



# Northampton Streetscape Improvement Plan

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April 2005

NORTHAMPTON STREETSCAPE  
IMPROVEMENT PLAN

MAIN STREET  
AND  
PLEASANT STREET

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April 2005

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## INTRODUCTION

### Downtown Northampton

Downtown Northampton, Massachusetts is a special place. Its diverse array of commercial, institutional, professional, residential and mixed use buildings draws City residents and visitors into the downtown and provides a distinctive backdrop for an equally diverse array of street-side activities: shopping, working, socializing, people-watching, eating, pan-handling, music-making and protesting, to name some of the most common sightings. Green spaces along the way—Pulaski Park and institutional frontages, among others, comprise a complementary kind of spatial diversity and public amenity. Beyond downtown, off-site views toward the Holyoke Range and Smith College's Grecourt Gate provide, perhaps only unconsciously for many, a satisfying sense of orientation within a particular geographic place.

Despite these extraordinary positive features and its notable economic success, there is trouble in downtown Paradise City. Physical conditions have deteriorated since the sidewalks were reconstructed and furnished in 1981. New furnishings and details have been added over time, undermining design unity and sometimes cluttering constricted areas.

### Study Objectives

Aiming for improved function and enhanced beauty and, ultimately, toward a renewed “renaissance” of Northampton's downtown, the scope of this study is limited to an existing conditions assessment and conceptual design. The design objectives are:

- Pedestrian friendliness (safety, comfort, and convenience);
- Business supportiveness; and
- Distinction (image and identity).

Urban and landscape design springs from the goals and objectives of the project and the problems and opportunities that the site presents. The next section features the site—Northampton's downtown streetscape—as it exists today.

### Study Area

The City of Northampton Planning Department has commissioned this study to address the deteriorating quality of downtown Northampton's streetscape. The study area comprises:

- Main Street between the Academy of Music and the railroad bridge;
- Pleasant Street to Service Center Rd.





Existing  
Conditions

## INVENTORY & ANALYSIS

### Drawings

The ensuing plan drawings comprise the inventory and analysis of the streetscape elements within the study area, which has been divided into seven segments: three for Main Street from east to west and four for Pleasant Street from north to south.

### Summary

Highlights of the inventory and analysis are described below.

#### *Main Street East*

The sidewalks along Main Street's eastern segment are by and large 13' wide on both sides. The angled building line on the south side, provides a progressively wider sidewalk toward Pleasant Street. With the exception of two stand-alone buildings near the King Street intersection – Silverscape Jewelers and Smith Charities – the buildings are attached commercial structures. The roadway is approximately 79' wide, accommodating parallel parking on both sides and two or more travel lanes each way. The roadway narrows to 53' under the bridge, wide enough for parallel parking on both sides and one or more travel lanes each way. The two crosswalks are 95' and 270' apart.

#### *Main Street Center*

The sidewalks along Main Street's central segment are typically a total of 16-17' wide, including the standard design feature of a 4' wide brick border. The sidewalks narrow to 12' on the south side near Crafts Avenue and on the

north side between Center and King Streets. Attached commercial buildings abut sidewalks all along the south side and along the western half of the north side. Three large institutional buildings - First Churches, the former Fleet Bank Building and the Hampshire County Courthouse – are the exceptions, angled and set back from the sidewalk between Center Street and King Street. Here, where there was once a Town Common, the roadway swells to 116', accommodating angled parking on both sides and two or three travel lanes each way. The two crosswalks are spaced 250' and 160' apart; the one between Center and King Street is 360' apart.

#### *Main Street West*

The western segment of Main Street has 13' sidewalks on the north side (includes the brick border) abutted directly by commercial buildings. The portion abutting Edwards Church is the exception. This northern side has a favorable microclimate: sunny with protection from northern winds. Sidewalks on the south side are typically 10' wide, without the brick border, 13' typical elsewhere. Four institutional buildings set back from the sidewalk and Pulaski Park border this side. The roadway in this segment averages 65', accommodating parallel parking on both sides and two travel lanes each way. Cross streets in this segment are Masonic Street and Crafts Avenue. Crafts Avenue intersects Main at an angle. Two alleyways between City Hall and Memorial Hall intersect Main at parallel angles. Crackerbarrel Alley on the other side is bordered with brick, expressing continuity with sidewalk pavement. Three crosswalks are spaced an average of 250' apart.

## INVENTORY & ANALYSIS

### *Pleasant Street North*

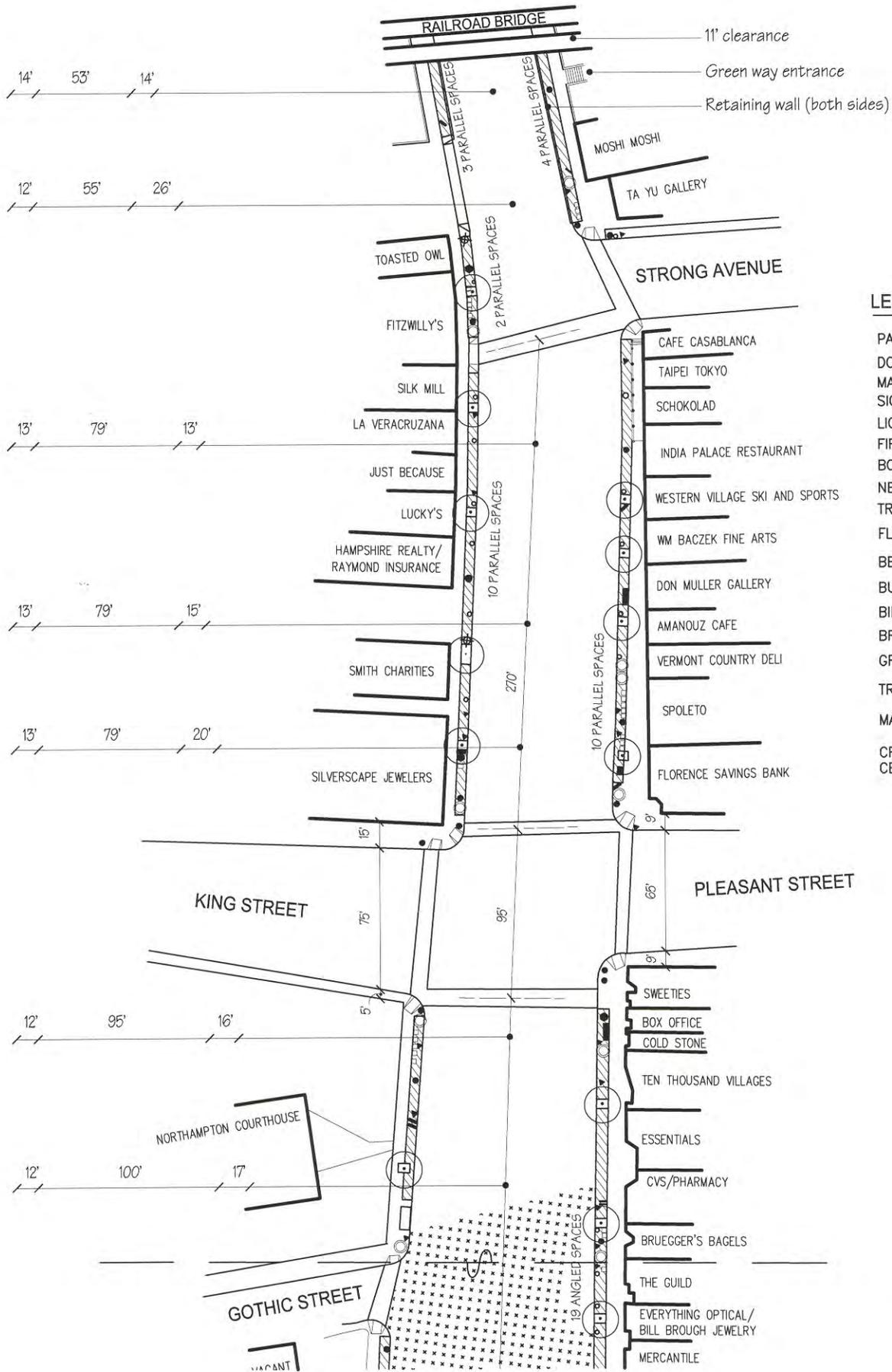
The Pleasant Street sidewalk on the western side down to Hampton Avenue averages 11.5' width. The sidewalk on the eastern side and those further from downtown on both sides are considerably narrower, averaging approximately 7'. Narrowness notwithstanding, these sidewalk segments have standard brick borders. Five "bump-outs" near Armory Street and Hampton Avenue provide additional width and room for furnishings and a distinctive Pleasant Street detail of granite bollards. The sidewalk is bordered directly, in most cases, by both free-standing and attached commercial buildings. Several building setbacks fronting the Chamber and auto store across the Street, an open space south of Hampton Court and alleyways between buildings provide breaks in the wall enclosure. Starting at 65' at the Main Street intersection, the roadway gradually narrows to 40', accommodating parallel parking on both sides and one travel lane each way. Crosswalks are spaced 230', 255' and 330' apart.

### *Pleasant Street Center*

Sidewalks within this segment are 7' wide, with the exception of widths up to 13' between Florida Avenue and Michelman Street. The brick border detail is deleted just north of the Depot/Parking lot entry. Commercial buildings and several multi-level apartment dwellings line this segment with varying setbacks and interstitial spaces. The William Nagle Walkway terminates on the west side, opposite the Depot/Parking lot entry. The roadway is consistently 40' in this segment, accommodating parallel parking on both sides and one travel lane each way. Crosswalks are spaced 350' and 290' respectively.

### *Pleasant Street South A & B*

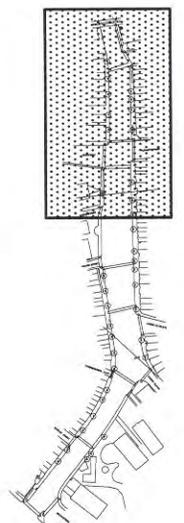
Sidewalks on the west side of this segment are 3.5' with a 3.5' turf strip to the back of street-side curb. The eastern side has the same sidewalk-turf strip combination, only slightly wider at 8' total. The mix of commercial, professional and residential buildings fronting this segment are spaced at varying intervals and oriented less consistently toward the street. The roadway widths are reduced to 33' within this segment, accommodating two or three travel lanes without parking. There are no crosswalks.



**LEGEND - TYPICAL**

- PARKING METER ○
- DOUBLE PARKING METER ○○
- MAIL BOX ●
- SIGN ▲
- LIGHT POST ●
- FIRE HYDRANT ⊗
- BOLLARD ■
- NEWSPAPER STANDS □□□□
- TRASH RECEPTACLE ⊙
- FLOWER POT ▽
- BENCH ▬
- BUS SHELTER □
- BIKE LOOPS //
- BRICK PAVING ▨
- GRASS ▩
- TREE AND TREE WELL ⊕
- MATCH LINE - - -
- CROSSWALK CENTER LINE - - -

**KEY**

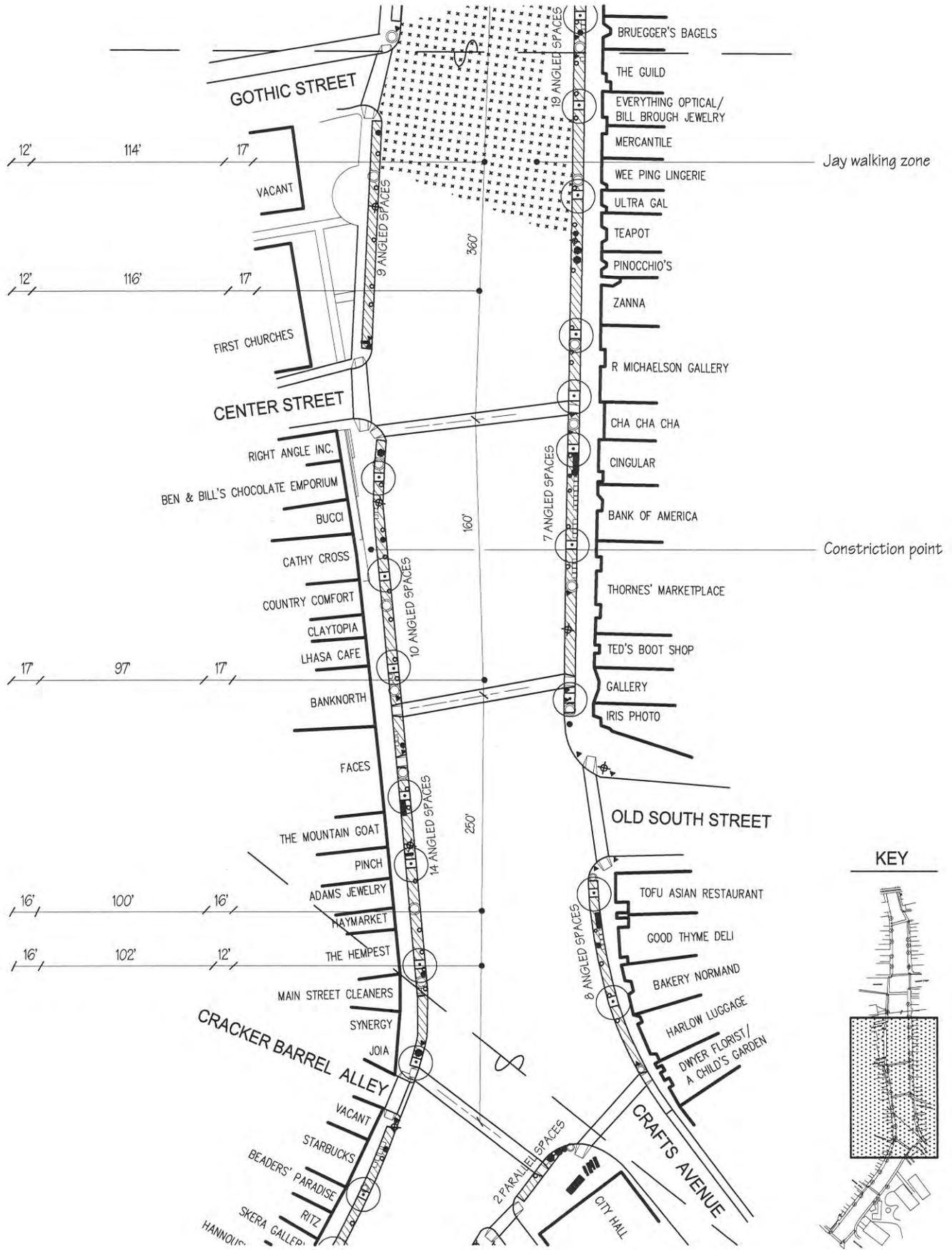


**NORTHAMPTON STREETScape**

**EXISTING CONDITIONS**

**MAIN STREET EAST**

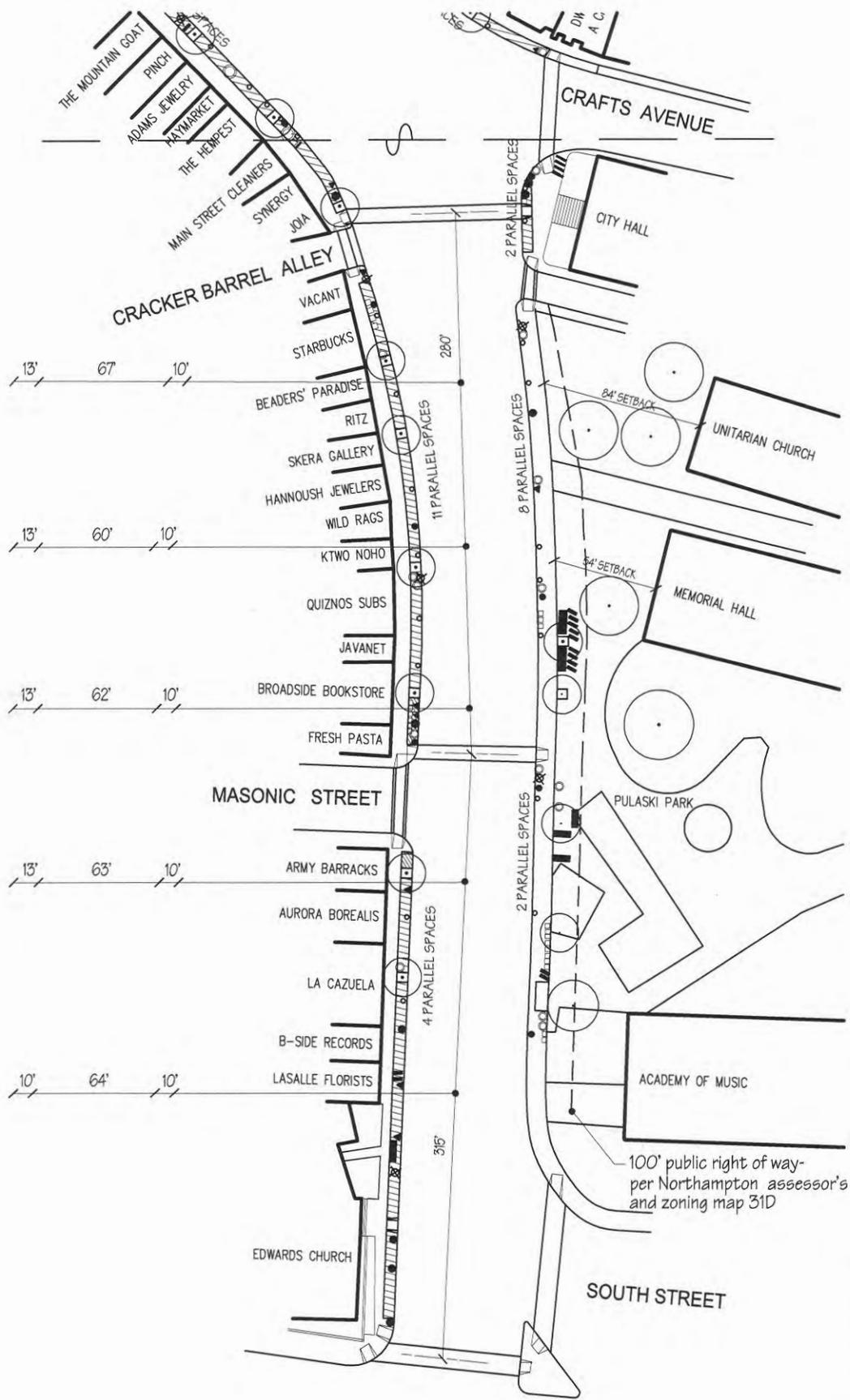
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NORTHAMPTON STREETScape

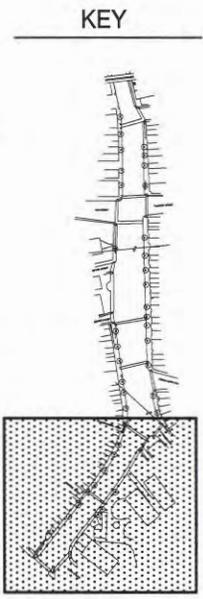
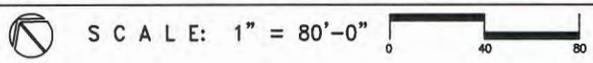
EXISTING CONDITIONS  
MAIN STREET CENTRAL

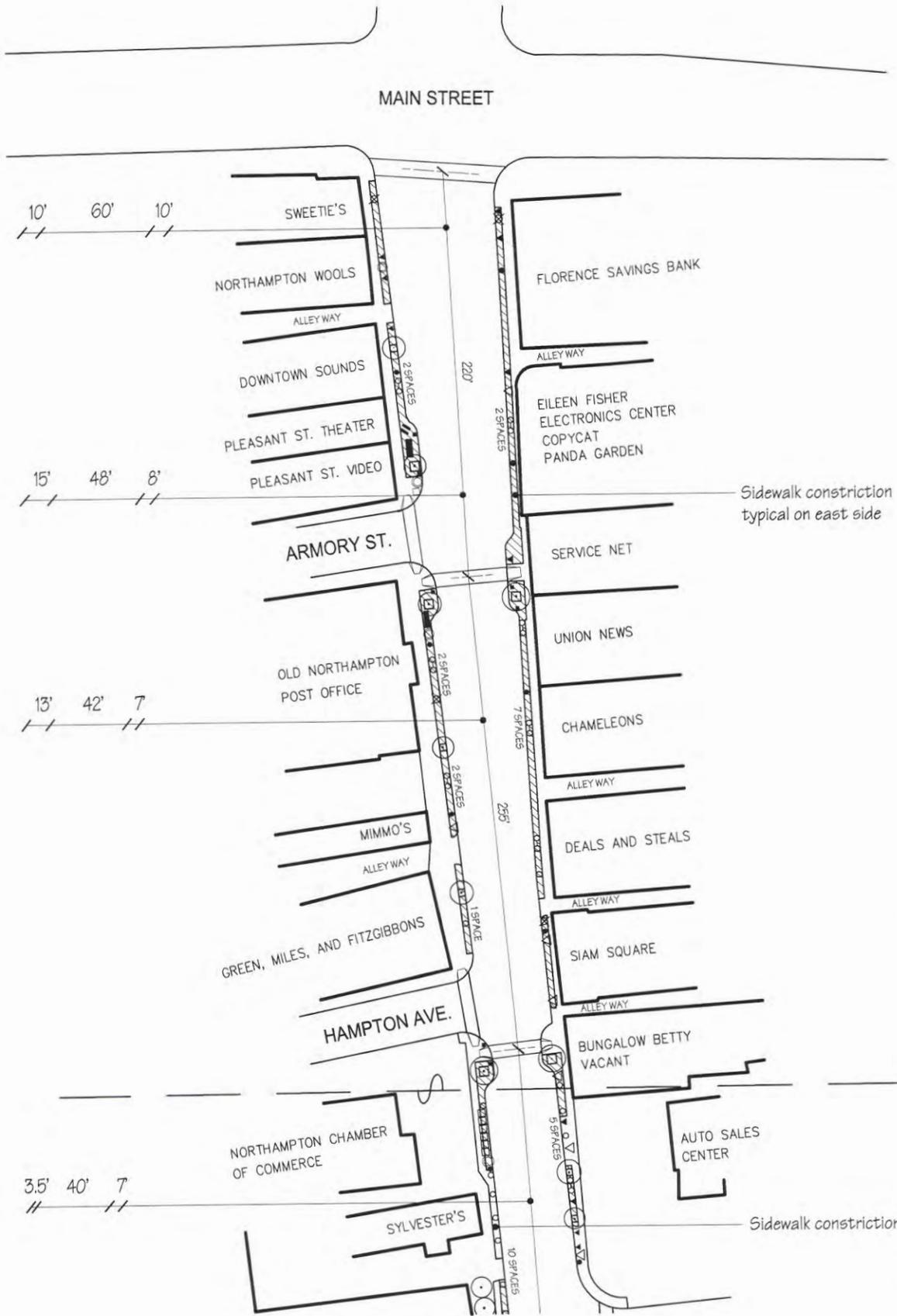
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NORTHAMPTON STREETSCAPE

EXISTING CONDITIONS  
MAIN STREET WEST





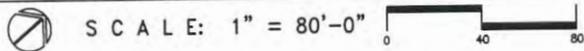
Sidewalk constriction typical on east side

