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# Streetscape Plan

for University Village on Hillsborough Street  
Raleigh, North Carolina  
May 23, 1986

Amended May 19, 1992  
Public Hearing  
(See Map A)

Amended March 1, 2004  
See Exhibit "A"

Amended September 15, 2009



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## Streetscape Design

It is the intention of this plan to provide design guidelines for the public "face" of the University Village area of Hillsborough Street. The plan addresses the following elements of this public area:

BUILDING FACADES	p.7
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SIDEWALK CAFE SEATING	p.27

The design guidelines contained in this plan are intended to coordinate change to present a common image for University Village, provide a more comfortable and safe street environment for pedestrians, improve the maintenance and general appearance of the University Village district, and coordinate the provision of necessary services to the local community.

The guidelines and locations of streetscape amenities noted in this plan may be adjusted by the Planning Director where unforeseen conflicts with underground utility lines may occur.

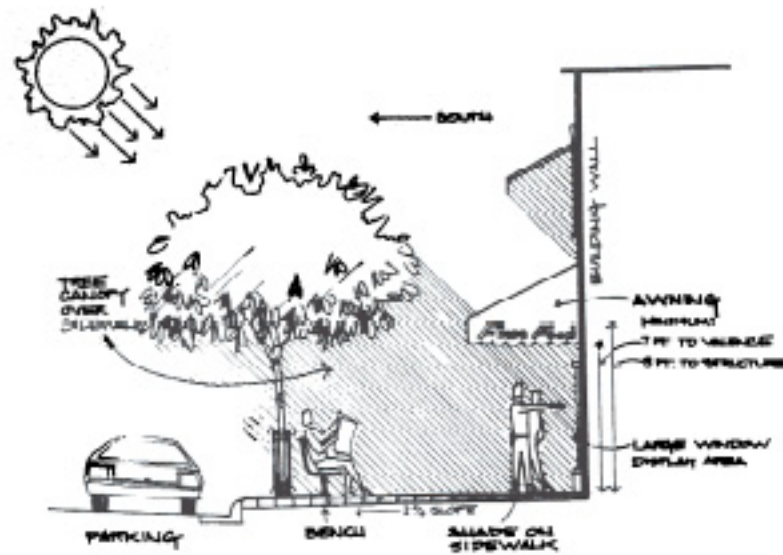


FIGURE: 1. SAMPLE STREETSCAPE SECTION ACROSS SIDEWALK. Note that a window-shopping space is created under the awning, out of the traffic way along the sidewalk. A sitting space is also created under the tree.

## Sample Storefront Treatment

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The following are overall concepts which represent the general character of the streetscape for any individual property.

STREET TREES IN TREE GRATES ALONG SIDEWALK EDGE using details on p. 10. 13-14

BRICK SIDEWALKS WITH CONTRASTING BRICK STRIPS BETWEEN STOREFRONTS using detail on p. 11

AN OVERHEAD OF SOME SORT, EITHER AN AWNING, A BALCONY, OR A RECESSED ENTRYWAY using guidelines p. 7,8,25

LARGE WINDOWS ON THE GROUND FLOOR using guidelines p. 7, 8

MANY PLACES TO SIT using bench p. 9

SIGNS WHICH ARE INTEGRATED WITH THE BUILDING AND ORIENTED TO THE PEDESTRIAN using guidelines p. 20. 21

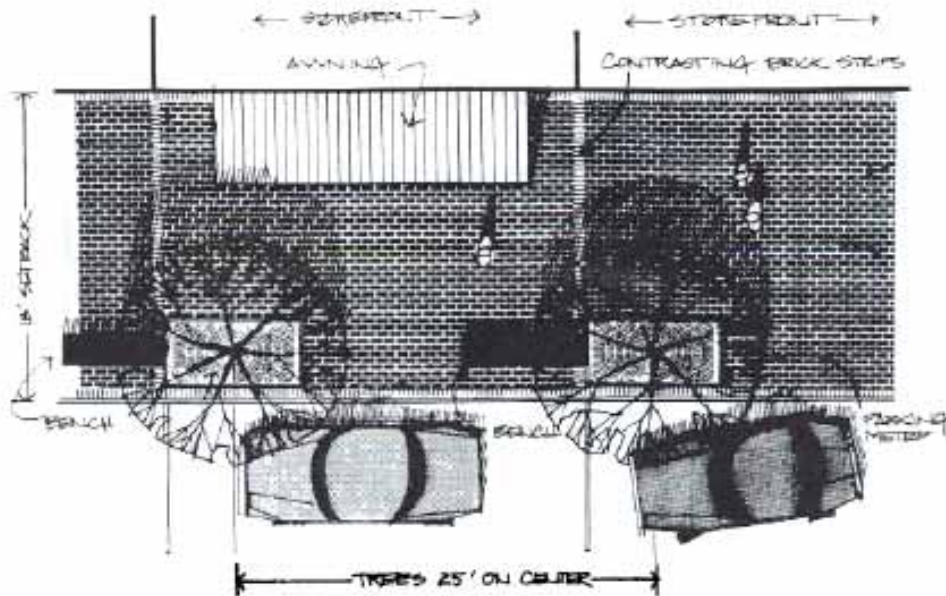


FIGURE. 2. SAMPLE STREETSCAPE IN PLAN VIEW. Note location of trees to avoid interfering with opening passenger doors on parked cars.

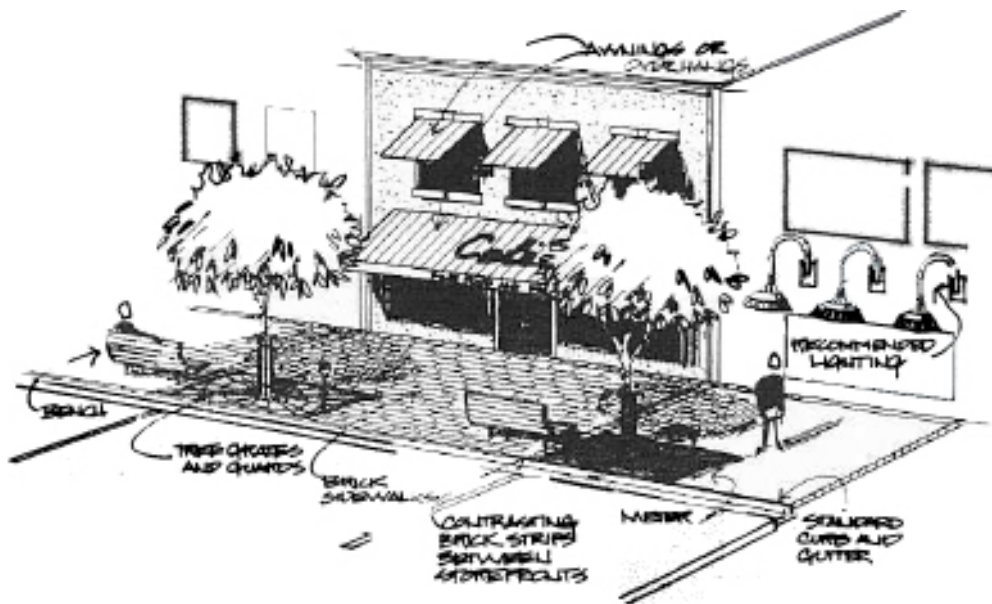


FIGURE. 3. STREETSCAPE FOR A TYPICAL STOREFRONT

## Scale Structure:

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Streetscape elements are to be used to establish a structure for the parts of the sidewalk that serve different purposes. The tree canopy not only provides shade, an environmental concern, but also establishes a space underneath which encourages sitting, and at the same time defines the overhead plane of the walking path.

The overhang or awning provides the same overhead plane, which defines the window-shopping area beneath, where the pedestrian can feel more comfortable slowing to look at window displays or stop for a conversation with someone else, without interfering with the pedestrian traffic flow.

An added dimension to the streetscape, an added "room", can be created using the tree, the awning, and a recessed entryway, effectively creating three spaces across the sidewalk.

