FARLOW – CHAFFIN PARK
HISTORIC PLANNING AND DESIGN

Landscape Restoration Report, June 2006

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DISCOVER NEWTON Parks & Recreation

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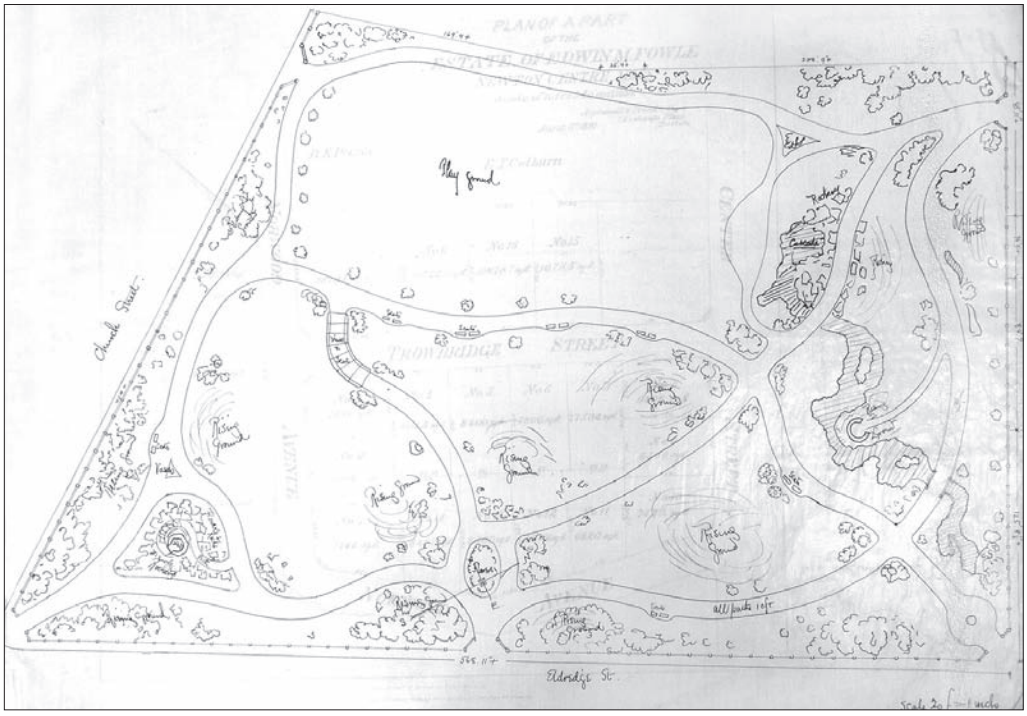
I. Park History

In 1880, philanthropist and park advocate John S. Farlow proposed in a letter to the Mayor that a public park be established in the area bounded by Vernon, Eldridge and Church Streets in the City of Newton. Farlow owned vacant land in the area that was being used as an informal playground by the neighborhood children. He agreed to donate his land to the City under the condition that other privately-owned land near his be acquired and a public park constructed within two years with "trees, shrubbery and grass, and provided with walkways and other conveniences, the entire area to be enclosed by a suitable iron fence or granite curbing and forever maintained and kept in good order and condition as Free Public Park"[1].

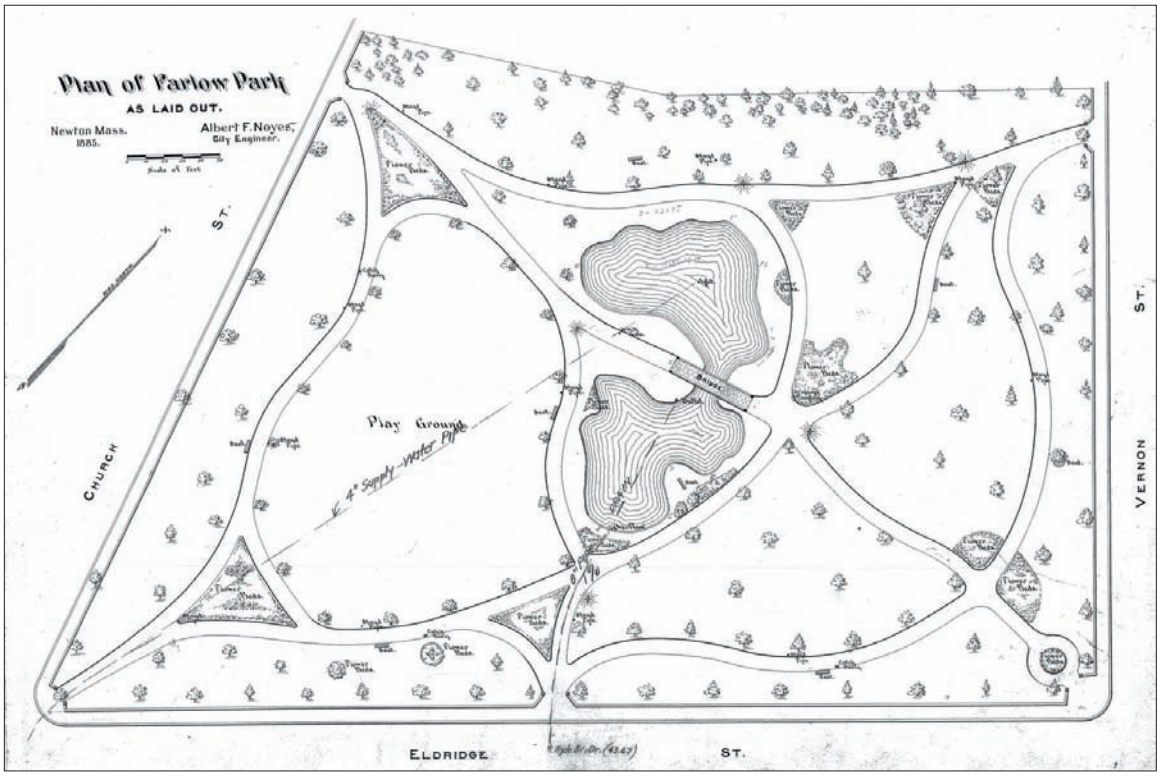
Early photographs of Farlow Park

In 1883, an Act of Legislature appropriated money for the purchase of the other privately owned land and two different park designs were submitted for consideration. Architect George F. Meacham, designer of the Boston Public Garden, proposed a picturesque design with wide, meandering walkways lined with trees and plant beds; large areas of open lawn with grassy mounds; a naturalistic, elongated water feature with two crossings; and ample and varied seating areas, the entirety to be enclosed by either a fence or curbing[2].



George Meacham's Farlow Park Concept in 1883

Another Newton resident, George M. Schinn, proposed a symmetrical design with a baseball diamond as the central Park element. Farlow Park was laid out that same year using a plan prepared by City Engineer Albert F. Noyes that adapted many of the features from the Meacham design. The central feature of the park was an irregularly shaped pond intersected by a rustic, wooden bridge; both elements bear a striking resemblance to the prominent water feature in the Boston Public Garden.



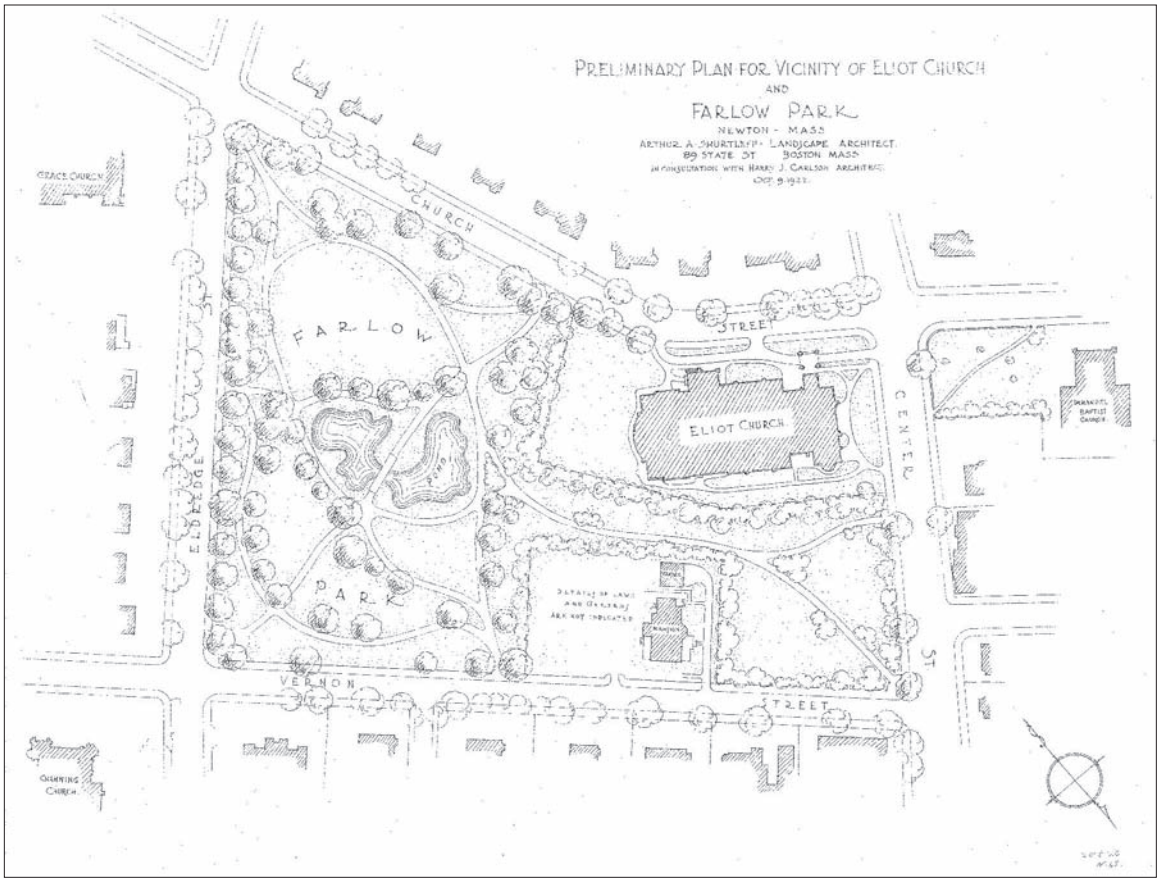
Final Farlow Park Plan by Albert Noyes in 1885

In the early 1900s a proposal was put forth to tear down the rustic bridge and fill in the pond. At the annual meeting of the Newton Improvement Association in 1912, a plan was presented that showed the pond and bridge removed and an area on the west side of the park designated as a playground for small children. Most of the debate at this meeting centered around the playground space, with those in favor of a playground arguing that children needed a place to play and those against arguing that the beauty and tranquility of Farlow Park would be destroyed. Most spoke in favor of retaining the pond, citing its value as a recreational and natural resource. A vote was taken and there was almost unanimous support for keeping the park as it was.[3] Several postcards and photographs from the early 1900s feature the bridge and pond in Farlow Park, which further substantiates the importance they assumed in local culture. A 1930 news article announcing that small children would be permitted to wade in the pond in the summer and skate on it in the winter indicates that the pond remained in active use for several years longer[4].

Historic postcards of the Farlow Bridge and Pond

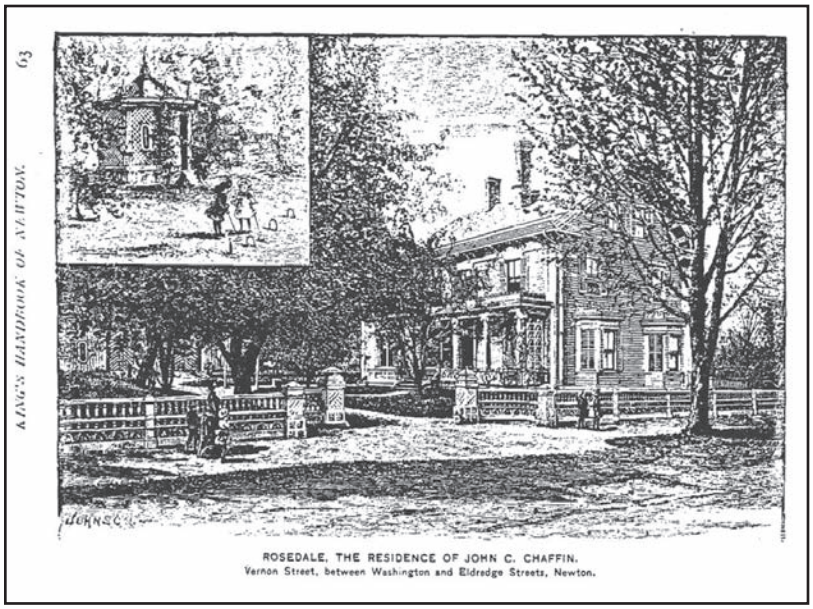
In 1922 another famous landscape architect, Arthur Shurcliff, prepared a preliminary plan for the vicinity of Eliot Church and Farlow Park.

At some point in the mid-1900s, several significant changes were made to the park. The pond was drained, filled with loam, and seeded with grass. The rustic wooden bridge was removed and replaced with a concrete slab with chain link fencing. The meandering pedestrian walkways were replaced with linear criss-crossed asphalt walkways and several additional trees and shrubs were planted throughout the park. Roughly one-third of Farlow Park was transformed into an active recreational space with a multipurpose baseball/soccer field and playground. A chain link fence with shrubs planted alongside was installed to separate the active recreational space from the passive parkland space.



Landscape Plan of Farlow Park and Chaffin prepared by Landscape Architect Arthur Shurtleff (later Shurcliff) in 1922

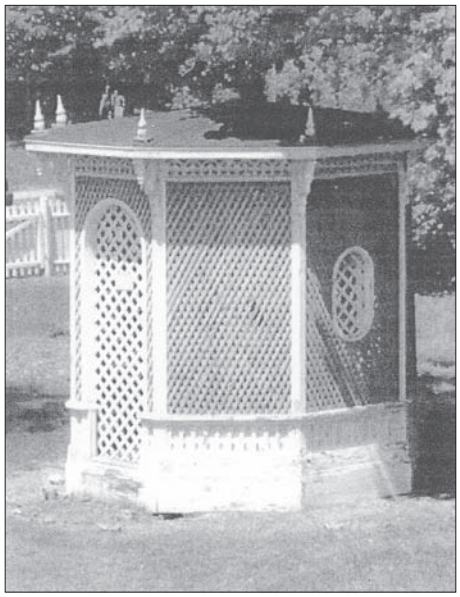
In 1934, the City of Newton acquired the Estate of John C. Chaffin, which abutted the park on the eastern side. The Chaffin Estate, also known as "Rosedale," was known for its rose gardens, which were said to be among the most beautiful in the Boston area[5].



ROSEDALE, THE RESIDENCE OF JOHN C. CHAFFIN.
Vernon Street, between Washington and Eldredge Streets, Newton.

A small Victorian-style gazebo was also located on the grounds. In time, the Chaffin House was converted into the Newton Children's Library and the grounds developed into Chaffin Park. The Children's Library subsequently became the Newton Corner Branch Library. Along the way, the rose gardens were removed, the gazebo relocated, and a parking lot for Library patrons was installed in their place. The beautiful cast-iron fencing along the Vernon Street sidewalks was removed, as were the granite bollards that flanked the main entrance. The Eliot Congregational Church appropriated land on the southern side of the Chaffin Estate as a playground for their Nursery School.

The Newton Community Development Program funded improvements to both Farlow and Chaffin Parks in 1979 - 1980. Installed during that time were cast-iron light poles with electric fixtures, which replicated gas fixtures located throughout the neighborhood, and cast-iron benches with wooden slats, designed in a Victorian style appropriate for parks of the late 1800s vintage. A walkway, which provided a vital link between the two parks, was also installed.[6] In 1982, Farlow Park and Chaffin Park were listed on the National Register of Historic Places as part of the *"Farlow and Kendrick Parks National Register Historic District."*


Chaffin Gazebo

In 1983, "*Farlow Park: A Master Plan for Revitalization*" was prepared for the City of Newton and the Newton Corner Advisory Committee. Specific recommendations for beautification, recreation, education and security improvements were proposed. Among the proposed improvements were the restoration of the pond and bridge, construction of a bandstand and a large birdhouse, new tree and shrub plantings, installation of tree identification plaques, granite-edged walkways and historically appropriate site furnishings. Security improvements included additional lighting and pruning overgrown shrubs and low-branched tree limbs to increase visibility.