Sidewalk constriction

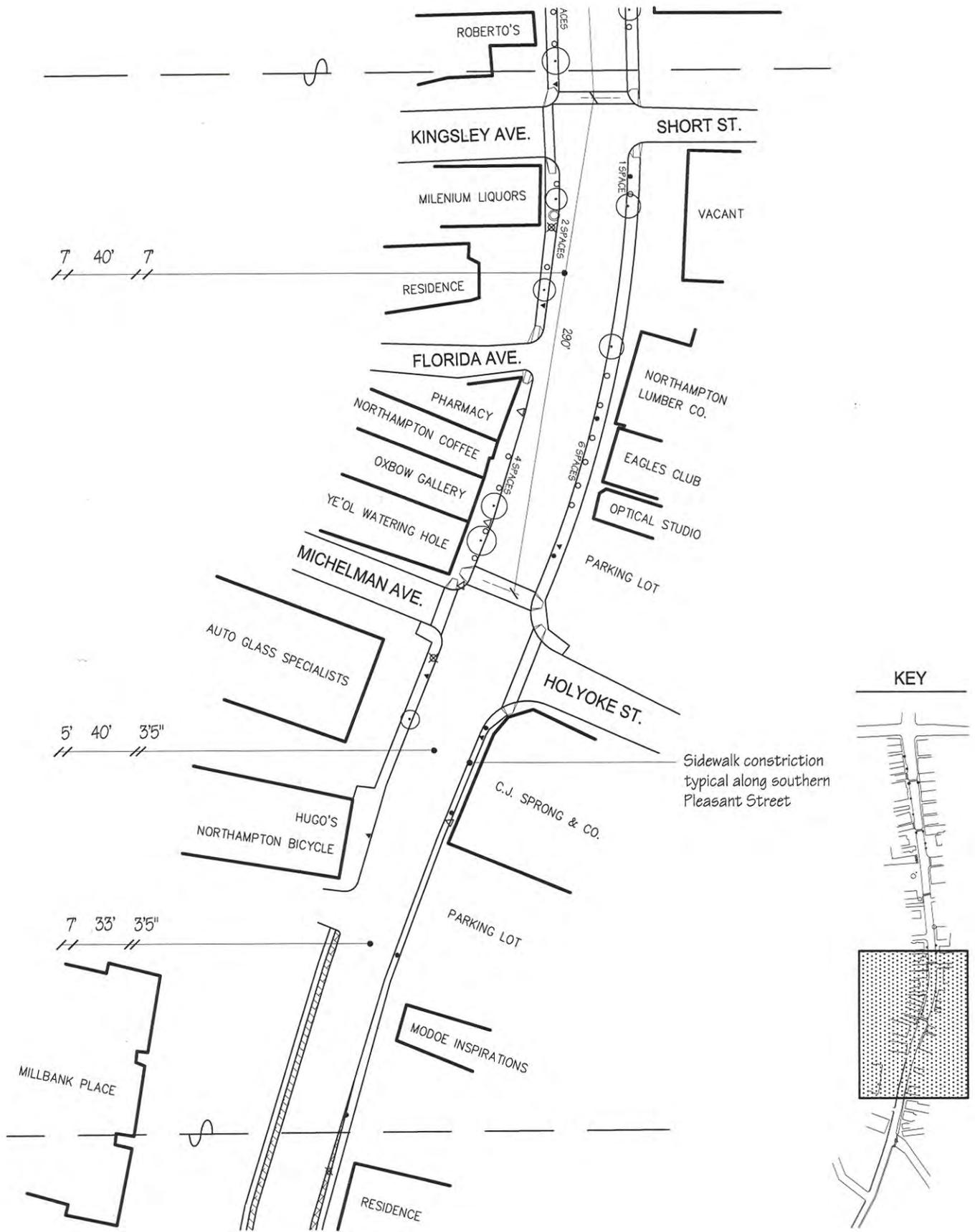


NORTHAMPTON STREETSCAPE

EXISTING CONDITIONS  
PLEASANT STREET NORTH



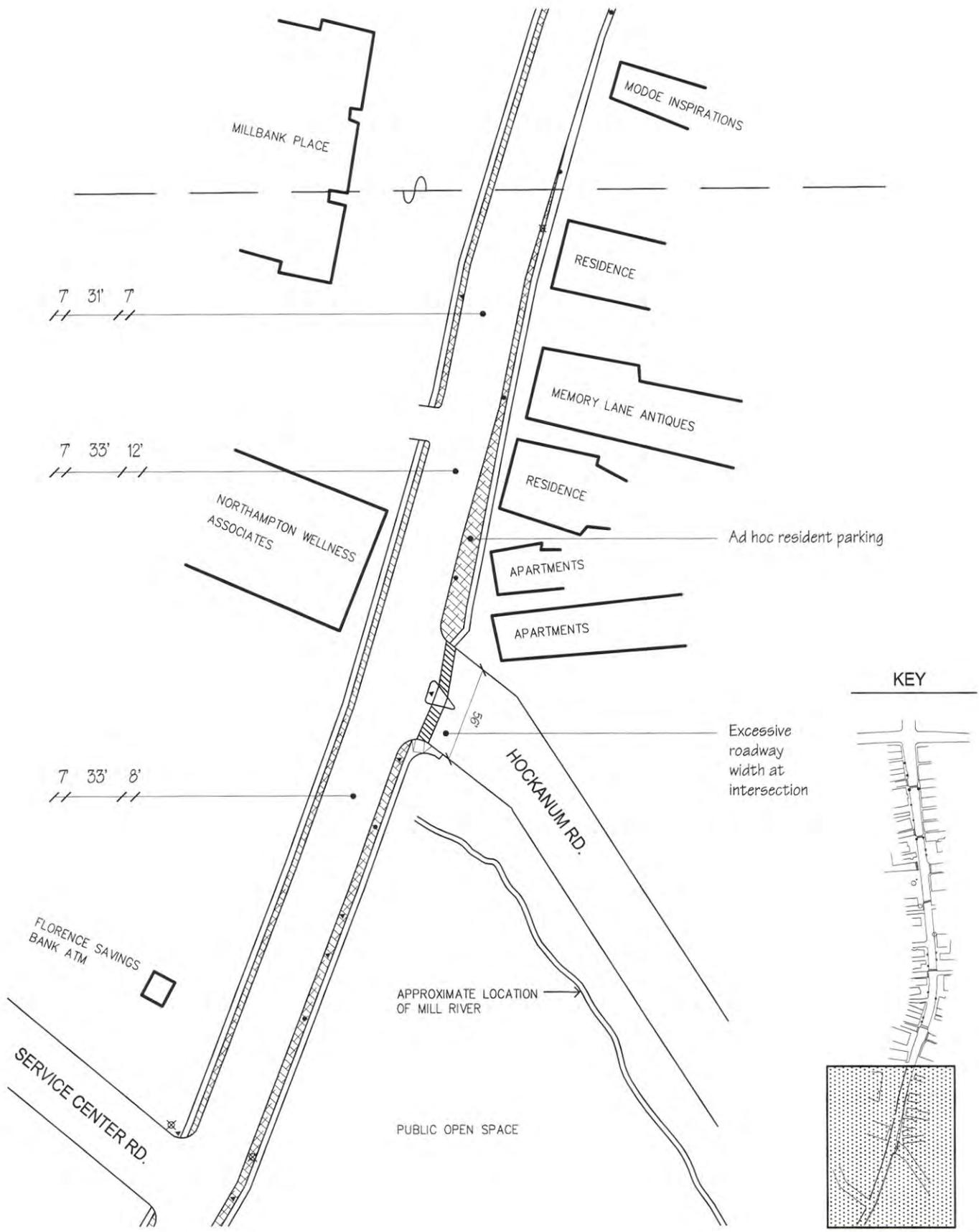




NORTHAMPTON STREETSCAPE

EXISTING CONDITIONS  
PLEASANT STREET SOUTH-A

SCALE: 1" = 80'-0"



NORTHAMPTON STREETSCAPE

EXISTING CONDITIONS  
PLEASANT STREET SOUTH-B

SCALE: 1" = 80'-0" 0 40 80

## EVALUATION

### Criteria

Urban designers' libraries are full of books citing streetscape examples, criteria and standards. The limited scope of this study hardly warrants a state of the art review or bibliography. Here, instead, are gleanings from two particularly salient resources.

#### Consumer Friendliness

In "Ten Tips for Designing a Consumer Friendly Downtown" (Planning, American Planning Association, April 2003), Mark Brodeur cites a clear and concise list; his recommendations include the following:

1. Don't split the street in two.
2. Light the way.
3. Keep sidewalks basic, smooth and clean.
4. Design for three distinct sidewalk zones.
5. Retain or increase on-street parking.
6. Pick the "perfect street tree" (no such thing).
7. Think of public art in a different way.
8. Pump more cars into downtown.
9. Set a "22 mph" speed limit (i.e. slow and memorable).
10. Establish an awesome way-finding (ie. signage and mapping, etc.) program.

#### Great Street Design

In the final section of his book (Great Streets, MIT Press, Cambridge and London, 1993), Allan B. Jacobs summarizes what he concludes are qualities of great streets. Requirements for greatness are:

1. Places for people to walk with some leisure.
2. Physical comfort: shelter from extremities of wind and sun.
3. Definition: height to horizontal dimension ratio at least 1:2.
4. Qualities that engage the eye: visual complexity within a holistic context.
5. Complementarity: non-clashing styles and heights with limited stand-outs.
6. Transparency: invitations to view beyond and behind.
7. Quality of materials, workmanship and design.
8. Maintenance: Lack of design an improvement over neglected design

#### Desirable Qualities are:

9. Deciduous trees closely spaced to form a line
10. Distinct beginnings and endpoints.
11. Many buildings with a diversity of uses, destinations and users.
12. Special design features:
  - Streetlights most significant
  - Paving less significant and costly
  - Frosting: seating, fountains, sculpture, awnings, signage, etc.
13. Places: plazas and parks at breaks, especially for long narrow streets.
14. Accessibility: here to there, entrances to and from the street; not just ADA (Americans with Disabilities Act) compliance.
15. Density: Streets cry out for people
  - Minimum of 15 dwelling units per acre
  - Maximum of 50 du/acre (otherwise buildings are over 4 stories and streets widen).

## EVALUATION

16. Diversity of uses: creates activity and liveliness of place.
17. Length: no set standards, but still need diversity of interest.
18. Slope: Noticeable grade changes without steepness increase views and drama.
19. Parking: Great streets do not have an abundance of either on or off-street parking.
20. Contrast: Although design of the street itself is paramount, contrast helps to set a street apart.

### Positive Features

Judging from long-term observations and guided by the aforementioned criteria, Northampton's downtown has a significant array of positive features, a selection of which is highlighted below.

#### *Diverse Usage*

Its full range of commercial, institutional, professional and residential uses draws people downtown both day and evening and engenders a vital street life.

#### *Distinctive Architecture*

Historic and other significant buildings downtown serve as high quality streetscape backdrops and focal points. The predominance of attached buildings and uniform set-backs is a significant unifying factor. The more occasional instances of free-standing buildings provide a welcome degree of variety and contrast. The gradual build-up of height and density toward the center is another positive urban design feature.



*A primary example of Northampton's distinctive architecture is City Hall, designed by William Fenno Pratt in 1850.*



*An interesting architectural detail from the Old Post Office on Pleasant St.*

#### *Pedestrian Orientation*

Enforcement of pedestrian priority in crosswalks enhances the ease and frequency of crossing from one side of the street to the other, a crucial contributing factor for vitality. Pleasant Street's relative narrowness adds to crossing convenience.

## EVALUATION

### *Access*

Downtown Northampton is easily approached from I-91 via Pleasant Street. Many side roads feed into Main and Pleasant Streets. Few topographic barriers impede ADA compliance.

### *Special Places*

An array of parks, vest pocket green spaces, greenways and setbacks provide complementary open/green spaces.

### *Transparency and Views*

Off-site views to the Holyoke Range, Smith College Greycourt Gates and neighboring steeples convey a sense of place. Main Street's curving alignment provides dynamic shifts of sight lines. Shorter range glimpses down side streets, alley ways and within buildings provide additional variety and interest.

### *Attractions and Public Art*

Numerous cafes in downtown Northampton are positive attractions. Several murals and other art works, such as the kiosk ensemble near First Churches, "designer" newspaper stands and 350th Anniversary banners, contribute to local color and eye-catching focal points.



*Cafes along Main Street animate the downtown.*



*Local color is provided by banners and "designer" periodical stands.*

### *Sidewalk Design*

The sidewalks themselves have a clearly delineated transition zone for trees, furnishings, light posts, signs and other elements. Its materials are appropriate and durable: granite curbs, granite blocks, brick pavers and concrete. Furnishings are standardized, by and large.

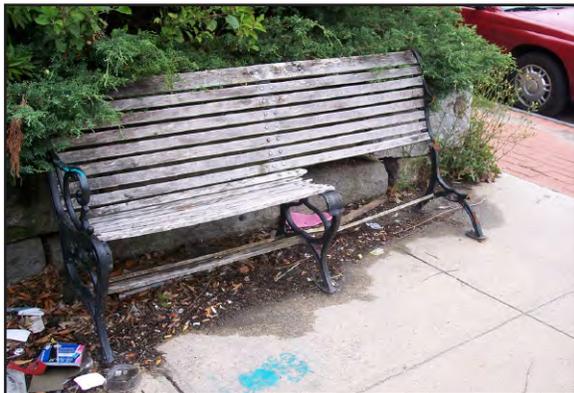
## EVALUATION

### Problem Areas

Main Street and Pleasant Street evidence four problem areas, which detract from the function, attractiveness and – ultimately - the long-term vitality of downtown Northampton. These problems encompass issues of: maintenance; access, circulation & parking; and details.

### Maintenance Issues:

Lack of maintenance is, arguably, the most significant problem of Northampton's downtown streetscape. Such lack conveys a message of not caring and permission for bad social behavior. It is manifested in the forms of litter, deterioration, vandalism, tree mortality and weed growth. When repairs are made, moreover, they are often done with inferior materials and details.



*Litter and deterioration accelerated by vandalism have marred Northampton's streetscape. Here, at the entry to the Nagle Walk, is a prime example.*

Litter along Main Street seems to be less evident than it was months ago when Honor Court personnel no longer cleaned the streets and sidewalks. It remains a problem along much of Pleasant Street, nonetheless, particularly near the

entry to the William Nagle walkway. The potential for more littering increases, in any event, whenever shabby conditions prevail.

The streetscape installation of the 1980s is deteriorating. Granite blocks in most tree pits are displaced, replaced or removed. Brick pavement edges are fraying. Whole sections of concrete sidewalks are missing in locations along Pleasant Street. Many concrete score joints are heaving throughout the downtown. Sections of curbing and edging (along Millbank Place) are nearly gone. Many parking meters are bent or rusted. Such deterioration is a significant problem, which presents liabilities to the City and casts a pall of shabbiness over the entire downtown enterprise.



*Northampton's sidewalks are showing their age with frayed pavers and missing tree well cobbles.*



## EVALUATION



*Curbs and edges are prone to deterioration, too.*

Graffiti in alleyways and elsewhere sends a particularly bad message, decreasing property values and increasing fear of crime. Vandalism has also claimed numerous benches throughout downtown. A missing or stolen stop sign at the Pearl and Pleasant Street intersection has reportedly caused several automobile accidents.



*Graffiti and other forms of vandalism send a particularly bad message.*

Tree mortality is mounting in light of less-than-ideal planting conditions, compaction and lack of maintenance. Weed growth is everywhere, deteriorated and damaged conditions prevail, around parking meters, in sidewalk cracks and most notably, at the base of trees.



*Weed growth is everywhere, deteriorated and damaged conditions prevail.*

### Access, Circulation & Parking Issues

*Pedestrian/Vehicle Interface:* The 2003 report of the Mayor's Task Force for Safer Streets cites five problems in the downtown: excessive crossing distances; poor crosswalk visibility; jaywalking; traffic confusion; and vehicular dominance. This assessment of existing conditions confirms these findings, by and large.

Traffic confusion is spurred by lack of travel lane clarity and consistency. On Central Main Street for example, a portion of the roadway accommodates angled parking and either 5 very small (less than 10') travel lanes or 4 very large (over 14') travel lanes. The issue of "vehicular dominance", however, is debatable. If such term really means pedestrian friendliness could be improved downtown, the issue is warranted. Pedestrian friendliness could and should be improved, as attested by this study. If the term implies the desirability of less traffic and fewer parking spaces, however, it is not. Well-regulated traffic and ample parking are, in fact, the lifeblood of a vibrant downtown. The more bona fide issues are to slow traffic and to address the aforementioned problems of crossing distances, crosswalks, jaywalking and traffic confusion.

## EVALUATION

*Constrictions:* Sidewalk widths vary from block to block. Although they appear to be adequate, they are by no means generously scaled everywhere or capable of handling peak demands. Some blocks are too narrow to have the paver transition strip:

- Between the Academy and City Hall;
- Fronting the Hampshire County Courthouse; and
- Along much of Pleasant Street.

Such lack of paver strip is not a major design issue. More significant are the places where crowding or constriction of movement often occurs due to frequent peak demands or special sidewalk conditions:

- In front of Thornes Market with its bus stop and high level of foot traffic;
- In front of the Hampshire County Courthouse, the site of a bus stop as well as occasional political protests;
- In front of City Hall;
- In front of Pulaski Park, with its crowded bus stop, benches and numerous news stands;
- In front of the Chocolate Emporium, where steps dissect the sidewalk;
- At the Strong Avenue/Main Street corner, where a ramp and set of steps split the sidewalk; and
- In front of Sylvester's and other segments along Pleasant Street, where 3.5' wide sidewalks are too narrow for two people to walk together or pass each other.

These bottlenecks are noticeably worse during warm weather or events such as sidewalk sale days, Farmers' Market days, protests and

the like. Though not as universal and dire as the aforementioned maintenance issues, such constrictions warrant amelioration, as they can create feelings of discomfort or, worse, intimidation.

*Obstructions:* Obstructions along the sidewalks also play a part in crowding and constriction of movement. The proliferation of newspaper stands, brochure dispensers, sidewalk signboards and other features throughout downtown constricts movement from cars to the sidewalk. Awning poles and a display case on top of more typical features at Thornes Market entry play a part in the restriction of an easy flow of movement. The entry to Pulaski Park is confounded by fencing, furnishings and plantings. More problematic, however, in this case, is the way eye-level plantings and low-branched trees obstruct views toward the Park and Memorial Hall, to the degree of near invisibility. More than aesthetics, visual obstructions like these impede surveillance and threaten a sense of public safety. Pleasant Street does not have a clutter problem to the degree that Main Street does.



*Proliferating periodical stands clutter Northampton's streetscape physically and visually.*

## EVALUATION



*Views to Pulaski Park and Memorial Hall are obstructed by vegetation.*

**Bicycles:** Another vehicular issue warrants notice here: the lack of bicycle lanes within the downtown. Such lack is especially noticeable along Main Street, which links Elm Street (with its bicycle lanes) and the Northampton-Amherst rail trail.

### Details:

**Introductions and Inconsistencies:** New, inconsistent details and an array of furnishings have been introduced over the years. Examples abound: the bollard and chain tree protection device; wire plant bed edgings; flowerpots; trash receptacles; bicycle racks; and newspaper/magazine stands. While many of these introductions are functional and possibly also attractive by themselves, taken together, they have become visual pollutants. The newspaper/magazine stands, in particular, have proliferated to an inordinate degree; clusters of them on every block prevent easy passage from cars to the sidewalk. Increasing numbers of hand-painted sandwich board signs, charming and colorful as they may be, may also fall into this category. Pleasant Street has its share of inconsistencies, too, where crosswalks adhere to no standard and sidewalk materials vary.



*Examples of inconsistent tree wells that are stylistically inappropriate; either too industrial or too residential.*

**Shortages:** Throughout downtown, there is a shortage of seating, way-finding signage, community posting locations and pedestrian-scaled light posts. For the lack of adequate seating, door stoops and steps are crowded, even at the bus stop on the corner of Main and Pleasant. For the lack of wayfinding signage, both greenway entries are ignored and vandalized. For the lack of community posting locations, City light posts are pasted over with flyers. A whole dimension of pedestrian friendliness is absent, given the lack of pedestrian-scale lighting, arguably one of the most significant successful streetscape features.



*Northampton's downtown does not have enough benches. Private stoops are often the only option.*



Recommendations

## PROPOSALS

Here, in response to the aforementioned problems, opportunities and examples, is an array of proposals for the City's consideration and eventual implementation. Grouped in order of priority, they are:

- Stop Gap Measures;
- Basic Improvements;
- Comprehensive Improvements; and
- Value Added Options.

### Stop Gap Measures

Stop gap measures are highly recommended—if not essential—for immediate action. Such measures include three public sector components and one private sector option: maintenance; clean-up; safety measures; and sprucing up.

#### Maintenance

Maintenance in this case is about saving life and limb. Pavement areas that have become trip hazards should be repaired, matching the original materials and details as much as possible. Trees that have survived minimal tree wells and deferred maintenance beyond expectations should be, at the very least: freed from girdling grates along Hampden Street; pruned of dead branches and root suckers; limbed up to a minimum of 8'; and fertilized.

#### Clean-Up

Graffiti and litter throughout downtown should be removed as soon as it occurs. The persistence of either of these is an incentive to anti-social

behavior. Trash receptacles should be emptied prior to overflowing.

#### *Sandwich boards and periodical stands*

Paring down the proliferation of sandwich boards and periodical stands should be done just as diligently. For starters, the City might consider a stop-gap ordinance, which establishes eligibility and standards. Eligibility for sandwich boards could be limited to upper floor enterprises on the street where the boards are located. Standards might suggest maximum quantities and sizes, as well as location recommendations: sandwich boards in pairs located nearest the enterprises; and periodical stands in clusters limited to one designated location per block.

City decision-makers might well consider issuing renewable permits for a fee in exchange for advertising privileges in public spaces. Revenues could conceivably generate maintenance funds. Alternatives to the aforementioned regulatory approach are featured below, among comprehensive improvements.

#### *Removals*

Un-repairable benches should be removed rather than left to be eyesores. Odd, loose cobbles in tree pits should also be removed to create an intended effect. One row of cobbles framing a tree pit is preferable to multiple, uneven rows.

#### Safety Measures

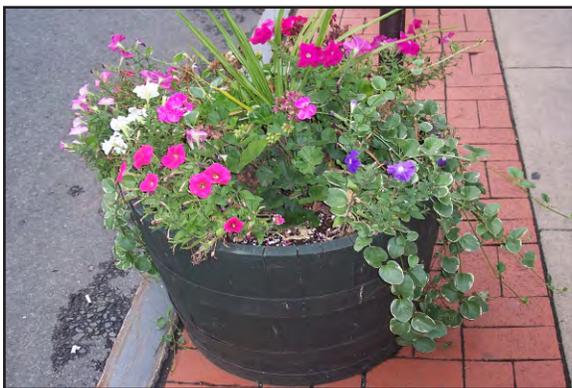
Some safety measures, in response to the Mayor's Task Force for Safer Streets and confirmed by the findings of this study, should

## PROPOSALS

be implemented as soon as possible: new roadway striping to clarify traveling lanes and bike-ways; new crosswalks striping and signage for heightened visibility; a new crosswalk on Main Street at the intersection of Gothic Street to meet a recognized need; and perhaps also a shorter, re-aligned crosswalk toward City Hall.

### Spruce-Ups

Private owners and proprietors can contribute to the function and beauty of downtown by continuing what many are already doing: keeping their sidewalk frontages clean and adding touches of color with plantings. The caveat here is that such plantings should best be done in a concerted manner, as some already are. For the sake of consistency in the short-term, tree well plantings should only be bordered with raised granite cobbles. Pots, if they be used at all, should match the existing barrel-style standard. Window boxes suited to the building's architecture are a preferable alternative to pots as they are less obstructive to pedestrian flow. The Chamber of Commerce plantings have been a success due to their attractive pots, stylistic consistency and non-obstructing location in traffic islands.



*These barrel-style pots are an effective unifying device, despite any perceived lack of elegance.*



*An attractive planting in the browsing zone just outside the store does not clutter or dis-unify the streetscape.*

### Basic Improvements

It has been over twenty years since the existing sidewalk system in downtown Northampton was installed. It has endured remarkably well. It is time, nonetheless, to consider a substantially new installation, as stop-gap measures eventually reap diminished returns. The recommendation for moving beyond stop-gap measures to basic improvements is for complete reconstruction of City sidewalks and installation of selected streetscape amenities. The components of such are described and illustrated in the pages that follow.

### Sidewalk Paving

Scored, cast-in-place concrete with bands of cobbles or taupe-colored pavers to delineate sidewalk zones and tree wells would constitute a similar, yet simplified, version of the existing pavements downtown. Concrete with a 1.5' to 2' scoring pattern would replace pavers within the browsing and transition zones, as it is

## PROPOSALS

cheaper to install and more flexible in regard to additions. Concrete with a larger 5' to 6' scoring pattern would prevail within the pedestrian walking zone. Typical sidewalk dimensions are shown in the drawings.

The sidewalks along Pleasant Street should be paved in like fashion, with adjustments to accommodate narrower widths. The walking zone should be a minimum of 5', in any event, to accommodate two people walking together. Tree wells and transition zones would be reduced, typically, to 4'. Tree wells and transition zones would need to be eliminated in narrowest circumstances. In such case, a line of canopy trees on the back side of sidewalks is highly recommended. Tree plantings on private property, to be sure, would need to be negotiated with owners.

### Lighting

Installing customized pedestrian-scaled light post fixtures along Main and Pleasant Streets would make a significant improvement to the streetscape. Such addition would create a more user-friendly environment and become a mark of identity for downtown Northampton. This report recommends several alternative light fixture styles to be considered during the design process. Whichever style is chosen, the guiding principle is to install the same light fixtures throughout downtown and to replace the existing gas light standard over time. Further design phase investigation is needed to determine the advisability of replacing or augmenting the existing cobra-style fixtures.



*Pedestrian-scale light posts are a significant streetscape feature. The post shown here from Camden, Maine, doubles as a support for colorful annual plantings.*

### Furnishings

The City of Northampton is interested in considering alternative furnishing standards for downtown.

*Benches/seating.* This report recommends considerably more seating and a different approach to bench orientation throughout downtown. Most benches should be installed perpendicular to the street and clustered to accommodate social interaction. Such orientation expands viewing options (up and down both the sidewalk and street) and doubles as a tree protection device.

## PROPOSALS

Main Street and selected segments of other streets should be furnished with a standard style. The Appendix features several recommended options: traditional and modern; metal and wood. Selection criteria should weigh the relative merits of durability, ease of maintenance, stylistic appropriateness and comfort.

Pleasant Street should be furnished with granite seat walls, thereby underscoring the existing granite bollard detail, differentiating the existing character of Pleasant Street and taking advantage of a ready supply of stone.

The City's proposed "art bench" program has the potential to offer intriguing seating alternatives. With the metal "peacock" bench fronting Skera Gallery as precedent, the program is off to a good start. Program implementers should proceed with caution, however, lest individual bench quality diminishes and the quantity of "exceptions" overtakes the "rule". Streetscape unity will be jeopardized if and when standard benches are outnumbered by diverse artistic pieces.



*Benches installed perpendicular to the street, as seen here in Cambridge, Massachusetts, provide better viewing and socializing opportunities.*



*Low granite walls, as seen here in Boston, Massachusetts, provide seating as well as protection for adjacent plantings.*



*This seat wall near the E. John Gare Parking Garage is a familiar feature in downtown Northampton.*

**Bicycle Racks.** This study also recommends more bicycle racks downtown. In the future, the City may want to consider a less over-scaled style, shown in the Appendix that would be more consistent with that of the selected benches.

**Trash Receptacles.** The black metal trash receptacles in use now are a functional, attractive unifying feature downtown. While not specifically opposed to the existing standard, this study recommends consideration of several alternatives, which may be simpler and more suited to alternative bench styles.

## PROPOSALS

### Planting

*Trees.* This study recommends replacing or planting canopy trees selected from among a small palette, which is also approved by the City's Shade Tree Committee. Ideally, a line of same-species trees should be evenly spaced approximately 24' apart. Spacing may need to vary, however, from 20' to 30' and species need to be diversified somewhat to avoid problems inherent in mono-cultures. The species selected for Main Street should differ from those for Pleasant Street, in any event, for greater biodiversity and identity. Other Oak or Oak-like species would be best for Main Street, in other words, and species like Honey Locusts such as Ginkgo would be best for Pleasant.

*Tree wells.* Long-term tree survival demands planting in accord with state-of-the-art urban tree research. Accordingly, this report recommends generously-sized tree wells, which are connected underground one to each other as much as possible. It also recommends use of "structural soils", which provides for both root growth and foot traffic in limited urban conditions. Most tree wells along Main and Pleasant Streets should be carpeted with tough, perennial ground covers and inter-planted with bulbs. Tree wells near intersections, however, might be topped with metal grates to accommodate more foot-traffic. Tree wells set within turf grass strips along southern segments of Pleasant Street should simply be mulched. Tree wells on Main Street should be bordered by a double row of granite cobbles or pavers and protected by a simple sturdy low metal rail. Tree wells along northern segments of Pleasant Street should be bordered by cobbles or pavers and granite seat walls in lieu of a metal railing.



*The simple metal rail shown here in Mainau, Germany, is a handsome and effective planter edging.*

### First Priority Projects

First Churches on "Meeting House Hill" has led the way during Northampton's 350th anniversary year with substantial improvements to its Main Street frontage. Four other priority projects should be considered part of these basic streetscape improvements.

*City Hall Square.* City Hall stands at the fulcrum point of Main Street as it bends. Its prominent location is matched by its function as the City's seat of governance. Yet its frontage on Main Street is especially compromised by a bottleneck on its western side, pavements in disrepair, the ubiquitous newspaper/magazine stands, two parking spaces and an especially wide, ambiguous roadway. This significant locale should be cleared of extraneous items, widened, specially paved, planted and furnished. The two parking spaces that would be forfeit in this recommendation could easily be re-located around the corner along Crafts Avenue, where super-sized angled parking stall widths should be reduced to standard dimensions.