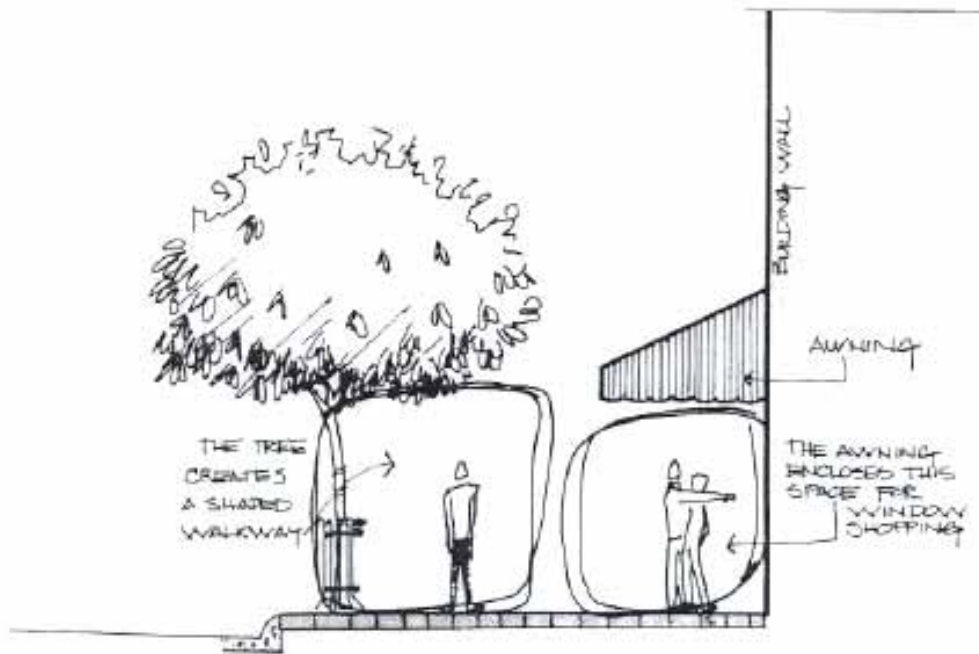


FIGURE 4. TWO-SPACE STRUCTURE USING AWNING AND TREE

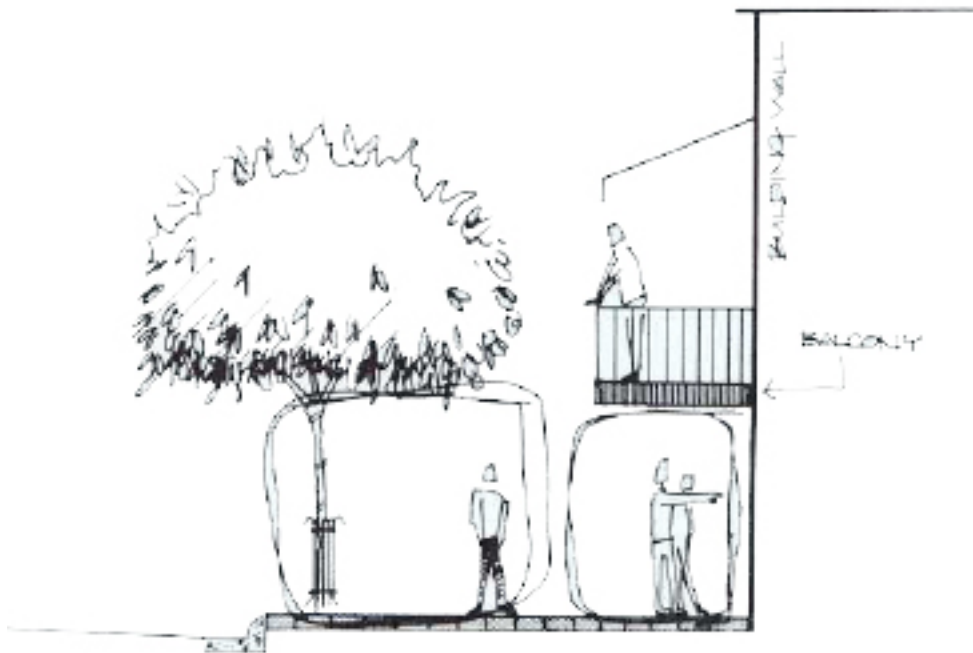


FIGURE 5. TWO-SPACE STRUCTURE USING DIFFERENT TYPES OF AWNINGS

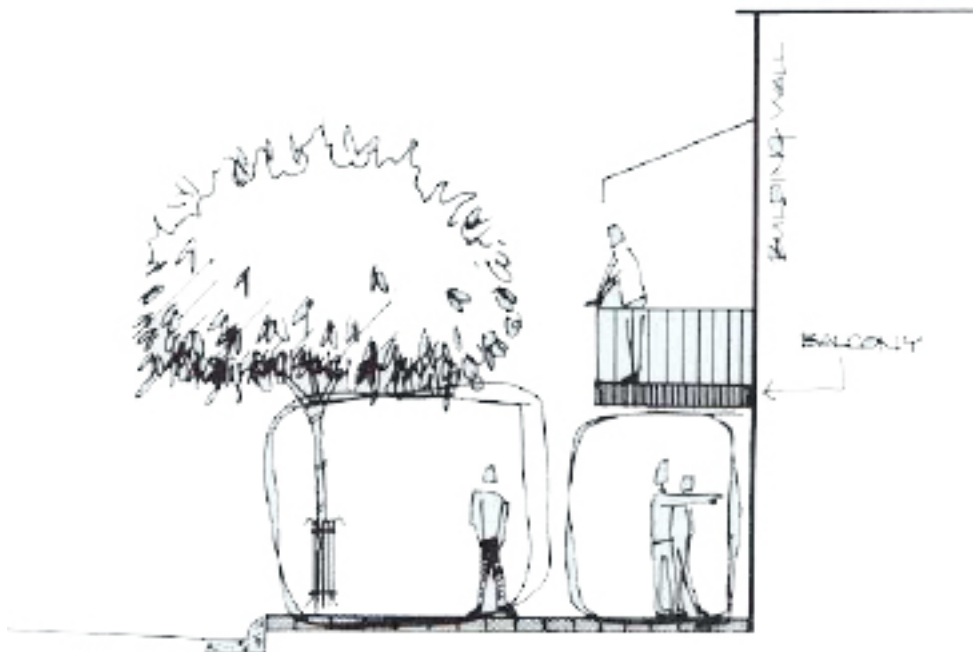


FIGURE 6. TWO-SPACE STRUCTURE WITH BALCONY INSTEAD OF AWNING

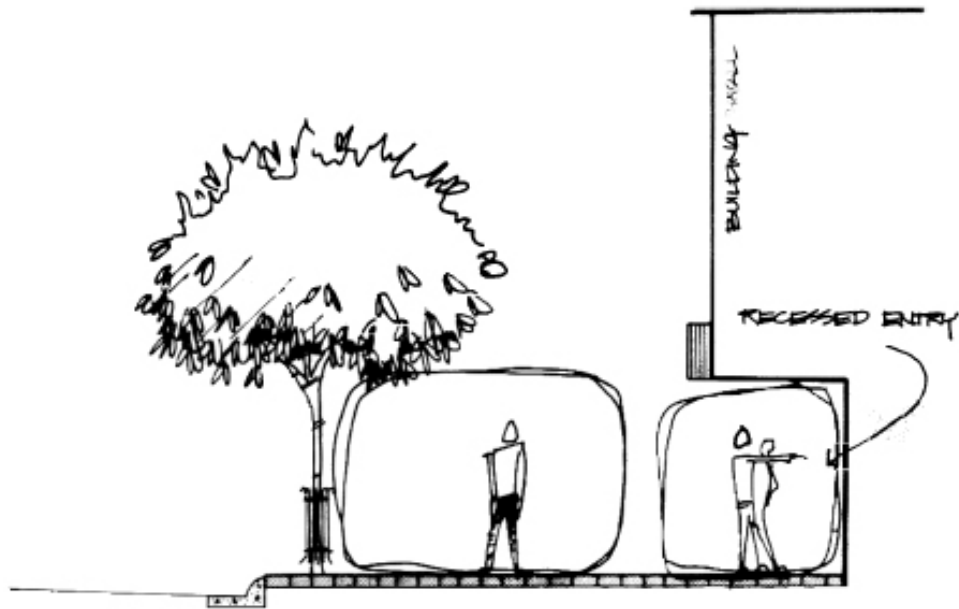


FIGURE 7. TWO-SPACE STRUCTURE WITH RECESSED ENTRY

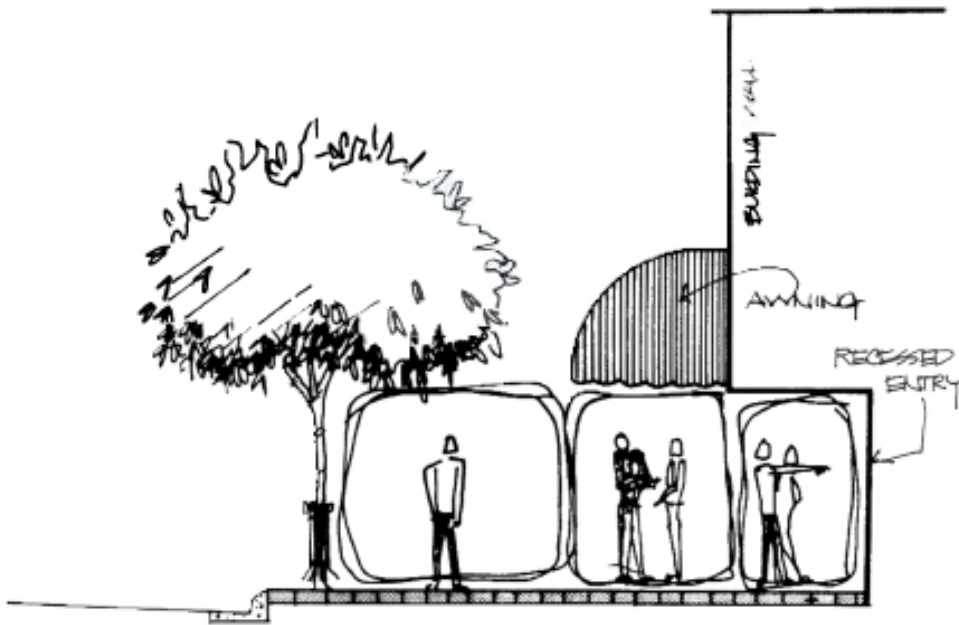


FIGURE 8. THREE-SPACE STRUCTURE WITH AWNING AND RECESSED ENTRY

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## Building Facades

The front of each building on the street contributes to the overall streetscape. It can either add to or subtract from the character of the street. Efforts must be made to make sure each building has the same SCALE and ORIENTATION, not necessarily the same architectural style or building material.

The diversity of character and architecture in University Village is one of its greatest assets. The intention of the streetscape plan is to encourage such diversity, while maintaining a connecting theme of scale. Please refer to the section in this document which describes a typical storefront for more design information on building facades.

The following key elements should be included in each building facade:

-OVERHEAD OR AWNING. This may be any structure which overhangs the sidewalk, recessed entryway, an awning, or a balcony, which reduces the scale of the sidewalk area to "people-size" and establishes a space to stop and window-shop outside the main traffic area of the sidewalk.

-LARGE WINDOWS FACING THE SIDEWALK. A clear view of activity inside a store is the best and one of the least expensive types of advertising available. It also brings the activity of the stores and restaurants out onto the sidewalk, which attracts more pedestrians to the area.

-SECOND STORY WINDOWS. For businesses located on the second floor, the view of the street from the interior is attractive to the patron, and focuses attention on the sidewalk/ pedestrian environment. The advertising benefits of a view from the sidewalk are still applicable for second-story uses.

-SUBDUED COLORS. Building colors should be relatively neutral, or at least subdued, and brighter colors used for accent, either in an awning or sign, or to accentuate details of the building facade.