II. Analysis and Recommendations of Existing Features and Qualities

1. Overall – Association, Setting and Feeling

Analysis - Farlow Park:

The three original plans developed for Farlow Park by Schinn, Meacham and Noyes all contained some form of “Play Grounds;” therefore a recreational space within the Park is consistent with the original design intent. However, the original “Play Grounds” were much more integrated into the park than they are currently. While the installation of the chain link fence with shrubs planted alongside has been successful in confining balls to the playfields and children to the “Tot Lot,” it has also segregated what was originally one cohesive park into two very distinct areas presently having little association with each other.[7]

The visual association is strongest in the winter months, when the shrubs and trees between the active and historic areas of Farlow Park have dropped their leaves. In the warmer months, the vegetation forms an impenetrable green wall of about seven feet in height between the playfields and the historic area. There is less of a visual barrier on the southern end because there are lower, less dense shrubs between the Tot Lot and the historic area.

The walkway from the historic entrance on Eldridge Street, which had served as a connection between Eldridge and Church Streets, has been removed.

Missing walkway at the historic entrance on Eldridge Street

The active and historic areas also have different styles of benches and trash receptacles, which further reinforce the disconnection.

Very little of the historic character has been preserved in the active area of Farlow Park. The only historic features that remain from the original park are a few specimen trees in and around the “Tot Lot” and the granite edging at the back edge of the sidewalks at Vernon and Eldridge Streets. However, the remaining two-thirds of Farlow Park retains much more of the historic character of the original park. Although the original meandering walkways have been replaced by linear criss-crossed walks, these walks are lined with trees, and large areas of open lawn with grassy mounds remain. Many of the trees planted when the park was young are now magnificent specimens that help to enhance the historic feeling of the park.

Church steeples still predominate.

The neighborhood setting which surrounds the park has remained largely unchanged, most likely due to the National Register Historic District designation. Several of the Victorian houses that appear in old photographs still remain in use, as do the original Grace and Channing Churches. On-street parking is allowed along Eldridge and Church Streets, with Eldridge Street typically the more heavily used of the two. The eastern edge of Vernon Street has been closed to traffic and is used as a paved children's play area.

Recommendations – Farlow Park:

Because the current uses in the active and historic areas of Farlow Park are so different, the two areas will remain disassociated until explicit measures are taken to make them feel more interconnected. There are some actions that would help re-integrate Farlow Park.

- Remove or reduce visual barriers.
- Use the same styles of benches, trash receptacles and lighting.
- Restore the walkway connections from the entrances on Vernon and Eldridge Streets.
- Incorporate active recreational elements such as a Victorian-style Bandstand and reactivated water feature within the historic area.

Analysis - Chaffin Park[8]:

Chaffin Park is separated from Farlow Park by the building and grounds of the Newton Corner Library. An asphalt walk edged with flush granite curbing connects the two parks through the rear of the Library parcel. The Library parcel is approximately 200 feet wide. There is no visual connection between the two parks due to overgrown yews beside the walkways and volunteer vegetation along the property lines. The only association that exists between the two parks is the historic-style lighting and benches that were installed around 1979-1980 in both Chaffin Park and the historic area of Farlow Park.

Newton Corner Library

Chaffin Park faces Centre Street, one of the main streets through the City of Newton. Several small businesses are located across Centre Street from the park. Across Vernon Street, to the north of Chaffin Park, is a 115-unit assisted living community. Eliot Church directly abuts the park to the South.

Recommendations - Chaffin Park:

The association between Chaffin Park and Farlow Park could be strengthened.

- Use the same styles of benches, trash receptacles and lighting in both parks.
- Extend the flush granite curbing along existing walkways through Chaffin Park.
- Reduce the visual barriers by removing the overgrown yews and volunteer vegetation.

2. Park Edges and Entrances

Analysis – Farlow Park:

Although the Noyes Plan contains few material designations, a double line drawn at the back edge of the sidewalks along Church, Eldridge and Vernon Streets most likely represents the granite edging that remains at the edge of the park today. At park entrances, the granite edging turns inward and is terminated by a small granite pier at each side. The granite is in generally good condition; however, a few of the small piers have been chipped. In some areas, roots from nearby trees and shrubs have started to push through and move the granite edging.


Church Street entrance

The original design had five entrances to the park. Entrances were located at the four corners of the park and one entrance was located roughly mid-block on the Eldridge Street side. All the original entrances remain; however, at the mid-block Eldridge Street and the mid-block Vernon Street entrances, paved walkways have been removed and replaced by lawn.

At some point, a new entrance was introduced on Eldridge Street, roughly 110 feet to the north of the original mid-block entrance. A section of the historic granite edging was cut and removed to accommodate the new entrance. New entrances were also added at the western edge of the park at the Eliot Church parking lot and the connecting walkway which links Farlow and Chaffin Parks.

Three sides of the active area of Farlow Park are enclosed with chain link fence. The fourth side, along Vernon Street, is only fenced near the baseball infield. The fence fabric is in generally poor-fair condition. Near the new entrance on Eldridge Street, a huge hole has been broken through the fence fabric. As an additional edge buffer, a shrub hedge was planted next to the chain link fence along Eldridge Street and along the chain link fence that divides the active and historic areas of the Park. Volunteer vegetation has become established in several areas along the chain link fence.

Chain link fence in disrepair

Recommendations – Farlow Park:

- Replace existing chain link with historic-style ornamental fence.
- Remove vegetation along fences. Shrub hedges must be regularly pruned and weeded of volunteer vegetation. Hedges that are planted next to fences impede the maintenance of both the hedge and the fence.
- Repair chips in granite piers.
- Remove shrubs next to the granite edging whose roots have begun to push through and move the granite edging. Reset granite edging to align with the remaining granite.
- Restore original mid-block Eldridge Street entrance and the mid-block Vernon Street entrance. Eliminate new entrance that was introduced on Eldridge Street and restore granite edging that was removed to create this entrance.
- Recreate perennial flower beds at park entrances. The original design had extensive flower beds at each of the park entrances. Develop a long-term plan to ensure hardy perennial flower beds are regularly maintained, if possible by the neighbors.

Analysis - Chaffin Park:

The main entrance to Chaffin Park is located at the corner of Vernon and Centre Streets. The entrance is flanked by mortared stone walls capped with bluestone. The end of the wall on the Vernon Street side is ragged and unsightly. Perennial beds, encircled with irregularly placed stones, have been established on either side of the walkway behind the walls. Other entrances to the park are at the Eliot Church parking lot and the connecting walkway which links Farlow and Chaffin Parks.

Newton Corner entrance

Memorials need a policy

The mortared stone walls continue along the Centre and Vernon Street edges of Chaffin Park. The walls are in generally poor condition, having many loose stones and failing mortar. Roots from trees and shrubs planted behind the stone walls along Vernon Street are contributing to the problem. The wall capstones are in generally good condition. However, where a missing capstone was replaced with concrete, the concrete capstone is now deteriorating.

Recommendations - Chaffin Park:

- Rehabilitate the stone walls along Centre and Vernon Streets. Remove all concrete replacement capstones and replace with bluestone to match remaining capstones.
- At the main entrance to Chaffin Park, install stone piers at the ends of the walls to feature the entrance and provide a finished look to the ends of the stone walls. Park signage could be incorporated in the stone piers.
- Remove all shrubs whose roots have begun to push through and move the stone walls.
- Expand the existing perennial beds at the main entrance. Develop a long-term plan to ensure flower beds are regularly maintained, preferably by the Park's neighbors.
- Remove the Peace Garden and any other inappropriate memorials. Historic parks need to remain historically intact, and are not a good location for memorials.
- Establish with the City of Newton a memorial policy for all the parks, especially their historic parks.

3. Walkways and Circulation

Analysis – Farlow Park:

The original pedestrian circulation system, documented in the Noyes Plan and historic images, has been significantly altered. The original park design had many more walkways than exist today. The walkway from Vernon Street to Church Street, which crosses the former pond, is the only walk that retains the same general alignment as shown in the original design. Since many of the original walkways went through what is now the active area of Farlow Park, the circulation system was most likely redesigned when the recreation fields were added to the park.

All of the park walks are paved in asphalt. Walkways that were installed or upgraded as part of the Newton Community Development Program improvements in 1979-1980 are edged with granite. These new walks are in generally good condition. However, most of the older walks are in need of repair - there are many cracks, uneven surfaces and ragged edges. In one area, the asphalt has chipped away, revealing a concrete base underneath. Since this is not a standard construction method for asphalt walks, it may be that these were once concrete walks which fell into disrepair and were subsequently covered with a layer of asphalt as a quick fix.

Pathway problems in Farlow Park

At the eastern side of the bridge, the asphalt walk that connects to the new entrance on Eldridge Street has subsided, causing an extreme cross-slope on the walkway that is unsafe and does not meet accessibility guidelines.

Recommendations – Farlow Park:

- Reconstruct the older walks. Uneven walkway surfaces could cause an injury to park users and cracked asphalt will continue to deteriorate. Remove all concrete bases underneath the asphalt. If the concrete is not removed, the asphalt will continue to crack at every control and expansion joint location.
- If the budget allows, install flush granite edging to match the existing granite at the edge of the newer walkways. Granite will strengthen the edge of the asphalt walk and provide a neat, clean edge.
- Rehabilitate the newer walks by resurfacing the asphalt. This will fill in any low points that have developed at the edge of the walkway.
- Construct new walkways at the original mid-block Eldridge Street entrance and the mid-block Vernon Street entrance.
- Remove the walkway between the eastern side of the bridge and the new entrance that was introduced on Eldridge Street.
- Construct a new walkway to connect the park with the Newton Corner Library.
- Construct a new walkway to connect the park with the new Playground proposed on the Library parcel near the Eliot Church.

Analysis – Chaffin Park:

There are only two walkways in Chaffin Park. The main walkway, from the entrance at the corner of Vernon and Center Streets, bisects Chaffin Park and leads to the north side of the Eliot Church. The other is the Anton A. Pruckner Walkway, the connecting walk that links Farlow and Chaffin Parks. There is no connection from Chaffin Park to the Newton Corner Library.

The main walkway is constructed of asphalt and is in poor condition. The surface is cracked, uneven and the edge of the asphalt is ragged. The connecting walk to Farlow Park is in generally good condition. However, some low points have developed at the edge of the walkway which allow water to puddle, and this will eventually compromise the walkway if not taken care of.

Recommendations - Chaffin Park:

- Reconstruct the older walks. Uneven walkway surfaces could cause an injury. Cracked asphalt will continue to deteriorate. Remove all concrete bases underneath the asphalt. If the concrete is not removed, the asphalt will continue to crack at every control and expansion joint location.
- If possible, install flush granite edging to match the existing granite at the edge of the newer walkways. Granite will strengthen the edge of the asphalt walk and provide a neat, clean edge.
- Rehabilitate the newer walks by resurfacing the asphalt. This will fill in all the low points that have developed at the edge of the walkway.
- Construct a new walkway to connect the park with the Newton Corner Library.

Pathway problem in Chaffin

4. Planting – Trees

Analysis – Farlow Park:

The Noyes Plan shows a row of trees, spaced in a formal manner, lining the edges of the park along Eldridge and Vernon Streets. Only a few trees are shown along Church Street. The planting along the western edge, which borders the Eliot Church and the grounds of the Chaffin Estate, is represented in a more naturalistic, almost woods-like manner. A 1922 plan of the park, drawn by Arthur Shurtleff (Shurcliff), illustrates the same planting concept as Noyes but with fewer trees shown along the western edge and along the Vernon Street edge. An historical photo confirms that the trees along Vernon Street were planted as indicated in the Noyes Plan; however, they were removed at some point and never replaced. The Noyes Plan also shows trees planted along all walkways within the park.

The large trees today along Eldridge Street, the one large tree remaining along Vernon Street, the large trees in the Tot Lot and the southern end of the recreation field are most likely the original trees indicated on the Noyes Plan. When they are in leaf, the mature trees appear as beautiful specimens. However, in the winter months, when their underlying form is revealed, there are actually many dead branches, dead or missing leaders, crossed branches, and areas of rot and suckering at their bases. Some trees have imbedded pieces of wood, metal chains and turnbuckles. Fruit from the Chestnut trees located and the southern end of the recreation field accumulates on the field and in the former pond.

New trees have been planted along Church Street and in the gaps between the original trees along Eldridge Street. There are only three trees along the western edge of the park, near the Eliot Church parking lot. No replacement trees have been planted along the Vernon Street edge, so only one large tree exists along that edge of the park. Volunteer trees have established themselves adjacent to the chain link fence between Farlow Park and the grounds of the Newton Corner Branch Library. Two trees that were removed in the past were cut down to about four inches above finished grade, so their stumps remain visible.

Mature trees in Farlow Park are beautiful specimens.

Recommendations – Farlow Park:

- Consult a certified arborist to evaluate the viability of those trees having a significant amount of dead leaders, dead limbs or rotted trunks.
- Prune most of the mature trees in the park to remove deadwood, uneven or overly dense heads, crossed branches and suckers. Selective pruning should be undertaken, as necessary, to improve the appearance of each tree.
- With the exception of the weeping trees, limb-up all trees in the park to remove low-hanging branches, which are hazards to park users and impair surveillance.
- Evaluate volunteer trees between Farlow Park and the Library and either thin out or remove entirely.
- Stump or cut at least six inches below finished grade any trees to be removed. In addition to being eyesores, stumps left behind may form suckers or play host to tree root diseases.
- Remove the Birch tree that was planted too closely to the large Spruce.
- Plant new shade trees along the western edge of the park, near the Eliot Church parking lot.

- Consider planting two weeping willow trees near the pond.
- Establish tree planting guidelines and a succession plan for the eventual replacement of the original trees to ensure that historically appropriate tree species are selected and planted in suitable locations.
- Consider installing tree plaques to identify, and provide information about, specimen trees.
- Encourage Friends of Farlow to start a tree committee to research appropriate trees for future tree planting.

Analysis – Chaffin Park:

Several large trees line the western and eastern edges of the park. The large trees on the western edge, along Centre Street, provide a visual buffer from the busy street and commercial businesses on the other side. However, the large trees on the eastern edge, between the park and the Newton Corner Library, obscure the beautifully restored building façade. Only a couple of medium-sized trees exist along the Vernon Street edge. These trees are located too close to the stone wall and their root systems may compromise the integrity of the wall as the trees mature.

Mature trees at Chaffin need pruning.

Small trees have been planted along the main walkway from the entrance at the corner of Vernon and Centre Streets. Flowering cherries have been planted near the memorial that marks the Anton A. Pruckner Walkway.

Recommendations - Chaffin Park:

- Prune or thin out the large trees between Farlow Park and the Library to open up the view to the Newton Corner Library.
- Remove the trees near the stone wall along Vernon Street when the stone wall is rehabilitated.
- Stump or cut at least six inches below finished grade any trees to be removed. In addition to being eyesores, stumps left behind may form suckers or play host to tree root diseases.

5. Planting – Plant Beds

Analysis – Farlow Park:

Within the park, the Noyes Plan indicates several "Flower Beds," situated near the park entrances and in the wedge-shaped areas created by intersecting walkways within the park. Flower beds, with elaborate bedding designs, were a common feature in 19th century Victorian-era parks such as Farlow Park.

Today, there are hardly any flower beds in Farlow Park. A few shrubs and perennials have been planted near the two entrances on Church Street. However, the shrubs are planted too close to the granite edging, and in some cases their roots have started to push through and move the granite edging. These plants are also not placed within defined plant beds.

Several large shrub masses exist on the southern and eastern edges of the historic area of Farlow Park. These shrubs have been allowed to grow to at least seven feet in height. Because of their size and density, they reduce the ability for neighborhood surveillance, which increases the potential for illicit activity in the park. The shrub hedge between the active and historic areas of Farlow Park also impedes neighborhood surveillance.

Volunteer tree saplings are beginning to establish themselves in the shrub hedges that are adjacent to the chain link fences.