## PROPOSALS

*Pulaski Park Entry.* Pulaski Park's entry is obstructed, both physically and visually. Re-configuring its entry and, together with its neighbor Memorial Hall, opening up incoming views should be a priority to the City. Such a move would increase its/their visibility and reclaim a lost sense of safety within the Park.

*William Nagle Walkway Entry.* The William Nagle Walkway's entry point along Pleasant Street is seriously compromised by vandalism and lack of maintenance. Along with stop-gap measures, some small design changes to open up the foyer and eliminate the need for wooden benches, might be considered during this basic improvement phase. Re-locating the near-by crosswalk to align with the Walkway's entry is another recommendation, which will lend the Walkway greater prominence and linkage to Pleasant Street Park across the street.

*Pleasant Street Gateway.* Last, but not least are three basic strategies for a proposed Pleasant Street gateway: traffic-calming, tree-planting and edge definition.

The basic traffic-calming strategy is to reduce the roadway width from 33' to 30' to accommodate two clearly marked 11' travel lanes and one 8' parallel parking lane. Narrower travel lanes and the presence of parked cars along the side are known disincentives to speeding.

This study envisions a double row of large canopy trees on both sides of the roadway, wherever space allows. Ideally extending to the I-91 access ramp, the rows of trees will express automotive scale and create an impression of unity in an otherwise formless urban fringe space. As roadside

development changes, variations in the basic strategy will occur along the distance between interstate and City center.

Upcoming reconstruction of the Conz Street intersection is a great opportunity to express approach to Northampton, via special signage as well as design changes that differentiate the location. A roundabout or boulevard treatment are two options worth consideration.

A public open space north and east of Service Center Road represents another kind of opportunity to define the edge of the City center. Creation of an informal park here would be a considerable improvement over its current appearance as an undeveloped lot in an urban fringe. Clearing the banks and providing access to the Mill River within this area, moreover, may provide enough incentive for actual park usage beyond its aforementioned role as a visual foil.

### **Comprehensive Improvements**

Comprehensive improvements recommended here represent both alternatives and add-ons to the foregoing basic improvements: the roadway/sidewalk configuration would change and the opportunities for amenities would increase.

#### **Roadway and Sidewalk Reconstruction**

The roadway and sidewalk reconstruction proposed here is advisable for two compelling reasons. The first is greater vehicular safety through consistency in travel lane delineation (proposed here as 11' wide) and rectified intersections. Second, but no less important, is enhanced pedestrian friendliness.

## PROPOSALS

*Main Street “Common”.* Equally noticeable will be an evocation of the City’s original common along central Main Street through construction of a widened traffic island planted with trees and turf. Its value will be symbolic as well as practical. Too small to constitute historic reconstruction, to be sure, such a green would become an urban oasis, its stately canopy trees unimpeded by constrained sidewalk conditions. By minimizing crossing distances, its practical purpose will be for improved public safety.

Snow represents another practical issue for consideration. The City DPW’s current practice of stockpiling snow in the center of Main Street may well dictate against fruition of the “Common” concept. This concept merits consideration, nonetheless. A compromise solution may well be found, should there be enough public support for the project.

*Main and Crafts.* A noticeable improvement will be at Main Street and Crafts Avenue, where rectification of the intersection will create new real estate for pedestrians. City Hall Square will be continued on the other side of Crafts Avenue, together becoming a significant open space in the heart of downtown.

*Main Street West.* This plan proposes a widened section here, where the existing roadway is the narrowest and the optimal micro-climate for cafes and other sidewalk features are constricted. Deep setbacks of somewhat aloof institutional buildings on the opposite side provide an opportunity for more space needed for the proposed Main Street bikeways and for relieving the aforementioned constriction. Re-aligning the sidewalk behind the existing row of trees as shown, also provides an opportunity for drawing the institutional buildings a little bit more into the downtown fabric.

*Curb Corrections.* Roadway and sidewalk reconstruction provides the opportunity to rectify aforementioned “curb” height problems under the railway bridge on Main Street. The goal should be to maintain a typical 6” curb height, as much as possible under the bridge (perhaps not at the lowest roadway elevation), so that car doors can open in these locations. This goal can be met as shown in the roadway bridge section.

*Hockanum Road Intersection.* Reducing and rectifying this intersection will accommodate private parking as well as proposed sidewalk improvements.

### **Bikeways**

Bicycle racks notwithstanding, downtown Northampton does little to accommodate bicyclists. This study recommends design and construction of a 5’ bikeway on both sides of Main Street, which would link the Elm Street bike lane and, ultimately via Bridge Street, the Northampton-Amherst rail trail. This Main Street bikeway should be in the conventional location, between parking and travel lanes, where parallel parking prevails. Such location can be more dangerous when combined with angled parking, however, prompting the alternative proposal here, of a marked bikeway between the sidewalk and parking lane. Regardless of location, in any event, warning signage and clear delineation of the bikeway should be included as part of the improvement scope.

### **Signage Program**

An awesome “way-finding” program for signage and mapping, it may be recalled, is an important

## PROPOSALS

ingredient of a vibrant downtown. Northampton has some of the elements, but lacks such a program to its detriment. Signage standards, as those implemented in Rockland, Maine, could enhance legibility (from the pedestrians' perspective) and, at the same time, promote visual unity. Standard street and public facility signage could enhance Northampton's identity and promote orientation, use and enjoyment by the general public. Interpretive signage should also be considered as part of a signage program, especially given the historic character of Northampton's center.



*Signs in Rockland Maine, shown here, conform to a City standard as well as express individuality of private owners. Signs like these angled outward from buildings are also more visible to pedestrians on the sidewalk.*

### Utilities Upgrade

If ever it were to happen, it is during sidewalk and roadway reconstruction, as envisioned here, that utilities could be buried. Such a project is highly advantageous since underground utilities save long-term maintenance costs and accommodate canopy tree growth.

### Value Added Options

This fourth and final set of recommendations is an a la carte array of additional downtown improvement projects and embellishments.

### Projects

*Alleyways.* Public/private partnerships could form to improve alleyways off Main and Pleasant Streets. Such projects would enhance pedestrian flow between rear parking and the street, and create greater visibility and access for adjacent businesses.

*Coolidge Park.* Coolidge Park is a valuable open green space at the heart of downtown Northampton, part of the legacy of the City's original common. The Main Street frontage of the Hampshire County Courthouse is a simple, dignified un-programmed space, which should remain as is. Larger and set back further from the street, the King Street side, however, has greater scope for park improvements to make it a more user-friendly space.

*Pleasant Street Park.* This vest-pocket park has not fully realized its potential, even assuming replacement of dead and damaged plants. It has sunlight and a strategic location so close to the center of downtown. This study recommends consideration of programmatic elements, such as more seating, tables, bicycle racks, shade and perhaps also a tot play area. Seating and tables make sense in light of its current-albeit infrequent use for lunch-time picnics. A good number of bicycle racks is a must, assuming linkage with a bike trail and-again- easy proximity to the center of downtown.

## PROPOSALS

*Mill River Park.* The Mill River daylights in this public land parcel, making it a great opportunity for an informal passive recreation park, featuring a cleared riverside trail.

### Additional Furnishings

*Bus Shelters.* New, more architecturally appropriate bus shelters, especially those in front of the Academy of Music and the Hampshire County Courthouse, could well replace the deteriorating modern shelters.



*A distinguished bus shelter, such as this in Cambridge, Massachusetts, would suit Northampton's distinguished architecture.*

*Community Board.* A community board/kiosk/display case could be located at the new City Hall Plaza to highlight City events and forestall impromptu scotch-taped postings. Such an item should reference to the existing community events board inside City Hall for those seeking further information.

*Display Cases.* Display cases could become alternatives for sandwich boards and perhaps also pedestrian scaled light posts. Installed within sidewalk transition zones throughout downtown Northampton, such cases would need to be uniformly sturdy, well-designed and well-lit. Inspired by the Kur Fuersten Dam, Berlin's celebrated boulevard, this concept would be, nonetheless, quite unique to Northampton.



*City Hall square could have a display case such as this example from Boston.*

*Clock.* Historically, lower Main Street had a free-standing clock on the south side of the street. Might installation of a replica be a possibility in the future?

*Park Facilities.* Pulaski and Coolidge Parks could benefit from some programmatic additions: super-sized chess or other small-sized game tables.

## PROPOSALS



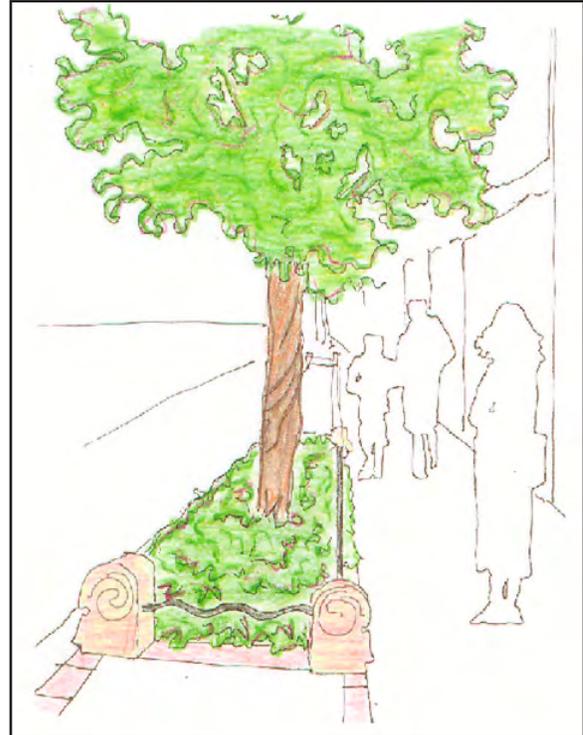
*Super-sized chess shown here on the street in Beru, Switzerland could become a popular addition to Pulaski or Coolidge Parks.*

**Banners.** While not unique to Northampton by any means, banners could continue to animate the downtown streetscape after the 350th Anniversary banners are removed. The design of such should be uniform either throughout downtown (as with the 350th banners) or, at the least, each street.

### Art & Light Works

**Periodical Stand Enclosures.** Three-sided enclosures for clusters of periodical stands could become venues for artistic metalwork, just as Gazette stands have become showcases for local painters. With standardized dimensions and materials, each craftsman would be free to express possibilities within the medium, without jeopardizing aesthetic unity.

**Tree Well Details.** Ornamental iron work for tree well protection along Main Street would also be a great venue for artistic expression. It would be especially appropriate, given the notable instances of ornamental iron fencing at First Churches, the Court House and Smith Charities building. Blocky, carved stone sculptures could be added as corner posts: another artistic venue.



*Tree well edging can become artworks commissioned by individuals. Shown here is a proposal to incorporate stone carvings on the corners of a low metal railing.*

**Sign and Banner Brackets.** Oak Park, Illinois has Frank Lloyd Wright-inspired metal brackets throughout its downtown. Street signs are mounted on them and banners are hung from them. There is no doubt where you are when you see them. Given the high impact and low cost, Northampton might consider commissioning such a detail for its downtown. A simplified metal line “drawing” of City Hall- Northampton’s most distinctive building designed by the celebrated architect William Fenno Pratt-might be an appropriate subject.

**Pavement Designs.** The aforementioned proposals for downtown Northampton’s sidewalks feature

## PROPOSALS

delineation of a “browsing zone” in front of the building line. Such zone would be an ideal venue for privately commissioned mosaics or terrazzo pavement designs. As with the pavement panel fronting Pinch Pottery, the design would orient visitors to the entry and to the nature of the business that it abuts. “Advertisement” mosaics have been known since ancient Roman times.



*Mosaics and sculpture, such as those shown here from Freiburg, Germany, can identify shops and other private and individual enterprises.*

**Special Lighting.** Special lighting can be a huge asset for any downtown. The First Churches’ newly illuminated facade is a good example of architectural lighting, which has transformed a shadowy backdrop into a landmark presence on Main Street. Other institutional buildings- City Hall, Memorial Hall, the Courthouse, and others- might benefit from this investment.

Publicly-commissioned cross-street holiday lighting has become an imaginative artistic venue in many locales; it could be here, as well. The same can be said of privately-commissioned stenciled spotlights, which cast designs on pavements.



*Festival/holiday and thematic lighting are a lively streetscape addition. Lighting shown here is from Copenhagen, Denmark and Springfield, Massachusetts Arts and Entertainment district.*

“Cows on Parade”. Yes, the cows have been “done” before in Chicago and then in New York and elsewhere. This is not to say, however, that other subjects or other approaches to temporary art exhibits should not be tried. If not in the Number One Small Arts Town, then, where? Not incidentally, an added advantage of a “cows” program is that it can be publicly-sponsored, privately-funded as well as a fund-raiser for charities.



*Chicago was the first city in the US to host streetscape exhibits like these cows on parade.*

## PROPOSALS

The caveat on the aforementioned art venues is the need for coordination and standards to avoid visual chaos. The City could provide stand-sized stones, for example, with which privately commissioned corner sculptures could be carved. Pavement designs would be within boundaries of the proposed paving pattern's browsing zone.

### Summary

The City of Northampton has a great opportunity at this time to reinvest in an on-going renaissance of its downtown. This report has analyzed areas in need of improvement and put forth four graduated sets of proposals. Prior to summarizing them in outline form below, however, the obvious should be noted. These proposals are conceptual in nature, based on planning data supplied by the City. None of them can be properly implemented without ensuing professional design, based on an accurate survey of existing conditions.

### Stop Gap Measures

#### *Maintenance*

- Paving: re-set, patch ca. original materials
- Trees: remove girdling grates, prune, limb up, fertilize

#### *Clean up*

- Graffiti and litter removal
- Trash pick-ups

#### *Removals*

- Damaged furnishings and loose cobbles

#### *Safety measures*

- Roadway striping: lanes, with bikeways
- Crosswalks, striped and signed

#### *Spruce ups*

- Private plants: pots, tree wells ca. standards

### Basic Improvements

#### *Sidewalk Paving*

- New installation with revised design
- Concrete scoring with paver bands
- Enlarged/improved tree wells

#### *Light Posts*

- Pedestrian-scale
- Alternative styles
- Replace or augment existing

#### *Furnishings*

- More seating
- New bench orientation, styles
- Seat walls on Pleasant Street
- Bicycle rack alternative
- Trash receptacle alternatives

#### *Planting*

- Tree species per palette
- State-of-the-art tree planting
- Ground covers with metal fence
- Grate at intersections possible

#### *Top Priority Projects*

- City Hall Square
- Pulaski Park entry
- William Nagle Walkway entry
- Pleasant Street Park
- Pleasant St. Gateway: traffic-calming, tree-planting, edge definition

### Comprehensive Improvements

#### *Roadway & Sidewalks*

- Travel lane clarification/sidewalk expansions

## PROPOSALS

- City Hall Square
- Main and Crafts Avenue intersection
- Main Street “Common”
- Hockanum Road intersection
- Curb corrections

### *Bikeway*

- Main Street link
- Roadside lane with parallel parking
- Sidewalk side with angled parking; signage and marking

### *Signage Program*

- For identity, orientation and interpretation

### *Utilities Upgrade*

- Underground burial

- Banner brackets
- Northampton’s “Cows on Parade” alternative

## Value Added Options

### *Projects*

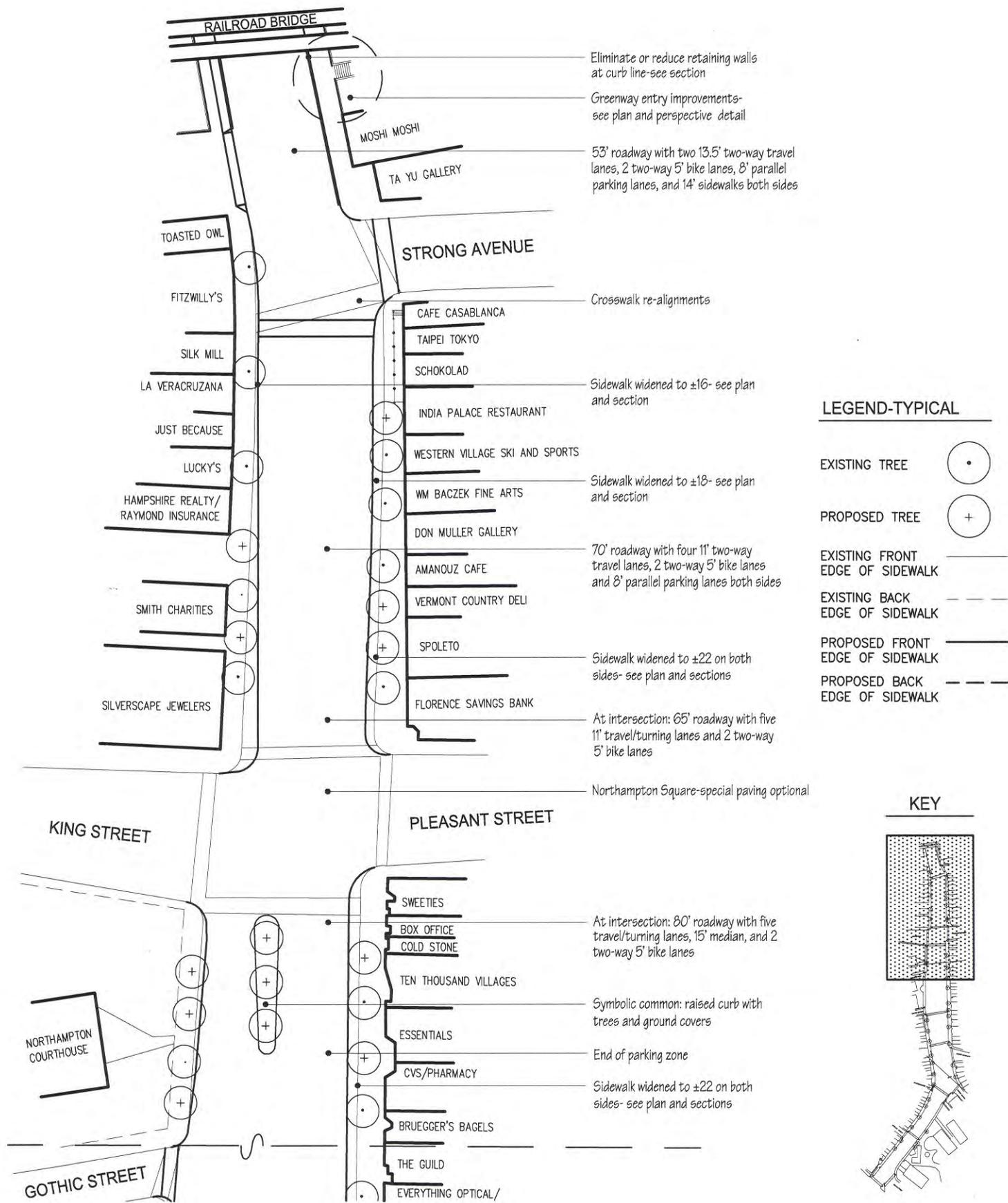
- Alleyways & rear entries
- Coolidge Park

### *Additional Furnishings*

- Bus stop shelters
- Community board/kiosk
- Display Cases
- Historic Clock
- Park facilities: game tables, super-sized chess
- Banners

### *Art & Light Works*

- Periodical stand enclosures
- Tree well details: metal rail, corner sculptures
- Banner/sign brackets
- Pavement designs: browsing zone “advertisements”
- Special lighting: architectural, seasonal, stencil spots

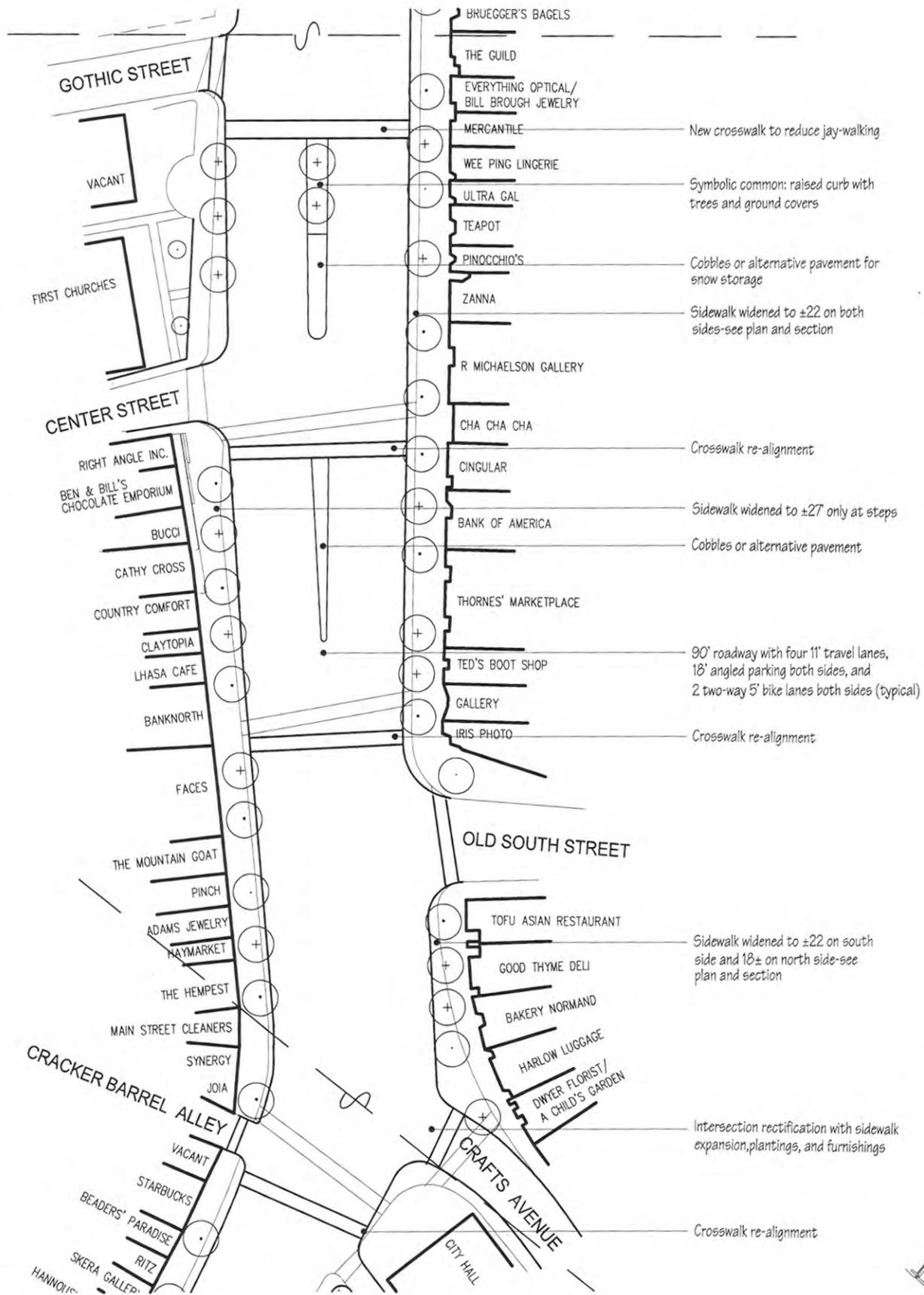


# NORTHAMPTON STREETSCAPE

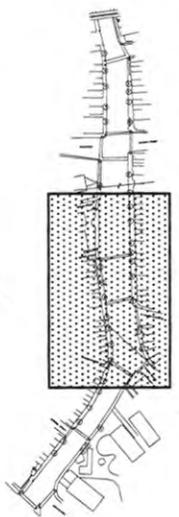
# PROPOSED CONDITIONS

SCALE: 1" = 80'-0" 0 40 80

# MAIN STREET EAST

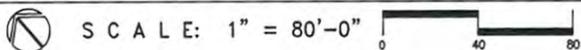


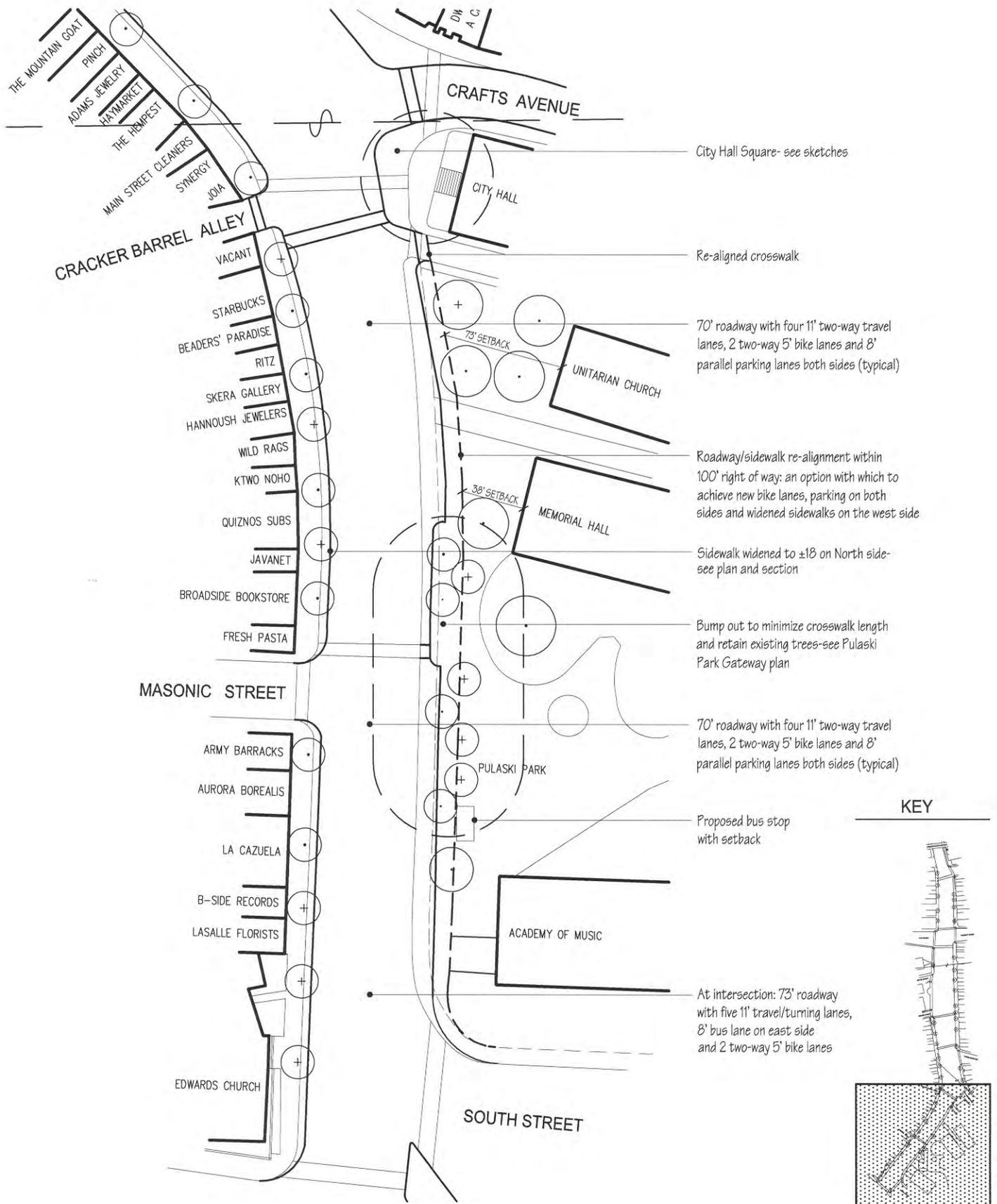
**KEY**



**NORTHAMPTON STREETSCAPE**

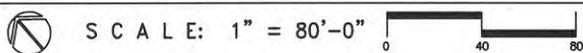
**PROPOSED CONDITIONS  
MAIN STREET CENTRAL**