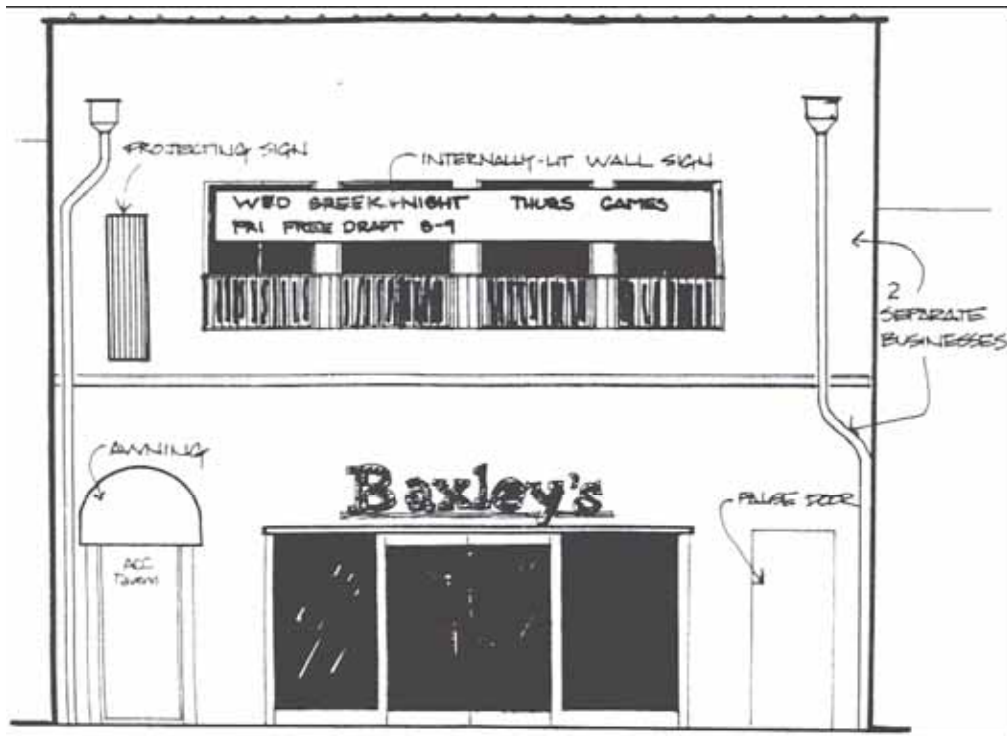


FIGURE 1. EXISTING UNIVERSITY FAÇADE

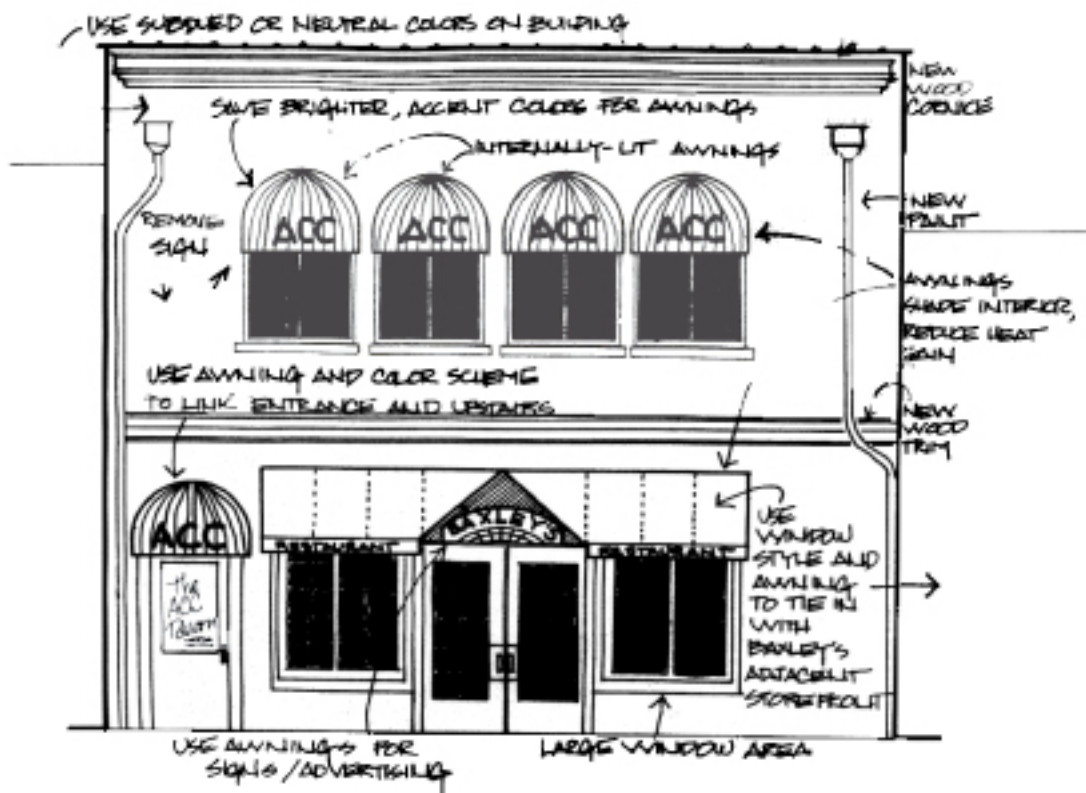
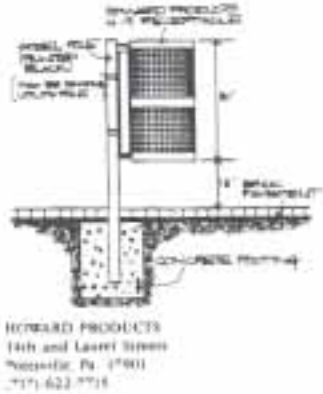


FIGURE 2. EXAMPLE OF RENOVATED FAÇADE

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## Street Furniture

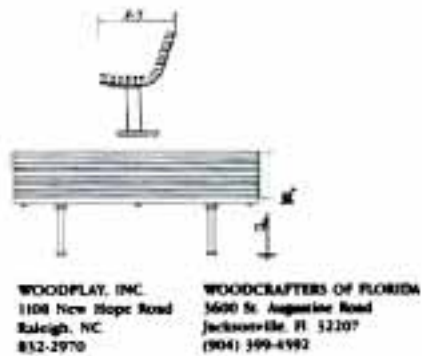
It is important to the consistency of the streetscape that a pattern for the design and use of street furniture be established. For all improvements in the public right-of-way, the following furnishings, or a similar substitute, should be used. The manufacturers listed are not the only manufacturers from whom similar products are available. They are suggested suppliers.



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## Trash Receptacle

This design is simple, easy to empty, and similar to the already-common receptacles on the University Campus.

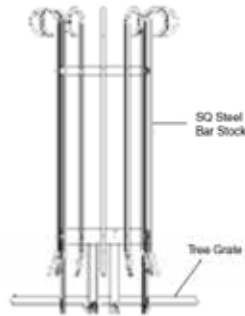
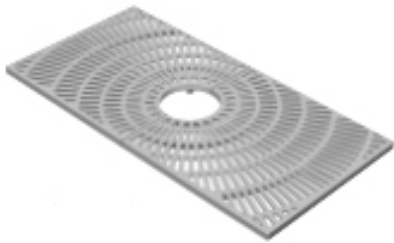


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## Benches

This type of bench was selected because it is simple. Yet attractive, durable, and commonly available from a variety of manufactures in this style.

Rectangular grate design featuring two light openings per grate with bolted down light access grates. Tree opening is expandable. Weight per a set – 645 pounds



NEENAH FOUNDRY  
BOX 729 NEENAH, WI 54956  
(414) 725-7000

## Tree Grates and Guards

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Tree grates are necessary to give the young tree access to oxygen while still allowing the space to be available for pedestrian traffic on a congested sidewalk. Tree guards are necessary to protect the tree trunk from vandalism and from damage caused by bicycle locks.

Luminaire Size- 20 Dia.  
Diffuser - Holophane Lens  
Overall Height - 14'-0"  
Max. Wattage - 175 Watt Mercury Vapor



Luminaire Size 20" Dia.  
Diffuser - Holophane Lens  
Overall Height - 36" x 54" Projection  
Max. Wattage - 175 Watt Mercury Vapor



WESTERN LIGHTING STANDARDS  
18060 Mt. Washington  
Fountain Valley, Ca. 92706  
(714) 549-0650

## Pedestrian and Storefront Lighting

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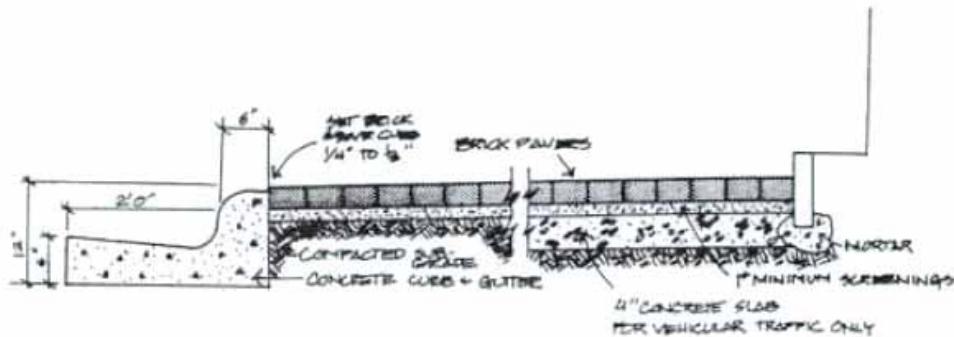
If used consistently throughout the district, this light standard can become a unifying design element along the street. The lights were chosen because they did not recall any particular historic style and were adapted both to contemporary architecture and traditional building styles.

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## Sidewalks

Sidewalk materials and design provide the connecting link between the diverse buildings and personalities of each business in University Village. If the Village is to develop its streetscape incrementally the standards used in each case must be the same.

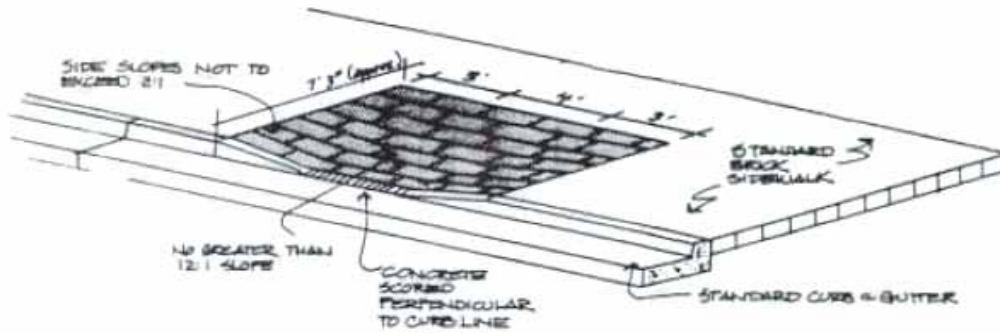
The following construction details outline the standards for constructing sidewalks in University Village. More design information is available in the section of this document, which describes a typical storefront.