Recommendations – Farlow Park:

- Create defined plant beds around all existing shrubs and perennials to remain. Perform soil tests to determine condition of existing soil and amend soils as recommended. Each Spring, apply mulch to maintain a three-inch minimum coverage on all plant beds.
- If a Bandstand is installed, eliminate the large shrub mass near the corner of Church and Eldridge Streets to improve surveillance and provide more open lawn area for gatherings and events.
- Remove shrub hedges adjacent to all fencing. Shrub hedges must be regularly pruned and weeded of volunteer vegetation. Hedges placed next to fences impede the maintenance of both the hedge and the fence.

Shrubs along fences need maintenance

- Remove all shrubs whose roots have begun to push through and move the granite edging.
- Until a long-term plan is established to ensure plant beds are regularly maintained, keep the number of plant beds to a minimum.

Analysis – Chaffin Park:

Shrubs and perennials have been planted in Chaffin Park near the main entrance and near the memorial that marks the Anton A. Pruckner Walkway. The plant beds are encircled with irregularly placed stones that were probably unearthed during the preparation of the plant beds. Perennials behind the Newton Corner Library do not appear to be planted in any type of defined plant beds.

Yews planted along the Pruckner Walkway have been allowed to grow to approximately five feet in height. Because of their size and density, they reduce the ability for neighborhood surveillance and decrease the sense of safety for those passing through the area. They also break the visual connection between Chaffin and Farlow Park.

Recommendations - Chaffin Park:

- Create defined plant beds around all existing shrubs and perennials to remain. Transplant or remove extraneous perennials. Perform soil tests to determine the condition of existing soil and amend soils as recommended. Replace the irregularly placed stones with more appropriate edging material.
- Each Spring, apply mulch to maintain a minimum three-inch coverage on all plant beds.
- Remove all shrubs whose roots have begun to push through and move the stone walls.
- Remove the overgrown yews and stumps along the Pruckner Walkway
- Establish a planting plan with planting guidelines to ensure that historically appropriate plant species are selected and planted in suitable locations.
- Discuss the proposed addition of flower gardens on the western side of the Library. These gardens would enhance the building façade, draw people into the park, and support the City's declaration as "The Garden City."
- Until a long-term plan is established to ensure plant beds are regularly maintained, keep the number of plant beds to a minimum.

6. Planting – Lawns

Analysis – Farlow Park:

The lawns in the historic area of Farlow Park are in generally good condition. However, depressions have formed in some areas of the lawn. The depressions range in depth from slight hollows to deep ruts and holes. Photographs taken during the spring show large clumps of grass clippings lying on the surface of the lawn, indicating that the grass had grown too high before being cut. There is no irrigation system in this area of the park.

In the active area of Farlow Park, the lawn in the playfields has been damaged by constant recreational use. Photographs taken during the spring show green playfields however, they appear to be mostly weeds. During the winter and early spring, the ground is almost completely barren of any vegetation. An irrigation system exists in this area of the park.

Recommendations – Farlow Park:

- Perform soil tests to determine condition of existing soil and amend soils as recommended.
- Overseed sparse lawn areas in the historic area of Farlow Park.
- Mow lawn areas more frequently to reduce the size of grass clippings. Large clumps of grass clippings are unsightly and can cause the grass to die.
- Restore the playfields in the active area of Farlow Park.

Analysis – Chaffin Park:

The lawns in Chaffin Park are in generally good condition. Photographs taken during the spring show large clumps of grass clippings lying on the surface of the lawn, indicating that the grass had grown too high before being cut. There is no irrigation system in this area of the park.

Recommendations - Chaffin Park:

- Perform soil tests to determine condition of existing soil and amend soils as recommended.
- Overseed sparse lawn areas.
- Mow lawn areas more frequently to reduce the size of grass clippings. Large clumps of grass clippings are unsightly and can cause the grass to die.

7. Site Furnishings

Analysis – Farlow Park:

In the historic area of Farlow Park, cast-iron light poles with electric fixtures, which replicated gas fixtures located throughout the neighborhood, and cast-iron benches with narrow wooden slats, designed in a Victorian style appropriate for parks of the late 1800s vintage, were installed around 1979-1980. Cast-iron light poles are in generally good condition. Problems observed were areas of rust and a missing fixture cover.


Victorian style cast-iron light pole in Farlow

Cast-iron benches that are located along walkways are installed in groups of two on a brick pad edged in flush granite. Benches that are located in the lawn are installed on individual brick pads without granite edging. The benches are in generally fair-to-poor condition. Several benches have missing wooden bench slats and the wood slats that remain are dry and rough; areas of rust are forming on the cast-iron frame.


Victorian style cast-iron benches in Farlow

A second style of bench exists in the historic area of Farlow Park. This bench has a painted concrete base onto which stocky, wooden boards have been fastened. Although the paint is peeling off of the concrete base, the base appears to be sound, and the wooden boards appear to have been recently replaced. However, the edges of the replacement boards are not rounded. These benches are located in the lawn and were not installed on pads, making the ground beneath them worn and compacted.

Two styles of trash receptacles also exist in the historic area of Farlow Park. One style is a round, concrete receptacle located on a brick pad edged in flush granite; this receptacle was

probably installed when the cast-iron benches were put in. The other receptacle is a green, steel drum.


Trash cans in Farlow

In the active area of Farlow Park, a third style of bench and trash receptacle can be found. Most of the benches are located in the Tot Lot area and are constructed of painted steel tubes onto which two wooden boards have been fastened to form the bench seat and back. The green paint is peeling off of both the steel tubes and wooden bench seats and backs. One bench with a painted concrete base exists near the baseball field. This bench has not had replacement boards installed and is unusable. Trash receptacles in this area of the park are square, exposed aggregate. There does not appear to be any lighting within this area of the park.

Recommendations – Farlow Park:

- Use the same styles of benches, trash receptacles and lighting in both the active and historic areas of Farlow Park.
- Install only Victorian style site furnishings matching the style of cast-iron light poles and the cast-iron benches that were installed in the historic area of the park around 1979-1980. See photos on page 15.
- Whenever possible, install all benches on brick pads, matching the brick pads that were installed around 1979-1980.
- If the pond is restored, install more benches nearby.
- If the Bandstand is installed, remove the two benches behind the large shrub mass near the corner of Church and Eldridge Streets; replace with two benches installed along the walkway.
- Rehabilitate the existing Victorian style benches. New replacement wood slats should match the original slats in wood type, size and shape.

Analysis – Chaffin Park:

In Chaffin Park, the same Victorian style cast-iron light poles and benches are installed along the walkway as in the historic area of Farlow Park. These light poles and benches are in roughly the same condition as their counterparts in Farlow Park.


Chaffin benches


Chaffin Chess Table

Another style of bench exists in the lawn, under the large trees along Centre Street. These benches are constructed of a steel frame onto which stocky, wooden boards have been fastened. The benches are installed on brick pads. The benches are in generally fair condition due to the dry, rough wooden bench seats and backs.

One style of trash receptacle exists in Chaffin Park – the same round, concrete receptacle as is installed in the historic area of Farlow Park.

Recommendations - Chaffin Park:

- Install only Victorian style site furnishings matching the style of cast-iron light poles and the cast-iron benches that were installed in the Park around 1979-1980.
- Whenever possible, install all benches on brick pads, matching the brick pads that were installed around 1979-1980.
- Rehabilitate the existing Victorian style benches. New replacement wood slats should match the original slats in wood type, size and shape.
- Install additional benches and chess tables under the large trees along Centre Street and near Eliot Church.

8. Bridge in Farlow Park

Analysis[9]:

The existing pedestrian bridge in Farlow Park crosses a grassy area which originally was a reflecting pond; more recently it was filled in to eliminate the pond. The bridge pathway is approximately seven feet wide, and the clearance between the bottom of slab and ground is approximately three-and-one-half feet. The existing bridge is not the original bridge. A 1931 photograph of the site shows what appears to be a timber bridge and timber approach spans with "Adirondack" style timber bridge rails. The stone masonry piers are clearly visible, as is the pond edging just in front of the piers.

Bridge today

View to School from Bridge

The existing bridge superstructure spans the two stone masonry piers with a clear span of approximately 20 feet. The superstructure is an eight-inch deep reinforced concrete slab with a bituminous concrete wearing surface. There are chain link fence bridge rails on either side of the bridge anchored into the concrete slab. The reinforced concrete slab is in poor condition, with spalling of the concrete on the underside of the slab and numerous exposed and corroded reinforcing bars.

The main span of the bridge appears to be relatively flat, but the two approach spans appear to have a grade greater than five percent, which means the existing bridge is not handicap accessible.

There are two reinforced concrete approach slabs on either side of the bridge that rest on the stone masonry piers. The construction of the approach slabs is similar to the existing construction, except that they are slabs-on-grade. The earth under the approach slabs is retained by concrete block masonry wingwalls, which are in generally fair to good condition. There is some vegetation growing out of the joints in the wingwalls.

The piers are a combination of the original stone masonry construction for the lower two-and-a-half feet and concrete block masonry for the upper one foot. The concrete block masonry appears to date from the time the bridge superstructure was replaced with the existing bridge superstructure. The piers are wider than the bridge superstructure by approximately two feet, which indicates that the existing bridge is narrower than the original bridge. The piers appear to be very stable, and the condition of the older stone masonry is generally fair. The joints have been repointed, but up to 25% of the joints are in poor condition with loss of mortar. Most of the deteriorated joints are towards the end not covered by the bridge superstructure. The newer concrete block masonry is in good condition. No test pits were performed to determine the type and depth of footings.

Bridge footings

One galvanized steel electric conduit is mounted on one side of the slab. It does not appear that any other utilities are carried by the bridge.

Although the existing bridge shows signs of deterioration, it does not exhibit signs of imminent structural failure. It appears to have sufficient structural capacity to continue serving as a pedestrian bridge, although extensive repairs would have to be made to prolong the bridge's useful life.

Although the existing bridge rests on a portion of the historic stone masonry piers, the bridge superstructure does not in itself appear to be historic, and, in our opinion, would not be considered to be a contributing element to the historic Farlow Park.

Recommendations:

- Although the existing bridge does not appear to be in danger of imminent structural failure, it is most likely reaching the end of its expected lifespan. A strategy for the bridge's future needs to be agreed upon. See Feasibility Study, prepared by Ammann & Whitney, for possible bridge reconstruction alternatives.

- Should a new bridge be constructed, we recommend that the bridge and its apporaches be accessible for all park users. A reconstruction of the historic Adirondack-style bridge would not be compliant with current ADA guidelines and we do not recommend installing a bridge that bars any users.

9. Pond in Farlow Park

Analysis:

Skating on the pond

The previously existing pond in Farlow Park was drained, filled with loam and seeded with grass at some point in the mid-1900s. Old photographs of the pond, taken not long after the park was constructed, show what appears to be a concrete-lined pond. The concrete extends up the side slope of the pond and is exposed to varying degrees, depending on the water level at the time the photograph was taken. A later photograph shows the pond having an edge treatment that appears more like an eighteen-inch wide curb with a bullnose edge, rather than a paved slope, suggesting that improvements were made to the pond somewhere between the time it was built and the time it was filled. Today, a distinct outline of the previously existing pond edge can be seen in the lawn, and in some areas a horizontal band of what appears to be concrete has been exposed, indicating that some of the pond edge may still remain.

Recommendations:

- A strategy for the pond's future needs to be agreed upon. See Feasibility Study, prepared by CMS, for possible pond treatment alternatives.
- Although some of the pond edge and pond lining may still remain under the existing lawn, it is unlikely that either of them could be reused.
- Excavate several test pits in the pond area to determine the condition and material of the pond bottom.

The pond today

9. Park Signage

Analysis:

With the exception of the lone Heritage Tree Grant sign near the weeping beech tree, no other signage currently exists within Farlow and Chaffin Parks.

Recommendations:

The development of a historical signage program for the parks is needed. Signage would help to raise awareness and educate park users of the historical significance of the parks. This, in turn, would help to increase support in the community for the continued rehabilitation and maintenance of the parks. The neighborhood schools could also use interpretive signage as a tool to teach students about local history.

Located in prominent locations, such signage could explain for whom the parks are named, the historical chronologies and significant features both within the parks and in the surrounding neighborhood. The design of the signage should complement the Victorian-style benches and lighting.

Examples of signs and their possible locations include:

- Plant tags with Latin and Common Names of the specimen trees,
- Sign by the Library with a biography of John Chaffin, the history of Rosedale with historical photos and illustrations,
- Sign by the gazebo near the Library describing its history and rehabilitation,
- Sign in Farlow Park with a biography of John Farlow, his donation of land for the creation of the park and the contributions of George Meacham and Arthur Shurcliffe,
- Sign by the playground discussing the turret on the playground structure and how it relates to the Victorian house turrets in the neighborhood. Architectural information could be included to point out the unique features of Victorian houses, i.e.. turrets, slate roofs, porches, etc.
- Sign next to the former pond or on the bridge talking about the pond and the original Adirondack wood bridge, with historical photos and postcards.

III. Treatment Plans

1. Initial Restoration Plan

The initial treatment plan included all the site elements that were discussed during the design process. That plan is shown below.

2. Final Restoration Plan

Nearing the end of the Study period, the Newton Park and Recreation Commission and the Friends of Farlow Park agreed to cut out certain elements of the Restoration Plan could be more in line with other town projects competing for Community Preservation Act funds. The bandstand was eliminated so that the focus of the parks would continue to be the bridge and the former pond. Some fencing was eliminated and the flush curbing for the pathway edging was eliminated. The plan to turn the grass areas back into ponds was delayed until more testing of the existing drainage system, the groundwater level and quality can be done, and the possibility of digging a well can be investigated. The final plan is shown below.

IV. Estimate of Probable Costs and Next Steps

The following spreadsheets show the probable capital costs for realizing the Final Restoration Plan and the increased maintenance costs to the City for the improvements outlined.

1. Final Estimate for Capital Improvements

The entire restoration plan will cost about $1.14 million over a three-year, or possibly a four-year, period. The first spreadsheet shows how the work will be phased. The items deleted from the Initial Restoration Plan are noted in red.

The first phase will include the investigations of the old pond bottom and edge, the original water and drainage system for the former pond, the possibility of well digging, of the groundwater level, and of water quality.

The tree, tree stump and shrub removal will be done as well. Pruning of the mature, historic trees will be done in Farlow and Chaffin Parks. The survey will be completed with topographical, utility and property information added to the current survey. Once the investigations are completed, the final design and engineering work can be completed. The historic signs will be designed and installed under this phase of work as well. The first phase of work is shown in pink in the following spreadsheet.

In the second phase the new bridge will be installed, and the stone wall along Vernon and Centre Streets will be repointed and rebuilt. The second phase of work is shown in green in the spreadsheet.

In the third phase the pathways will be rehabilitated and the new fencing and the new site furniture will be installed. The planting of new trees, perennials and new lawn will also be done in this phase. If the first phase investigations conclude that a pond for winter skating is feasible and cost effective, this work can be constructed in the third phase or split into a fourth phase of work. The third and fourth phases are shown in blue in the spreadsheet.

2. Final Estimate of Maintenance Cost Increases

The second spreadsheet shows how the Final Restoration Plan will impact the annual maintenance budget for the park. The deleted items are shown in red. The per person costs for the maintenance workers were rounded up from the 2006 figures given to us by the Park Commission.

3. Next Steps

The next steps for the project include meeting with the Community Preservation Committee for the City of Newton to discuss the Landscape Restoration Plan in detail. This meeting will occur in the fall of 2006. If the funds for the historic parks can be obtained from the CPC, the project will continue. If the funding is not secured with the Community Preservation Act, the project will be stopped until funding can be secured.

During the next phase of the design work, the Newton Parks and Recreation Commission and the design team need to meet with the City of Newton Historical Commission to discuss the project, because it is in a local Historic District. The Commission meets on the fourth Thursday of the month.