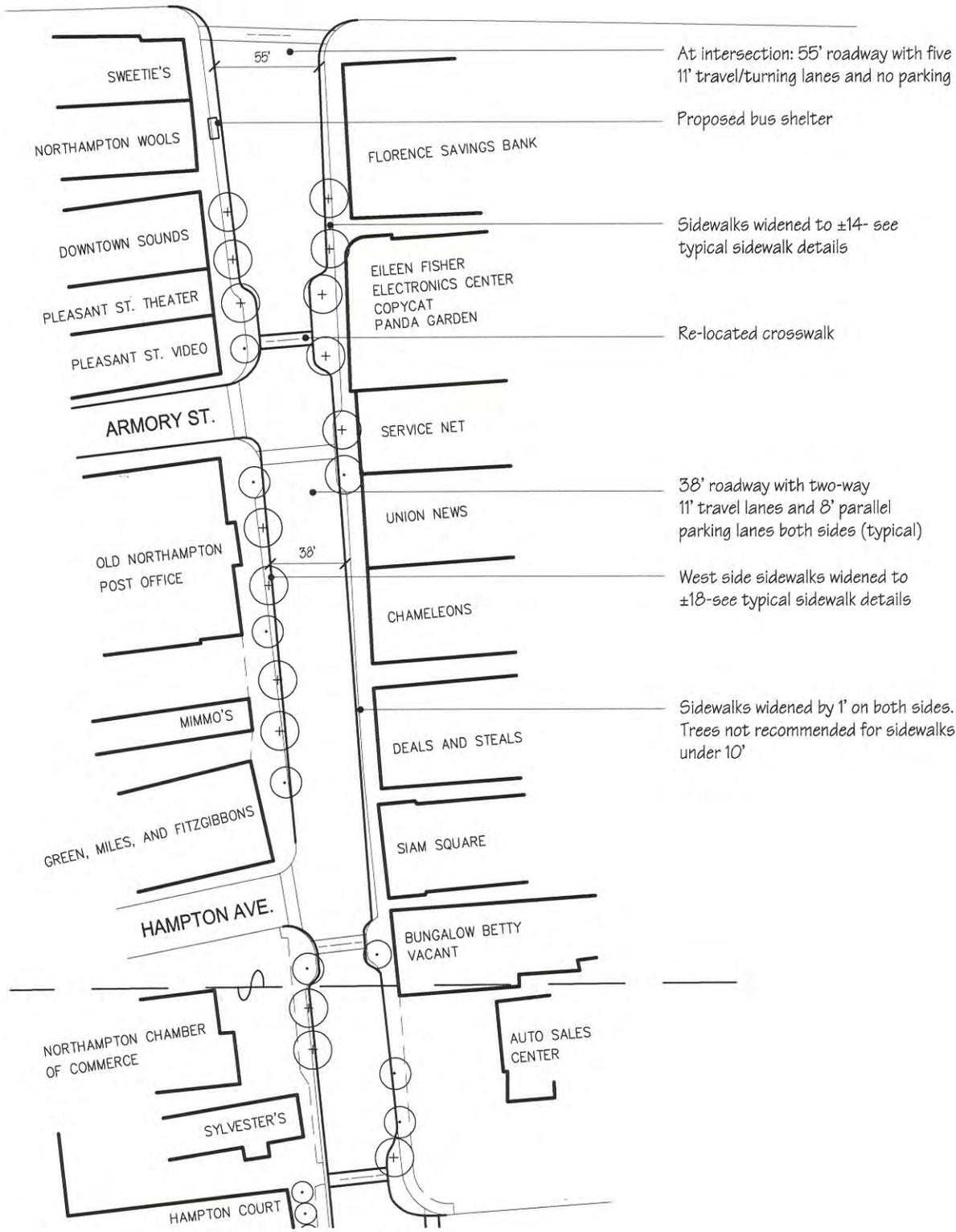


**NORTHAMPTON STREETScape**

**PROPOSED CONDITIONS  
 MAIN STREET WEST**



MAIN STREET



At intersection: 55' roadway with five 11' travel/turning lanes and no parking

Proposed bus shelter

Sidewalks widened to ±14'- see typical sidewalk details

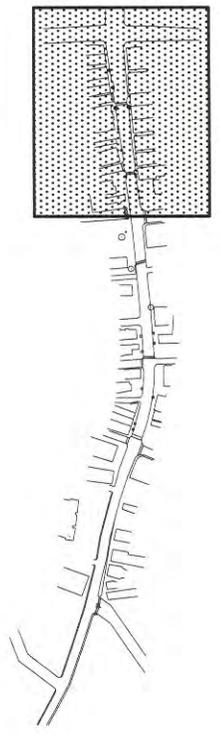
Re-located crosswalk

38' roadway with two-way 11' travel lanes and 8' parallel parking lanes both sides (typical)

West side sidewalks widened to ±18'-see typical sidewalk details

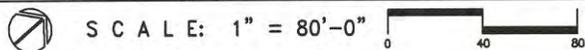
Sidewalks widened by 1' on both sides. Trees not recommended for sidewalks under 10'

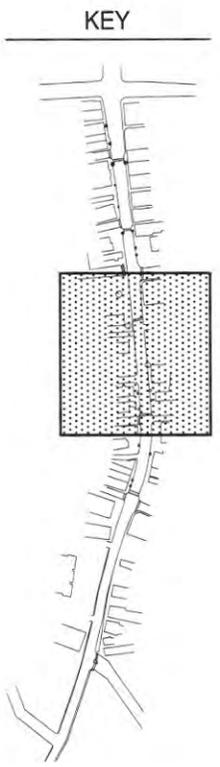
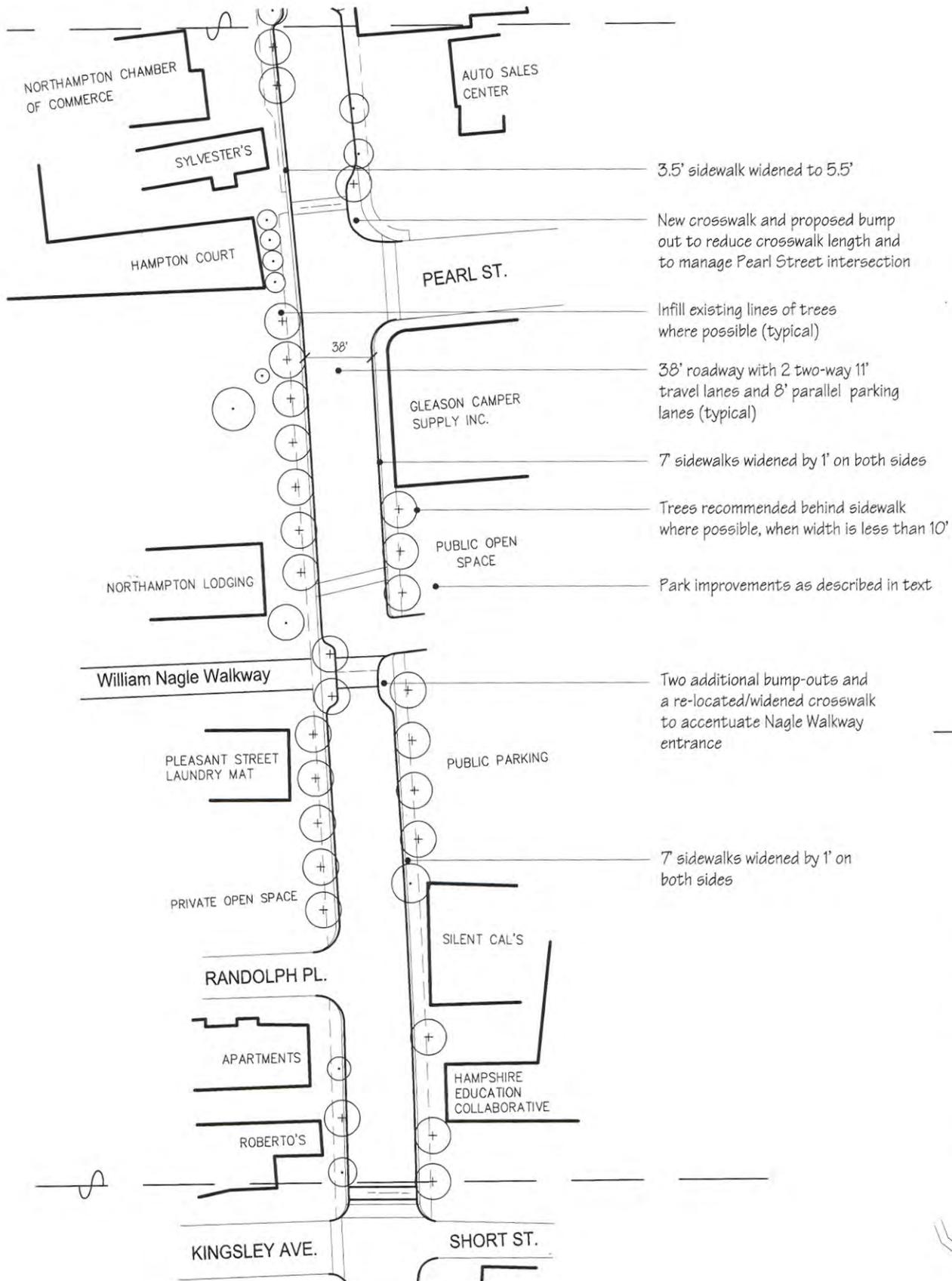
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NORTHAMPTON STREETSCAPE

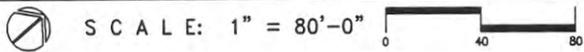
PROPOSED CONDITIONS  
PLEASANT STREET NORTH

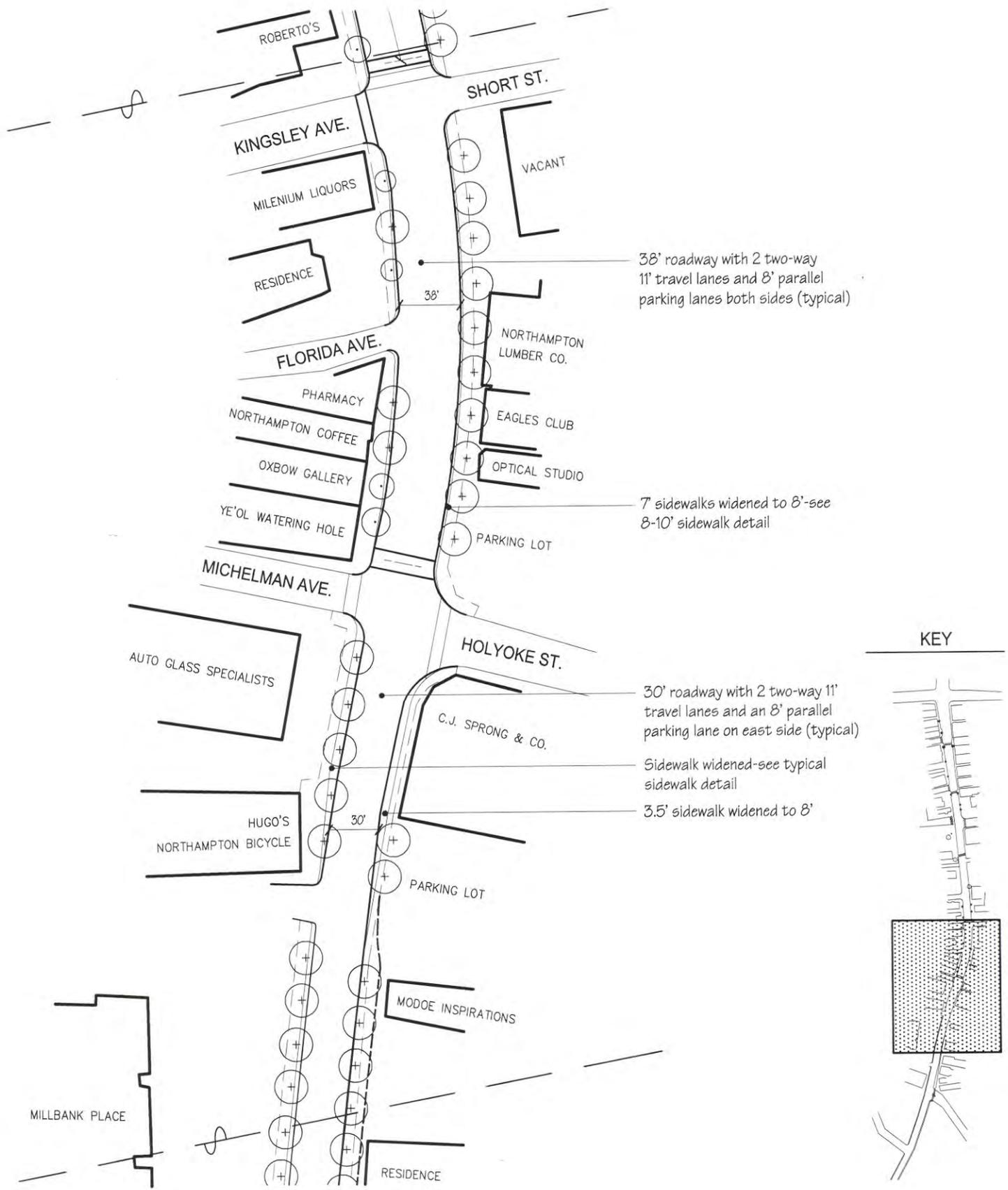




NORTHAMPTON STREETSCAPE

PROPOSED CONDITIONS  
PLEASANT STREET CENTRAL

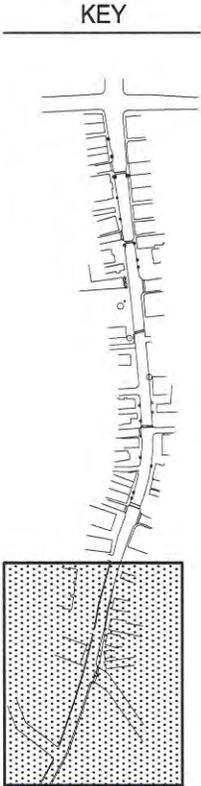
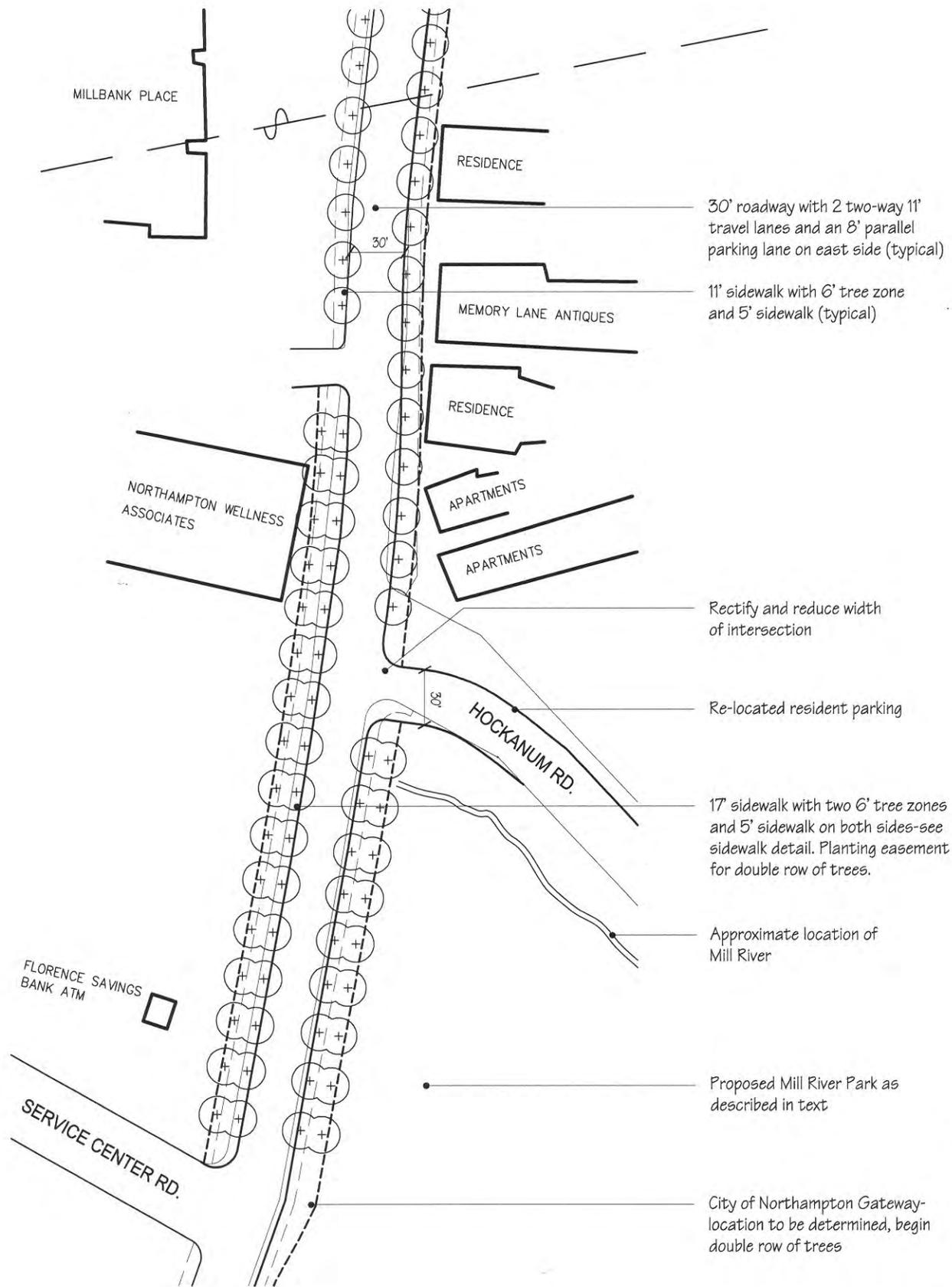




NORTHAMPTON STREETSCAPE

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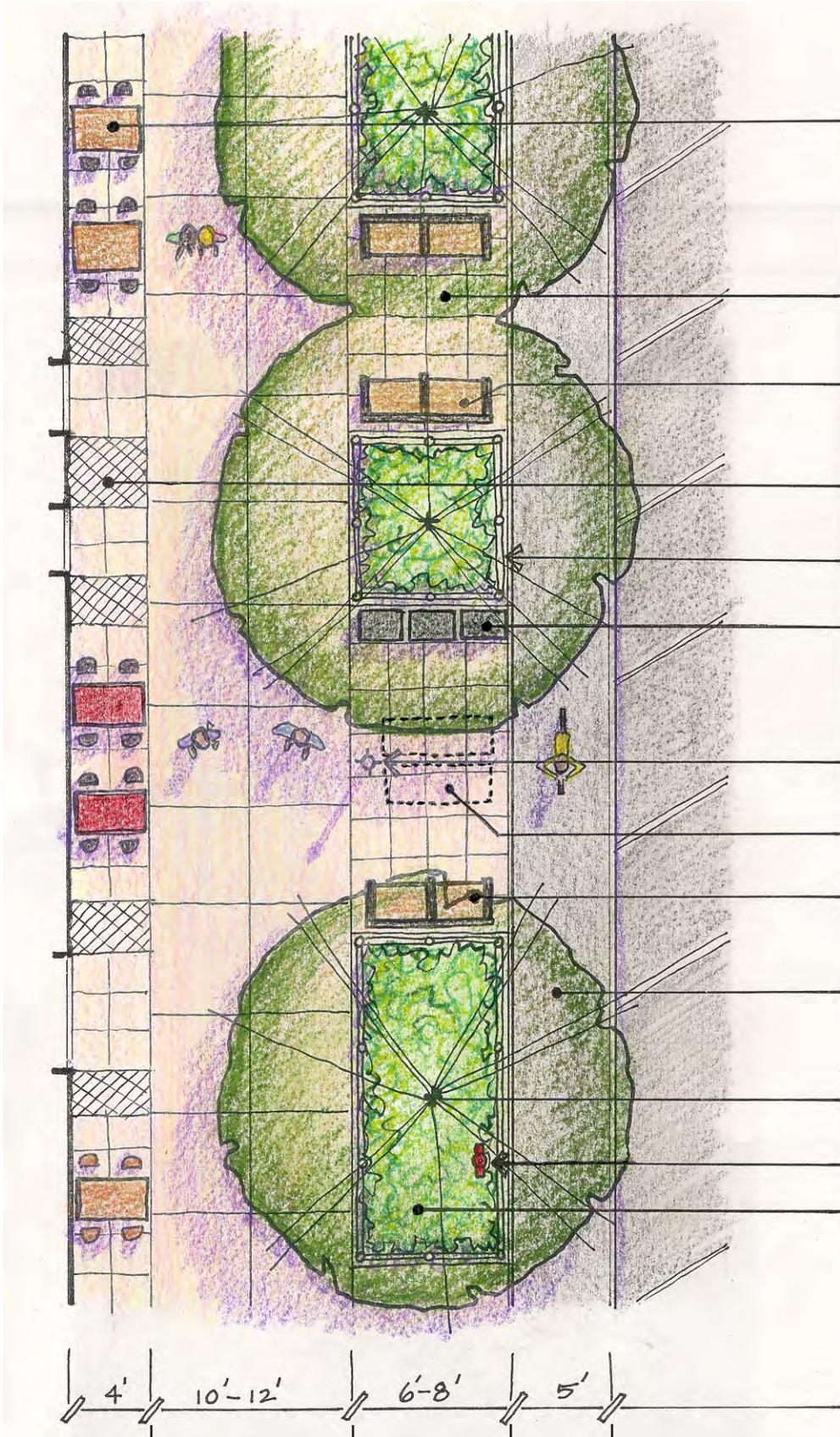
PROPOSED CONDITIONS  
PLEASANT STREET SOUTH-A



**NORTHAMPTON STREETSCAPE**

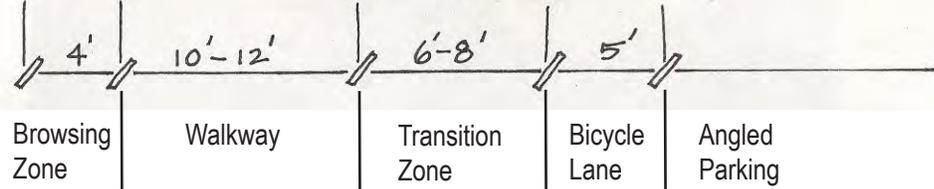
**PROPOSED CONDITIONS  
PLEASANT STREET SOUTH-B**

SCALE: 1" = 80'-0"



- Outdoor dining tables and chairs-typical
- Scored concrete
- Clustered benches in selected locations
- Optional mosaic or terrazzo design-privately commissioned
- Metal rail for tree protection-typical
- News stand clusters-typical
- Pedestrian scale light post-typical
- Back to back benches (alternate)
- Bench typical
- Curbed bituminous bike lane
- Canopy tree with understory plantings-typical
- Fire hydrant
- Widened tree well to include hydrant

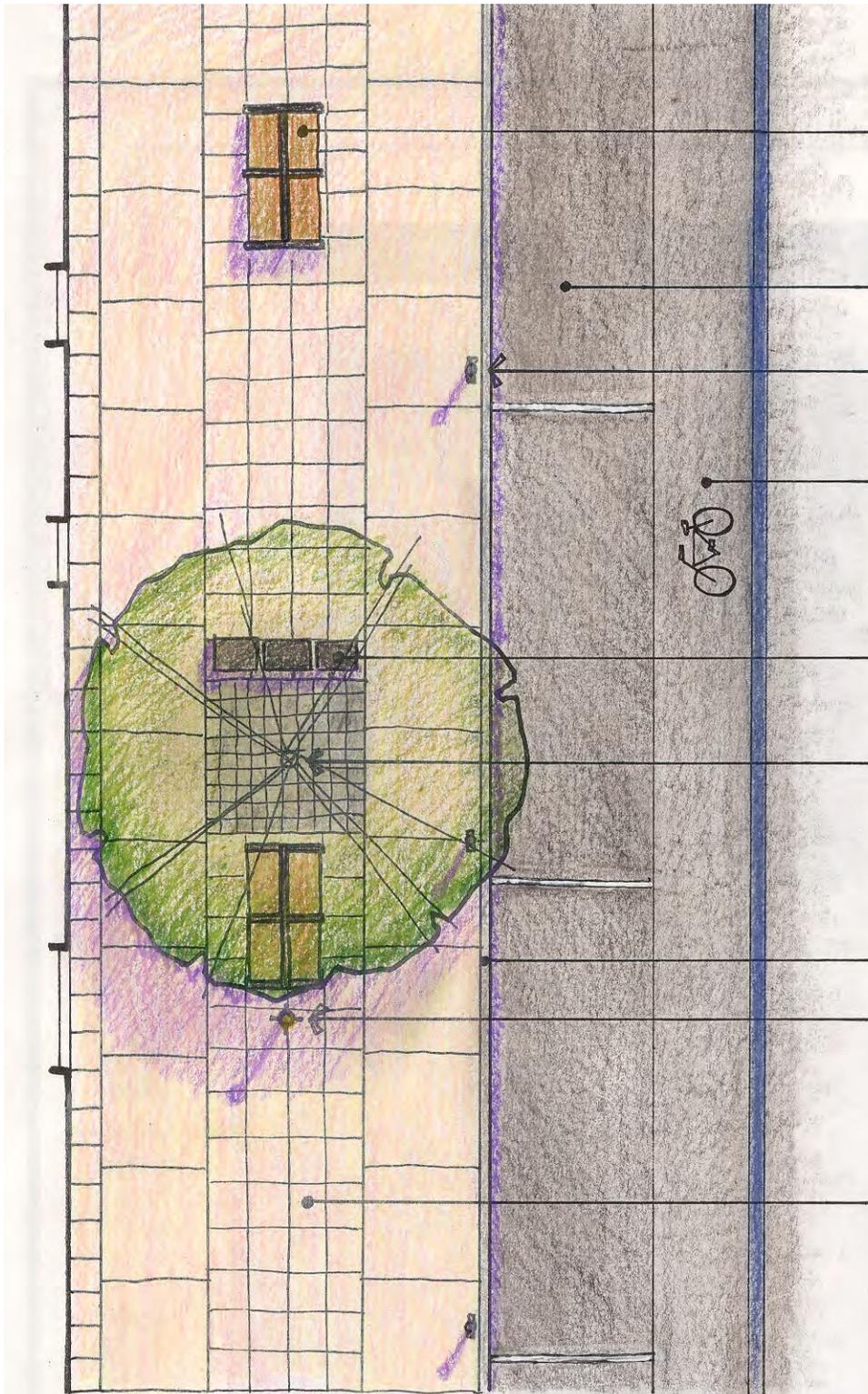
NOTE: In sections where parallel parking prevails, bike lane is located between the parking lane and the travel lane





