each cheek wall. (See Photo 175). Larger boulders function as copingstones atop the cheek walls. The surface of the fieldstone has spalled on both the north and south cheek walls. The bridge's original mortar may have more closely resembled the color and texture of the fieldstone. Over time the bridge has been completely repointed with mortars of varying colors and textures; several campaigns are apparent. This repointing appears to have changed the width of the original mortar joints, widening them with each consecutive repointing. Though in good condition overall, about 30% of the mortar is cracked, including hairline cracks at the stones, and needs repointing especially along the base of the north and south cheek walls that face the bridge's deck.

WORK PLAN

STRUCTURAL INVESTIGATION

Examine the underside of the footbridge structure, paying particular attention to the concrete box culvert to determine its structural integrity.

Probe the top of the culvert, exposing some concealed areas to determine its structural integrity.

1. REHABILITATION PLAN

DIVISION 1: GENERAL REQUIREMENTS

- 1.1 General Conditions including supervision, temporary facilities and temporary utilities and security during restoration.
- 1.2 Perform all work consistent with the "Guidelines for Restoration" of the U.S. Secretary of the Interior. Obtain approval from the NJ State Historic Preservation Office (SHPO).
- 1.3 Provide shoring and bracing as needed for all removals and as required for all work.

DIVISION 2: SITE WORK – WITHIN 10' OF FOOTBRIDGE

- 2.1 Remove and legally dispose of all debris from site, including: clearing away plant overgrowth and removal of all garbage.
- 2.2 Remove trees and large plants within 5' of footbridge based on consultation with landscape architect and in accordance with historic planting plan.
- 2.3 Provide site planting, based on historic planting plans, including soil adjustments to restore the grade to historic levels and stabilize the earthen banks adjacent to the cheek walls.
- 2.4 Provide grading and drainage to the site to prevent erosion and manage storm water runoff.
- 2.5 Dredge the brook to allow for the free movement of water and to prevent additional damage to the north cheek wall.

- 2.6 Dispose of all removed earth and dredge materials, legally off-site.

DIVISION 3: CONCRETE

3.1 Concrete

- 3.1.4 Repair concrete box culvert and footings based on detailed inspection of current conditions.
- 3.1.5 Provide water sealants and coatings at top side of culvert as required, based on probes of culvert.
- 3.1.6 Examine and inspect the current conditions of the concrete foundation under the bridge. Based on that inspection, make recommendations for repair as required.

DIVISION 4: MASONRY

4.1 Stone

- 4.1.1 Patch selected damaged historic fieldstone with restoration mortar to match existing historic fieldstone in color and texture.
- 4.1.2 Rake and repoint selected fieldstone mortar joints with mortar to match original in size, color and texture based on scientific sampling and historic resources; soft mortars to minimize hairline cracking.
- 4.1.3 Clean all fieldstone masonry and mortar joints including removing all plant growth, moss and lichen as well as all graffiti.
- 4.1.4 Provide biocide to remove and limit future organic growth.



Photo 170
The Crossover Drive Bridge; note the width of bridge.



Photo 171
Graffiti and organic growth covering the south cheek wall; note dirt surface around this wall.



Photo 172
Bushes have overgrown the north cheek wall; note the silting up of the stream has clogged the culvert.



Photo 173
Organic debris and garbage clogging the culvert on the north side of the bridge.



Photo 174
The stone lintel on the south side of the footbridge; note this opening is not clogged with debris.



Photo 175
One of the large stone posts and the end of the south cheek wall; note the bare earth around this area of the wall.



Photo 176
Remedial patching of the mortar joints; note that this joint was not raked back and new mortar was added on top of the old.



Photo 177
Organic growth including moss and weeds growing from cracks in the mortar.