ESTIMATE OF PROBABLE COSTS FOR CAPITAL IMPROVEMENTS

Farlow/Chaffin Parks - Spreadsheet of Phased Park Improvements

Deleted Items from Original Program in RED

Item Description	Total Quantity	Unit	Unit Cost	Year 1 Costs Sub-Total	Year 2 Costs Sub-Total	Years 3/4 Costs Sub-Total	Comments
REMOVALS							
Tree Removal	1	ea	$ 750.00		$ 750.00		Includes stumping
Shrub Removal	6,950	sf	$ 0.50		$ 3,475.00		Yew roots difficult
Stump Removal	2	ea	$500.00		$1,000.00		Of existing stumps
Pathway Removal (complete)	37	cy	$ 85.00		$ 3,145.00		Removal of 1325 sf; assumes 3" depth asphalt and 6" base material
Pathway Removal (for reconstruction)	210	cy	$ 85.00		$ 17,850.00		Removal of 7530 sf; assumes 3" depth asphalt and 4" depth concrete
Removal of Chain Link Fences	925	lf	$ 3.00		$ 2,775.00		Footings removed
Removal of Vegetation at Property Lines	2	ea	$ 2,500.00		$ 5,000.00		Includes stumping
Misc. Removals	1	ls	$ 4,000.00		$ 4,000.00		
Bench Removals in Chaffin Park	3	ea	$ 500.00		$ 1,500.00		Includes pad removal
Bench Removals in Farlow Park	5	ea	$ 500.00		$ 2,500.00		Includes pad removal
Bench Removals in Farlow Playground	7	ea	$ 500.00		$ 3,500.00		Includes pad removal
TOTAL REMOVALS					$ 45,495.00		
PLANTING							
Deciduous Trees	10	ea	$ 2,500.00		$ 25,000.00		
Perennials	2,500	ea	$ 25.00		$ 62,500.00		planted at 12" O.C.
Overseeding/Grass Restoration	68,250	sf	$ 0.25		$ 17,062.50		Assume 50% of lawn area
Play Fields Restoration					Deleted		
New Lawn	9,850	sf	$ 0.45		$ 4,432.50		At shrub and pathway removals
Pruning of Historic Trees to Show Form	30	ea	$ 2,000.00		$ 60,000.00		Mature trees only
TOTAL PLANTING					$ 168,995.00		
FENCING AND GATES							
New 36" ht. Historic Ornamental Fence	255	lf	$ 30.00		$ 7,650.00		On street side and Farlow Park side
New 48" ht. Historic Ornamental Fence	365	lf	$ 40.00		$ 14,600.00		At Play Fields
Historic Ornamental Gate with Wisteria	1	ea	$ 4,000.00		$ 4,000.00		
TOTAL FENCING AND GATES					$ 26,250.00		

Farlow - Chaffin Park Landscape Restoration
Preliminary Costs for Planning

ESTIMATE OF PROBABLE COSTS FOR CAPITAL IMPROVEMENTS

Prepared by: Brown, Richardson Rowe, Inc.
Date: June 2006

Item Description	Total Quantity	Unit	Unit Cost	Sub-Total	Comments
POND IMPROVEMENTS (Traditional Filtration System, Water Level at Existing Lawn Elevation)					
Soil Testing of Existing Pond Fill	4	ea	$ 800.00	$ 3,200.00	Testing of existing soil/existing pond bot.
Soil Excavation	1,015	cy	$ 30.00	$ 30,450.00	Assume "clean soil" -- see note 2
New Pond Bottom need to include $	9,100	sf	$ 10.00	$ 91,000.00	Includes 12" concrete and 6" gravel base
Treatment System for Pond				Deleted	
Vault for Pond Mechanicals				Deleted	
Granite Pond Edging				Deleted	
Testing of original water system and outfall	1	ls	$ 5,000.00	$ 5,000.00	
Well Investigation/ Groundwater testing	1	ls	$ 6,000.00	$ 6,000.00	No City Water to be used in project
TOTAL POND				$ 135,650.00	
BRIDGE IMPROVEMENTS					
Structural Testing for Bridge Foundations	1	ls	$ 4,000.00	$ 4,000.00	Ammann & Whitney Est. See note 4
Precast Concrete Frame with Stone Veneer	1	ls	$ 128,000.00	$ 128,000.00	Ammann & Whitney Est. See note 4
Historic Ornamental Bridge Railing	140	lf	$ 125.00	$ 17,500.00	Coordinated with Ornamental Fencing
Boulder Replacement at Abutments	1	ls	$ 3,000.00	$ 3,000.00	
Removal of Existing Bridge and Footings	1	ls	$ 5,000.00	$ 5,000.00	
TOTAL BRIDGE				$ 157,500.00	
BANDSTAND					
Wood Construction Bandstand				Deleted	
Installation				Deleted	
Foundation				Deleted	
Stair, Ramp and Railings				Deleted	
New Walkway around Bandstand				Deleted	
Flush Granite Edging				Deleted	
Electricity for Bandstand				Deleted	
TOTAL BANDSTAND				$ -	

Farlow - Chaffin Park Landscape Restoration
Preliminary Costs for Planning

ESTIMATE OF PROBABLE COSTS FOR CAPITAL IMPROVEMENTS

Prepared by: Brown, Richardson Rowe, Inc.
Date: June 2006

Item Description	Total Quantity	Unit	Unit Cost	Sub-Total	Comments
WALKWAYS (See Note 4)					
Reconstructed walkways in Farlow Park & Chaffin Park	7,530	sf	$ 6.00	$ 45,180.00	Asphalt with granite edge; granite priced separately (see below)
Flush Granite Edge at walkways				Deleted	
Rehabilitate walkway in Library Parcel	2,615	sf	$ 4.50	$ 11,767.50	Resurface asphalt only
Rehabilitate walkway in Farlow Playground	1,465	sf	$4.50	$ 6,592.50	Resurface asphalt only
New walkway to/from Library Gazebo				Deleted	
Flush Granite Edge at walkways				Deleted	
New walkway from Eldridge St to Pond	1,075	sf	$ 6.00	$ 6,450.00	Asphalt with granite edge; granite priced separately (see below)
Flush Granite Edge at walkways				Deleted	
TOTAL WALKWAYS				$ 69,990.00	
STONEWORK					
Rebuild/repoint Wall at Centre St & Vernon St	387	lf	$ 100.00	$ 38,700.00	Repair/add stones & repointing/cap
TOTAL STONEWORK				$ 38,700.00	
SITE FURNITURE					
New Historic Benches in Chaffin Park	8	ea	$ 3,000.00	$ 24,000.00	Includes brick pad
New Historic Benches in Farlow Park	7	ea	$ 3,000.00	$ 21,000.00	Includes brick pad
New Historic Benches in Farlow Playground	8	ea	$ 3,000.00	$ 24,000.00	Includes brick pad
Rehab Exist. Historic Benches	17	ea	$ 1,000.00	$ 17,000.00	
TOTAL SITE FURNITURE				$ 86,000.00	
UTILITY ALLOWANCE	1	ls	$ 25,000.00	$ 25,000.00	
SUB-TOTAL				$ 753,580.00	
25% contingency				$ 188,395.00	
TOTAL PARK CONSTRUCTION BUDGET				$ 941,975.00	
OTHER					
Complete Topographical/Property Survey				$ 30,000.00	
Design & Engineering Fee at 15% of CB				$ 141,296.25	
Historic Sign Design/Installation				$ 25,000.00	
TOTAL PROBABLE COST OF LANDSCAPE RESTORATION				$ 1,138,271.25	

NOTES:

1. A community group is raising funds to renovate the playground between the Library and Eliot Church, with a goal of $40,000-$60,000.
2. Does not include costs for remediation and removal of contaminated soil, if necessary..
3. Ammann & Whitney's estimate is based on the precast concrete rigid frame with stone veneer. Other alternates cost from $111,000 to $156,000.
4. Walkways as concrete paving estimated at $63,000 (additional). This price includes removal of asphalt and flush granite curbing on walkways designated to be rehabilitated (resurfaced) and the additional cost of providing 12,685 sf of concrete paving instead of asphalt.

Farlow - Chaffin Park Landscape Restoration
Preliminary Costs for Planning

ESTIMATE OF PROBABLE COSTS FOR MAINTENANCE INCREASES

Prepared by: Brown, Richardson Rowe, Inc.
Date: June 2006

MAINTENANCE INCREASES FROM FARLOW-CHAFFIN PARK LANDSCAPE RENOVATION PROJECT					
			Yearly		
	Total		Operating		
Item Description	Quantity	Unit	Cost	Sub-Total	Comments
PLANTING					
10 New Trees	10	ea	$ 25.00	$ 250.00	Fertilizing, watering
Shrub removal	1	LS	$ (500.00)	$ (500.00)	Yews, volunteer vegetation removed which cuts down on pruning labor
Perennials	2,500	ea.	$ -		Neighbors to maintain
Overseeding/Grass Restoration	68,250	s.f.	$ -		Short term, labor costs are less
Play Field Restoration	31,050	s.f.	$ -	Deleted	More maintenance of existing fields will be needed because this restoration was deleted from Restoration Plan
New Lawn	9,850	s.f.	$ 0.25	$ 2,462.50	Short term labor increase keeping new grass protected/watered during summer
Tree Pruning	30	ea	$ -		Short term, labor costs are less
TOTAL PLANTING				$ 2,212.50	
FENCING AND GATES					
Ornamental 36" fence	2	hr	$ 25.00	$ 50.00	Short term, labor costs for fences are less because there are no hedges to prune.
Ornamental 48" fence	3	hr	$ 25.00	$ 75.00	
Historic Gate with Wisteria	2	hr	$ 25.00	$ 50.00	Training wisteria onto gate in spring
TOTAL FENCING AND GATES				$ 175.00	
POND IMPROVEMENTS					
A. Traditional Filtration System -- "Swimming Pool"					
Assumes April-October Operations	1	LS	$ 25,894.00	Delayed	Cost of maintenance can not be determined during this phase of work. Maintenance costs need to be determined once final program for ponds is completed.
Drain system and prepare for skating season	16	hr.	$ 25.00	$ 400.00	
Spray/smooth ice for winter skating	16	hr.	$ 25.00	$ 400.00	
Spring maintenance of pond bottom/edge	8	hr.	$ 25.00	$ 200.00	
TOTAL TRADITIONAL SYSTEM				$ 1,000.00	
	OR				
B. Biotope "Green" System -- includes plants					
Assumes April-October Operations	1	LS	$ 16,113.00	Delayed	Cost of maintenance can not be determined during this phase of work. Maintenance costs need to be determined once final program for ponds is completed.
Partially drain system for winter skating	32	hr.	$ 25.00	$ 800.00	
Spray/smooth ice for winter skating	12	hr.	$ 25.00	$ 300.00	
Spring maintenance of pond bottom/edges/plants	32	hr.	$ 25.00	Deleted	
Year round maintenance of the plants	48	hr.	$ 25.00	Deleted	
TOTAL "GREEN" SYSTEM				$ 1,100.00	

Farlow - Chaffin Park Landscape Restoration
Preliminary Costs for Planning

ESTIMATE OF PROBABLE COSTS FOR MAINTENANCE INCREASES

Prepared by: Brown, Richardson Rowe, Inc.
Date: June 2006

Item Description	Total Quantity	Unit	Operating Cost	Sub-Total	Comments
BRIDGE IMPROVEMENTS					Assumes Alternative #3
Yearly structural check of bridge/railings	8	hr.	$ 25.00	$ 200.00	Short term, labor costs are less.
Repaint, touch up railings on a yearly basis	8	hr.	$ 25.00	$ 200.00	
TOTAL BRIDGE				$ 400.00	
WALKWAYS					
Yearly check for new cracks and then seal	16	hr	$ 25.00	$ 400.00	Short term, labor costs are less
TOTAL WALKWAYS				$ 400.00	
STONEWORK					
Yearly check for mortar/cap failure	4	hr	$ 25.00	$ 100.00	Short term, labor costs are less
TOTAL STONEWORK				$ 100.00	
SITE FURNITURE					
Yearly check of all bench slats, attachments	16	hr	$ 25.00	$ 400.00	Short term, labor costs are less
Yearly check of all bench pads	4	hr	$ 25.00	$ 100.00	Short term, labor costs are less
Yearly check of all trash cans, repaint, replace	16	hr	$ 25.00	$ 400.00	Short term, labor costs are less
TOTAL SITE FURNITURE				$ 900.00	
SUB-TOTAL				$ 5,187.50	
25% contingency				$ 1,296.88	
TOTAL PROBABLE INCREASE TO PARK OPERATIONS BUDGET				$ 6,484.38	
NOTES:					
1.We have rounded up the hourly rate of the park crew for this spreadsheet					

V. FOOTNOTES

1. “History of Farlow Park,” Newton Graphic, 19 April 1912, p 1.

2. Plan contains very few notes and material designations.

3. “Farlow Park Hearing,” Newton Graphic, 20 April 1912, p 1.

4. “Children Can Wade in Farlow Park Pond,” Newton Graphic, 13 June 1930, p 9.

5. Newton Graphic, 1920.

6. In 1991, the walkway was dedicated as the Anton A. Pruckner Walkway.

7. For ease of reference, these two areas shall be referred to as the Active and Historic areas of Farlow Park.

8. Analysis of Chaffin Park includes the area adjacent to the Anton A. Pruckner Walkway through the Library Parcel.

9. From Feasibility Study prepared by Ammann & Whitney.

VI. Appendices

1. Summary of Community Meetings

The first meeting with the Friends of Farlow Park was held on January 26, 2006, at the Burr Park Community Center. The project work plan, schedule and meeting dates were discussed. The major park elements - the pond, bridge, Chaffin gazebo and floral gardens - were discussed.

The first Public Meeting was held on February 28, 2006, at the Bigelow Middle School Auditorium. Stephanie Pelkowsky, City of Newton Parks and Recreation Department, introduced this meeting and the other two public meetings as well. Newton City Commissioner Fran Towle also attended the meetings. Clarissa Rowe, principal from Brown, Richardson & Rowe (BR&R), presented the historic chronology of the two historic parks, discussed their condition today, and emphasized the character-defining features of both. Andre Marticchini of Ammann & Whitney, Structural Engineers, discussed three options for the construction of the bridge. He discussed the difficulties of reconstructing the Adirondack style wooden bridge and suggested longer lasting materials that would require less maintenance. Roy Kaplan of CMS Collaborative, the fountain and pond consultant, discussed the costs and materials for two kinds of ponds, the traditional “swimming pool quality” pond and a newer “green” type of pond with water plants.

The second Public Meeting was on April 12, 2006 at the Bigelow Middle School Auditorium. Alternative treatments were discussed for the Pond Restoration, the Bridge Restoration, the Bandstand and the Floral Gardens. The reports from the subconsultants, Ammann & Whitney and CMS Collaborative, had been distributed prior to the meeting and were also available at the meeting. These reports pointed out the costs for all the bridge and pond alternatives discussed at the first meeting. The cost for the pond restoration and its necessary mechanical equipment was close to one million dollars. The maintenance costs for the pond were highlighted with the community as well. The bandstand was discussed as being an “off the shelf” item and not a specialty element. The floral garden at Chaffin was discussed. It was the consultant’s recommendation that floral gardens only be designed if there is a maintenance agreement between the neighbors and the City of Newton parks department.

Between the second and third Public Meetings, Brown, Richardson & Rowe prepared a detailed estimate of construction and maintenance costs which was distributed to the Friends of Farlow Park by the Parks Department. Those two entities met before the third meeting and substantially reduced the scope and cost of the project. The third Public Meeting was held on June 13, 2006 at the Bigelow Middle School Auditorium. BR&R presented the revised cost estimate and the changed program. The phasing of the project was discussed with the Community as well. There was a lengthy discussion of the historic bridge restoration, its location and its height above the pond. Several historic fence options were presented too. As with the other meetings, the community asked questions and commented on the design work at the end of the meeting.

2. The Feasibility Studies

The feasibility studies done for the pond, the bridge, the pavilion/bandstand and the floral gardens follow.

Farlow-Chaffin Park - Pond Water Feature

Feasibility Study

By: CMS Collaborative
28 March 2006

The goal of this study is to assess the feasibility of renovating the (now dry and planted with lawn) historic pond at Farlow Park in Newton Massachusetts. This pond actually consists of two "lobes, " each of approximately 4,500 square feet, connected at a narrow area over which a historic bridge spans.

CMS will examine technical, budgetary, and maintenance issues regarding the water feature both during the renovation process and in terms of ongoing maintenance.