NORTHAMPTON STREETScape  
 SCALE: 1/4" = 1'-0"

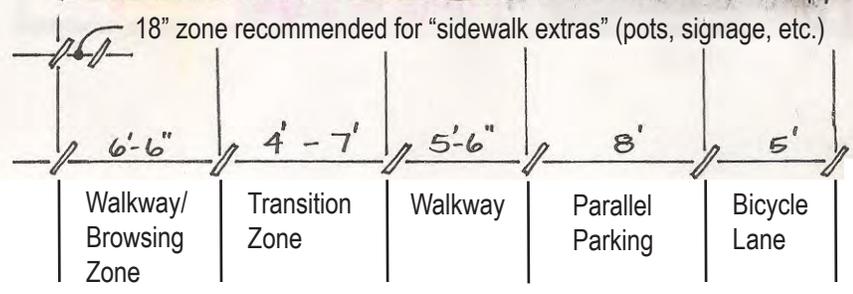
18-22' SIDEWALK SECTION-TYPICAL  
 MAIN STREET



- Back to back benches-typical
- Parallel parking lane
- Parking meter
- Bituminous bicycle lane
- News stand clusters-typical
- Existing tree to remain and new trees are to align with existing
- Curb
- Pedestrian scale light post-typical
- Scored concrete

NOTES: In sections where angled parking prevails, bike lane is located between the parking lane and the sidewalk

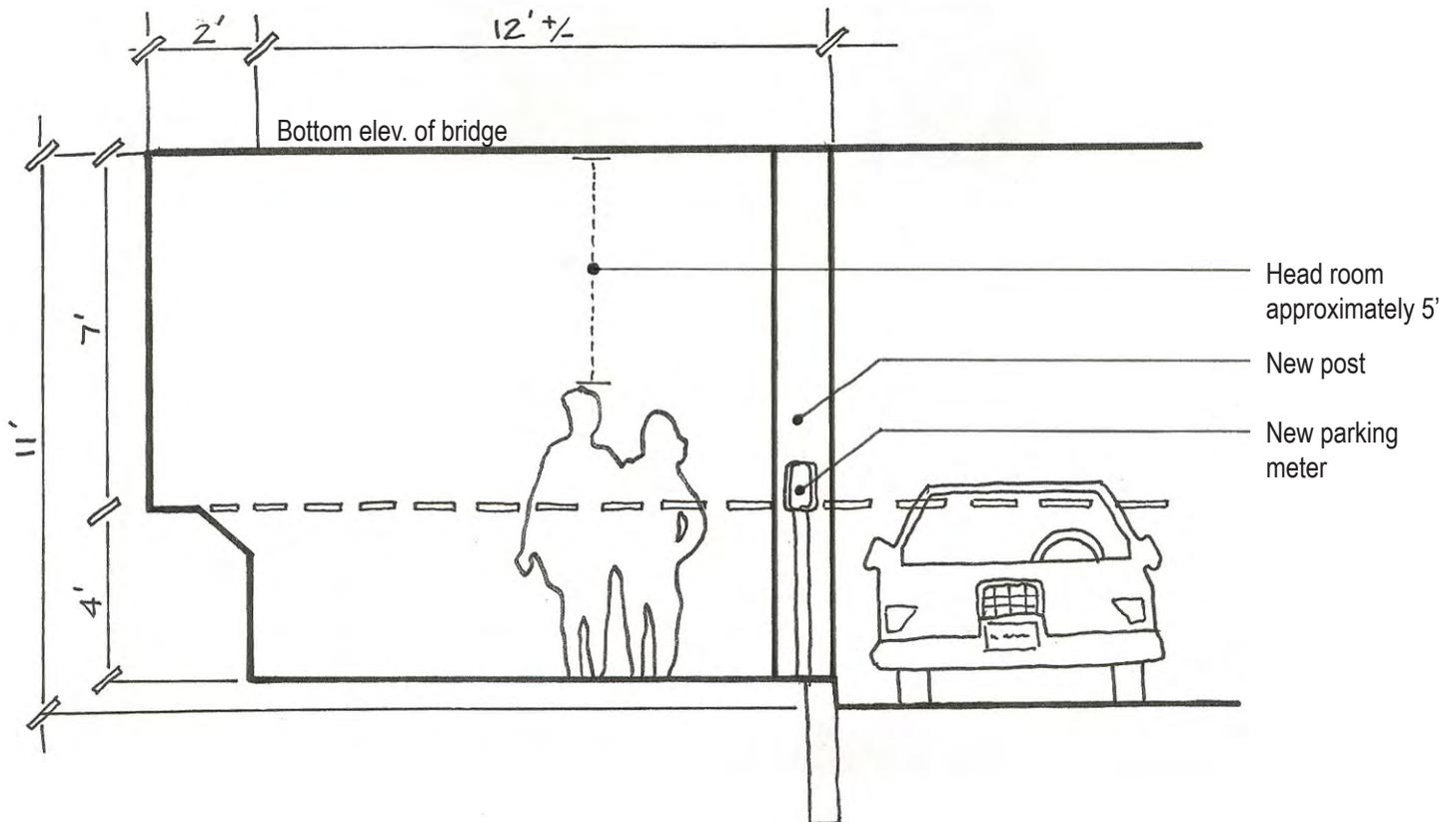
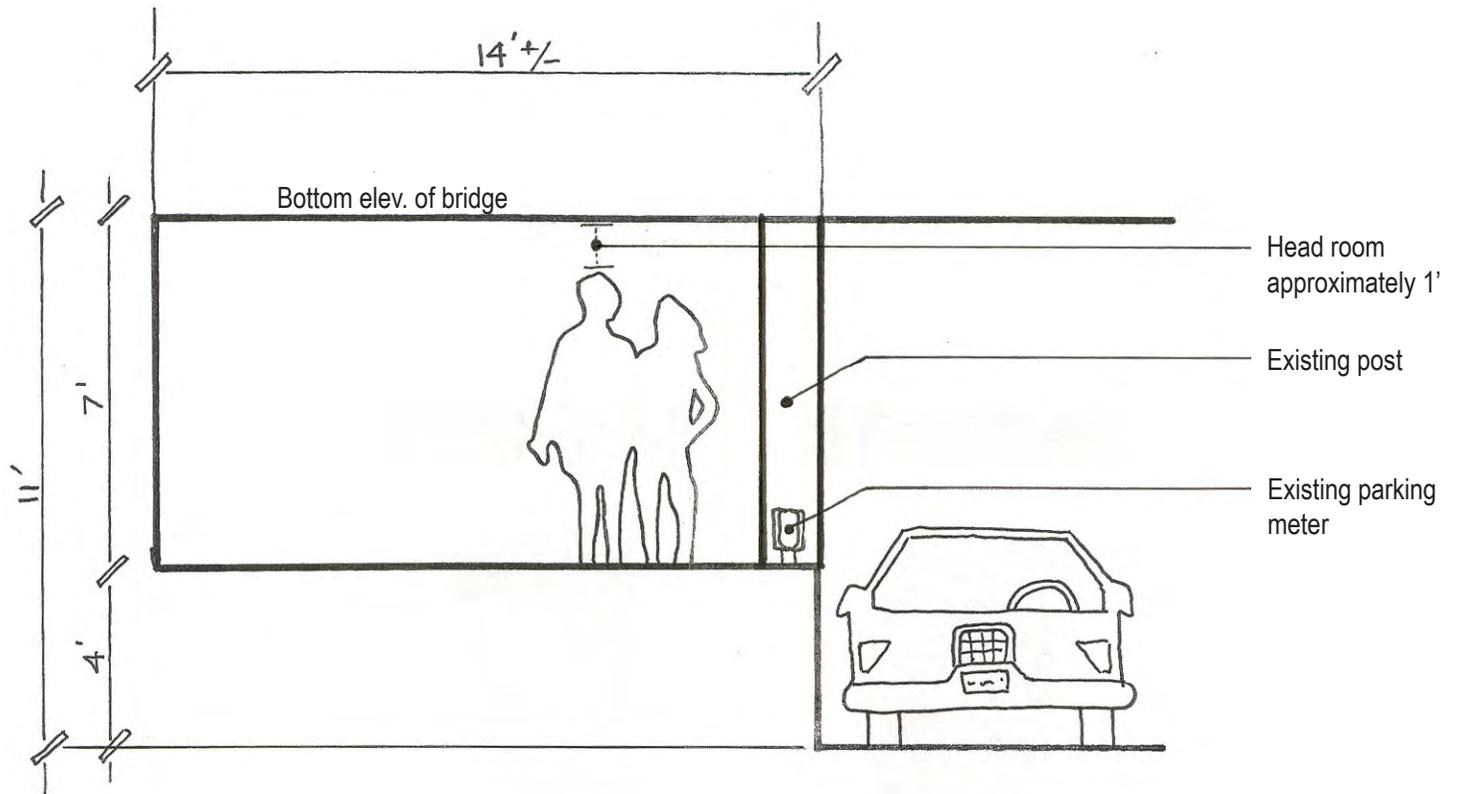
For 4ft-7ft. transition zone, refer to Appendix E- Structural Soils for information regarding limited tree growth

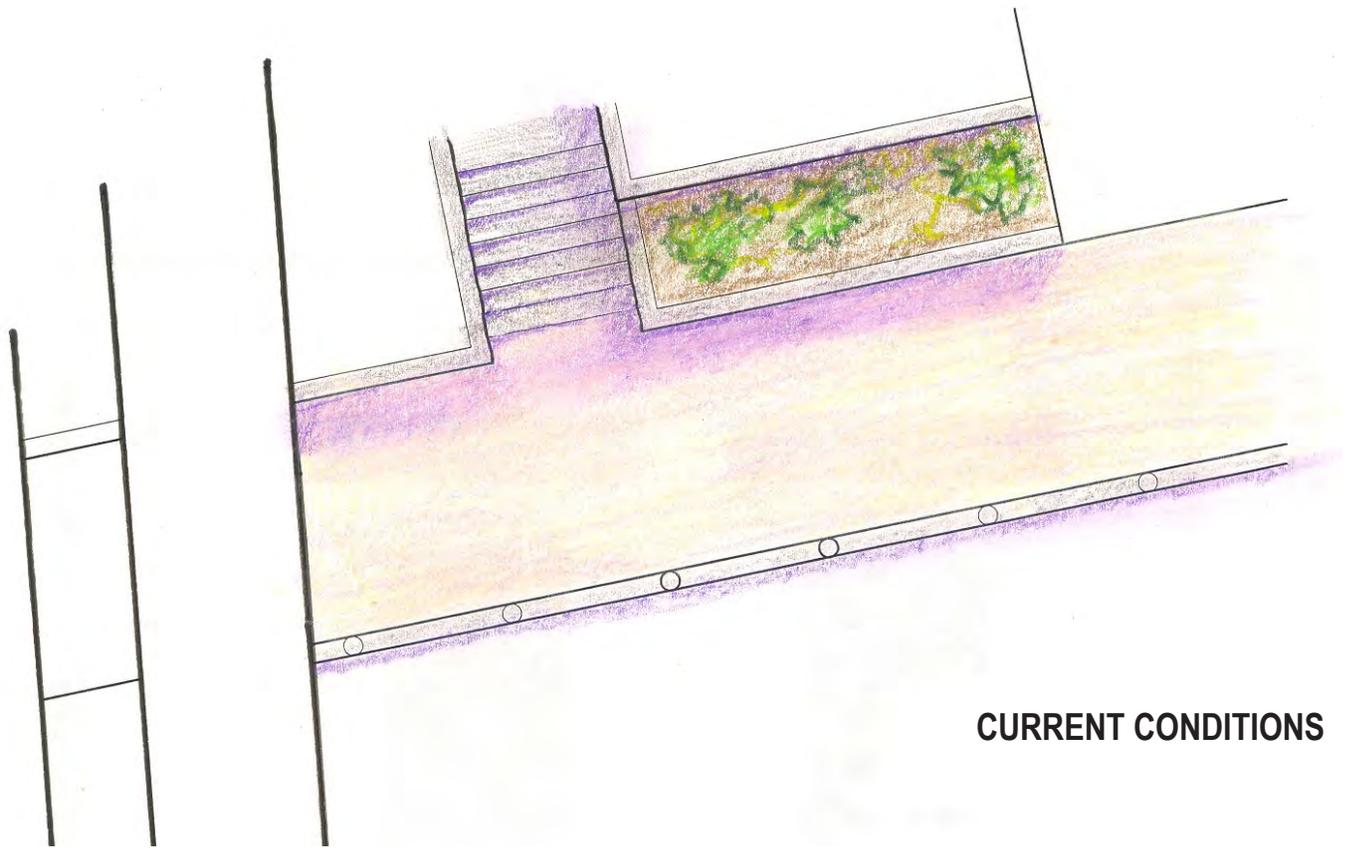




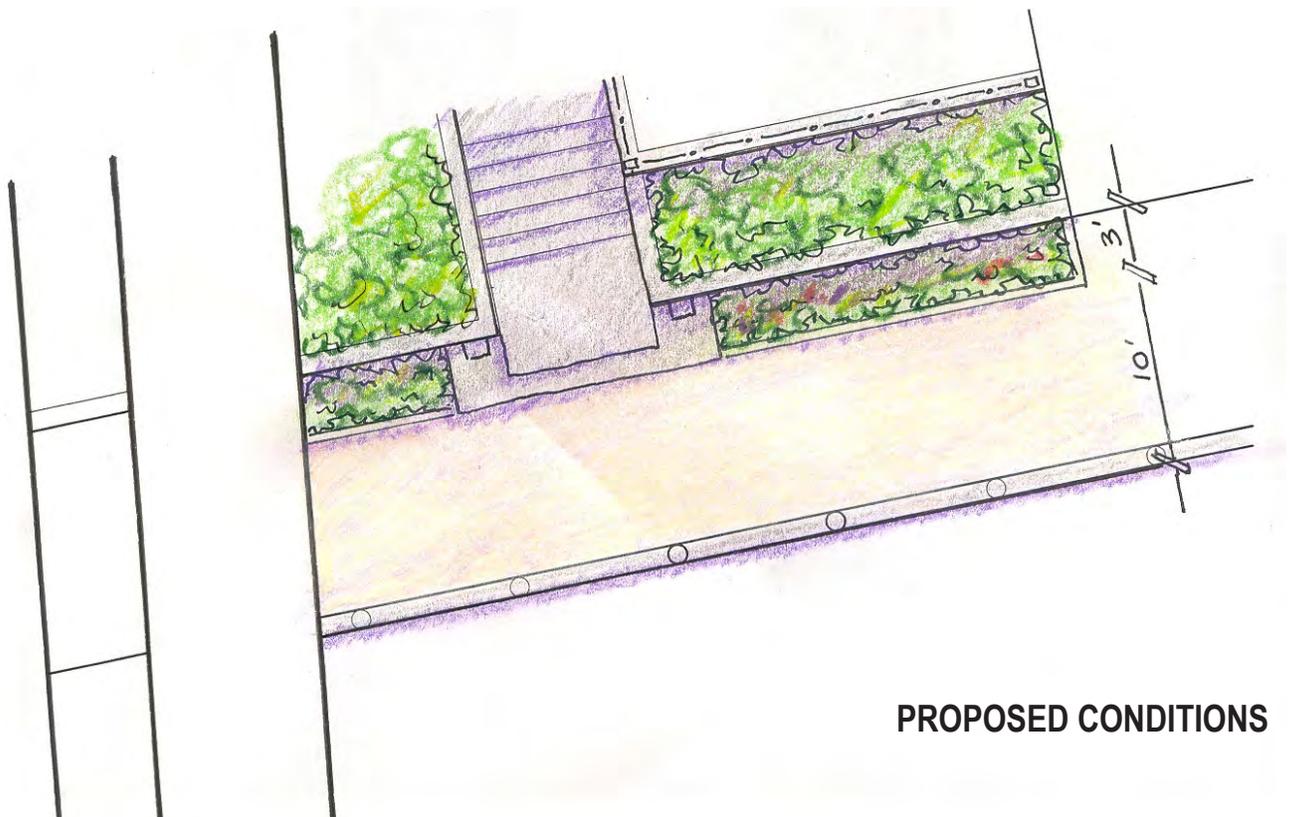
NORTHAMPTON STREETScape  
 SCALE: 1/4" = 1'-0"

16-18' SIDEWALK SECTION-TYPICAL  
 MAIN STREET





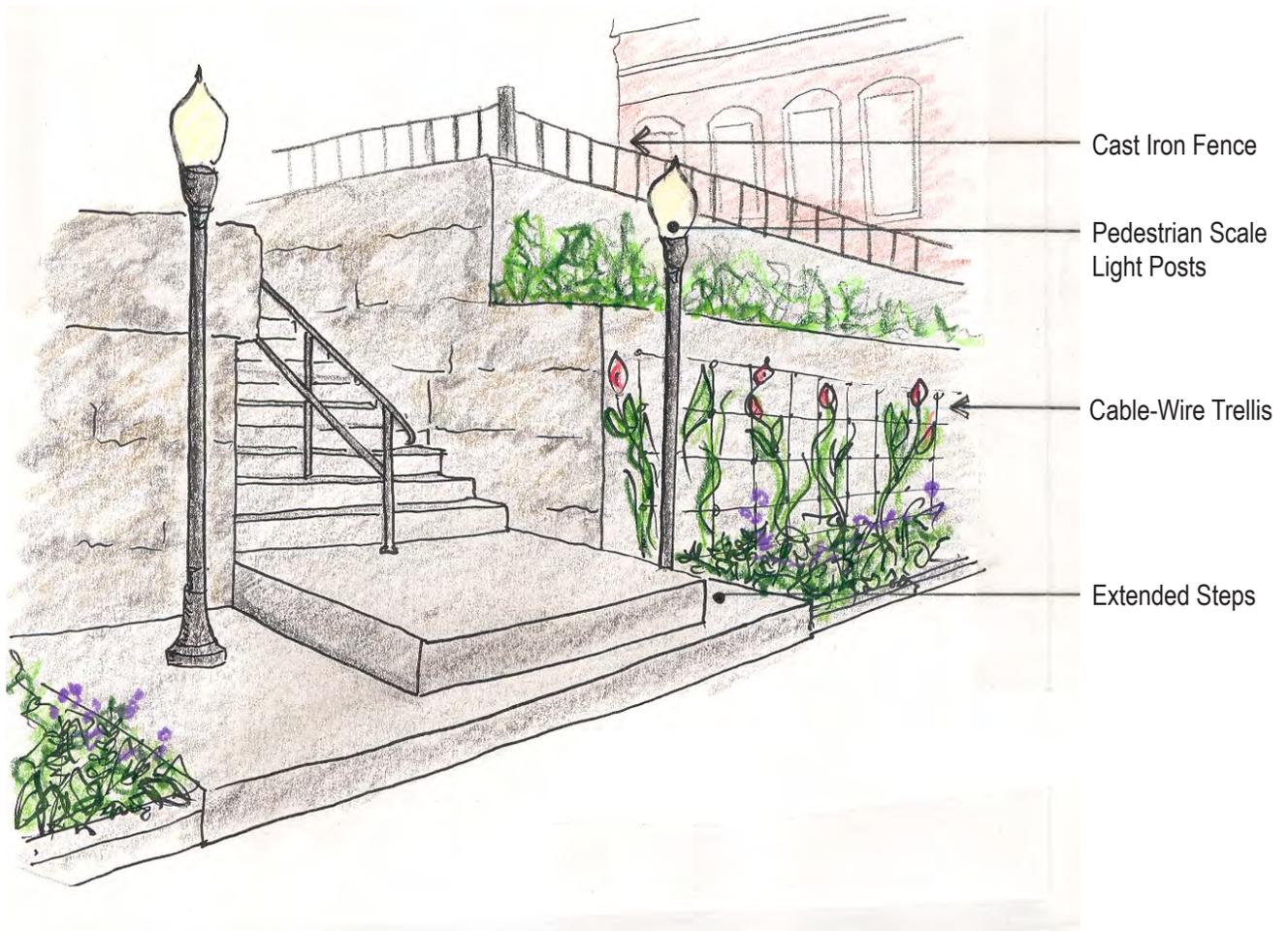
**CURRENT CONDITIONS**

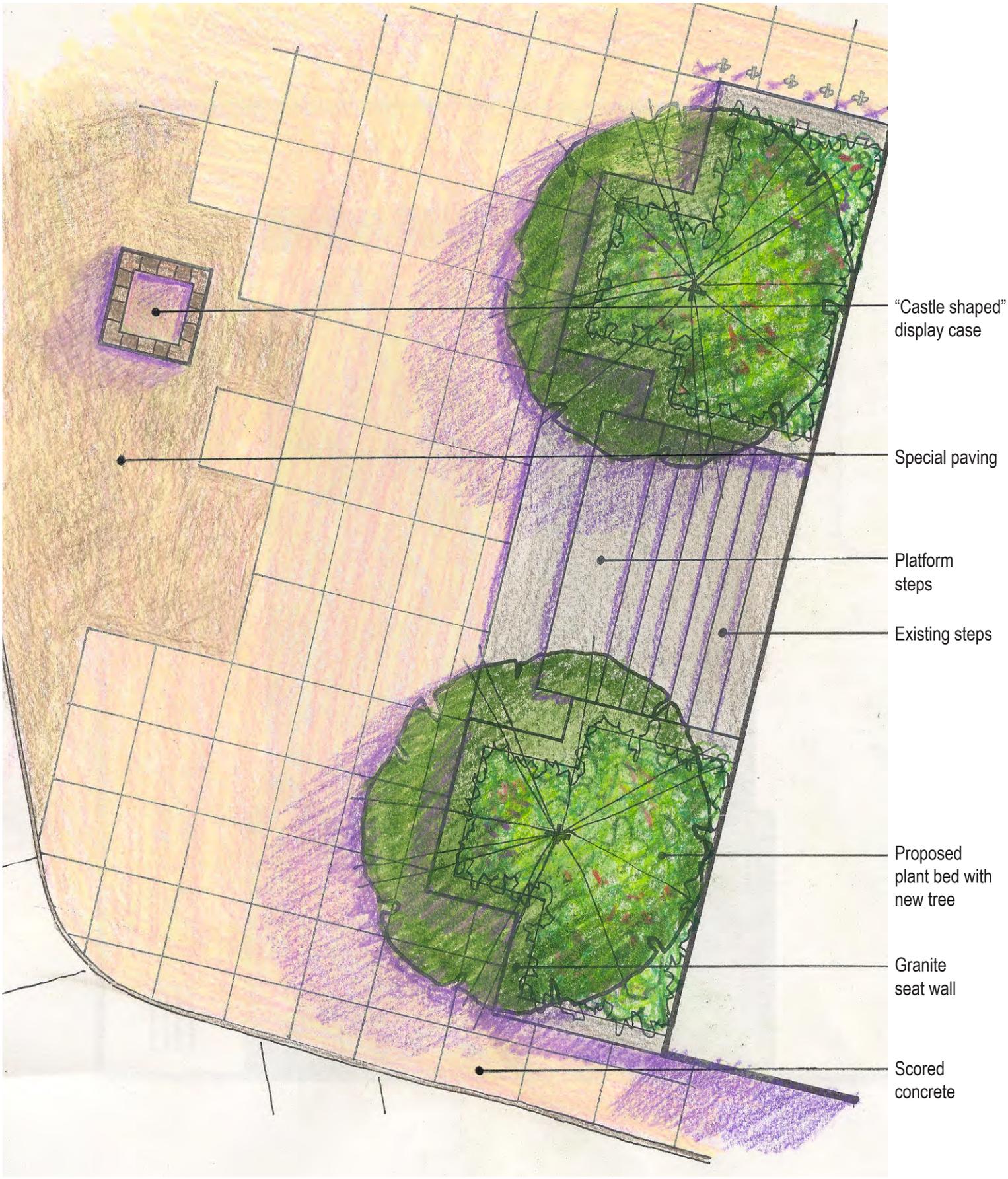


**PROPOSED CONDITIONS**

Shown on the right are the current conditions of the Greenway Entry staircase on Main Street.

Shown below is a proposed re-design of the entry to make it look more visible and inviting to a passerby. Beyond the obvious changes of weeding and removing the graffiti, the two existing bottom steps are extended to create a landing and new plant beds with wire trellises are added to the street level.