## Sidewalk Construction

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Brick specification:  
WIRE-CUT CHEROKEE FLASH PAVERS or equivalent



## Handicap Access Ramps

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Important design considerations for handicap access ramps include the following:

SCORING AT CURB EDGE TO AID VISSUALLY HANDICAPPED IDENTIFY EDGE OF STREET

ADEQUATE DRAINAGE TO AVOID PONDING AT BOTTOM OF RAMP, AND SUBSEQUENT ICE HAZARD

AVOID STEEP SLOPES. SUDDEN "LUMPS" OR OTHER POSSIBLE HAZARDS TO THE NON-HANDICAPPED AS Well AS THE HANDICAPPED

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## Street Trees

This area of Hillsborough Street is a difficult place for trees to grow. The soil is compacted by heavy foot traffic. It is hot and dry, and the trees are subject to other abuses such as vandalism and bicycles being locked to tree trunks.

Because of these difficult conditions, it is necessary to provide trees with a good head start, and use species which are well adapted to these conditions.

Street trees reduce the impact of the southern exposure of the sidewalk area, providing shade, and thus a place to browse with less discomfort, promoting more pedestrian traffic and encouraging those pedestrians to stay longer.

Tree canopies also serve the same function as awnings and overhangs. They reduce the scale of buildings and the street to a "people-size" pathway along the sidewalk.

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## Recommended Species

In order to create a consistent visual image from Hillsborough Street, a particular species of tree is to be used ALONG HILLSBOURGH STREET:

CARPINUS BETULUS European Hornbeam

This tree is well adapted to urban conditions, and is commonly used in Europe. It has a very regular shape, which makes it particularly attractive along thoroughfares. European Hornbeam is available from these nurseries:

Princeton Nurseries

P. O. Box 191

Princeton, NJ, 08540

(609) 924-1776

Pleasant Cove Nursery

Rt.3

Rock Island, TN 38581

(615) 686-2215

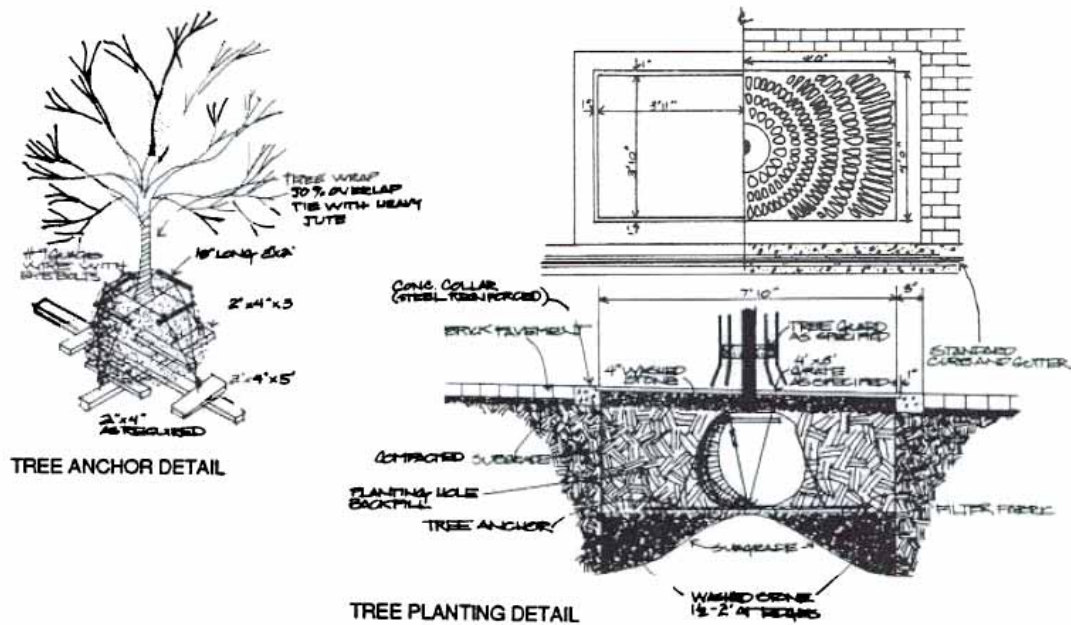
Other species are available to be used in special circumstances. These trees are recommended for SIDE STREETS AND COURTYARDS:

LAGERSTROEMIA INDICA Crape Myrtle (deciduous)

ILEX OPACA "Savannah" Savannah Holly (evergreen)

BETULA NIGRA River Birch (deciduous)

All of these are available in local nurseries



## Tree Planting Details

All street trees are to be planted according the detail below. PLEASE NOTE:  
 WHEN STORM DRAINAGE IS AVAILABLE ON OR ADJACENT TO THE SITE,  
 ALL TREE PITS MUST BE DRAINED INTO THE STORM SEWER WITH PERFORATED PVC  
 PIPE.

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## **Maintenance**

Perhaps the most critical part of any streetscape plan is the design of a maintenance plan for the improvements. If allowed to deteriorate, all the investment in such a major change in the University Village area will be discounted. Traditionally, in Raleigh, the adjacent landowner is responsible for any improvements which are required in the sidewalk area. Since the maintenance of street trees and other elements is more complex in such a densely-developed street and sidewalk area, the outline for the maintenance responsibility of each streetscape element is defined here.

### **Streetscape Elements to be Maintained by the CITY**

STREET TREES  
TREE GRATES  
TREE GUARDS  
CURB AND GUTTER  
STREET PAVING  
CROSSWALK STRIPING AND SIGNALS  
BUS STOPS  
ON-STREET PARKING SPACE STRIPING  
PARKING METERS  
TRASH RECEPTACLE

### **Streetscape Elements to be Maintained by the LANDOWNER**

SIDEWALKS  
ANY BUILDING IMPROVEMENTS  
AWNINGS  
BENCHES  
BUSINESS SIGNS  
LIGHTING



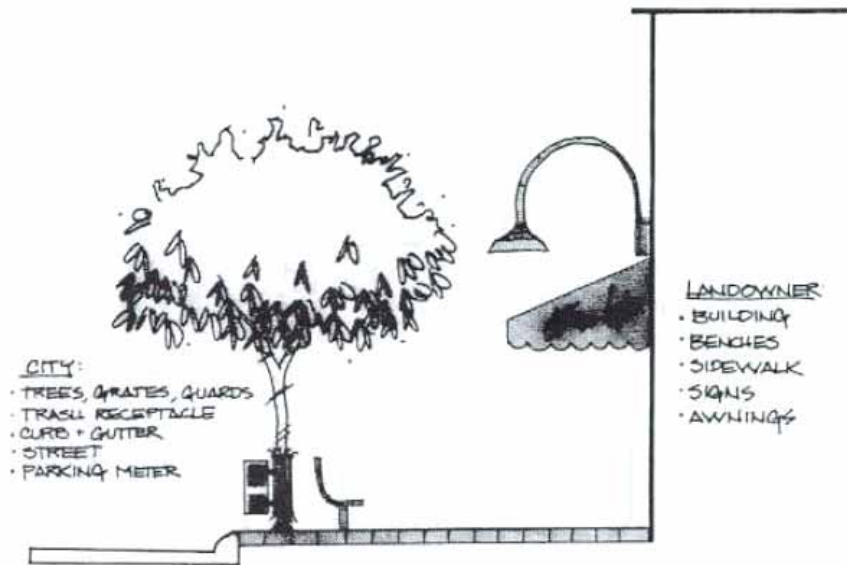


FIGURE 1. MAINTENANCE RESPONSIBILITY

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## Utility Lines

At present utility lines and poles play a significant role in defining the character of the streetscape in University Village. Because there are few street trees, they dominate the edge of the street and are quite visible, both from the automobile, and from the pedestrian vantage point. The number of poles and proliferation of wires detracts from the streetscape by appearing haphazard and works against the existing structure of spaces on the sidewalk and the street.

The intent of this plan is to reduce the impact of utility lines on the character of University Village and encourage the establishment of other defining elements such as street trees and overhead awnings or balconies along the sidewalk.

The solution to this problem will require the cooperation of the various utility companies, and City departments, such as the Transportation Department, which require poles and wiring in the street area.

### Short-term Plan

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Over the next two years, the City and the various utility companies should cooperate to reduce the number of poles, straighten them, consolidate wires whenever possible, and raise the level of the lowest wires to 20 feet. Zig-zag wiring across the street should be minimized or eliminated, if possible.

### Long-term Plan

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The University Village area should be designated a priority area, and a proposal should be developed to remove the overhead lines from the street.



FIGURE 1. EXISTING STREEETScape WITH UTILITY LINES AND POLES



FIGURE 2. STREETSCAPE WITH CONSOLIDATINO AND STRAIGHTENING OF LINES AND POLES



FIGURE 3. STREETSCAPE WITH REMOVAL OF UTILITY LINES AND POLES

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## Signs

The public face of the district, it's personality, is often a characteristic of its signs. They tell the story of the products available, the atmosphere of the shops and stores, the quality and attractiveness of the area as a whole.

In University Village, the key characteristics to be presented to the patron are: High Quality, Lively Pedestrian Atmosphere, Wide Variety of Products.

Large, garish signs with many contrasting colors are characteristic of "strip" commercial areas along highways, and usually create a "discount" image, and bring to mind large chain stores where a little bit of quality is sacrificed for a low price. As more and more are erected, the competition from so many signs causes more and larger ones to be built, at greater expense.

In University Village, pedestrians make up at least 50% of most businesses' patrons. The district has a densely developed character which makes many large signs inappropriate. The emphasis of the plan should be to encourage smaller high-quality signs which are primarily oriented to the pedestrian, and are integrated with the building and its elements to attract customers, and present a quality image.