It is thought that the pond will also be allowed to freeze in winter, thereby providing a neighborhood ice rink, as well as an attractive water feature during the spring, summer, and autumn months.

It is envisioned that the pond shall be designed so as to have a maximum depth of 18-inches, thereby conforming to current practices regarding decorative reflecting pools. At this depth, governing authorities should not consider it a swimming pool, requiring lifeguards, fencing, and so forth.

The pond is also not envisioned to be an "interactive water feature," in the sense of being specifically designed as a wading or splash pool. *The approach for designing an interactive water feature is quite different from the design of a non-interactive, rustic pond – with the current case being the latter.* The water treatment systems herein proposed would not meet code requirements for a splashing or wading venue.

Two Distinct Approaches to Water Quality

Once the pond has been renovated, the water will need to be maintained and treated so as to maintain an acceptable level of quality. Toward this end, two approaches have been discussed: 1) the "traditional" way which reflecting pools are treated, something akin to a swimming pool, or 2) a more "natural" (green) system, using plants, pond bacteria, and a natural sand "biotope" to maintain water quality. Each has advantages.

Option 1: Standard Treatment and Filtration – "Like a Swimming Pool"

As noted above, this mode of water quality maintenance would be very similar to that used in high-quality commercial swimming pools. The reason we say "high-quality" is that the prospective system would utilize "industrial grade" equipment, and provide a level of automation which is not typically seen in residential swimming pools or lower end commercial ones (e.g., those found in many condominium developments).

Sanitation

The traditional way swimming pools and fountains are sanitized is through the addition of chlorine (sodium hypochlorite—a swimming pool strength version of Clorox), either periodically or on a demand (as needed via ORP sensor) basis, with the latter representing a higher degree of automation. The advantage to using chlorine is that it is the most potent way of preventing algae and killing bacteria. The disadvantage is that the chlorine has to be kept in drums stored in the equipment space. Further, in order to insure that the chlorine maintains optimum potency, water pH must be adjusted. Finally, a chlorine odor will be produced if (as odd as this seems) insufficient amounts of chlorine are added.

An automated chlorination system will require storage and re-supply of chlorine and acid (typically sulfuric) drums in the equipment space—currently envisioned as a subterranean vault. Also, these chemicals (especially the acid) are noxious, and should be handled by professionals. Finally, they will produce toxic gasses if allowed to mix. Following OSHA codes and input from local authorities (including the fire marshal) will be required if a chlorination system is to be installed in the fountain equipment vault.

Other chemicals can be used along with chlorine or in its absence in order to provide sanitation. Specifically non-oxidizing organic biocides of the type approved for swimming pools can be automatically added. One example would be biocide WSCP, by Buckman Laboratories. This compound provides reasonable protection, however our experience suggests that it functions best when used along with chlorine. It is possible to envision a system where the organic biocide is stored in the equipment vault and automatically added, while chlorine as added manually once or twice a week.

The non-oxidizing biocide would also need to be stored in the fountain equipment vault. However, we would again note that the compound we would recommend is not nearly as corrosive, and in general as noxious as the acid and chlorine couplet discussed above.

In order to support the chemical additives, thereby reducing demand for them and consequently lowering chemical costs, we would also recommend addition of an ultraviolet (UV) sterilizer to the system.

RECOMMENDATIONS: Ideally, we would install a chlorination system, along with a UV sterilization unit for sanitation. However, before we can whole-heartedly recommend this, we would need to discuss the pros and cons of the handling and storage of chlorine and acid with maintenance personnel, and receive input from the city as well. So at this point in the dialog, should the "swimming pool" approach be taken, we will recommend automatic addition of chlorine (on-demand system) and acid, along with the addition of a non-oxidizing biocide used in pools, typically Buckman WSCP. In addition, to help minimize chemical usage and militate against an algae bloom, we would recommend installation of a UV sterilizer to back up the primary chemical biocides.

Filtration

The typical commercial and municipal swimming pool utilizes a high-rate sand filter to maintain water clarity and (along with biocide addition) prevent algae blooms. We typically recommend a sand-filter equipped with automatic backwashing (self-cleaning) capability. The auto-backwash system senses pressure buildup in the tank (indicating increased dirt

loading on the sandbed), and "reverse flushes" the tank when pressure buildup reaches a predetermined set point. Backwash effluent is discharged to the sanitary sewer, at the rate of normal filtration, for an approximately 4-minute backwash cycle.

We currently envision that two 36-inch diameter filter tanks will be required to provide adequate (swimming pool like) filtration. This implies a filtration rate of approximately 210 gallons per minute (GPM), divided equally between tanks, and backwash rate of about 105 GPM, as the tanks backwash sequentially to reduce loading on the sanitary sewer.

Alternately, and at a cost premium which could total $25,000.00, we could utilize a "high-tech" DE filter (different then those typically seen at swimming pools), which self-cleans but which does not discharge effluent to the sewer system. These filters are quite useful when a sanitary connection capable of accepting backwash effluent flowrates is not available. They also have the advantage of not wasting treated water during the backwash cycles. These filters are inherently more environmentally friendly in that they do not produce treated effluent or backwash sludge, and save money by not discharging treated water during backwashing as do sand filters—but there is an initial cost premium as noted.

Assuming a sanitary connection capable of accepting sand filter backwash discharge exists within a reasonable distance, it would be up to the City to decide which type of filtration in which they wish to invest. Note that if a suitable sanitary connection is not located within a reasonable distance, added trenching and piping costs could pay for much of the non-backwashing DE filter.

Sanitary Sewer Air-gap Requirement

In this scenario, treated pond discharge must be sent to the sanitary sewer system. Few municipalities will allow the waste to run to the storm system. Given this, all discharge must run through an "air-gap," typically in the form of an air-gap manhole, which protects the pond from being cross contaminated with sewage.

Option 2: Green "Biotope" Based System

This is a greener and more natural approach to water maintenance, in that it does not use treatment chemicals or standard filtration. Rather, it uses the natural filtering properties of environmental sand and the rejuvenating properties of water plants and natural bacteria to "treat" pond water.

In this scenario, a type of sand would be placed around the margins of some portions of the pond to form "biotopes." The sand would slope from above ground level to the pool floor. Aquatic plants would be planted in these sand birms.

Under-drains would be laid at the bottom of the biotopes, which would be connected to one or more manholes that also contain submersible pumps. Water would be pumped from the manhole(s) into the pond at various points to provide adequate circulation and mixing. This water would then flow at low velocity through the sand biotopes and into the underdrain collection system and back to the manhole. The sand would provide filtration, aquatic plants would oxygenate the water, and "friendly" bacteria growing in the sand would consume otherwise algae –feeding nutrients. The result would be a more natural "pond-like" appearance—with some algae growing on pond surfaces, but ideally not overgrowing. The

water would not be as crystal clear as it would be in the choice 1 scenario, but it would be clearer than that of a pond that does not overflow with a constant supply of fresh stream water. Nonetheless, the biotope solution provides a more natural effect.

One advantage is that vis-à-vis the standard treatment scenario, and in the absence of expensive high-tech DE filters, there is no backwash effluent that much be routed to the sanitary system. Since the system is, in essence, a natural system with no added chemicals, it is likely that all discharge can simply be sent to the storm system—although the City and all other relevant agencies must verify this. This also alleviates the necessity to run fountain discharge through a sanitary air air-gap (discussed in "choice 1") to prevent cross contamination.

It should be noted that this form of water maintenance is less conventional than the approach that just chemically treats the water and filters it—although the approach is growing in popularity in the United States, and is certainly more environmentally friendly. While the results can be beautiful, educational, and natural in appearance, more care may be required at times, as we are now dealing with a living system (just as a garden requires more care than an uncultivated patch of field). However, it can be argued that this sort of natural system will be much more conducive to neighborhood participation and oversight than a traditional chemically based system, with the latter of which requiring the handling of swimming pool chemicals as well as learning how to use swimming pool treatment equipment.

Pond Jet

A component of the proposed design would be the installation of a pond jet in the "lobe" on one side of the bridge. We envision using a conventional, frothy cascade (geyser) or aerating jet, shooting to a height of approximately 15 feet. The jet effect can be installed in both of the options listed above. We would note that the jet might aid water treatment if the biotope scenario is selected, in that it would help aerate pond water—thereby fostering the growth of "friendly bacteria," which compete against algae for nutrients.

Equipment Space Considerations

A space will need to be located to house the mechanical and electrical gear associated with the pond. Of the two options given above, option 1 (the "like a swimming pool" scenario) will require a larger equipment space—approximately 225 square feet at first estimation. The biotope option would require a smaller primary space, but would require one or two manholes with submersible pumps as described above.

Typically in a park environment, the equipment space takes the form of a subterranean vault with an access hatch at grade level, as there are not usually above ground structures available. Due to the fact that these vaults are accessible by ladder only, have the potential to accumulate sewer and chemical gasses, and offer limited egress, these subterranean vaults are typically considered "confined spaces" as defined by OSHA. Aboveground spaces are preferable in that they are not usually considered "confined spaces." Note, though, if above ground structures are available and used, more expensive pumps are typically needed, to deal with the fact that a "flooded pump suction" condition does not exist. However, the easy

accessibility of equipment would likely make maintenance by neighborhood groups more feasible.

It is important to reiterate that subterranean vaults, when used, are confined spaces (typically "permit required confined spaces"). The question of what chemicals will be stored in the space (and how they are delivered to the space) must be raised from the outset, and discussed with all interested departments and agencies—from the fire department to park maintenance, to community groups. Many problems will be avoided if these questions are raised, and the various alternatives discussed, early in the design process.

Construction Budget

We have outlined two approaches that can be taken with regards to pond treatment. These are 1) Traditional, "swimming pool" like treatment, and 2) Green "biotope" type system. Our preliminary construction budget estimates for Mechanical and Electrical equipment are:

1. TRADITIONAL SYSTEM: $310,000.00
2. BIOTOPE SYSTEM: $280,000.00 (*not* inclusive of biotope sand)

These estimates are preliminary, as noted, and will be refined once an approach has been selected and actual design can be started.

The above estimates are for pond mechanical and electrical systems only. They *do not* include structural renovations to the pond, bridge, grading for the pond, structures, etc., which will be covered elsewhere.

As noted above, a subterranean vault will likely be used to house fountain mechanical and electrical gear. We can estimate the vault costs for the two options separately (in addition to the above figures) as follows:

1. TRADITIONAL SYSTEM VAULT: We can estimate the cost of the approximately 225 square–foot vault required for the traditional system at $50,000.00.
2. BIOTOPE SYSTEM VAULT: We can estimate the cost of the approximately 100 square–foot vault required for the biotope system at $20,000.00. However, to this must also be added the cost of two (2) five-foot diameter manholes that house the biotope sump pumps.

Operation/Maintenance Costs and Other Issues

No matter what type of system is ultimately selected, the pond will require regular upkeep. Aside from keeping the pumping and other gear in good working order, periodic cleaning will be required to meet the community's aesthetic criteria. As these criteria vary from venue to venue, it is difficult to a priori determine just how many person-hours per week the pond will require. This being said, we are including two worksheets along with this study that provides estimated operating costs, covering such items as chemical use, water use, power consumption, and person-hours for maintenance. The two worksheets correspond to *options 1 and 2*, at end of report.

We have made a blanket assumption that the pond, on average, will need 10 hours per week of person attention. However, until the pond has been constructed and assumptions tested, this estimate must be considered crude. Much will have to do with just how pristine the community wants to keep the pond. If the floor is vacuumed occasionally (assuming a floor which lends itself to vacuuming), drainage and "mucking out" of the floor will be only very occasionally. If not, floor cleaning may need to be more frequent. Also, certain type of friendly bacteria can be added which digest submerged organic waste, thereby reducing times between cleanings. However, since the water depth will be relatively shallow compared to most naturally occurring ponds, the natural opacity of the water will not be expected to hide submerged debris—especially if the traditional approach to water maintenance is selected.

Also, as any swimming pool owner knows, there will be periods where the pond tends to get dirtier—specifically, spring when the flower petals fall and autumn, when the trees loose their leaves.

Note that the operating costs for the biotope system would appear at first glance to be less than the standard system. This is because expensive treatment chemicals are not being purchased, and also is a result of slightly lower power requirements. However, *the cost of purchasing and replacing aquatic plants has not been figured into the spreadsheet.*

Runoff into the Pond

This topic can be summarized with two words: Avoid it. Runoff, especially from fertilized flowerbeds and lawns, provide the pond with a ready source of algae food. While we are proposing two methods of maintaining water quality, it should be noted that these methods can be taxed and possibly overwhelmed by "fertilizing the pond" with nutrient rich runoff. If at all possible, grading should be such that the pond is not a catch basin for park runoff. Also, a non-planted surface around the pond margin would help keep lawn clippings from the pond. Runoff into the pond should be avoided wherever possible--the community and those charged with maintaining water quality will appreciate this.

Water Supply and The Mystery Stream

Typically, we would ask for a 3" water supply for the Farlow Pond at its anticipated water volume of approximately 110,000 gallons. This would allow for a "fill from empty" time of approximately 11 hours. Smaller water supply connections could be used if longer fill times are acceptable.

There has also been some discussion of a stream which once ran through the pond ("once" meaning possibly existing within the lifetime of the oldest Newton residents). If this stream exists (no one seemed to know at the first public meeting if and when it ever did, or if it was just thought to have existed), *and* if it could be tapped to overflow into and out of the pond, the water treatment scenarios discussed above (options 1 and 2) would need to be reconsidered. If sufficient water of good quality could be added to and overflowed from the pond to maintain good water quality, perhaps the need for further treatment would be obviated.

Option 1:

OPERATION AND MAINTENANCE COST WORKSHEET
Standard Chemically Based System

Project: Farlow Chaffin Park
Date: 3/28/06

Pool Area:	9,079	sq. ft.
Average Depth:	18	inches
Pool Capacity:	101,866	gallons
Filter Area:	14.1	sq. ft.
Backwashes/Week:	2	
Evap/Spray/Leaks:	3.0	inches/week
Fillings per Year:	1	

HORSEPOWER	HRS/DAY
5	16
5	8

LIGHTING WATTS	HRS/DAY
500	5

Maintenance Cost:	$40.00	per hour
Maintenance Time:	10.0	hours/week
Power Cost:	$0.13	per KWH (verify rate)
Water Cost:	$2.00	per 100 cu. ft.
Chemical Costs:	24.25	per 10,000 gallons pool capacity per week

SUMMARIES

	DAILY	WEEKLY	MONTHLY	ANNUALLY	7 MONTHS
WATER USE (GAL)	2,939	20,629	89,391	1,072,692	1,838,901
EXPENSES					
Power	$16	$111	$483	$5,797	$3,381
Water	$8	$55	$239	$2,868	$1,673
Chemicals	$41	$287	$1,244	$14,925	$8,706
Maintenance	$57	$400	$1,733	$20,800	$12,133
TOTALS	**$122**	**$854**	**$3,699**	**$44,390**	**$25,894**

Option 2:

OPERATION AND MAINTENANCE COST WORKSHEET
Biotope "Green" System

Project: Farlow Chaffin Park
Date: 3/28/06

Pool Area:	9,079	sq. ft.
Average Depth:	18	inches
Pool Capacity:	101,866	gallons
Filter Area:		sq. ft. (n/a)
Backwashes/Week:		n/a
Evap/Spray/Leaks:	3.0	inches/week
Fillings per Year:	1	

HORSEPOWER	HRS/DAY	
5	16	Jet Pump
5	10	Biotope Recirc. Pump(s)

LIGHTING WATTS	HRS/DAY
500	5

Maintenance Cost:	$40.00	per hour
Maintenance Time:	8.0	hours/week
Power Cost:	$0.13	per KWH
Water Cost:	$2.00	per 100 cu. ft.
Chemical Costs:		per 10,000 gallons pool capacity per week

SUMMARIES

	DAILY	WEEKLY	MONTHLY	ANNUALLY	7 MONTHS
WATER USE (GAL)	2,698	18,937	82,059	984,708	1,688,071
EXPENSES					
Power	$17	$121	$522	$6,270	$3,657
Water	$7	$51	$219	$2,633	$1,536
Chemicals	$6	$40	$173	$2,080	$1,213
Maintenance	$46	$320	$1,387	$16,640	$9,707
TOTALS	**$76**	**$531**	**$2,302**	**$27,623**	**$16,113**

END OF REPORT

FARLOW-CHAFFIN PARK FEASIBILITY STUDY
NEWTON, MASSACHUSETTS

PEDESTRIAN BRIDGE STUDY

Prepared by Ammann & Whitney

PURPOSE

The purpose of this Feasibility Study for Farlow-Chaffin Park is to investigate the feasibility of replacing the existing pedestrian bridge over the "pond" area located in the center of Farlow Park with a new bridge that is handicap accessible and in character with the historical nature of the surrounding park.