"Castle shaped"  
display case

Special paving

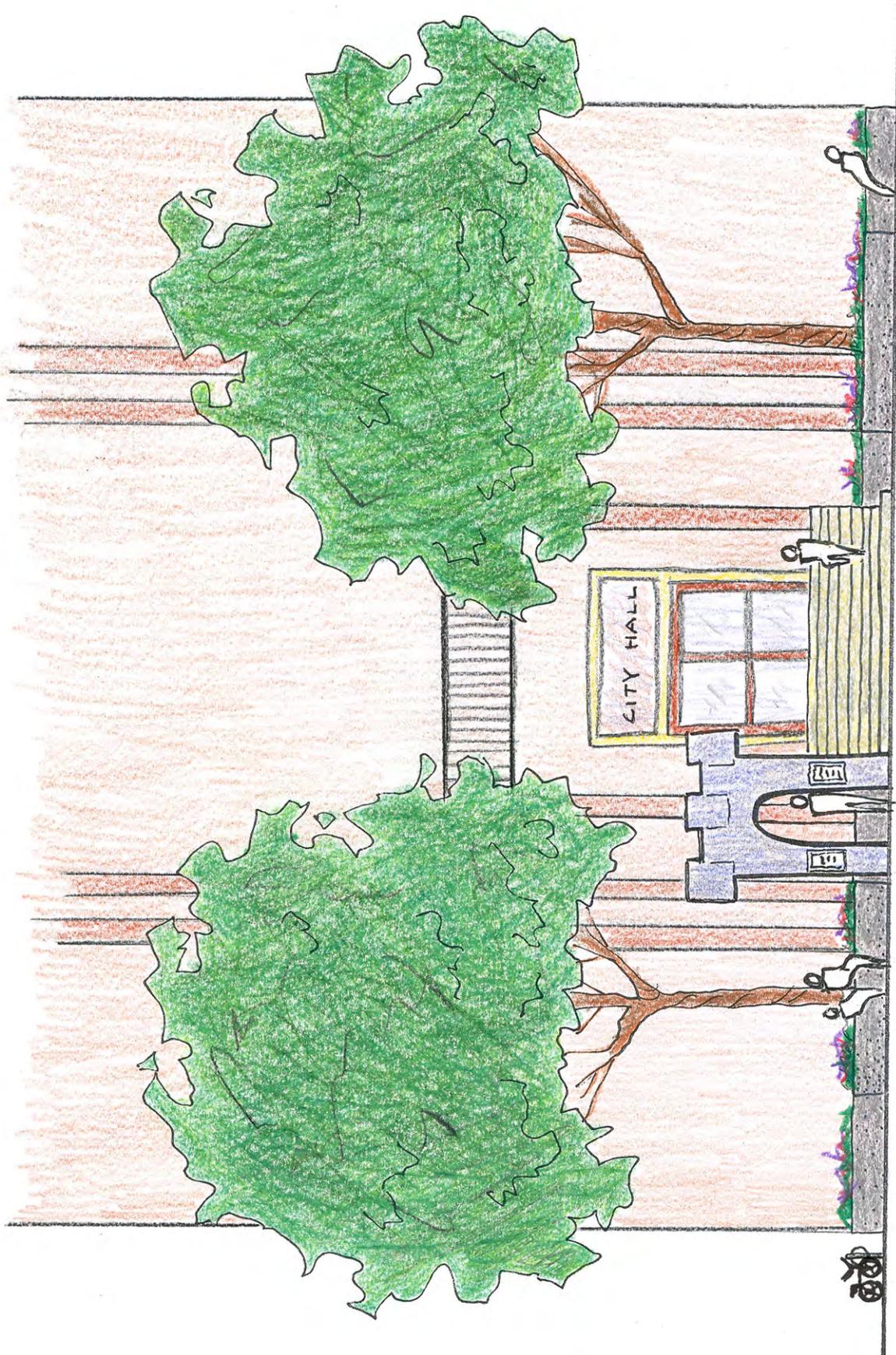
Platform  
steps

Existing steps

Proposed  
plant bed with  
new tree

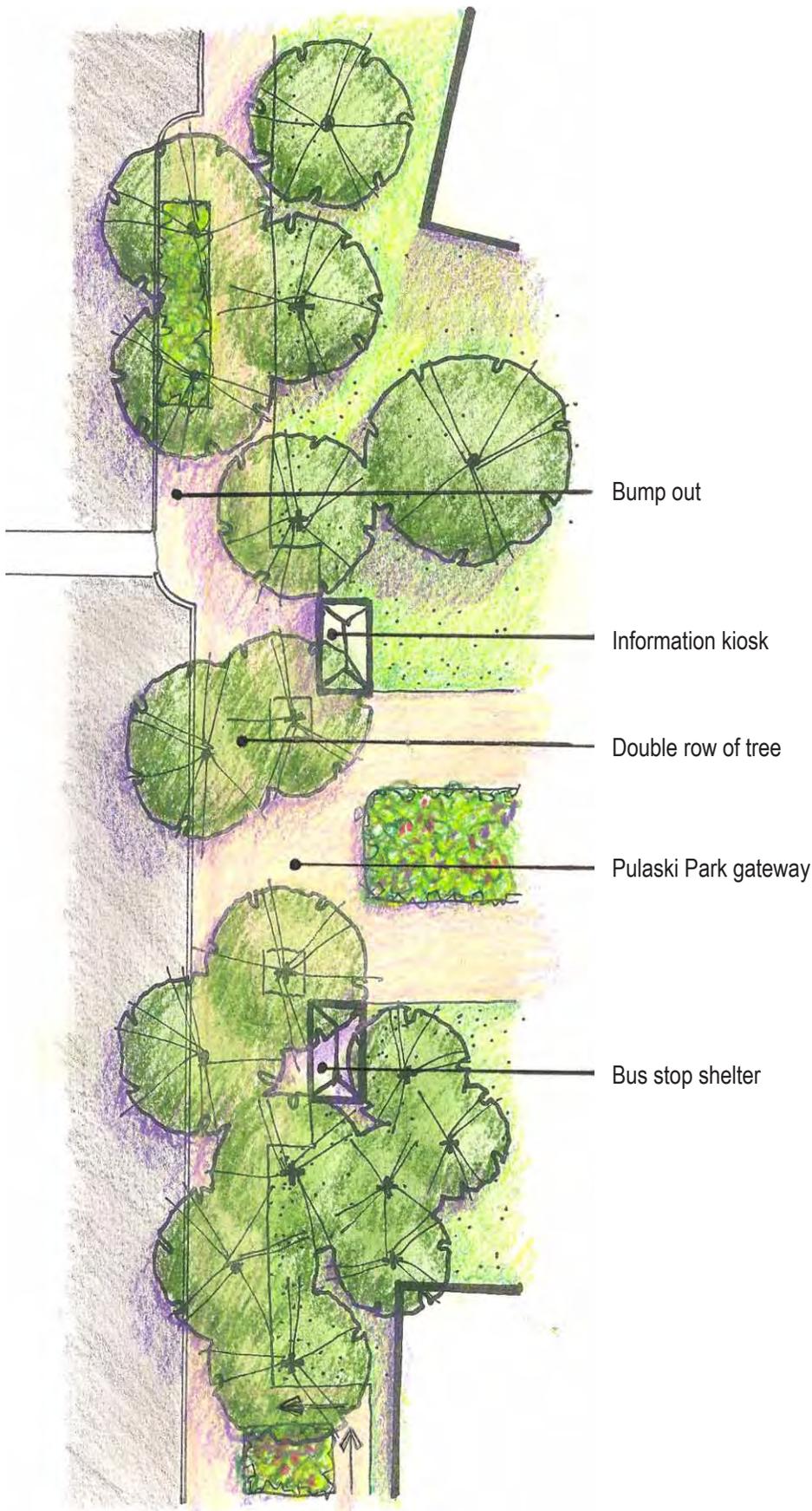
Granite  
seat wall

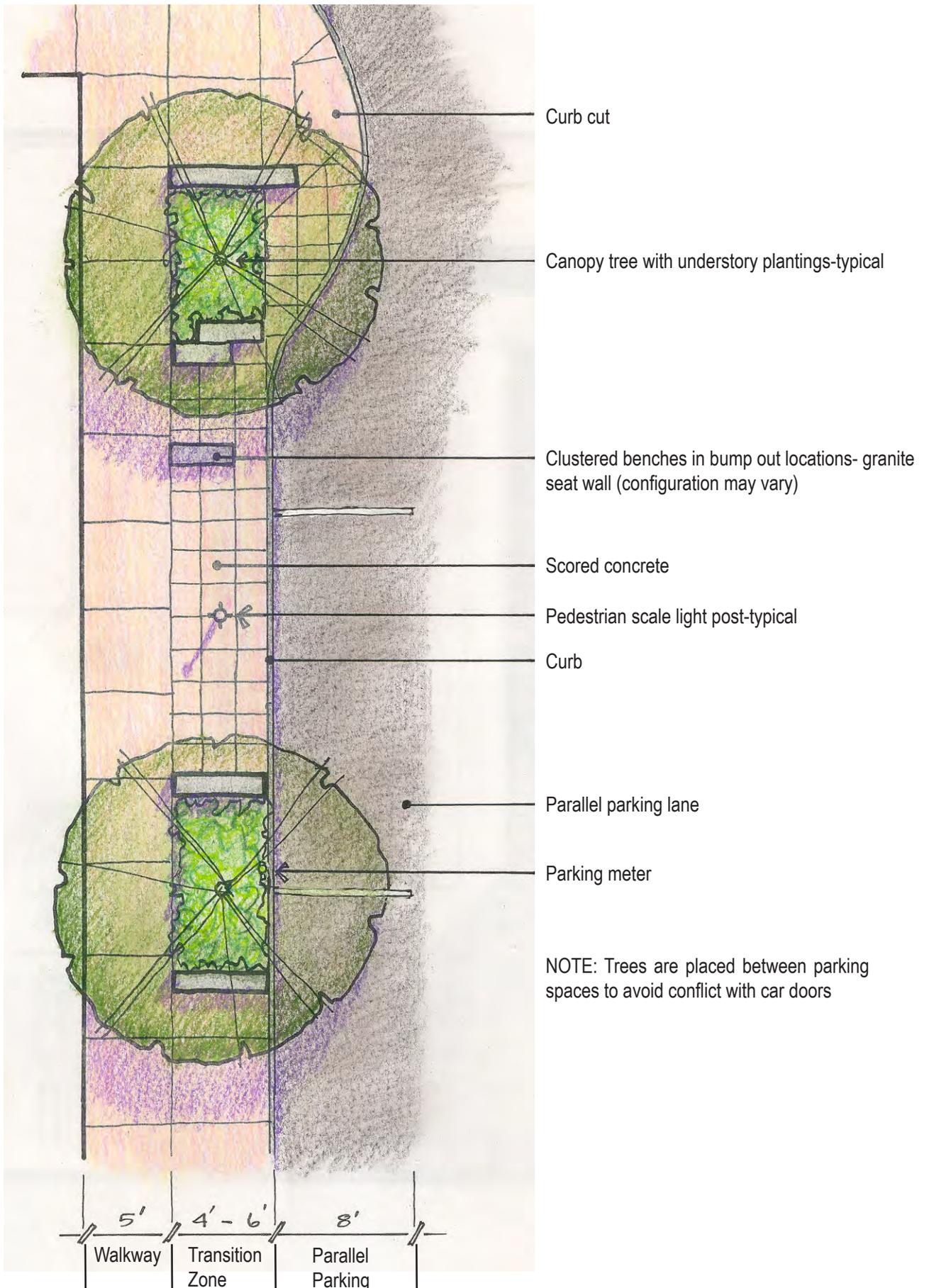
Scored  
concrete



NORTHAMPTON STREETScape  
SCALE: 1/8" = 1'-0"

CITY HALL SECTION  
MAIN STREET

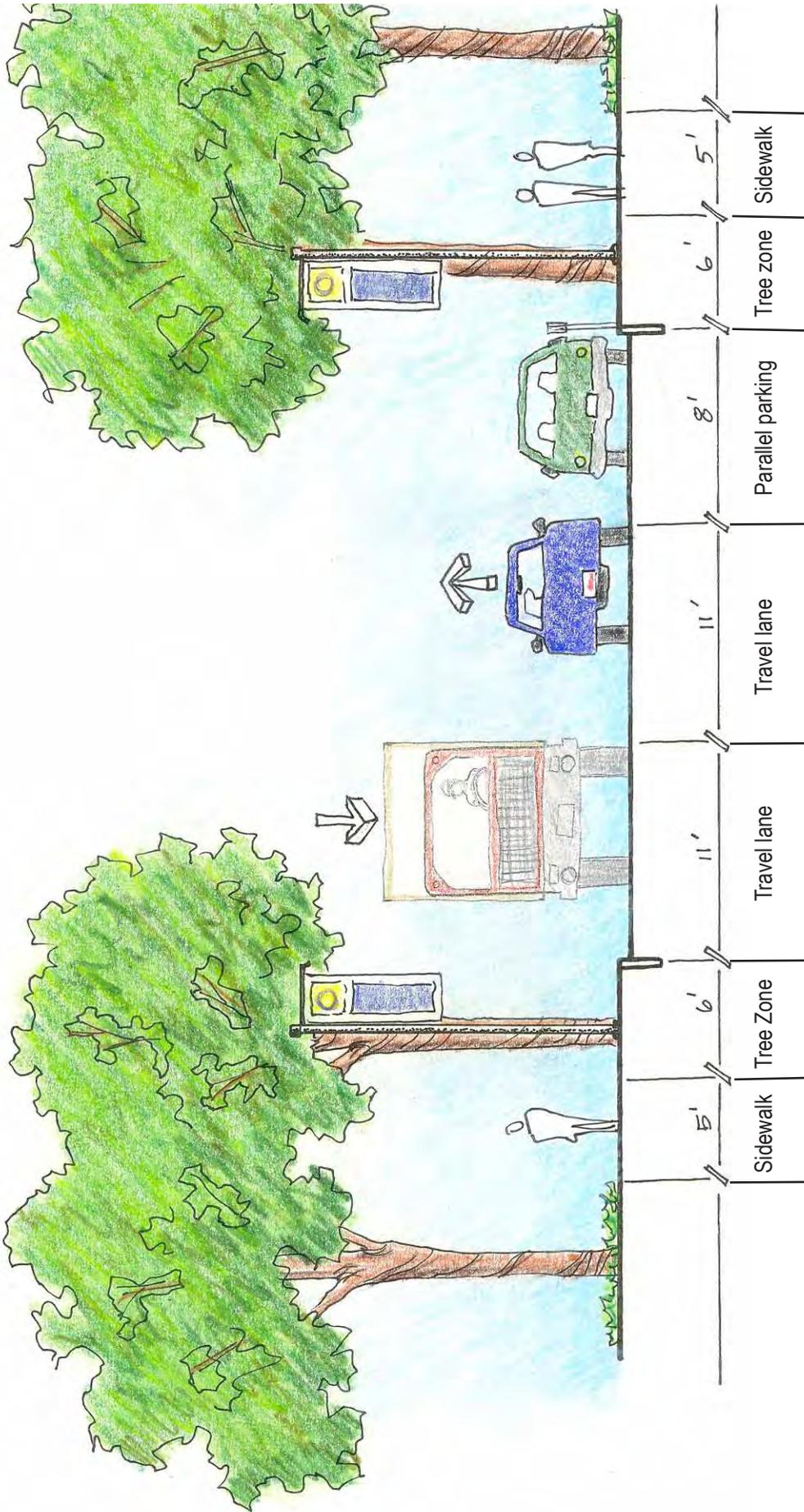






NORTHAMPTON STREETSCAPE  
SCALE: 1/4" = 1'-0"

SIDEWALK SECTION-TYPICAL  
PLEASANT STREET



NORTHAMPTON STREETSCAPE  
 SCALE: 1/4" = 1'-0"

PLEASANT ST. GATEWAY  
 PLEASANT STREET

## APPENDICES

This final section provides further background on topics introduced in the foregoing proposals.

### Bicycle Lanes

Material here summarizes research on bicycle safety, especially in regard to interface with parking. It is on the strength of such research that this report proposes bicycle lanes directly next to sidewalks when angled parking prevails.

### Crosswalks

This report recommends a new crosswalk at Gothic Street and a relocated crosswalk at the Neagle Walk entry. It also recommends a green traffic island (aka “common”) on Main Street. The materials included here suggest safety features for consideration during design.

### Furnishing Alternatives

This report accepts the reality of previously selected streetscape furnishings. Cut sheets included here suggest recommended alternatives for future consideration.

### Lighting

Cut sheets included here are of selected alternatives for pedestrian-scaled light posts.

### Planting

Materials included here provide information on urban tree planting: the importance of a continuous soil trench with structural soil; a state-of-the-art tree planting detail; and a recommend plant palette for downtown Northampton.

**APPENDIX A- BICYCLE LANES**

## BICYCLE LANES

Bicycling benefits communities as much as it promotes personal health by reducing negative effects of the automobile: traffic congestion, air/noise pollution, wear and tear on roads, consumption of petroleum, crashes, property damage, need for additional roadways and parking. Despite the growing number of bicyclists in Northampton, their ability to ride downtown is limited and dangerous. To improve the bicyclists' environment downtown, this streetscape plan proposes to incorporate bicycle lanes on both sides of Main Street. The following compilation of pertinent bicycle lane criteria, standards and options is taken from the Commonwealth of Massachusetts' 2003 manual-Building Better Bicycling.

### Types:

1) *Shared lane*- standard travel lane shared between automobiles and bikes.

- Positives- ideal for residential areas with low traffic congestion, minimal signage
- Negatives- cars may only pass bicyclists by passing center line

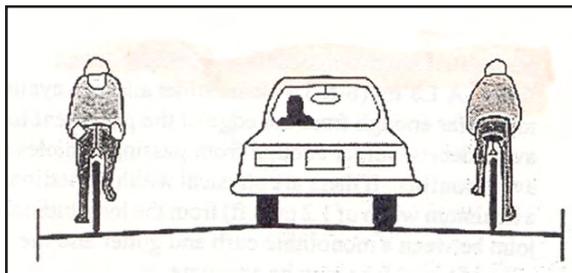


Figure 1- Shared Lane

2) *Wide outside lane*- an outside travel lane with a width of at least 14 ft.

- Positives- accommodate shared vehicle use without reducing roadway capacity for vehicles, assists turning vehicles entering roadway without encroaching into another lane, least amount of maintenance
- Negatives- can not use on a street with on-street parking, shares roadway with motor vehicles which intimidates the average bicyclists and is really only recommended for experienced riders

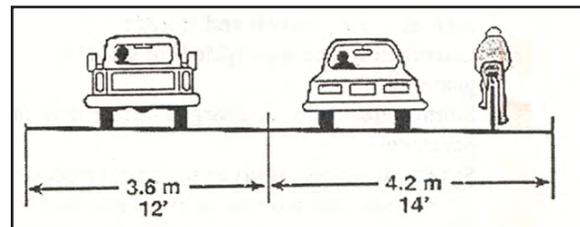


Figure 2- Wide Outside Lane

3) *Bike lane*- portion of roadway designated by markings for preferential use.

- Positives- channelizes traffic, provides clearly marked path for bicyclists to travel, low maintenance
- Negatives- can create a false sense of security, car doors opening into bike lane can cause accidents, not recommended where angled parking is present

## BICYCLE LANES



Figure 3- Bike Lane

4) *Shoulder*- paved portion of roadway designated for bicycles

- Positives- minimum of 4 feet necessary, ideal for rural areas
- Negatives- recommended only for rural areas, high maintenance, rumble strips and other surface irregularities must be eliminated if the shoulder is intended for bicycle use



Figure 4- Shoulder

5) *Separate bike path*- path physically separated from roadway, intended only for bicycle use.

- Positives- safest method of travel for bicyclists, ideal for recreation and transportation, promotes bicycle use
- Negatives- ample space required, must have limited motor vehicle crossings, limits access to certain areas



Figure 5- Separate Bike Path

### Benefits:

Bicycle lanes are among the most popular bicycle facilities you can provide within the street grid system. Unlike trails, they can be integrated into the existing transportation network, often without much difficulty. Creating a new infrastructure is not cost effective nor in some cases physically feasible. As a result, they can serve important destinations and take advantage of existing travel patterns. In reducing the width of the travel lanes motorists must slow down, creating a safer atmosphere for pedestrians, bicyclists, and even motorists. Another popular benefit of bike lanes is the psychological effect of having a space reserved for bicyclists. Bike lanes encourage bicyclists to use the street, instead of the sidewalk, easing sidewalk congestion. From a survey conducted, out of 82 million people, 46% stated they would sometimes commute to work if safe bicycle lanes were available.

## BICYCLE LANES



Figure 6- Bike lane with a change of scenery



Figures 10 & 11- Here are two examples of bike lanes which use the existing street system but outline the lanes with different mediums



Figure 7- Separate bike lane running parallel to street.



Figures 8 & 9- Painted lanes in Denmark and Portland

### Selection Criteria:

In deciding the best bike option for downtown Northampton, one must take into consideration the pros and cons to the five bicycle facilities listed above, and then make a decision on what is the most feasible, functional, safe and aesthetically pleasing. The table below indicates the recommended approach for an urban section with on street parking. The “wc” stands for wide curb and the “bl” stands for bike lane.

## BICYCLE LANES

**Table 5. Group B/C bicyclists, urban section, with parking.**

average motor vehicle operating speed	average annual daily traffic (AADT) volume											
	less than 2,000				2,000-10,000				over 10,000			
	adequate sight distance		inadequate sight distance		adequate sight distance		inadequate sight distance		adequate sight distance		inadequate sight distance	
less than 30 mi/h	wc 14	truck, bus, rv		wc 14	wc 14	truck, bus, rv		wc 14	bl 5	truck, bus, rv		bl 5
		wc 14	wc 14			wc 14	bl 5			bl 5		
30-40 mi/h	bl 5	bl 5	bl 5	bl 5	bl 5	bl 6	bl 6	bl 5	bl 6	bl 6	bl 6	bl 6
41-50 mi/h	bl 6	bl 6	bl 6	bl 6	bl 6	bl 6	bl 6	bl 6	bl 6	bl 6	bl 6	bl 6
over 50 mi/h	na	na	na	na	na	na	na	na	na	na	na	na

Based on the table above and the research provided in this study, a bike lane or wide curb would be most suitable for Main Street.

Since there is angled parking on Main Street, a bike lane becomes more of a problem. Standard bike lanes are located between the parking lane and the street. On sections of Main Street cars are parked at an angle, making it extremely dangerous to place the bike lane between the parking spaces and the street. Cars would be constantly backing into the bike lane, posing a huge problem for bicyclists. Providing a striped bike lane behind angled parking gives the bicyclist a false sense of security.

### Examples:

Despite the standard bike lane locations, some cities have designed alternatives. Here are some precedents where the bike lane has been separated from the street. Figures 12 & 13 are from Boulder, Colorado, which is a city that is known for its successful biking network.



Figure 12 & 13- Boulder Colorado



## BICYCLE LANES

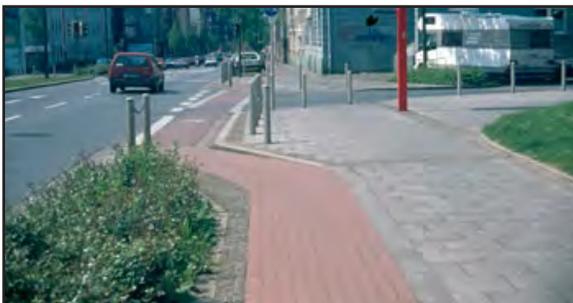


Figure 14- Bike lane that is between the sidewalk and the parking lane

Locating bike lanes on sidewalks is not recommended, however neither is locating a bike lane behind angled parking. Since Main Street has angled parking only on the central part of the street, the bike lane should be placed on the sidewalk, while in the sections where parallel parking prevails the bike lane is between the parking and travel lanes. Figures 15 and 16 shown below are from Germany where bike lanes are located on the sidewalk.



Figures 15 & 16- Sidewalk bike lanes in Germany



### Construction Standards:

Bike lanes can be very easily installed. If there is some extra width to work with, simply striping the bicycle lane will do. Bike lane space may also come from narrowing existing travel lanes, or eliminating parking on one side of the street. AASHTO (American Association of State Highway and Transportation Officials) states that bicycle lanes should always be one way traffic facilities, carrying traffic in the same direction as motor vehicles, and that the lanes should rarely be placed between parking spaces and the curb. The lanes should be at a minimum, 5 feet wide. Both sides should be clearly marked, one for motor vehicle awareness, and the other for bicyclist's awareness of potential hazards (i.e. car doors). For on-street parking a 4" wide solid white line defines the parking lane, and a 6" wide solid line defines the outer edge. Using a parking line encourages motorists to park closest to the curb and it clearly highlights what belongs to the motorist and what belongs to the bicyclist. At intersections a dotted line should be used to warn bicyclists that vehicles may be turning in front of them. Thermoplastic stripes are recommended as they last 3-5 years, while paint only lasts 1-2 years.



Figure 17- Car doors can cause problems for bicyclists within the bike lane, therefore extra width within the parking lane is recommended

## BICYCLE LANES

### Signage:

Signage informs motorists, pedestrians, and cyclists with travel routes, where travel is allowed/prohibited and potential hazards. Bicycle signage does one of three things:

- A) Regulates bicycle usage
- B) Directs bicyclists along pre-established routes
- C) Warns bicyclists of unexpected conditions

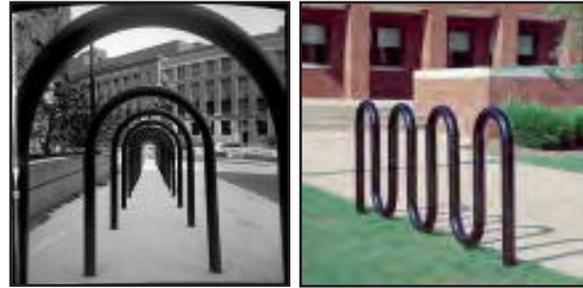


There should be some uniformity within the signs, shape, color, symbols, and wording. Markings indicate the separation between the bike lane and the motor vehicle lane. Markings should be reflectorized for additional visibility during night time conditions. Painted symbols and markings within the bike lane can reduce the number of signs needed. Excessive signage can be a problem. Make sure there are enough signs, but not in excess as they can lose their effectiveness.

### Parking:

If biking is now being encouraged, there must be adequate and safe bike parking. There are three parking options, the first being the most feasible for Northampton:

- A) *Bicycle racks*- open-air devices that a bike locks onto
  - Positives- inexpensive, great with covered protection, short term
  - Negatives- medium security, some may not work with U-lock



Figures 18 & 19- Examples of bicycle racks

- B) *Lockers*- enclosures designed to hold one bike
  - Positives- extremely secure, ideal for long-term storage
  - Negatives- very expensive



Figure 20- An example of a bicycle locker

- C) *Lock-ups*- site-built secure enclosures
  - Positives- high security
  - Negatives- expensive, must pay for security guard



Figure 21- A bicycle lock-up room

**APPENDIX B- CROSSWALKS**

## CROSSWALKS

There has been much debate regarding the safety of crosswalks, but the fact is in general well-marked crosswalks increase the driver's awareness and provide pedestrians with the safest route to cross a street. Without crosswalks people would cross wherever they found to be most convenient, creating chaos between motorists, pedestrians and bicyclists crossing and driving wherever they please. Northampton has a bustling downtown with people constantly needing to cross the street, making safe crosswalks a priority. There are several problems with the crosswalks on Pleasant and Main Streets.