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### **The following signs are ENCOURAGED in University Village:**

BACK-LIT AWNINGS using translucent materials  
WINDOW STENCILS  
NEON LETTERING on the inside of windows  
EXTERNALLY-LIT PROJECTING SIGNS  
INTERNALLY LIT PARKING LOCATION SIGNS no greater than 10 sq. ft.  
EXPOSED NEON no greater than 10 sq. ft.  
EXTERNALLY -LIT WALL SIGNS

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### **The following signs are PROHIBITED in University Village:**

INTERNALLY-LIT WALL SIGNS (except back-lit awnings) greater than 10sq.ft.  
GROUND SIGNS  
FREE-STANDING SIGNS  
OUTDOOR ADVERTISING SIGNS

## Use of Neon

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Neon can be either wonderfully attractive, or obnoxious, especially if it is overused. Any use of neon on the exterior of the building should be very subdued, and used only to accent a sign or provide external lighting to other types of copy. Neon in windows is encouraged (again in moderation) and may be used for text.

## Back-Lit Awnings

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Back-lit awnings, made of translucent materials can be a successful streetscape element, as well as a versatile advertising, and shading device for individual businesses. This type of awning is readable in the day, is available in a variety of colors, and at night becomes not only a pedestrian amenity, but provides the business the opportunity to have an advertising element which is visible from the street, without erecting less-attractive and expensive internally-lit free-standing or projecting signs, which detract from the overall appearance of the area.

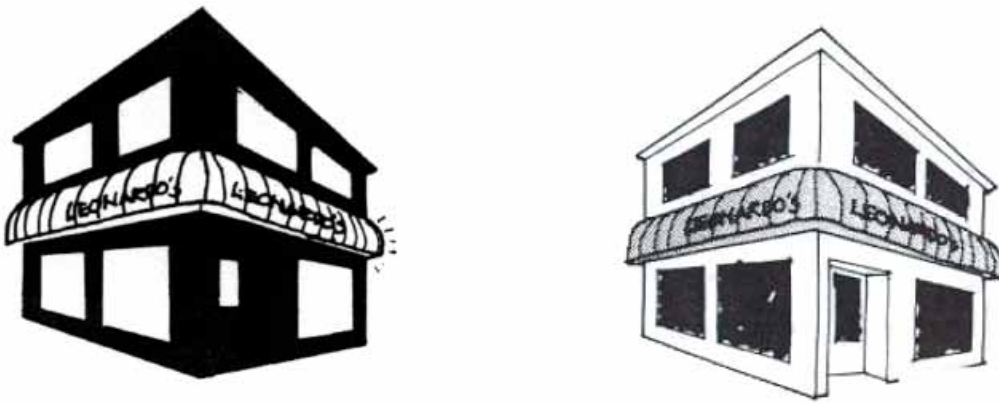


FIGURE 1. BACK LIT AWNINGS. These can serve a double purpose as visible, attractive amenities both day and night.

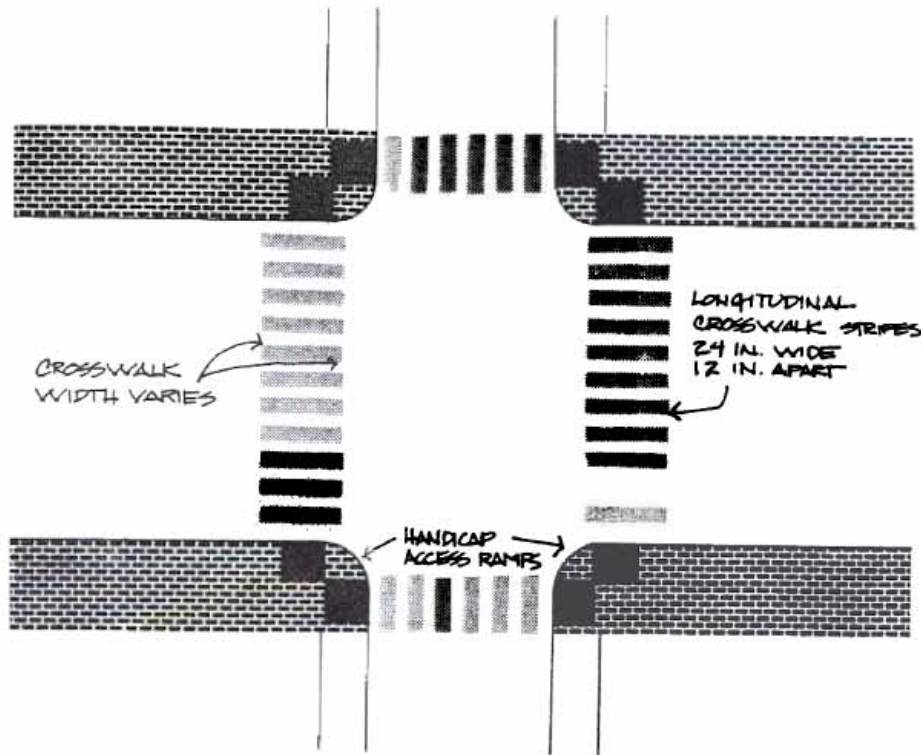
## Crosswalks

Pedestrian Crosswalks in this high-traffic area must be more visible than other crosswalks in less-well-traveled districts. Since Hillsborough Street is a thoroughfare, the volume of both pedestrian and vehicular traffic is very high.

Bold striping patterns are necessary to help clearly define the pedestrian pathways. The preferred pattern for this district is the boldest striping pattern recommended by the Department of Transportation for high-visibility.

Crosswalks should exist connecting all four corners of the intersection, and each corner should be handicap-accessible.

FIGURE 1. TYPICAL CROSSWALK LAYOUT AND STRIPING



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## Parking

Parking has traditionally been a difficult issue in this area. Since the district has grown primarily as a pedestrian area, provision of off-street parking has often been waived. Increasing demand for student commuter parking and patron parking for those who do not walk to University Village businesses has conflicted with the lack of available land on which to build such parking.

Cooperation with the University is necessary in order to solve this problem. Since the results of a Planning Department survey show approximately 50% of the business patrons walk to the stores, a reduction in off-street parking requirements seems logical. This should be combined with the provision of public parking in the district to make up for the lack of available land to serve the present deficit, and to remove some of the pressure on the University Park neighborhood to provide overflow parking.

At the same time, effort by the University to increase the availability of student commuter parking in the district is essential. Since the classroom areas are primarily on the North Campus side, demand for convenient parking nearby is heavy.

### **Parking Plan Recommendations:**

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- Reduce off-street parking requirements to 55% of the current level, for commercial uses only.
- NCSU should build a student commuter deck at Friendly Drive on the west end of North Campus
- Public parking lots should be provided, in cooperation with the University, on a by-the-hour basis. Possible locations of such lots are:
  - Hillsborough Square at Ferndell and Hillsborough
  - Brooks Lot at Brooks and Hillsborough
  - North Hall Lot at Logan and Hillsborough
- A public parking structure should be considered at North Hall. Such a lot should include retail store frontage on Hillsborough Street.



## Parking Design

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-For new buildings, all parking lots should be located to the rear of the property, off of Hillsborough Street. Access points should be limited in both number and size to minimize conflicts between pedestrian and vehicles. Handicap and compact spaces shall be provided as per current city requirements.

-Any freestanding lots shall be landscaped to screen both the street and the neighboring properties.

-Benches and street trees shall be provided along the sidewalk for freestanding lots.

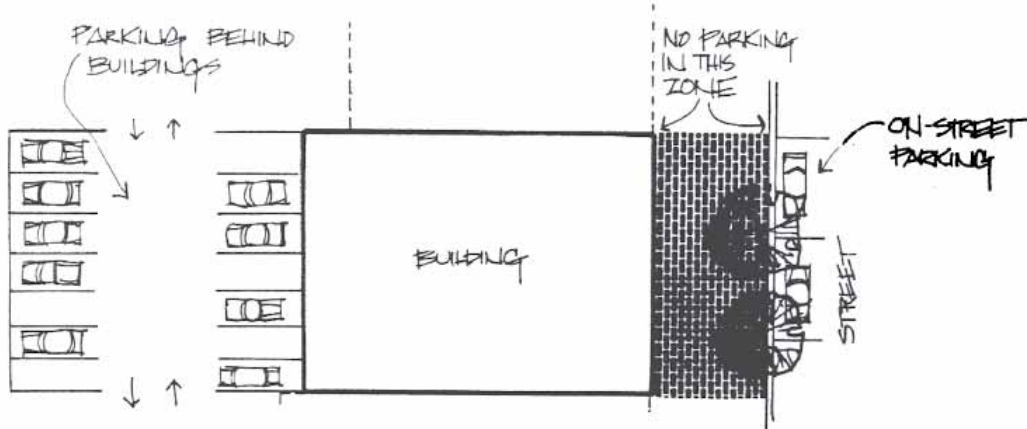


FIGURE 1. RECOMMENDED ON-SITE PARKING LOCATION

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## Awnings

Awnings serve many purposes. They can act as a sign, or provide shade to reduce heat gain in a building. Awnings also provide an overhead cover to reduce the scale of the sidewalk area to "people-size". All of these characteristics contribute to the utility of the awning as a part of the streetscape in an urban area.

In University Village, awnings or overhead balconies are encouraged to provide a window-shopping space on the sidewalk. These awnings must be made of a durable material, and attached with a permanent structure to the building.