EXISTING BRIDGE

A field visit was made on February 22, 2006 with Brown, Richardson & Rowe to view the existing bridge, observe its overall structural condition, and view the surrounding site to identify constraints which would affect design of the new bridge. The evaluation of the existing bridge is based on limited visual information, and is not based on an in-depth structural inspection or analysis.

The existing pedestrian bridge in Farlow Park crosses a grassy area which originally was a reflecting pond, but was more recently filled in to eliminate the pond. The width of the bridge pathway is approximately 7 feet wide, and the clearance between the bottom of slab and ground is approximately 3'-6".

The existing bridge is not the original bridge. A 1931 photograph of the site shows what appears to be a timber bridge and timber approach spans with "Adirondack" style timber bridge rails. The stone masonry piers are clearly visible, as is the pond edging just in front of the piers.

The existing bridge superstructure spans over the two stone masonry piers with a clear span of approximately 20 ft. The superstructure is an 8 inch deep reinforced concrete slab with a bituminous concrete wearing surface. There are chain link fence bridge rails on either side of the bridge anchored into the concrete slab. The reinforced concrete slab is in poor condition with spalling of the concrete on the underside of the slab with numerous exposed and corroded reinforcing bars.

The main span of the bridge appears to be relatively flat, but the two approach spans appear to have a grade greater than 5%, which means the existing bridge is not considered to be handicap accessible.

There are two reinforced concrete approach slabs on either side of the bridge which rest on the stone masonry piers. The construction of the approach slabs is similar to the existing construction, except that they are slabs-on-grade. The earth under the approach

slabs is retained by concrete block masonry wingwalls which are in generally fair to good condition. There is some vegetation growing out of the joints in the wingwalls.

The piers are a combination of the original stone masonry construction for the lower 2'-6" and concrete block masonry for the upper 1 foot.. The concrete block masonry appears to date from the time the bridge superstructure was replaced with the existing bridge superstructure. The piers are wider than the bridge superstructure by approximately 2 feet which indicates that the existing bridge is narrower than the original bridge. The piers appear to be very stable, and the condition of the older stone masonry is generally fair. The joints have been repointed, but up to 25% of the joints are in poor condition with loss of mortar. Most of the deteriorated joints are towards the end not covered by the bridge superstructure. The newer concrete block masonry is in good condition. No test pits were performed to determine the type and depth of footings.

One galvanized steel electric conduit is mounted on one side of the slab. It does not appear that any other utilities are carried by the bridge.

Although the existing bridge shows signs of deterioration, it does not exhibit signs of imminent structural failure. It appears to have sufficient structural capacity to continue serving as a pedestrian bridge, although extensive repairs would have to be made to prolong the bridge's useful life.

Although the existing bridge rests on a portion of the historic stone masonry piers, the bridge superstructure does not in itself appear to be historic, and, in our opinion, would not be considered to be a contributing element to the historic Farlow Park.

OPPORTUNITIES AND CONSTRAINTS

Based on discussions with Brown, Richardson & Rowe, and from input obtained at the first public meeting held on February 28, 2006, the goal of the project is to provide a bridge crossing over a restored reflecting pond in the same historic location as the original bridge.

Any bridge alternative will have to meet several basic design criteria, including the following:

1. The bridge under-clearance should provide sufficient headroom to allow for skaters to pass under the bridge during the winter. We recommend that a minimum of 7 feet of headroom be provided under the bridge as measured from the proposed winter water elevation.

2. The bridge must meet the standards of universal accessibility. To do so, the maximum grade for the walkway approaches to the bridge must not exceed 5%.

If this is not feasible, then the approach walkways will have to be designed as ramps in accordance with the Massachusetts Architectural Access Board and American with Disabilities Act (ADA) standards. These standards require that the ramp grades not exceed 12%, 5 foot level platforms be provided every 30 feet, and handrails be provided on both sides of the ramp.

3. Design the bridge to meet the latest applicable pedestrian bridge codes including the American Association of State Highway and Transportation Officials (AASHTO) "*Guide Specifications for Design of Pedestrian Bridges.*" In addition, if transportation enhancement funding will be sought for the bridge, the design should also be in accordance with the applicable requirements of the MassHighway Bridge Manual.

4. The bridge railings must meet the railing design criteria as stated in AASHTO "*Guide Specifications for Design of Pedestrian Bridges*." The railing height for pedestrian bridges (walkways not considered bicycle paths) is 3'-6." In addition, the maximum opening in the railing cannot exceed 6 inches within the bottom 27 inches of the railing and 8 inches above the 27 inch level. Although the Massachusetts State Building code does not govern construction of pedestrian bridges in a park, some cities and towns choose to use the Building Code railing requirements. If the City of Newton chooses to use the Massachusetts State Building Code as its standard, the maximum opening in the railing would be 4 inches.

5. The proposed bridge should be designed to be as maintenance free as possible.

BRIDGE ALTERNATIVES

Several alternate schemes to replace the bridge are discussed below.

One common factor for all schemes is that the existing bridge will not be reused. Because the existing bridge superstructure does not appear to be historically significant, and because its condition is fair to poor, restoring the existing bridge at a higher elevation does not appear to be a reasonable alternative, and therefore is not included in the following alternatives. In addition, the proposed grading scheme developed by Brown, Richardson & Rowe, shows the water elevation at 48.75. Assuming at least 1 foot of water depth, the bottom of pond will be approximately elevation 47.75 which is approximately 2'-4" below existing ground. It is likely that the bottom of existing piers is not sufficiently deep to have a minimum 4 feet of cover for frost protection. Further investigation with test pits would be required to determine if the existing stone masonry piers are sufficiently deep and if the structural condition of the piers below ground is adequate to support a new bridge structure. At the February 28, 2006 public meeting, the

sentiment was that the small amount of visible stone masonry was not worth saving if the cost to incorporate it into the replacement bridge was too high.

All of the proposed alternatives will require a bridge railing. There are many types and styles for bridge railings. For the purposes of this comparative study of alternative bridge types, a single steel railing with pickets spaced at 6 inches on center is used for all alternatives.

Alternate 1 – New Timber Bridge on New Foundations

This scheme, shown in Figure 1, proposes a new timber bridge superstructure supported on a new substructure. The timber superstructure consists of glue-laminated timber beams with a glue-laminated deck. The proposed walkway width would be 8 feet.

The foundations consist of new cast-in-place reinforced concrete abutments supporting the timber superstructure and cast-in-place reinforced concrete wingwalls to retain the approach fills. All footings are set at a minimum depth of 4 feet below grade to protect against frost heave. Along the wingwalls, where the buried footing depth becomes excessive, stepped footings are used.

For the bridge to be more in keeping with the historic character of Farlow Park, the exposed portions of the abutments and wingwalls are shown faced with stone masonry veneer. The stone masonry veneer would be supported on a concrete shelf below grade and would be attached to the concrete using stainless steel anchors set into dove-tail slots cast into the concrete. Some of the existing stone from the demolished historic foundations could be reused in the new stone masonry veneer.

The glue-laminated timber will require little maintenance over the life of the structure. The glue-laminated decking is generally very durable, but may show signs of wear after many years of heavy use.

Alternate 2 – New Steel Beam Bridge on New Foundations

This scheme, shown in Figure 2, proposes a new steel beam bridge superstructure supported on a new substructure. The beams consist of standard steel wide-flange sections with a glue-laminated deck attached to the steel beams. The proposed walkway width would be 8 feet.

The substructure consists of new cast-in-place reinforced concrete abutments supporting the steel beams and cast-in-place reinforced concrete wingwalls to retain the approach fills. All footings are set at a minimum depth of 4 feet below grade to protect against frost heave. Along the wingwalls, where the buried footing depth becomes excessive, stepped footings are used.

Similar to Alternate 1, the exposed portions of the abutments and wingwalls are shown faced with stone masonry veneer to hide the concrete substructure.

To eliminate the need for future bridge painting, we recommend using un-painted weathering steel for all steel superstructure beams and diaphragms. Weathering steel develops a brownish rust patina which actually protects the steel from further corrosion.

Alternate 3 – Precast Concrete Rigid Frame

This scheme, shown in Figure 3, proposes a new precast concrete rigid frame bridge with a bituminous concrete walkway on a gravel subbase over the bridge. The structure utilizes modular construction with all concrete units cast at an off-site casting yard, shipped to the site, and installed with a crane. The on-site installation time for the precast units would typically be one day.

The width of the bridge is controlled by the standard width of units available. The standard width is 8 feet wide, but with at least 18 inches for each parapet, the resulting walkway width would only be 5 feet. For a wider walkway width, two 5 ft. wide units set side by side would be used.

The precast units rest on a small foundation which can be either cast-in-place or precast concrete. The wingwalls to retain the approach fills are also precast concrete units. All footings are set at a minimum depth of 4 feet below grade to protect against frost heave.

All the exposed concrete on the side elevations is shown faced with stone masonry veneer except the curved soffit. This soffit is remains exposed and is the shelf for the stone masonry veneer above. Alternatively, in lieu of actual stone masonry veneer, colored concrete in an ashlar stone pattern can be cast into the actual concrete itself. This is a lower cost alternative with less overall maintenance.

Precast concrete units are extremely durable and maintenance free due to the high degree of quality control which is achieved in the casting plants. Using the stone ashlar pattern cast into the concrete will result in the least maintenance as there are no actual mortar joints to deteriorate.

COMPARATIVE CONSTRUCTION COSTS

In order to help compare the three alternates, construction cost estimates were prepared for each alternative as follows:

Alternate	Estimated Construction Cost
Alternate 1 – Timber Bridge	$154,000
Alternate 2 – Steel Beam Bridge	$156,000
Alternate 3A – Precast Concrete Rigid Frame w/ Stone Veneer	$ 128,000
Alternate 3B – Precast Concrete Rigid Frame w/ Ashlar Stone Pattern Cast in Concrete	$ 111,000

RECOMMENDATIONS

Three alternate schemes have been presented to replace the pedestrian bridge in Farlow Park over a restored reflective pond. Each of the three alternates will result in a new, serviceable structure with relatively low maintenance.

Alternate 3 will result in the lowest initial construction cost. Due to its precast construction, it will also be the quickest alternate to physically construct, requiring only one day of actual assembly of the precast units.

Alternate 3 can be constructed with either stone masonry veneer or an ashlar stone pattern cast into the precast concrete units. Although the ashlar stone pattern cast into the precast units results in a construction cost savings of approximately $17,000, we would recommend using the real stone veneer which will result in a more aesthetically pleasing and historically appropriate look.

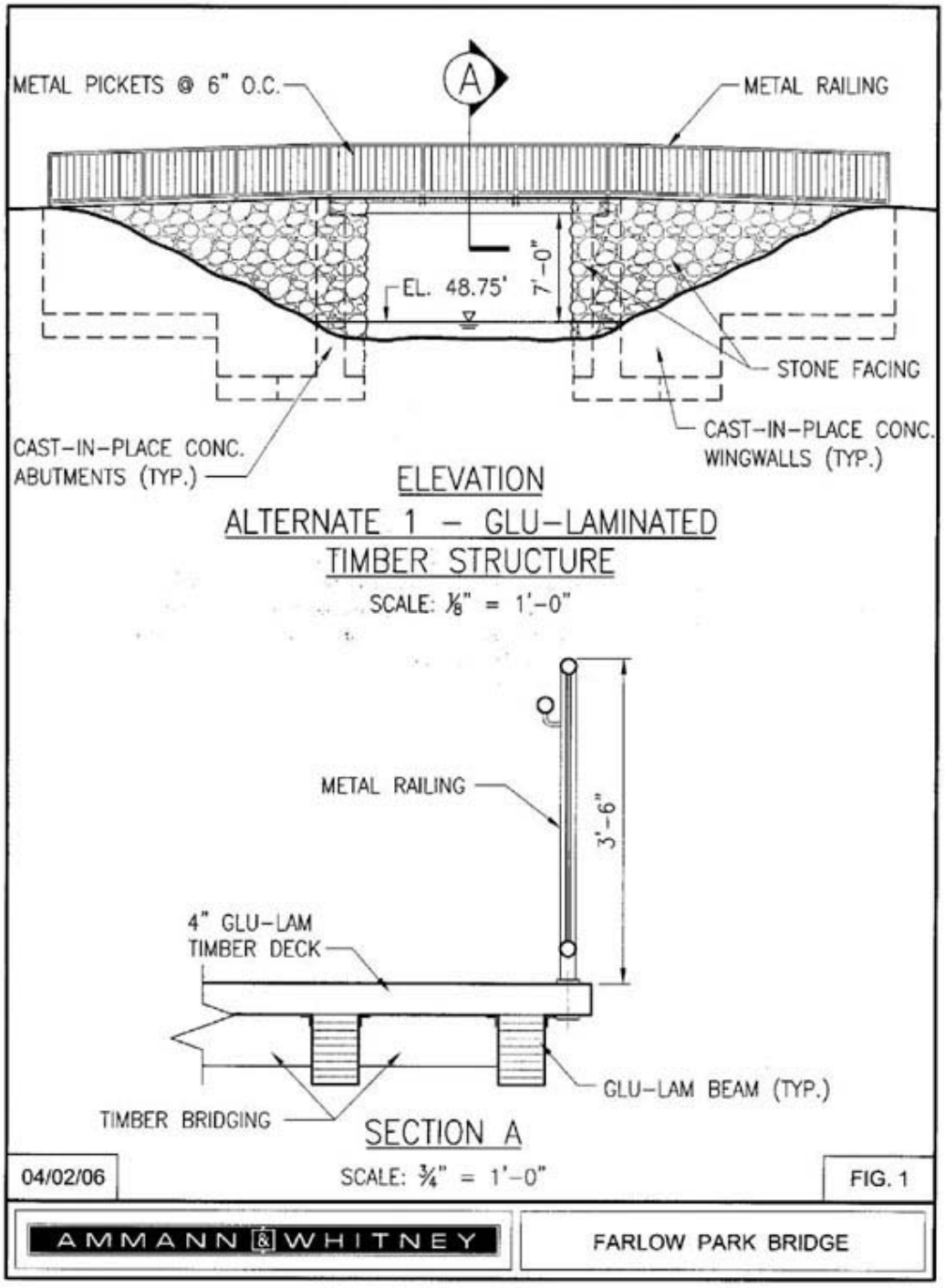
To complete the design and preparation of contract documents for the project, we recommend a three stage design process. The first stage would be further development of schematic drawings, coordinating the proposed bridge design with the design of the park walkways and reflecting pond. Each of the above alternatives would be further refined, railing alternatives would be presented, and additional construction cost estimates would be prepared. Based on the results of the schematic design, a preferred alternate for the bridge would be chosen. The next stage of design would be preliminary design of the preferred alternative. During this design stage, at least one soil boring and a test pit would