- 1) Low visibility
- 2) Lack of signage
- 3) Excessive crossing distances

*Visibility*-The major problem with most crosswalks is that they are not visible enough. Especially along Pleasant Street, parked cars, trees and signs are located too close to the crosswalks, making it almost impossible for drivers to see pedestrians attempting to cross. This problem can be resolved by moving the parking spaces and signs back from the crosswalks, trimming the trees and removing any unnecessary street signs. On both streets, using reflective tape would increase visibility. Inlay tape is highly reflective, most cost effective in the long run, long-lasting, slip resistant and requires low maintenance. The most visible crosswalks are outlined with two parallel lines, and filled in with diagonal zebra lines. The addition of lighting and reflectors provides greater crosswalk visibility, especially at night and poor weather conditions. Some lights can be seen from as far as 1500 ft away.



*Lights outlining the crosswalk make it more visible during poor weather*



*Shown here is an advanced lighting system that uses an automatic activation mechanism*

## CROSSWALKS

A textured or raised surface provides pedestrians with a distinguished walking path and creates a crosswalk that stands out, making it more visible to the driver from distances. Raised and textured sidewalks can be more aesthetically pleasing than simple painted ones.



*Textured crosswalks in California*

*Signage-* Signage is very important in highlighting a crosswalk. If the crosswalk has minimal detail, signs will greatly enhance the visibility of that crosswalk. There is absolutely no signage on Pleasant Street highlighting the crosswalks, and there is very minimal signage on Main Street.



*Typical crosswalk signage*

*Medians/Refuges-* Raised center medians serve as pedestrian refuge islands. Advantages include shorter crossing distances and increased conve-

nience of street crossings at areas without crosswalks. By only requiring the pedestrian to cross half of the street at a time, refuge islands allow the pedestrian to exploit shorter gaps in the vehicle traffic on each side, instead of leaving them stranded in the middle of the street which puts pedestrians and even motorists at risk. With long crossing distances, like those on Main Street, pedestrian's exposure to accidents with motor vehicles is increased. A multiple-threat collision occurs when one or more vehicles yield to a pedestrian in the crosswalk and block the view of the pedestrian from drivers in other lanes, who pass the stopped traffic and hit the pedestrian at high speed. This problem is very apparent at the crosswalk in front of Thornes and Faces because of its excessive length. Long crossing distances also make it more difficult for seniors and persons with disabilities to cross.



*Examples of medians, that provide safe refuge, and are also aesthetically pleasing*



## HOW LIGHTGUARD SYSTEM WORKS

ABOUT LGS

KEY POINTS

FAQ

STUDIES / REPORTS

MEDIA COVERAGE

PRIVACY POLICY

The LightGuard System alerts motorists that they are approaching an occupied crosswalk using amber LED flashing lights embedded in the roadway surface on both sides of a crosswalk facing oncoming traffic. When activated by a pedestrian push button or automatic activation mechanism, the flashing amber lights are visible to the approaching motorist as an advance warning to permit vehicles to slow down and stop for a crossing pedestrian. The flash-rate, placement, and aiming of the in-roadway LED signal heads captures the attention of motorists and are visible down the entire motorist-viewing-path conveying the simple message to "Pay attention, something is happening ahead!"



The System is activated only when a pedestrian wants to cross. This ensures optimum driver behavior over time to command the respect of road users. No additional signage is required and no existing motor vehicle laws are affected.

Automatic Activation Bollards and/or pedestrian push buttons on either side of the crosswalk activate the System. A row of LED lights on the push button sign flash to indicate that the System is activated, however, the in-roadway LED lights were designed to alert the approaching motorist, that the System is operating. Approaching the crosswalk, the driver can see a series of amber lights in the pavement flashing in unison at a pulse rate designed for easy recognition. When activated, the crosswalk device warns the approaching driver of the presence of a pedestrian and the driver should react accordingly. Flashing amber lights are a standard signal for hazardous conditions ahead and are readily recognized by the motorist. The typical reaction of most drivers, upon seeing the activated in-roadway flashing LED lights, is to take off the accelerator, slowing or braking as they approach the crosswalk. This creates a state of driver awareness for the approaching motorist to come to a safe stop for a pedestrian to safely cross. The flashing lights automatically turn off after a set period of time, usually 15-20 seconds.

### Proper Action Required by Pedestrians and Drivers

Pedestrians and drivers are to follow the standard safety rules and laws for pedestrian crossings. **Regardless of the installation or activation of the crosswalk device and drivers are not to deviate from following the crossing safety rules and motorist actions.**

The pedestrian is to follow standard crossing rules when using the crosswalk. The pedestrian is to stop, look, and start crossing only after they know that approaching drivers can see them stopping. The pedestrian is not to assume that the activated crosswalk device is a request for motorists to stop.

The driver, when approaching the crosswalk, is to slow their vehicle speed and look for activity in the crosswalk. If there is a pedestrian either waiting at the crosswalk's entrance or crossing in the crosswalk, the driver is to yield and allow the pedestrian to cross before proceeding.

Listen to "Marketplace Interview" on pedestrian safety. It aired on Public Radio International in all 50 states.

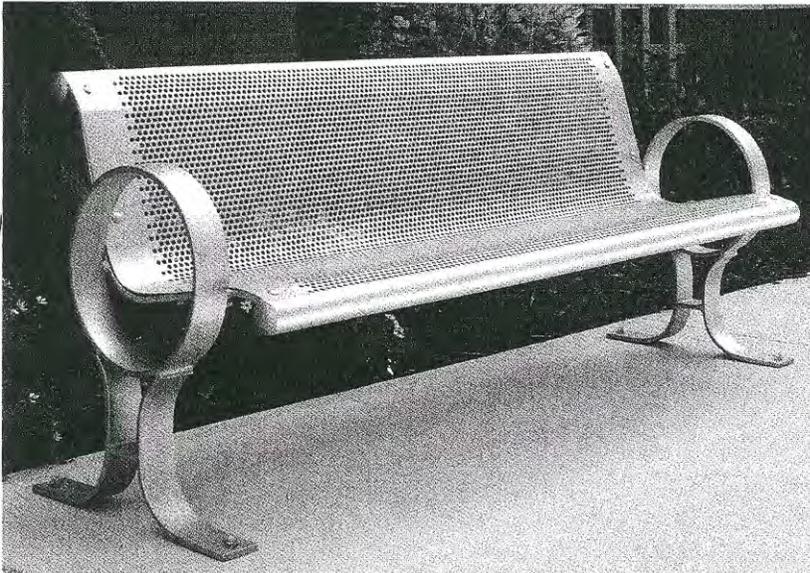
**APPENDIX C- FURNISHING ALTERNATIVES**

### ALTERNATIVE MATERIALS

DuMor Inc. has earned a reputation in our industry as a leading supplier of quality site furnishings by offering exceptional products at competitive price points. By combining high-quality raw materials with the workmanship of a dedicated group of employees and a state-of-the-art polyester finish, DuMor site furnishings offer an excellent value.

Whether you seek to address a harsh climatic condition or simply prefer a different look, there are instances that dictate the use of alternate materials such as stainless steel or aluminum. In response to these requirements, DuMor has select products available for fabrication from either stainless steel with a matte finish, or from aluminum material with either a mill finish or our standard powder coat finish.

Do you like the look of stainless steel but not its cost? New for 2005, DuMor is offering an additional standard powder coat color, Argento. This new powder coat option offers the look of stainless steel, but without the additional cost. Be sure to contact your local DuMor representative to discuss which option is best for you.



**BENCH 64-610 SHOWN IN STAINLESS STEEL WITH MATTE FINISH.**

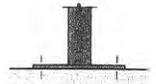


### SUPPORT OPTIONS

Certain site conditions may dictate the use of different supports. Throughout this catalog we have listed the support options available for each item. The configuration desired must be identified when ordering.



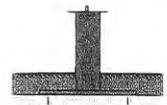
**S-1 EMBEDMENT**



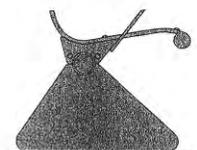
**S-2 SURFACE PLATE**



**S-3 GULL WING**



**S-4 SUB FLOOR**



**S-7 TRI-SUPPORT (127 SERIES ONLY)**

# PRODUCTS

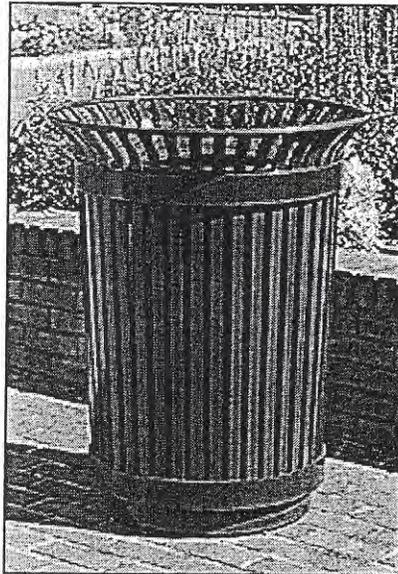
VICTOR STANLEY, INC. 

NEW PRODUCTS

- Home
- Company Info
- Contact Us
- Manufacturing Information
- Product Options
- Products
- Request Info
- Site Guide
- VSI Installations Worldwide
- New Products



## Steelsites™ RB Series :: RB-36 ::

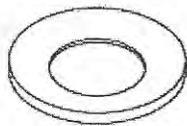


**Model RB-36: (U.S. Patent D417,053)**  
A 36-gallon, tastefully flared litter receptacle. This beautifully tapered receptacle offers Ironsites® Series style and durability at an extraordinary value.

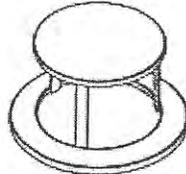
### Lid Options:

Steelsites™ RB Series litter receptacles are shipped with standard spun-steel lids. Please specify lid type when order is placed.

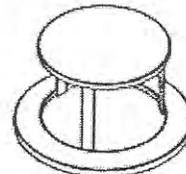
Standard Tapered Spun-Steel Lid



Optional S-1 (24-gallon) Steel Dome Lid



Optional S-2 (36-gallon) Steel Dome Lid



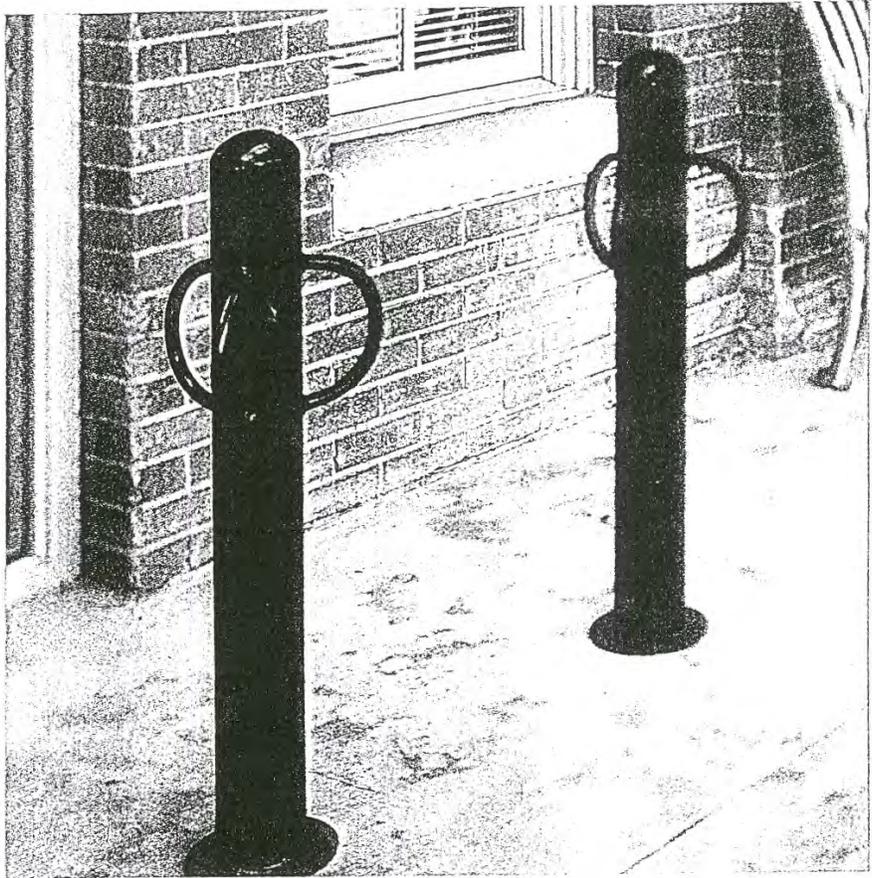
Optional DS-24 (24-gallon) Low Profile Steel Dome with Self-Closing Door

Optional 10-in diameter Stainless Steel Ashtray (for S-1 and S-2 Steel Domes)

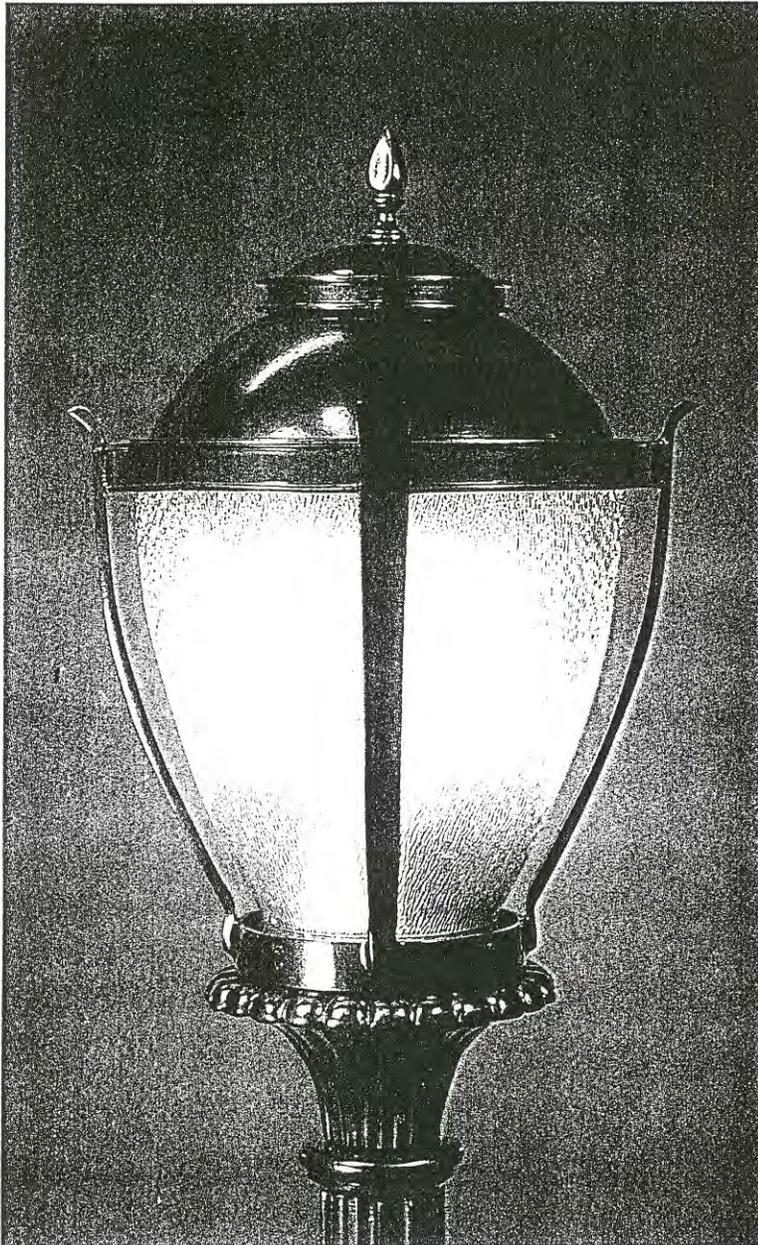
Optional DS-32 (36-gallon) Low Profile Steel Dome with Self-Closing Door

**RB4-03-SM-MF (RAVEN)  
BIKE BOLLARD™ POST**

- BIKE LOOPS ENABLE SPACE  
EFFICIENT DUAL FUNCTIONALITY
- WELDED DOME CAP AND BIKE LOOPS
- OPTIONAL BASE PLATE COVER  
AVAILABLE
- REMOVABLE MOUNTING WITH  
OPTIONAL HOLE COVER



**APPENDIX D- LIGHTING**



XTL26

NOTES

- ✓ the top cap is important to prevent light loss
- ✓ comes in many post options

## SPECIFICATIONS

DESCRIPTION

The acorn shaped luminaire shall consist of a decorative luminaire base with an integral globe holder/ballast housing, decorative arms and band, and a globe with integral metal roof and finial.

DIMENSIONS

Fixture dimensions shall be as detailed on back page.

MATERIALS

The luminaire shall be heavy wall, copper free, cast aluminum produced from certified ASTM 356.1 ingot per ASTM B-179-95A or ASTM B26-95, formed true to the pattern with complete detail. Globe material shall be clear textured polycarbonate (standard) or white textured polycarbonate. Internal refractors shall be borosilicate glass and reflectors shall be polished aluminum. All hardware shall be stainless steel. All exterior hardware shall be tamper resistant.

INSTALLATION

The luminaire shall mount on a 3" O.D. tenon with six 1/4" dia. socket set screws. (Luminaires with a B Series luminaire base shall mount on an 8.25" O.D. ring.) The globe assembly shall be secured to the luminaire by four 1/4" dia. socket set screws. The ballast and socket assembly shall be furnished with a quick disconnect plug and mount on a removable ballast plate. The ballast plate shall be removed by loosening a thumb screw.

FINISH

For finish specifications and color options see "Finish" section in catalog.

LIGHT SOURCE

Luminaires shall be furnished with an H.I.D. ballast and socket assembly. Luminaire shall be UL listed and labeled as suitable for wet locations. Sockets shall be glazed porcelain, mogul or medium base, with a copper alloy nickel plated screw shell and center contact. Ballast shall be core and coil, high power factor, regulating type.

CERTIFICATION

Upon request, manufacturer shall certify the use of 356.1 ingot alloy. Upon request, manufacturer shall supply UL file# and listing information.

# POST TOP LUMINAIRE INDEX

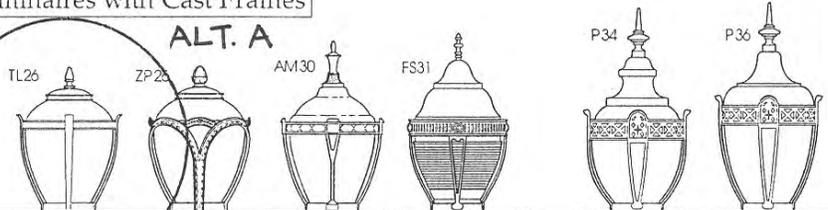
## Luminaires



Acorn Pg. L-5 Pg. L-7 Pg. L-11 Pg. L-13 Pg. L-1 Pg. L-3 Sphere Pg. L-51 Pg. L-53 Pg. L-55

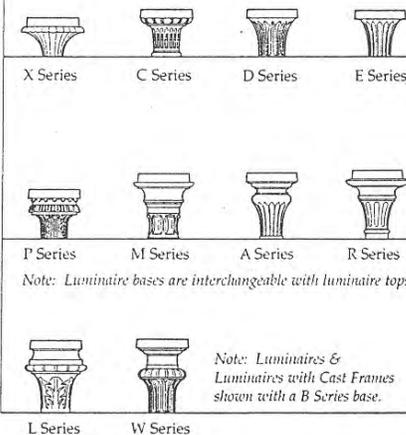
## Luminaires with Cast Frames

ALT. A



Acorn Pg. L-65 Pg. L-69 Pg. L-9 Pg. L-21 Pg. L-43 Pg. L-45

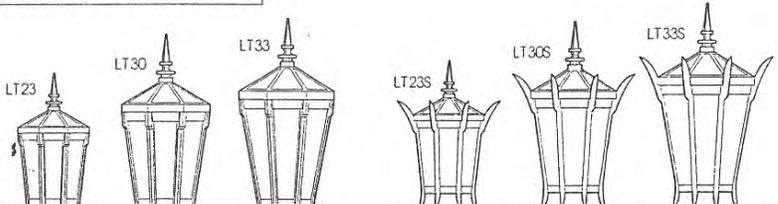
## Bases for Luminaires



Note: Luminaire bases are interchangeable with luminaire tops.

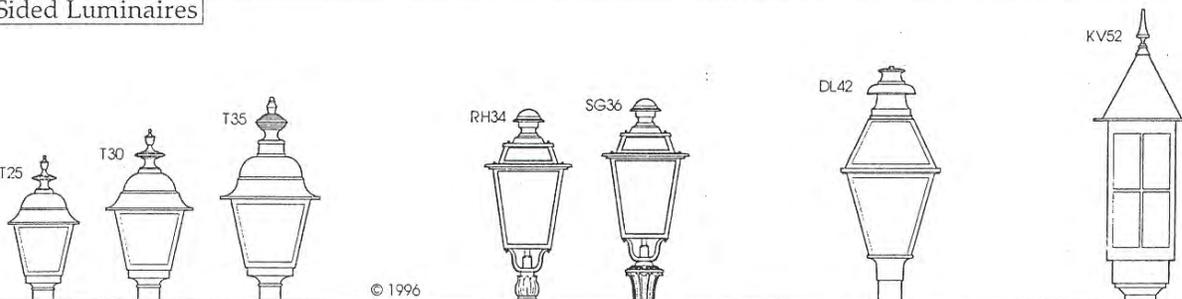
Note: Luminaires & Luminaires with Cast Frames shown with a B Series base.

## Luminaires with Cast Frames



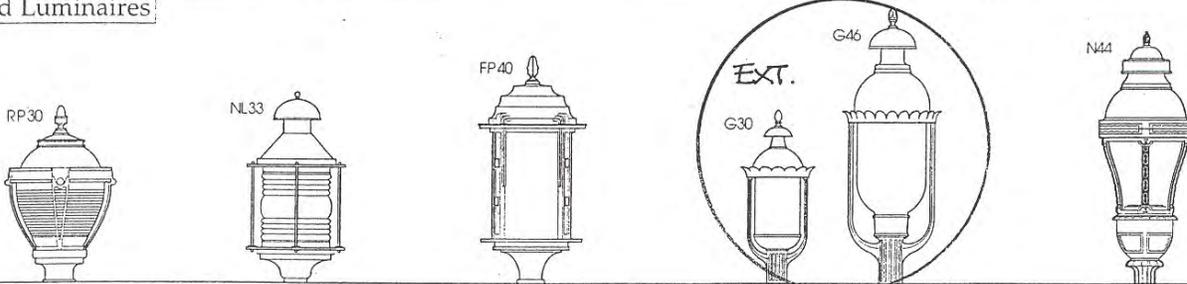
Octagonal Pg. L-31 Pg. L-33 Pg. L-35 Pg. L-31 Pg. L-33 Pg. L-35

## Four Sided Luminaires



Pg. L-59 Pg. L-61 Pg. L-63 Pg. L-47 Pg. L-57 Pg. L-15 Pg. L-27

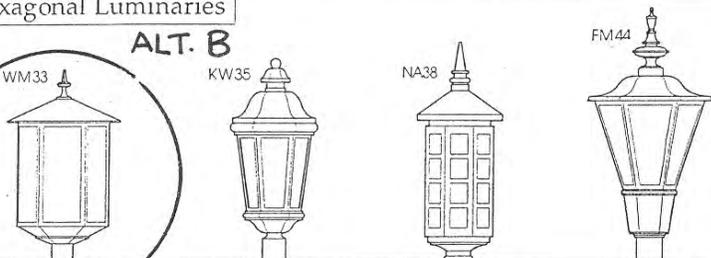
## Round Luminaires



Pg. L-39 Pg. L-41 Pg. L-19 Pg. L-23 Pg. L-25 Pg. L-37

## Hexagonal Luminaires

ALT. B



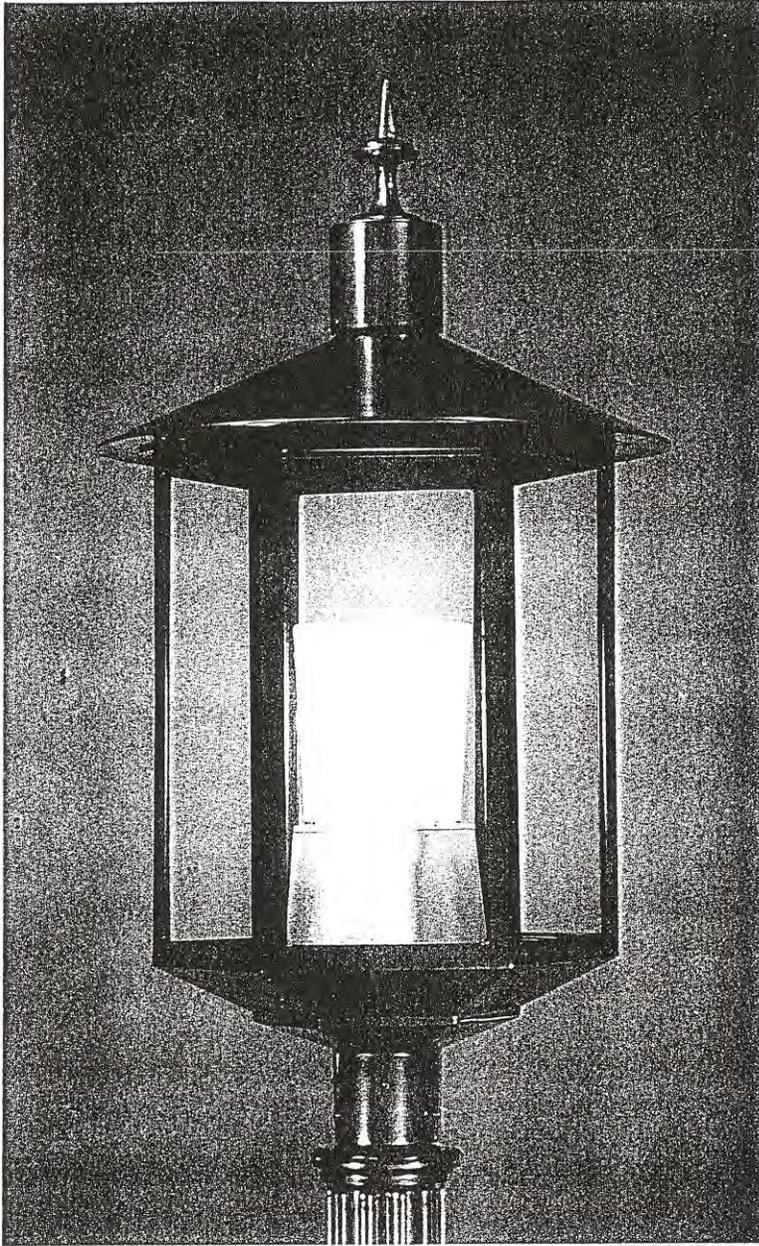
Pg. L-67 Pg. L-29 Pg. L-39 Pg. L-17

SCALE: .375"=12"

This index may be used as a visual guide for Antique Street Lamps, Inc. Post Top Luminaires. Specification and Ordering information is located in this section. Refer to the page number located under the part.