### Acceptable Awning Materials

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CANVAS  
VINYL  
TRANSLUCENT MATERIALS FOR BACK-LIT AWNINGS

### Prohibited Materials

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METAL unless covered by any other acceptable material

### Height Above Sidewalk

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7 FEET to valence (minimum)  
8 FEET to structure (minimum)  
(no poles)

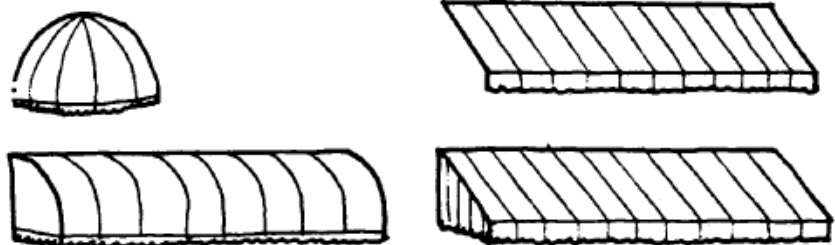
### Colors

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ALL COLORS are allowed  
BRIGHT COLORS tend to fade quickly, and should be used assuming greater maintenance and earlier replacement

FIGURE1. RECCOMENDED AWNING TYPES

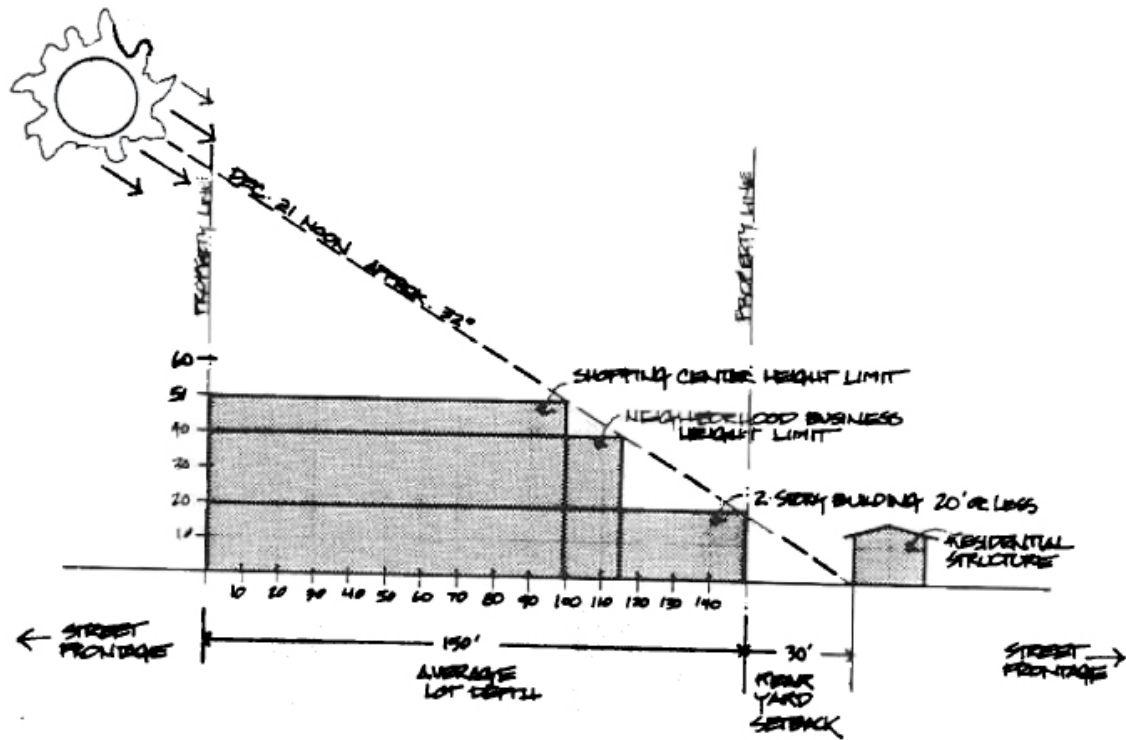
Note. May be back-lit or retractable, in addition to standard fixed awning



## Solar Access / Building Height

Commercial buildings fronting on Hillsborough Street should not prevent adjacent residential properties from gaining access to sunshine.

No part of any building should be built higher than a line drawn at a 32 degree angle (the approximate sun angle at noon on the winter solstice), starting at the rear yard setback line for adjacent residential properties (usually 30 feet) and crossing the entire commercial property, as illustrated below:

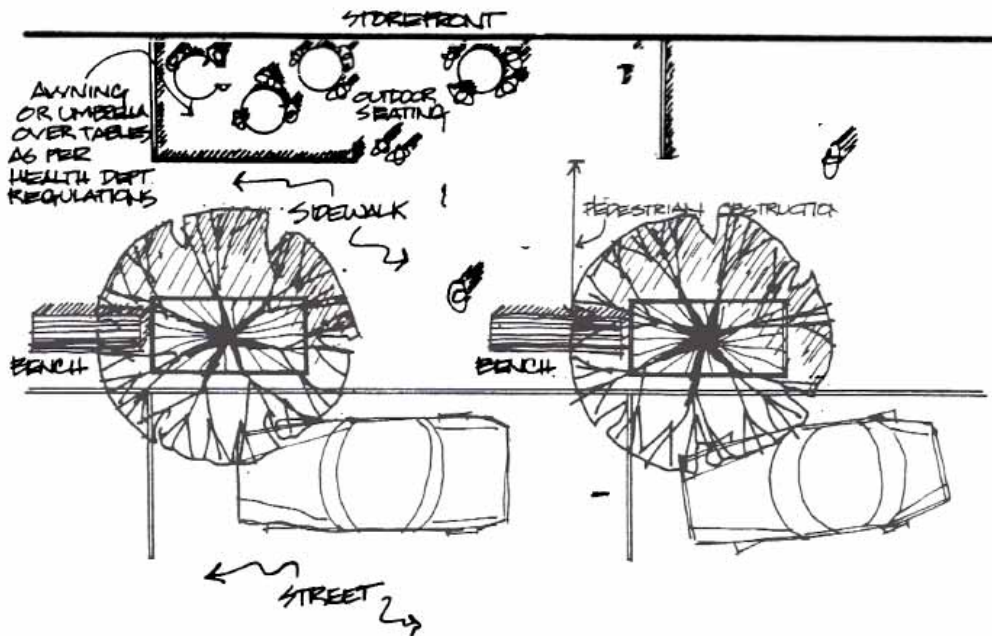


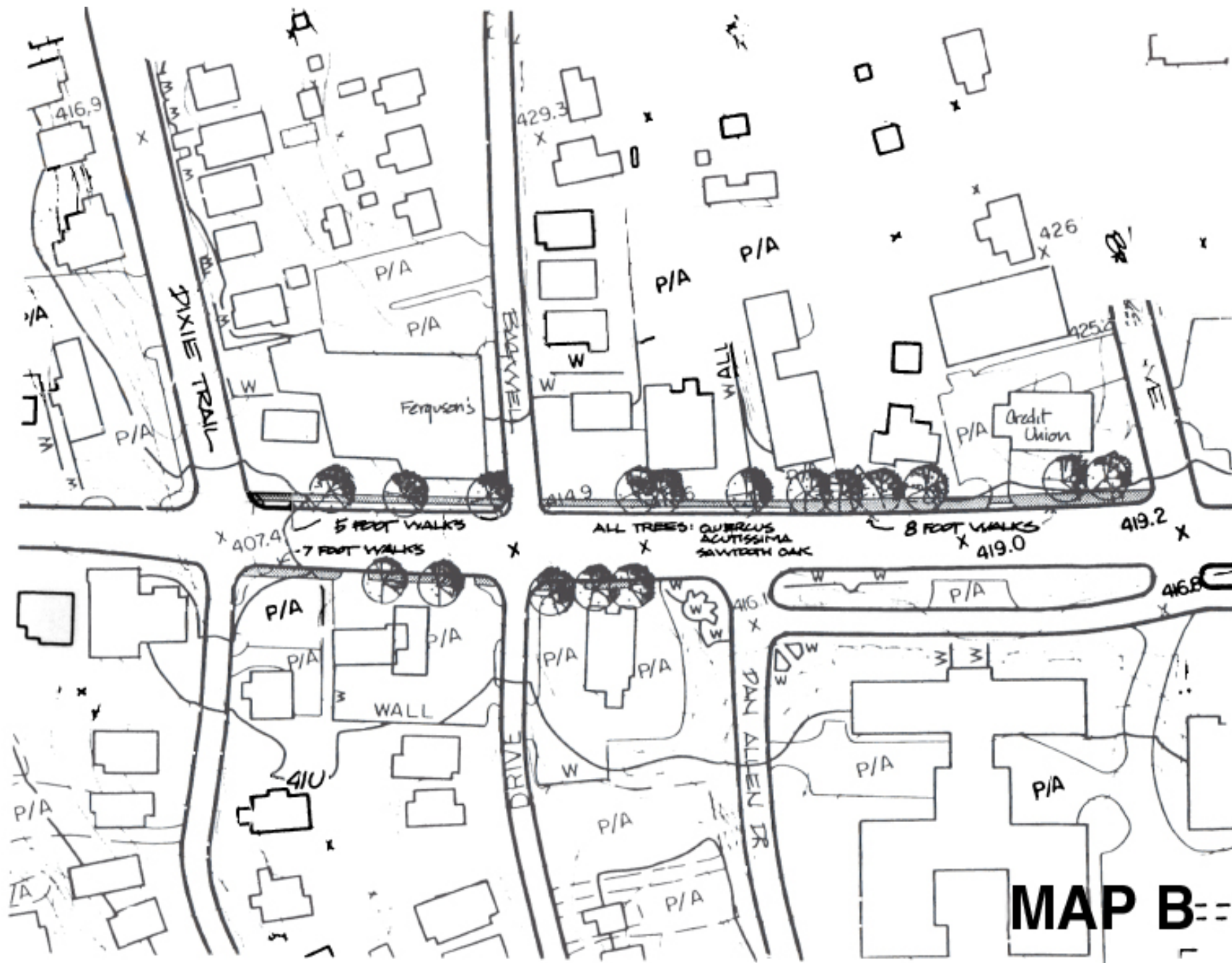
## Sidewalk Café Seating

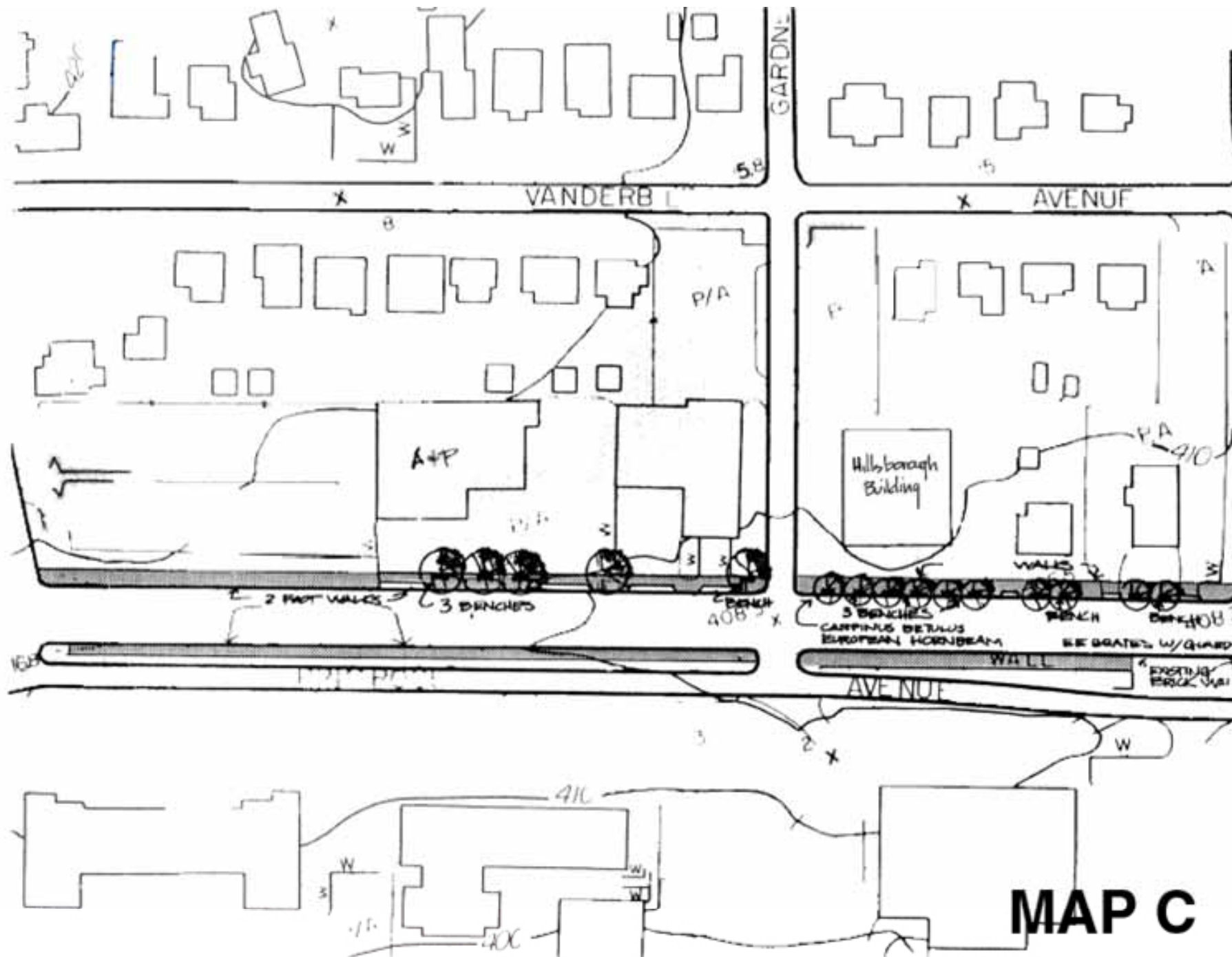
Encroachments on the public right-of-way for restaurant seating are allowed (after approval by the City Council), provided all Health Department regulations are met, and a clear passage of 9 1/2 feet is maintained between the required barrier or wall of the seating area, and the nearest vertical pedestrian obstruction.

Pedestrian obstructions can be a bench, a sign post, a parking meter, a tree trunk or any other such item that would impede the flow of pedestrian traffic. Tree grates should not be considered pedestrian obstructions, but unprotected planting areas beneath trees or shrubs should be considered an obstruction.

No barrier or wall should be permanently attached to the sidewalk.