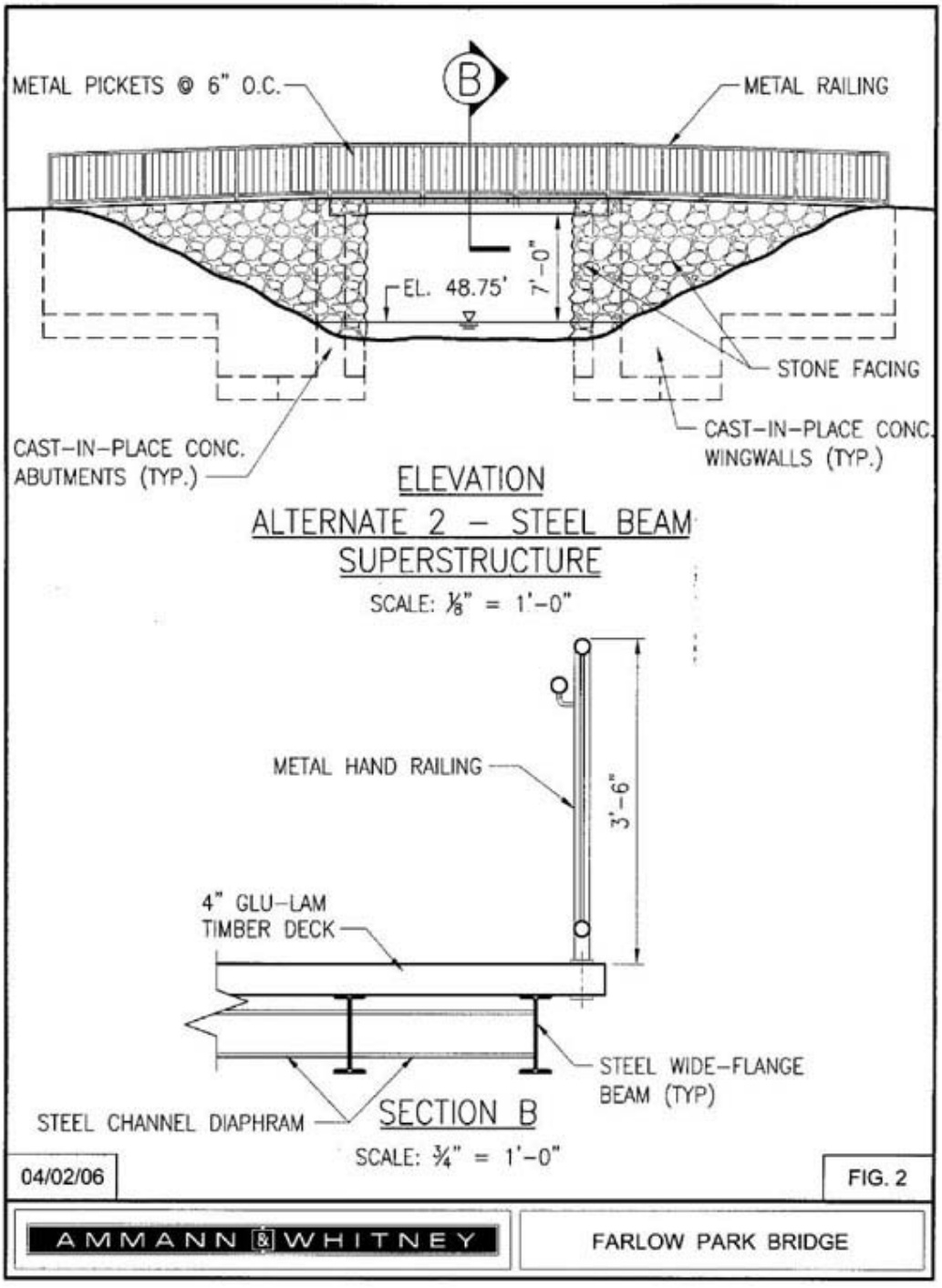
be performed to gain a better understanding of the subsurface conditions that will be encountered. The construction cost estimate will be updated based on the preliminary design documents. And finally, in the last phase, contract documents suitable for public bidding will be prepared. The documents will include drawings, specifications, and a final construction cost estimate.

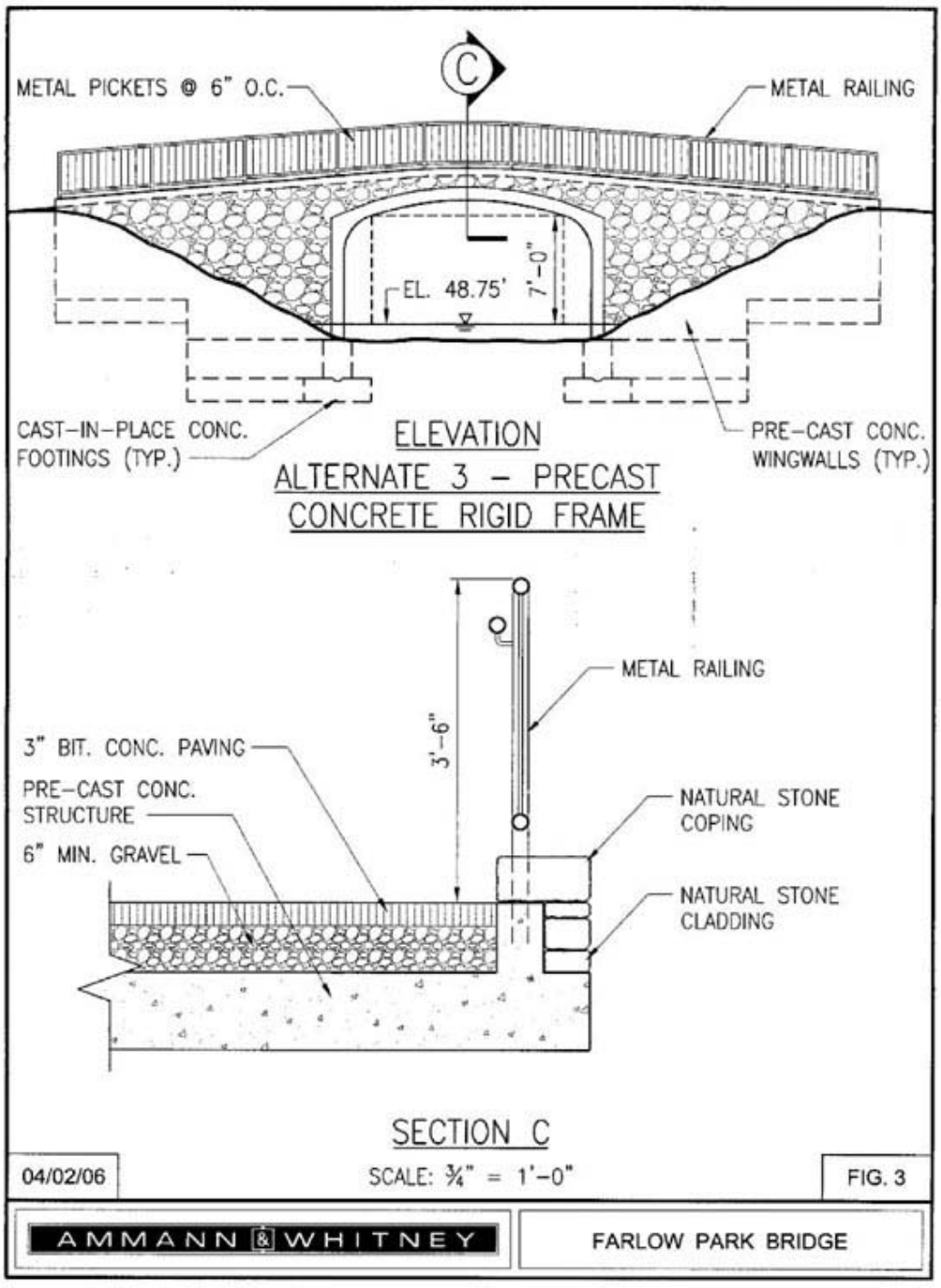
We anticipate that the level of design effort will be similar for each of the alternates. For planning purposes, we estimate that the order of magnitude for structural engineering design fees will be as follows:

Schematic Design (15%)	$ 7,000
Preliminary Design (30%)	$ 12,000
Contract Bid Documents (100%)	$ 21,000
Total Design Fee	$ 40,000

These fees include coordination with the landscape architects, pond designers, the City of Newton. In addition, out-of-pocket expenses for subsurface exploration in the amount of $ 4,000 should be included. Further refinement of these fees is required based on an actual scope of work to be developed with the City of Newton.


METAL PICKETS @ 6" O.C.
A
METAL RAILING
EL. 48.75'
7'-0"
STONE FACING
CAST-IN-PLACE CONC.
ABUTMENTS (TYP.)
CAST-IN-PLACE CONC.
WINGWALLS (TYP.)
ELEVATION
ALTERNATE 1 - GLU-LAMINATED
TIMBER STRUCTURE
SCALE: 1/8" = 1'-0"
METAL RAILING
3'-6"
4" GLU-LAM
TIMBER DECK
GLU-LAM BEAM (TYP.)
TIMBER BRIDGING
SECTION A
SCALE: 3/4" = 1'-0"
04/02/06
FIG. 1
AMMANN & WHITNEY
FARLOW PARK BRIDGE


METAL PICKETS @ 6" O.C.
B
METAL RAILING
EL. 48.75'
7'-0"
STONE FACING
CAST-IN-PLACE CONC. ABUTMENTS (TYP.)
CAST-IN-PLACE CONC. WINGWALLS (TYP.)
ELEVATION
ALTERNATE 2 - STEEL BEAM SUPERSTRUCTURE
SCALE: 1/8" = 1'-0"
METAL HAND RAILING
3'-6"
4" GLU-LAM TIMBER DECK
STEEL WIDE-FLANGE BEAM (TYP)
STEEL CHANNEL DIAPHRAM
SECTION B
SCALE: 3/4" = 1'-0"
04/02/06
FIG. 2
AMMANN & WHITNEY
FARLOW PARK BRIDGE


METAL PICKETS @ 6" O.C.
METAL RAILING
EL. 48.75'
7'-0"
CAST-IN-PLACE CONC. FOOTINGS (TYP.)
PRE-CAST CONC. WINGWALLS (TYP.)
ELEVATION
ALTERNATE 3 - PRECAST CONCRETE RIGID FRAME
METAL RAILING
3'-6"
3" BIT. CONC. PAVING
PRE-CAST CONC. STRUCTURE
6" MIN. GRAVEL
NATURAL STONE COPING
NATURAL STONE CLADDING
SECTION C
04/02/06
SCALE: 3/4" = 1'-0"
FIG. 3
AMMANN & WHITNEY
FARLOW PARK BRIDGE

FARLOW-CHAFFIN PARK FEASIBILITY STUDY
NEWTON, MASSACHUSETTS

NEW PAVILION STUDY

Prepared by Brown, Richardson & Rowe

PURPOSE

The feasibility of a new pavilion/bandstand structure in historic Farlow Park is being studied, at the request of the City of Newton and the Friends of Farlow Park, to provide a shared community space within the Park that would:

- Increase the use of the Park by members of the community
- Accommodate small gatherings such as open-air concerts, outdoor theatre, church events and community functions.
- Enhance the historic, picturesque character of the Park

EXISTING CONDITIONS

No pavilion or other covered structure is currently present in the Park. A small Victorian-style gazebo that was originally located on the grounds of the Chaffin Estate is being restored by students at the North Bennet Street School. The restored gazebo will reside on the grounds of the Newton Corner Branch Library.

A large expanse of open lawn area with level topography exists in the area near Church and Eldridge Streets. This area would be suitable for the placement of a new pavilion structure.

Electrical service, for the existing pathway lighting, is present within Farlow Park. However, it may need to be augmented depending on the load requirements of the electrical features that are selected for the pavilion.

OPPORTUNITIES AND CONSTRAINTS

1. Community Benefits and Impacts

Currently, only about 1/3 of Farlow Park is actively used. The addition of a sizeable pavilion would increase the use of the remaining 2/3 of the Park by members of the community. Increased usage would help to promote a sense of ownership and responsibility within the community, thereby increasing support for the continued rehabilitation and maintenance of the Park.

Farlow Park is located in a mostly residential neighborhood. Residents abutting the Park may not welcome gatherings, such as open-air concerts. Gaining their support is critical. Hours of operation and restrictions on usage should be discussed, established and enforced.

2. Safety / Security

The potential for vandalism of structures exists in any public park. Vandalism is most likely to occur when a park has poor surveillance, inadequate lighting, and sporadic maintenance and lacks community ownership. Farlow Park has illuminated pathways and good surveillance from the surrounding residential neighborhood, which reduces the likelihood of potential vandals

going undetected. Additional measures to improve surveillance could be undertaken such as lighting the pavilion and pruning tall shrubs and low-growing tree limbs.

3. Public Access

Barrier-free access, compliant with the Massachusetts Architectural Access Board, the U.S. Access Board's ADA Accessibility Guidelines and the Department of Justice's ADA Standards for Accessible Design, should be provided to pavilion.

Regulations covering the hours of operation, acceptable uses, etc. should be developed, posted and enforced. A special event permit should be required for any event involving exclusive use of the pavilion, amplified sound or gatherings in excess of 100 attendees. A refundable security deposit and a small fee to reserve the pavilion could also be instituted. Fees collected could be used to fund maintenance of the pavilion.

4. Utilities

If the pavilion is to be illuminated or if amplified sound is to be allowed, electrical service to the pavilion will be needed. Connection into the existing electrical service within Farlow Park may be possible. An electrical engineer should be consulted if electrical service is needed.

5. Permitting and Approvals

Farlow Park is within the Farlow and Kenrick Parks Historic District, which is designated on the National Register of Historic Places as a property of local significance. Review by the Massachusetts Historical Commission is not required. However, the Newton Historical Society needs to review all improvements proposed within Farlow Park.

A building permit from the City of Newton will need to be obtained prior to construction.

6. Other

Care should be taken to locate the pavilion and any underground utilities away from the root systems and canopies of mature trees.

A Victorian-style pavilion would be appropriate for the era in which Farlow Park was built.

CONSTRUCTION ALTERNATIVES

1. Frame Construction

Pavilions are normally constructed of wood, with red cedar being the most popular choice due to its resistance to moisture, decay and insect damage. Cedar’s natural warm color and richly textured grain provide a timeless quality that other materials (pressure treated wood or metal) cannot match. Cedar may be stained or sealed with a penetrating oil or may be left untreated to weather naturally. Properly maintained, cedar will deliver decades of trouble-free service.

Pavilions can also be constructed from steel. The construction can be all-steel or steel frame with wood roof decking. Steel is a very strong and durable building material, is non-flammable and requires less maintenance than wood construction. Powder coating - a process where paint is broken down to a powder, sprayed onto a steel surface with an electrostatic charged spray gun and then baked - results in a finish that is consistent, durable and high-quality. Several color choices are also available.

2. Roofing System

Cedar shakes are the typical roofing shingles but other materials such as metal roofing or asphalt shingles can be used. Left untreated, cedar shakes will weather to a natural gray. The shakes may also be stained or sealed with penetration oil. Uncoated, weathered cedar can often be restored to its original color by applying commercial products called cleaners, brighteners or restorers. Penetrating oil, with ultraviolet protection, will help to preserve and enhance the natural warm color of the wood. Reapplication of the oil is needed every 3-4 years.

Metal and "Faux Slate" roofing are initially more expensive than the other roofing materials. However, over the life of the roof may be the least costly option because they are virtually maintenance-free and can last 50 years or more. Copper, galvanized steel, and aluminum are the three metals most commonly used to build standing-seam or other types of metal roofs. Metal roofs come in many styles that replicate the look of asphalt shingle, cedar shake and slate roofing. "Faux Slate" roofing tiles are typically made of recycled rubber and plastic polymers. This type of roofing is become more popular because it offers a durable, environmentally friendly, lightweight alternative to slate.

Asphalt shingles were first introduced into the roofing market in the late 1800's. Asphalt roofing is the least expensive material and typically carries a 10-20 year warranty, with 17 years the average life of an asphalt roof. Asphalt is durable and requires little maintenance. Multi-layered dimensional shingles, also referred to as "Architectural" shingles, are available which simulate wood and slate roofing and provide a richer, high end look than standard 3-tab shingles.

3. Flooring

Floors are typically raised 12" or more above the surrounding grade and are constructed of wood decking, stone or concrete. A wood floor requires the most maintenance and is probably not a prudent choice for a public facility. Stone flooring is both beautiful and durable, but is costly. Concrete is easy to install and extremely versatile - it can be simply treated or can be "seeded' with a decorative aggregate, color tinted and patterned. Periodic cleaning with a power washer is the most effective way to clean concrete without damaging its surface.

4. Accompaniments

Seating (integral or freestanding), lighting and electrical outlets are useful add-on features. Although not required, seating located along the perimeter of the pavilion increases its usefulness and provides a shaded respite from the summer sun. An illuminated pavilion is not only attractive but would help deter vandalism. If open-air concerts with amplified sound will be allowed, electrical outlets to provide power to the sound system are needed. Both metal and steel pavilions can accommodate electrical conduit within the framework so that the electrical wiring is hidden. Electrical outlets should be secured to prevent unauthorized use.