**ANTIQUE Street Lamps, Inc.**

P.O. Box 150279 • Austin, TX 78715-0279 • (512) 295-3585



WM33

SEE NOTES RE ALT A

## SPECIFICATIONS

DESCRIPTION

The non-tapered, six-sided luminaire shall consist of a luminaire base with an integral ballast housing, a six sided lens frame, six lens panels, a round hinged roof, and a decorative finial.

DIMENSIONS

Fixture dimensions shall be as detailed on back page.

MATERIALS

The luminaire base, ballast housing, frame assembly, roof, and finial shall be heavy wall, copper free, cast aluminum produced from certified ASTM 356.1 ingot per ASTM B-179-95A or ASTM B26-95, formed true to the pattern with complete detail. Lens panels shall be smooth, textured, or prismatic. Lens are available in clear polycarbonate or clear acrylic. Internal refractors shall be borosilicate glass and reflectors shall be polished aluminum. All hardware shall be stainless steel. All exterior hardware shall be tamper resistant.

INSTALLATION

The luminaire shall mount on a 3" O.D. tenon with six 1/4" dia. socket set screws. The ballast and socket assembly shall be furnished with a quick disconnect plug and mount on a removable ballast plate. The ballast plate shall be removed by loosening a thumb screw.

FINISH

For finish specifications and color options see "Finish" section in catalog.

LIGHT SOURCE

Luminaires shall be furnished with an H.I.D. ballast and socket assembly. Luminaire shall be UL listed and labeled as suitable for wet locations. Sockets shall be glazed porcelain, mogul or medium base, with a copper alloy nickel plated screw shell and center contact. Ballast shall be core and coil, high power factor, regulating type.

CERTIFICATION

Upon request, manufacturer shall certify the use of 356.1 ingot alloy. Upon request, manufacturer shall supply UL file# and listing information.

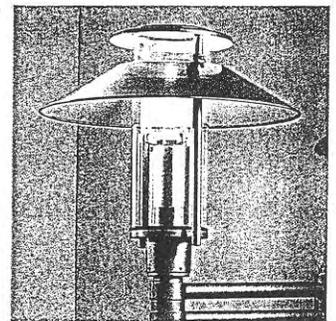
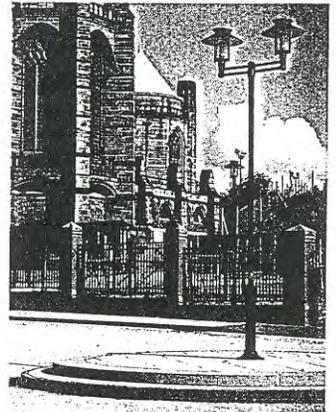
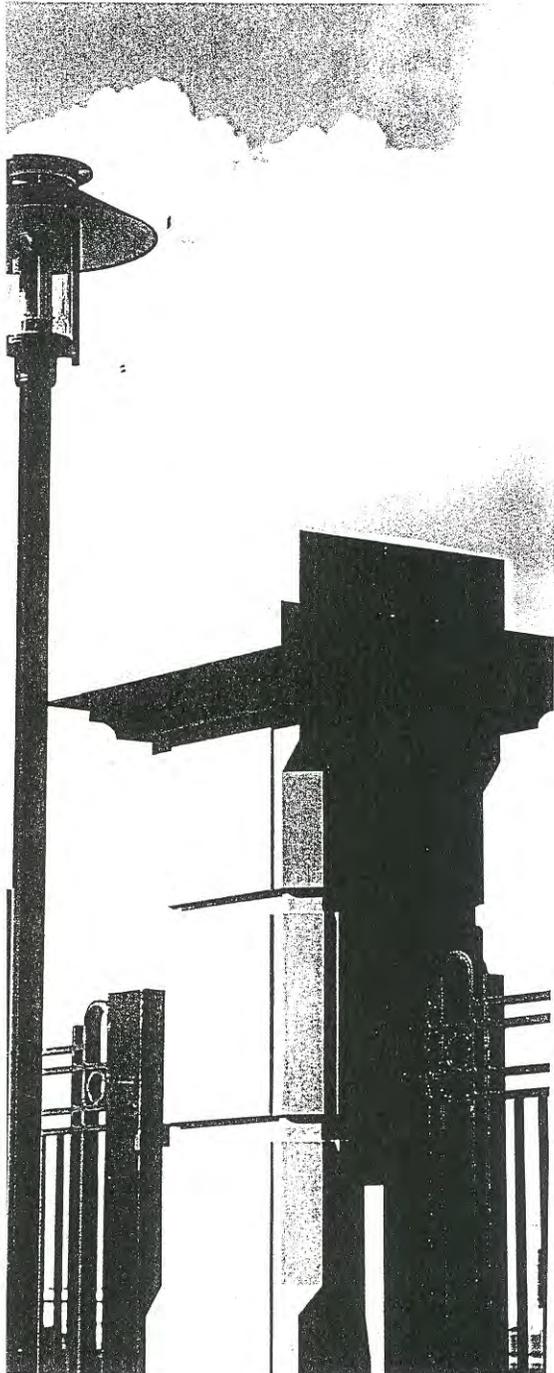
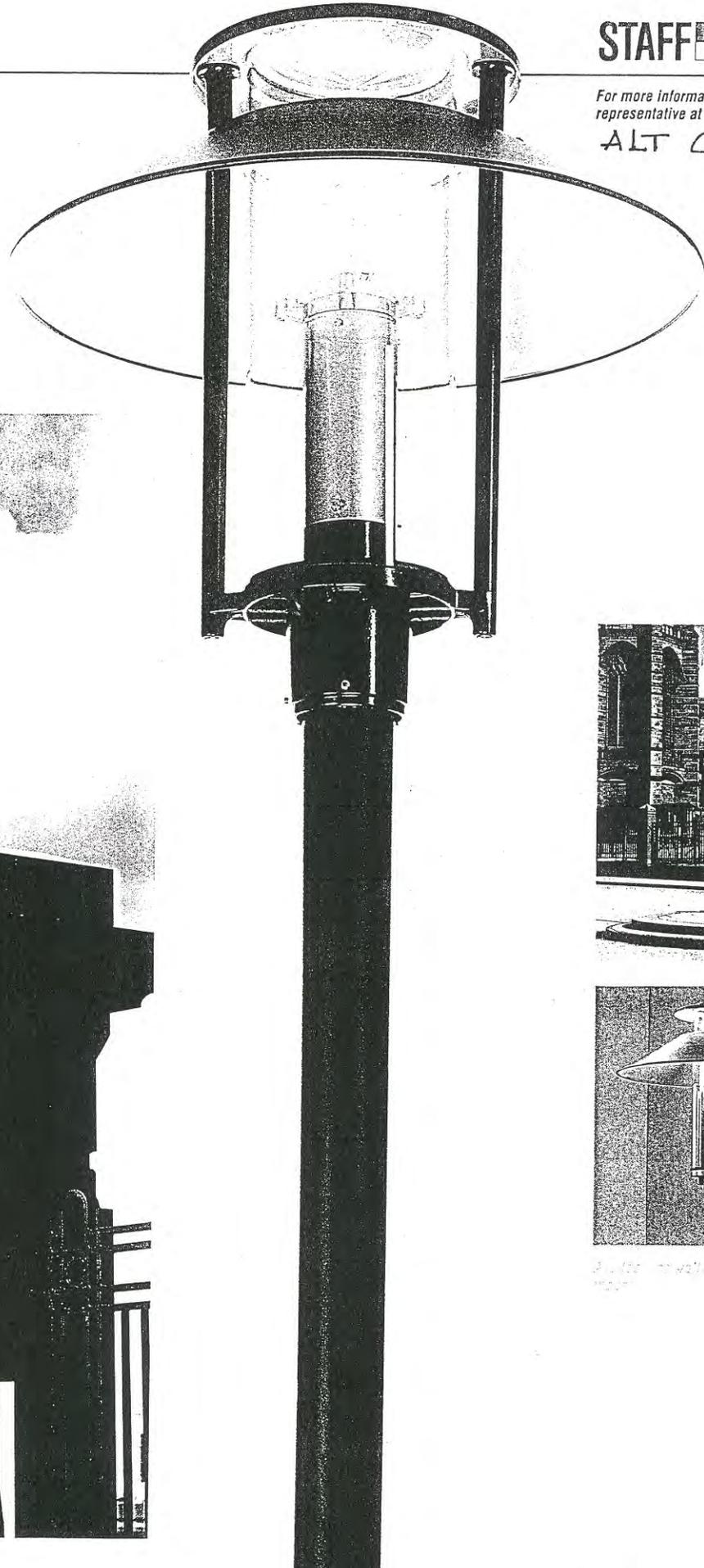
**ANTIQUE**  
Street Lamps, Inc.

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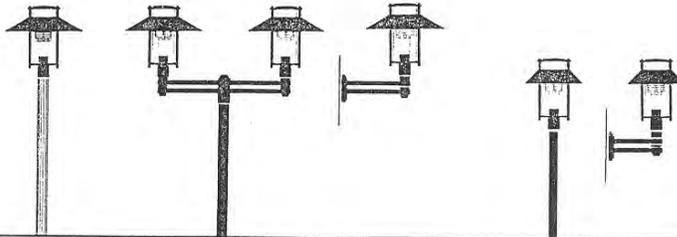
For more information call your STAFF Lighting representative at 1-800-932-0633.

ALT C



Available in wall-mount, single or cluster

# Saturn 2 & 4



SA2 . . .

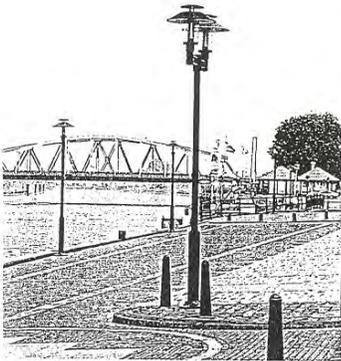
SA4 . . .

Like the Saturn 1, the Saturn 2 fixtures benefit from a sleek, slim architectural shape that is equally at home in historic sections of the city, on the waterfront, around modern office buildings or in the country.

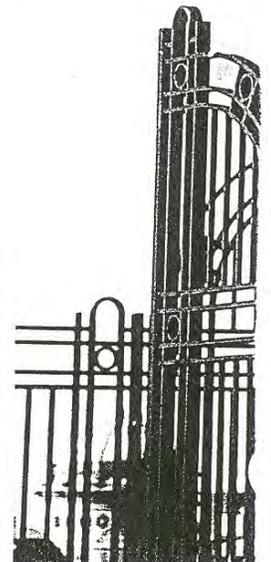
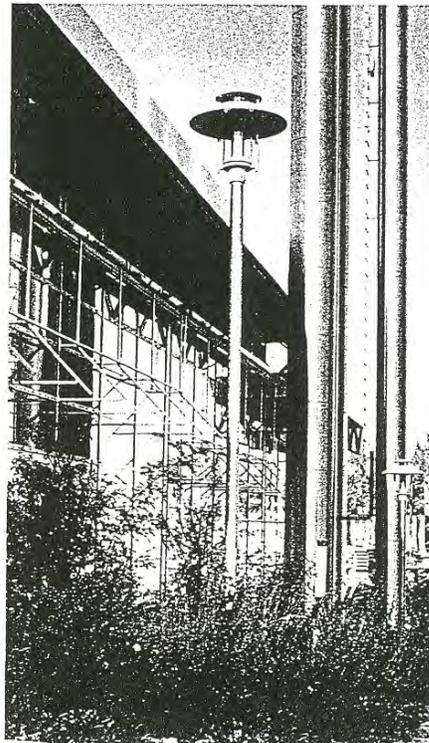
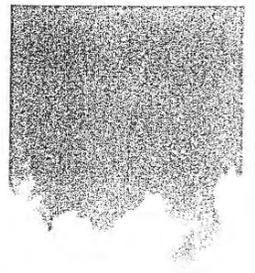
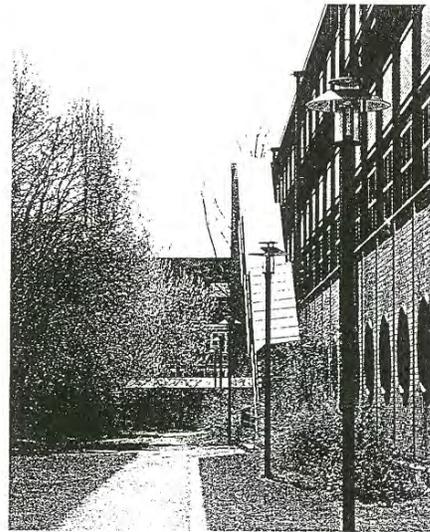
The Saturn 2 presents a slightly different aesthetic, with its conical cap atop a mirror or white louver, or MTR or borosilicate light refraction assembly. When the sun goes down, Saturn 2 comes on with a self-illuminating glow that gives shape and definition to the entire luminaire.

Saturn 2 fixtures are available in single pole top, wall brackets or clusters, and accommodate various lamp types up to 175 watt.

Saturn 4 is a compact, reduced-wattage version of Saturn 2.

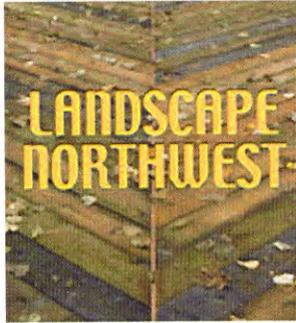


*Self-illumination gives shape and definition to the entire luminaire.*



*Sleek, architectural design at home with modern structures or in historic settings.*

**APPENDIX E- PLANTING**



April 19, 2001

## Giving street trees a better chance

*Creative design underground means longer life .*

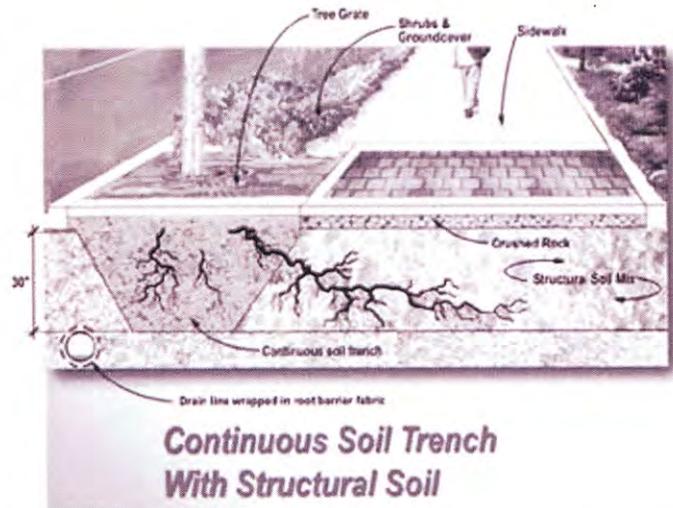
By DEAN W. KOONTZ and JIM HOWARD  
Hough Beck & Baird

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**Street trees** are an investment that pays on many levels. They raise the value of real estate and enhance the attractiveness of commercial areas. By providing shade, purifying the air, reducing wind, glare, reflection and noise, and helping with the infiltration of stormwater, **street trees** moderate the environment of urban areas.



People develop strong ties with **trees** — evident when residents resist the removal of large or historic **trees** in their community.

Despite these benefits, Seattle has many urban **street trees** in declining health or in danger of being removed due to sidewalk or utilities damage.

With adequate space to meet growing requirements below and above ground, some of Seattle's **street trees** successfully grow into healthy, mature **trees**. Roots find room to search out moisture, nutrients and air; and the tree canopy maximizes its growing space for air and light. Many of these **street trees** grow and develop into mature specimens, defining the sense of place in their respective communities.

However, many **street trees** exist in conditions hazardous to their survival. **Street trees** in industrial areas struggle to grow in poor soils with inadequate drainage, made worse through constant damage by heavy truck traffic and sometimes vandalism. Often, **street trees** are planted in spaces left over during the design process and simply lack the space they need to grow.

Competition for underground growing space is a concern in dense urban areas

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where pavement and underground utilities take increasingly large amounts of room. Correct **street** tree planting methods offer the best solution to **street** tree survival. With proper planning, **street trees** thrive in urban areas.

The current edition of the Architectural Graphic Standards includes a new section on urban tree planting. New planting options include continuous soil trenches, structural soil and root path trenches. Also, both SeaTran and Seattle Public Utilities are conducting experiments and gathering information from sources like the University of Washington and the Public Works Department in Vancouver, B.C.

Reaping all the benefits that **trees** provide incurs some initial cost and investment. The biggest cost is site preparation, plant purchasing and initial care. With the correct installation of **street trees**, the long-term cost is minimal.

“The cost of planting a tree incorrectly and then having to return, modify the planting, repair or replace the sidewalk, and replace the plant entirely, is higher than if the soil had been prepared correctly to begin with and a proper tree chosen for the site,” said arborist James Barborinas of Urban Forestry Services.

Urban forest professionals in Seattle have and continue to work on enhancing urban **street** tree growing conditions for tomorrow.

“Seattle Transportation standards have changed in very simple but important ways,” said city of Seattle senior landscape architect Shane DeWald. “SeaTran has increased the size requirement for unpaved areas, many tree pits are now converted to planting strips with minimal root damage, and mulching retains soil moisture and minimizes soil compaction.

## What's new under the street?

Here are three ways to relieve crowded **street trees**:

**Structural soil.** The innovative solution involves the use of structural soil to replace subgrade material under sidewalks. Structural soil consists of a mixture of gravel and planting soil, designed to meet standard compaction requirements and yet permeable enough to allow for healthy root growth.

According to city of Seattle senior landscape architect Shane DeWald, “Interest in structural soil is high because often, space for the standard planting strip is simply not available; Seattle Transportation operates under the assumption that even though the planting strip can be a hostile place for **trees**, it is also one of the most important places to provide **trees**, both for pedestrian safety and as a public amenity.” However, the cost to remove existing soil and backfill with structural soil within a typical project budget is simply not affordable unless it does more than support tree growth, he said. That cost can be as much as four and a half or five times more than planting soil.

**Continuous trenches.** A continuous trench of soil between **street trees** creates a greater area for root growth and the sharing of resources between individual **street trees**. SeaTran has already used this technique in several projects to date.

A variety of engineered soils have been placed in continuous planting strips as a cost effective and value adding alternative to standard infrastructure, according to DeWald.

“The cost of soil trenching is offset since standard drainage trenches are no longer needed and we avoid the increased cost to upgrade our stormwater infrastructure,” he said.

“As we continue to learn more, projects combining continuous soil trenches with root paths under the walkway could be seen as an intermediate step toward the use of an engineered structural soil mix under the entire sidewalk.”

Effective **street** tree planting standards and specifications do exist and will continue to evolve. However, consistent application of planting and preparation standards would be of additional value in the development of our urban forest. Under reasonable urban conditions, **street trees** given proper attention should not only survive, but also mature with healthy, vigorous growth.

Continued improvement of the health of Seattle’s **street trees** requires a coordinated effort.

This effort can be seen in the Tree Selection Symposium held last month in Seattle. The symposium united city planners, city foresters, landscape architects, tree suppliers and tree maintenance personnel in a discussion on design and maintenance concerns, as well as **street** tree lists. Increased communications between professions would further education efforts in new methods and requirements and improve the current condition of our **street trees**.

**Root paths.** Root paths provide an alternate planting option. Through the use of root paths, tree pits can be manipulated into less geometric configurations than today’s current square or rectangular pits.

According to arborist James Barborinas of Urban Forestry Services, root paths provide a spider web network that directs roots under paving and into more favorable areas for air, water and nutrients. This technique is most effective when large areas of lawn or planting beds exist on the opposite side of the sidewalk.

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*Dean W. Koonts is a landscape architect at Hough Beck & Baird. Jim Howard is a senior associate.*

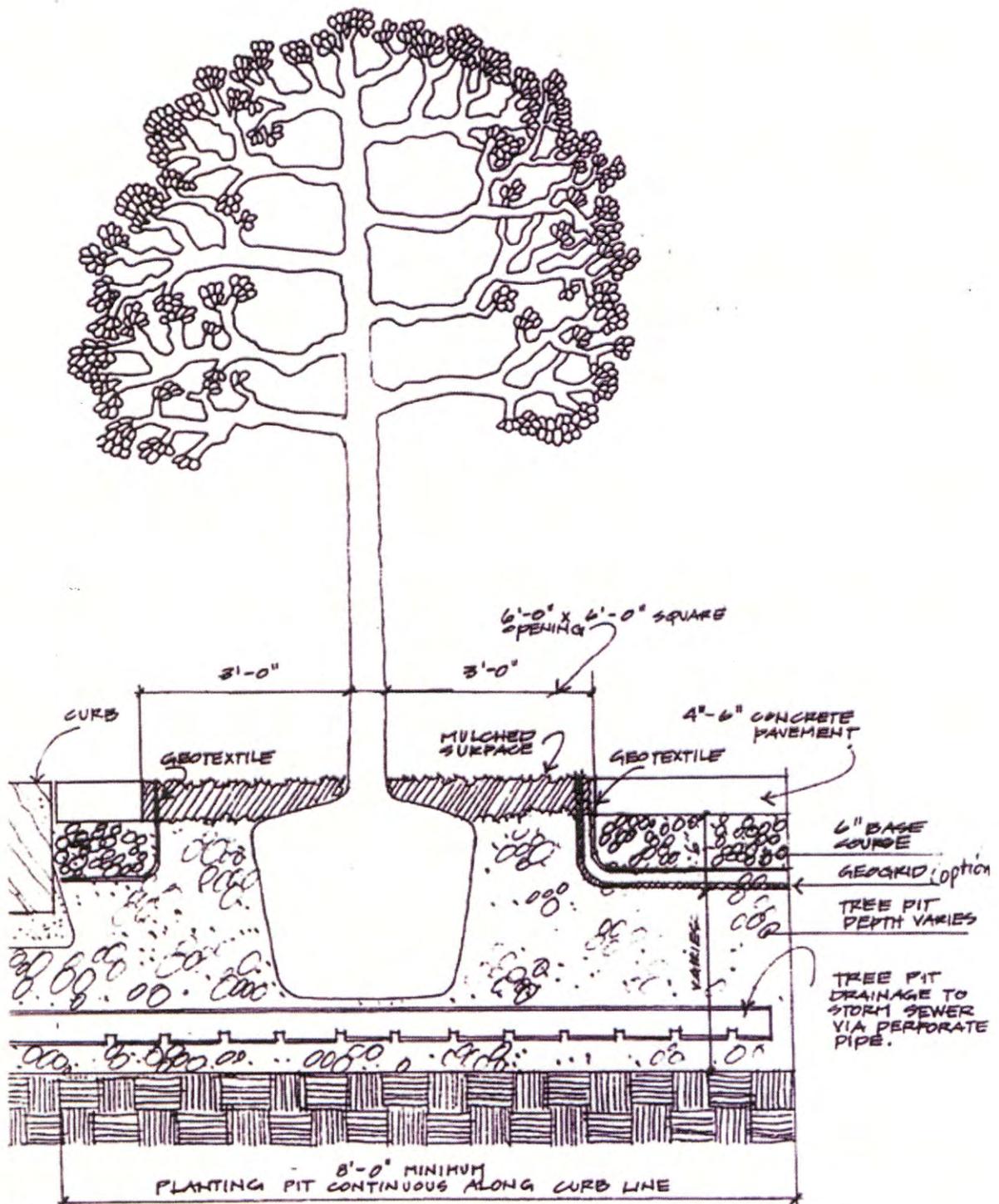


Figure 2: Elevation plan of a proposed structural soil pavement profile using the sub-base as the rooting zone.

## PLANT PALETTE

The following species are among many that would be appropriate for Northampton's streetscape.

### Hardy Canopy Trees

<u>Botanical Name</u>	<u>Common Name</u>	
<i>Acer campestre</i>	Hedge or Field Maple	35' ht x 25' spread
<i>Crataegus phaenopyrum</i>	Washington Hawthorn	30' ht x 20' spread
<i>Ginkgo biloba</i> (male)	Ginkgo	75' ht. x 40' spread; needs sun
<i>Prunus subhirtella</i> 'Autumnalis'	Higan Cherry	25' ht. x 25' spread; needs sun
<i>Quercus rubra</i>	Northern Red Oak	75' ht. x 60' spread
<i>Syringa reticulata</i>	Japanese Tree Lilac	30' ht. x 20' spread; needs sun
<i>Tilia tomentosa</i>	Silver Linden	70' ht. x 35'
<i>Ulmus parvifolia</i>	Lacebark Elm	50' ht. x 35' spread

### Perennials and Groundcovers

<u>Botanical Name</u>	<u>Common Name</u>
<i>Ajuga reptans</i>	Bugleweed
<i>Alchemilla mollis</i>	Lady's Mantle
<i>Astilbe</i> spp.	False Spiraea
<i>Epimedium</i> x <i>rubrum</i>	Red Epimedium
<i>Heuchera sanguinea</i>	Coralbells
<i>Hosta</i> 'Gold Standard'	Plantain-lily
<i>Hosta</i> 'Honeybells'	Plantain Lily
<i>Juniperus probumbens</i> 'Nana'	Japanese Juniper
<i>Lamium aurantiacum</i> 'Variegatum'	Yellow Archangel
<i>Liriope spicata</i>	Creeping Lily-Turf
<i>Phlox subulata</i>	Moss pink, Ground Pink
<i>Sedum cauticola</i>	Shortleaf Stonecrop
<i>Stachys byzantina</i>	Lamb's-Ears
<i>Vinca minor</i>	Periwinkle, Creeping Myrtle

### Bulbs

<i>Allium christophii</i>	Star of Persia
<i>Crocus</i> spp.	Crocus species
<i>Muscari armeniacum</i>	Grape Hyacinth
<i>Narcissus</i> spp.	Narcissus species