5. Construction Approaches

Pavilions can be constructed from a custom design, a standard set of plans or a prefabricated kit. Building a pavilion from either custom or standard plans requires carpentry expertise and the construction work may need to be contracted to an outside firm if

With a custom design, you can create a "one of a kind" pavilion. This alternative offers the greatest flexibility in determining the size, style, choice of materials and accompaniments. A custom design is not necessarily a more expensive alternative. However, it may take longer to complete the pavilion because the choices are unconstrained and many decisions will need to

be made and agreed upon. In addition, an architect will need to be hired to guide the design process and prepare contract documents suitable for public bidding.

Constructing a pavilion from a standard set of plans reduces the number of decisions that need to be made. There are many standard plans available for constructing pavilions. A good set of plans can be purchased for a small fee. The plans should come from a reputable source to help ensure that they are accurate and complete. However, they should be reviewed to make sure the plans are code compliant.

Erecting a pavilion from a prefabricated kit requires basic carpentry skills and this method is probably the most feasible and quickest way to complete a pavilion project at Farlow Park. Average assembly time for a 21 foot diameter pavilion is 60 man-hours. For an additional cost, some manufacturers will provide installation services. These services range from 1-day construction support to full installation. Kit components come pre-cut and preassembled into sections which are bolted or screwed together at the site. Complete instructions and all fasteners are included. Because the components are fabricated in a factory-controlled environment, quality can be monitored and the pavilion warranted by the manufacturer. Customization is limited. However, there is a usually a suitable range of sizes and styles with different flooring and roofing options available to choose from.

Because the ground freezes in the winter, a foundation system is needed. Concrete piers located at each support column are the conventional foundation system used for pavilions. Because the foundation is a critical structural component and excavation without the proper machinery can be very labor intensive, this work is best left to a professional.

PAVILION ALTERNATIVES

Two alternatives were considered. Alternative 1, shown in Figure 1, proposes a pavilion constructed of clear grade Western Red Cedar, finished with penetrating oil in a natural cedar tone with UV protection. Standard roofing is cedar shakes however, faux slate or painted metal are available at an extra cost. Flooring would be 6” reinforced concrete slab with standard tool joints and broom finish.

Alternative 2, shown in Figure 2, proposes a pavilion constructed of steel with a powder coat finish, two-tier standing seam metal roof with optional cupola, overhead lattice and steel rails. . Flooring would be 6” reinforced concrete slab with standard tool joints and broom finish. Color of the pavilion frame and roof

COMPARATIVE COSTS

Alternative	**Cost**
Alternative #1 - Wood	$23,250
Alternative #2 - Metal	$20,250

Costs are for the pavilion materials only. Other costs such as installation, foundation and electrical work will be estimated but are not included at this time.

Figure 1

Alternative #1 - Red Cedar with Cedar Shake Roof

Figure 2

Alternative #2 – Powder Coated Steel with Metal Roof

RECOMMENDATIONS

1. Gaining the support of residents abutting the Park is critical. Hours of operation and acceptable uses should be discussed with all Park abutters.

2. Gaining the support of the Newton Historical Society is critical. The Society should be briefed on the proposed pavilion/bandstand so their input can be factored into the design and decision-making process early on.

3. The height of the flooring in relation to the surrounding grade will need to be determined. A pavilion that sits 3 feet above surrounding grade becomes more bandstand-like in character than a pavilion that sits 1 foot off the ground. A bandstand pavilion is more suitable for hosting performances because of the increased visibility the extra height offers to the audience. The extra height comes at a price, however. For each foot that the bandstand pavilion sits above the surrounding grade, a 12' long ramp with handrails on both sides will need to be constructed in order to provide barrier-free access. Therefore, a bandstand pavilion whose floor elevation is 3 feet higher than the surrounding grade will need a 36' ramp with approximately 72 linear feet of handrails.

4. Whether the pavilion will be constructed from a custom design, a standard set of plans or a prefabricated kit needs to be determined. A prefabricated kit is probably the most feasible and quickest way to complete a pavilion project at Farlow Park.

5. Design work will still be needed even if a prefabricated kit is selected as the preferred construction approach. Further design work includes the design of the foundation system, electrical and lighting (if desired), site grading and any stairs, ramps and railings that are needed to gain access to the pavilion. The design of railings should be coordinated with the railings proposed for the bridge design. At least one soil boring and test pit should be undertaken to understand the subsurface conditions.

FARLOW-CHAFFIN PARK FEASIBILITY STUDY
NEWTON, MASSACHUSETTS

FLORAL GARDEN STUDY

Prepared by Brown, Richardson & Rowe

PURPOSE

The feasibility of a recreating the Chaffin Estate floral gardens in Chaffin Park is being studied, at the request of the City of Newton and the Friends of Farlow Park, as a means to provide a shared community space within the Park that would:

- Increase the use of the Park by members of the community
- Provide a visual amenity for the adjacent Newton Corner Library
- Commemorate the historic Rosedale gardens

BACKGROUND

Residential gardens of the Chaffin Estate era (late 1800's-early 1900's) are typically characterized as "Late Victorian Gardens". Residential gardens of this style are distinguished by expansive lawns (where possible); trees for shade, privacy or framing views and formal flower beds with intricate plantings. Weeping trees, trees with colored or unusually shaped leaves, roses and bedding plants were extremely popular. Sundials, birdbaths, and gazebos were fashionable garden ornaments. Decorative cast iron fencing enclosed most residential properties.

No plans have been uncovered to provide details of the garden layout and plant list of the Chaffin Estate gardens. However, there is sufficient evidence to support that the grounds were kept in the Late Victorian style. A note on a 1922 plan drawn by Arthur A. Shurtleff (Shurcliff) indicates that the "Lawn and Gardens" were located on the eastern side of the residence; unfortunately, details of this area were not included on the plan. (Figure 1) However, the Chaffin Estate was commonly referred to as "Rosedale" and a newspaper article from the early 1900's mentions the beautiful rose gardens, so it is not unreasonable to assume that roses were predominate. An illustration from *"King's Handbook of Newton"* shows the Chaffin residence framed by large trees and the property enclosed by decorative cast iron fencing with granite piers. Within the garden was a small Victorian-style gazebo. (Figure 2).

EXISTING CONDITIONS

The only original garden plants, which remain on the grounds of the former Chaffin Estate, are two mature beech trees. The remainder of the garden was demolished and a parking lot for patrons of the Newton Corner Branch Library now consumes a large portion of the area where the garden once existed. The small gazebo was removed from the site but is being restored and will soon be returned.

Restoration of gardens in their original location is not possible because of the Library parking lot. However, there is sufficient open, sunny lawn area in Chaffin Park, the western side of the Newton Corner Branch Library, which could be turned into floral gardens.

OPPORTUNITIES AND CONSTRAINTS

1. Community Benefits and Impacts

The addition of flower gardens to Chaffin Park, on the western side of the Newton Corner Branch Library, would enhance the building façade facing Centre Street. Gardens would draw

people into the Park and help promote a sense of ownership and responsibility within the community, thereby increasing support for the continued rehabilitation and maintenance of the Park. Flower gardens could be used for educational purposes and would also support the City's declaration as "The Garden City".

The success of the flower gardens will depend solely on how well the gardens are maintained. Maintenance needs can be controlled – but not eliminated - by planting hardy, disease-resistant, low-maintenance plants, applying mulch to the planting beds and installing an irrigation system. Routine maintenance will still be needed and involves tasks such as:

- Watering: Plants will need to be watered as required by weather conditions. If an irrigation system is installed, it will need to be monitored and adjusted if the planting areas are receiving too much or too little water.
- Fertilizing: Once a year in the spring, all shrubs, groundcovers and perennials should be fertilized.
- Litter and Leaf Pickup: Weekly litter and leaf pick-up including fall leaf removal of all plant beds.
- Weeding and Edging: Complete edging and weeding of all shrubs and all planting beds once a month, or as necessary, from mid-April through September.
- Mulching: Minimum of three inches of pine bark mulch applied to all plant beds yearly in April.
- Pruning: Removal of dead or broken branches from all shrubs.
- Disease and Pest Control: Thorough inspection of all plantings for disease and pest control should be done three times per year.
- Plant Replacement: All dead, diseased or damaged plants shall be replaced as soon as planting conditions allow, with plants of the same species and variety.

The City of Newton Parks and Recreation Department is not currently staffed to handle the additional work that will be needed to maintain flower gardens in Chaffin Park. Local Garden Clubs could be enlisted to perform many of the routine maintenance tasks. The question of who be responsible for maintaining the floral gardens is a critical and must be answered before a shovel hits the ground.

2. Safety / Security

The potential for vandalism exists in any public park. Vandalism is most likely to occur when a park has poor surveillance, inadequate lighting, and sporadic maintenance and lacks community ownership. Chaffin Park has illuminated pathways and good surveillance from the surrounding neighborhood, which reduces the likelihood of potential vandals going undetected. Additional measures to improve surveillance could be undertaken such as illuminating the gardens at night, pruning tall shrubs and removing low-growing tree limbs.

3. Public Access

Barrier-free access, compliant with the Massachusetts Architectural Access Board, the U.S. Access Board's ADA Accessibility Guidelines and the Department of Justice's ADA Standards for Accessible Design, should be provided to and within the floral gardens.

4. Utilities

Garden plants must be kept watered. Watering can be done manually, with a hose, or automatically with a drip irrigation system. In both cases, water service will need to be provided to the garden. An irrigation system, if installed, will also need electrical service to power the controller.

Electrical service will also need to be provided, if the garden is to be illuminated at night. Connection into the existing electrical service within Chaffin Park may be possible. An electrical engineer should be consulted if electrical service to the gardens are desired.

5. Permitting and Approvals

Chaffin Park is within the Farlow and Kenrick Parks Historic District, which is designated on the National Register of Historic Places as a property of local significance. Review by the Massachusetts Historical Commission is not required. However, the Newton Historical Society must review all improvements proposed within Chaffin Park.

As a courtesy, the Branch Library should be included in all meetings and discussions.

CONSTRUCTION ALTERNATIVES

The construction of the garden can be put out for public bid or the construction could be undertaken by members of the community under the direction of local Garden Clubs.

GARDEN ALTERNATIVES

Two alternatives were considered. Alternative 1 proposes a rose garden planted with a collection of shrub roses. Shrub roses are more hardy and require less maintenance than the hybrid tea, floribunda and grandiflora roses that are planted in typical rose gardens. Shrub roses have a long flowering season and many offer additional qualities such as colorful fall foliage and fruit.

Alternative 2 proposes a mixed-bed garden planted with perennials, bulbs, groundcovers and flowering shrubs, including several varieties of shrub roses.

RECOMMENDATIONS

1. Discussions with local Garden Clubs are critical to determine how much responsibility they will agree to assume. If existing Garden Clubs cannot take on the added responsibility, a new Garden Club could be organized. In either case, a reliable funding source will need to be established to sustain the maintenance of the garden.
2. Design work that will be needed includes development of detailed planting plan and plant list with plant species, quantities, sizes, and spacing; planting details and specifications; detailing of accessible paths, seating, lighting (if desired) and irrigation (if desired).
3. A soil test should be done to determine existing soil conditions and to identify any soil amendments that are needed to support flowering plants.

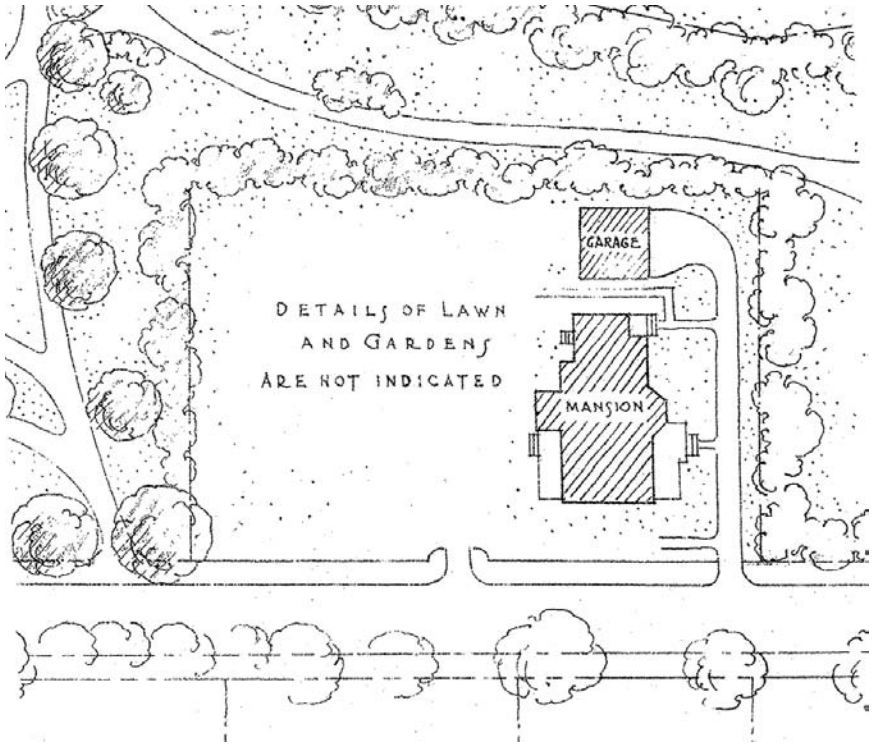
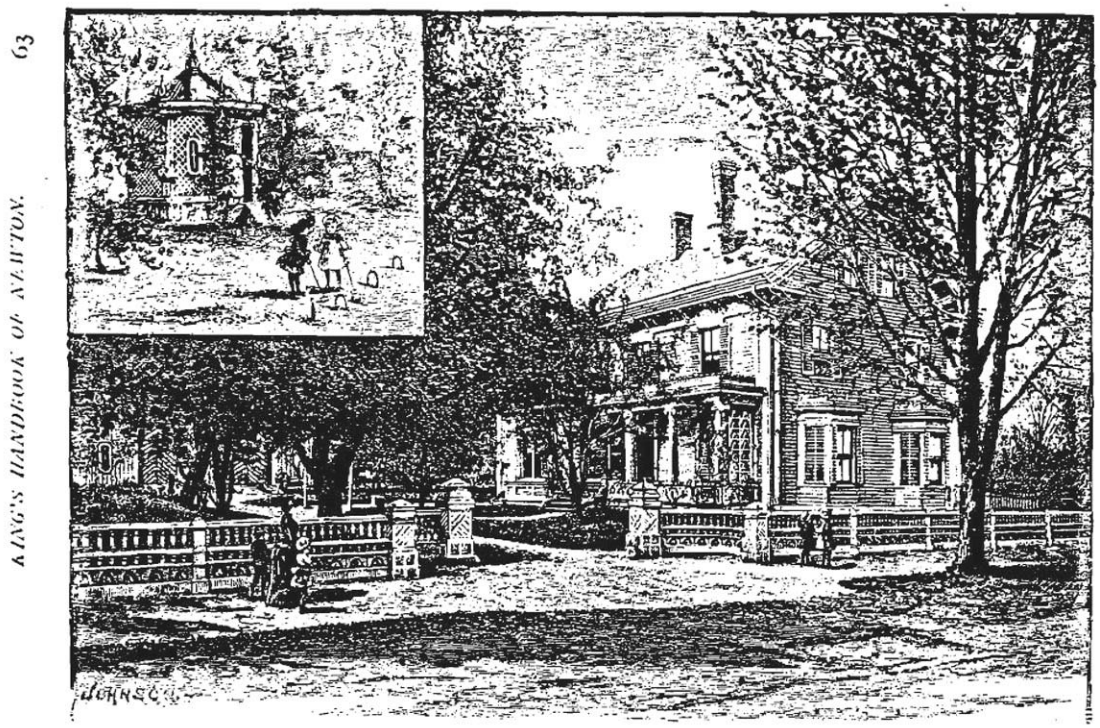


Figure 1



ROSEDALE, THE RESIDENCE OF JOHN C. CHAFFIN.
Vernon Street, between Washington and Eldredge Streets, Newton.

Figure 2