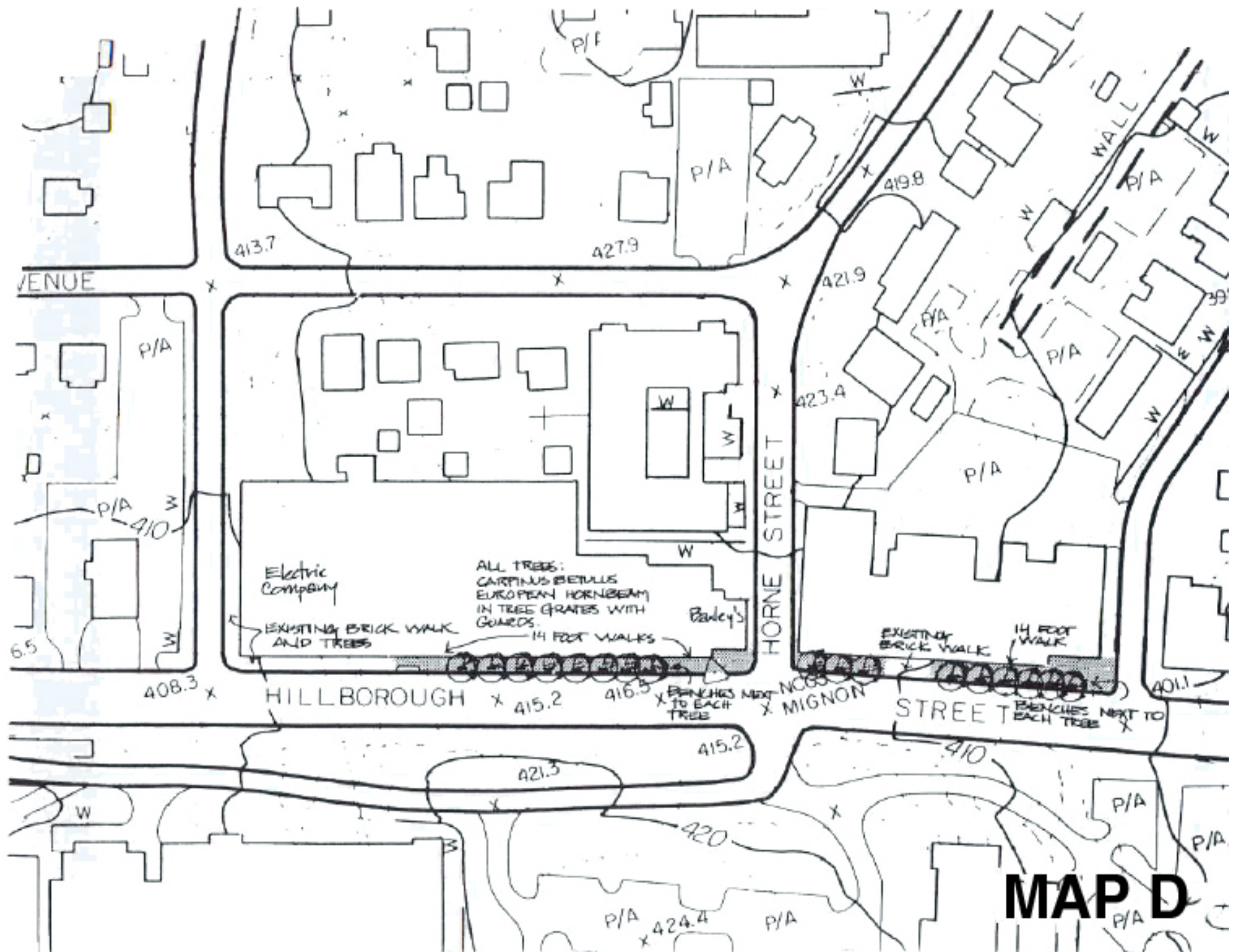




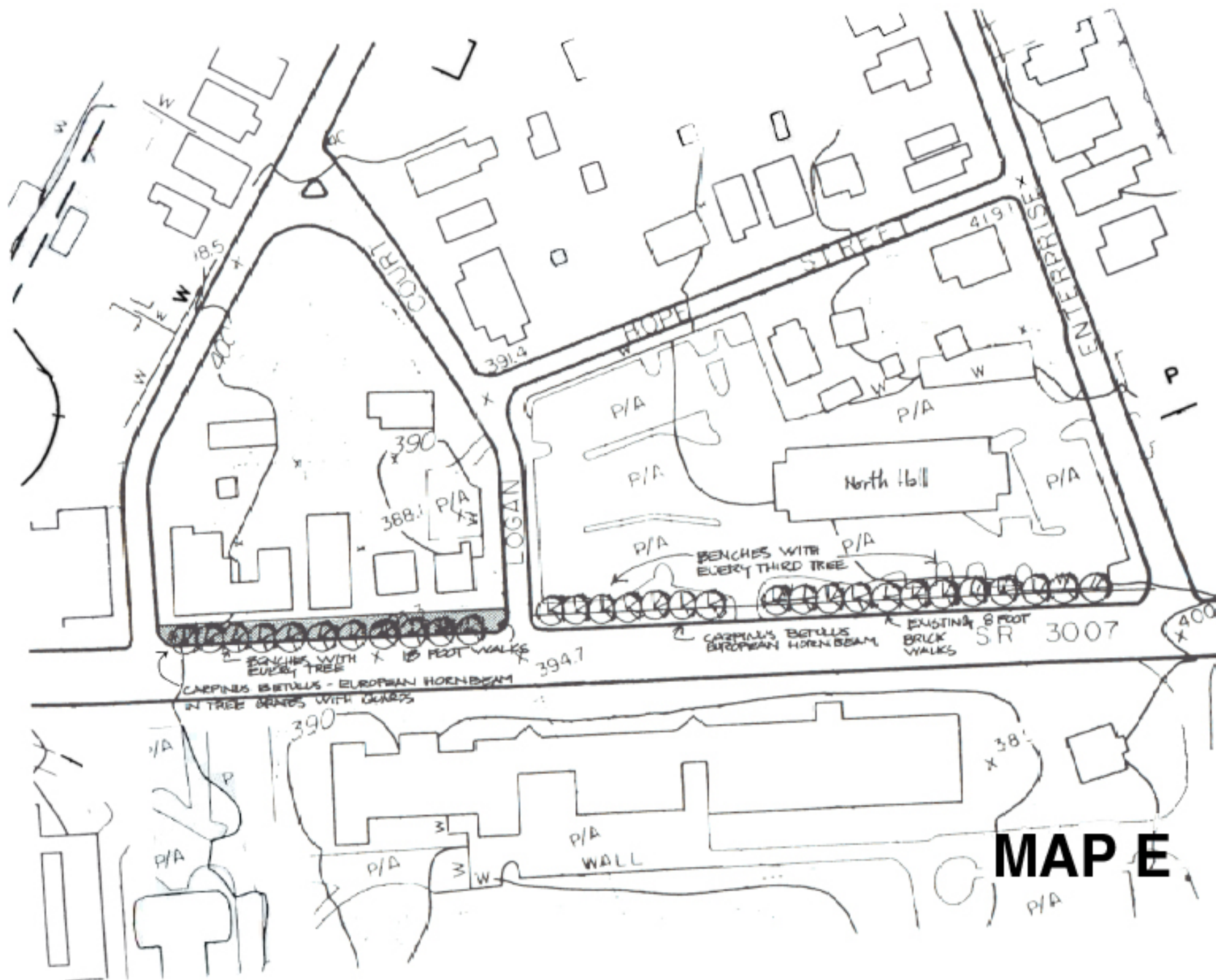


**MAP C**

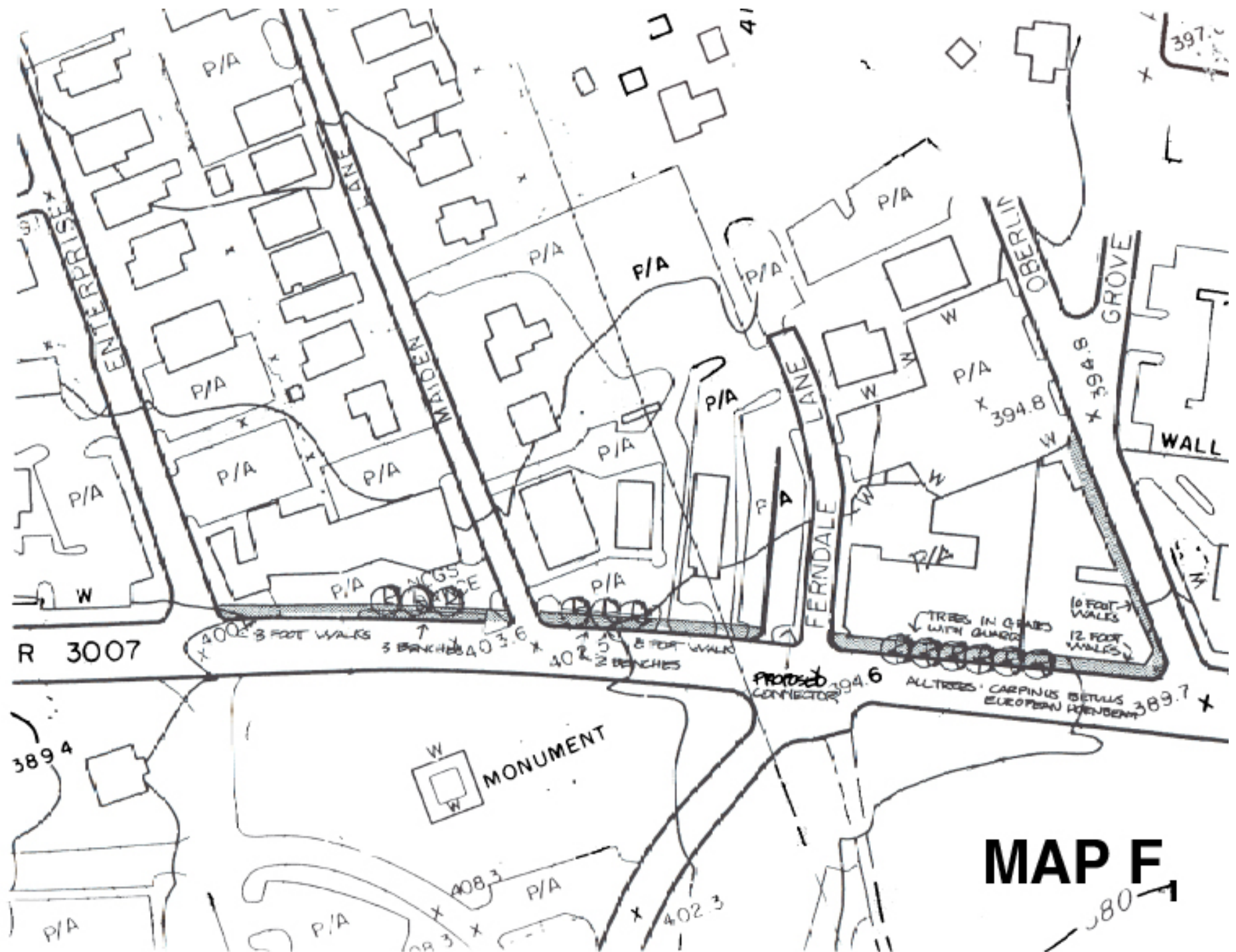




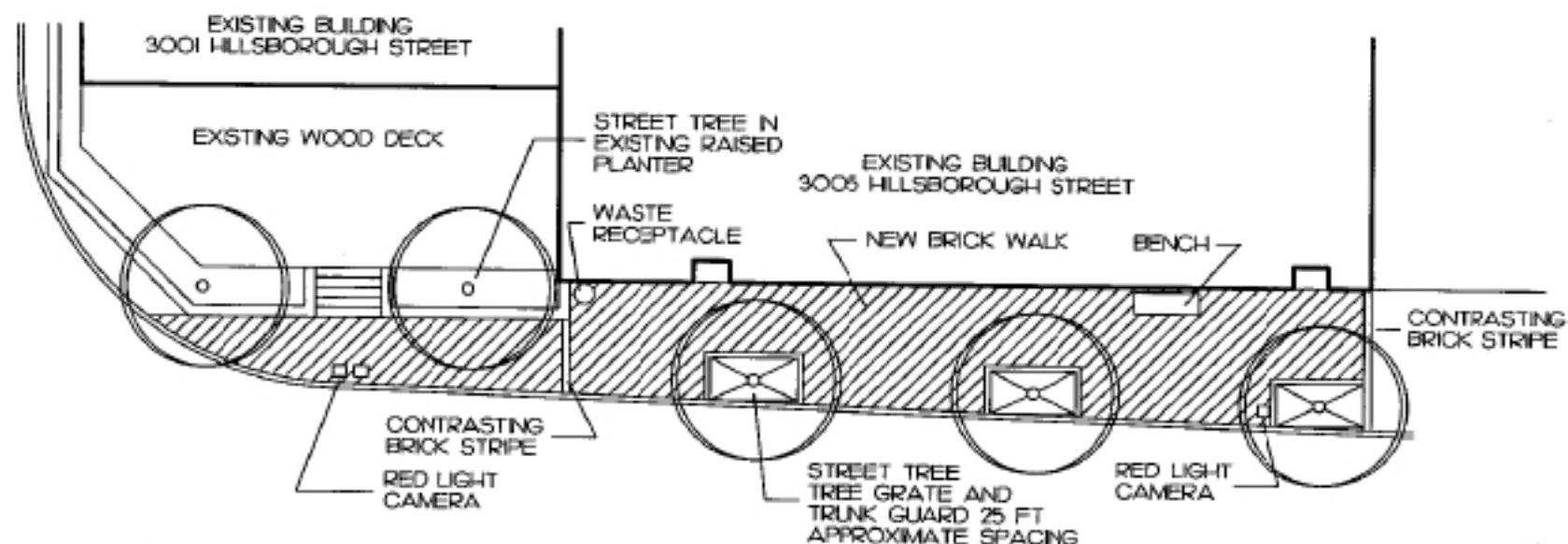
**MAP D**







SSP.1.03  
Z-48-03

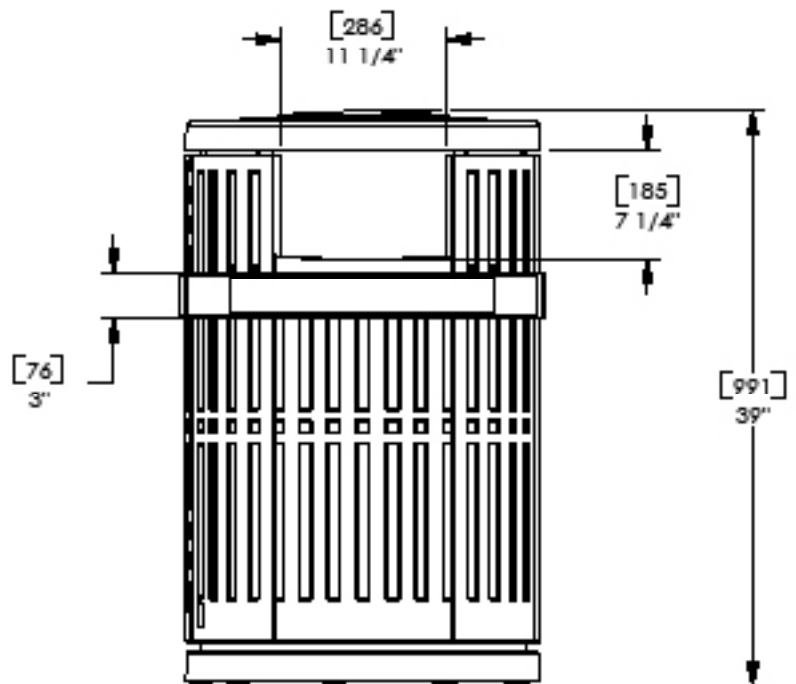


**Exhibit "A"**  
**Streetscape Plan for University Village on Hillsborough Street**  
**March 1, 2004** 1 INCH = 16 FEET

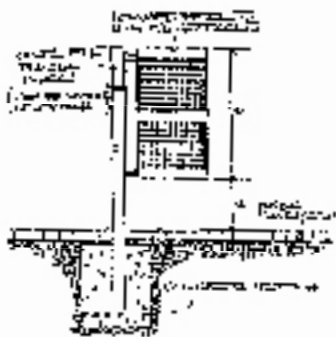
## Proposed Trash Receptacle



Manufacturer: Landscape Forms  
 Color: Anodized Finish  
 Style: Chase Park  
 Description: 24in Diameter / 36 Gallon Side  
 Opening Litter  
 Notes: 61% Recycled Material  
 100% Recyclable



### Trash Receptacle - University Village Streetscape Plan



Existing Streetscape Plan Trash Receptacle  
 Howard Products

This design is simple, easy to empty, and similar to the already-common receptacles on the University Campus.

This contemporary style was selected because it is designed and built to meet the rigors of urban spaces. This design features a hinged door that swings open for easy trash removal. The closed top was requested by both the parks and recreation department and the maintenance staff to keep rain water out of the trash receptacle. This product is made from 61% recycled material and is 100% recyclable. Landscape Forms powder coat finish contains no heavy metals and has extremely low VOCs.

## Street Furniture - Trash Receptacles Hillsborough Street Streetscape



 Kimley-Horn  
and Associates, Inc.

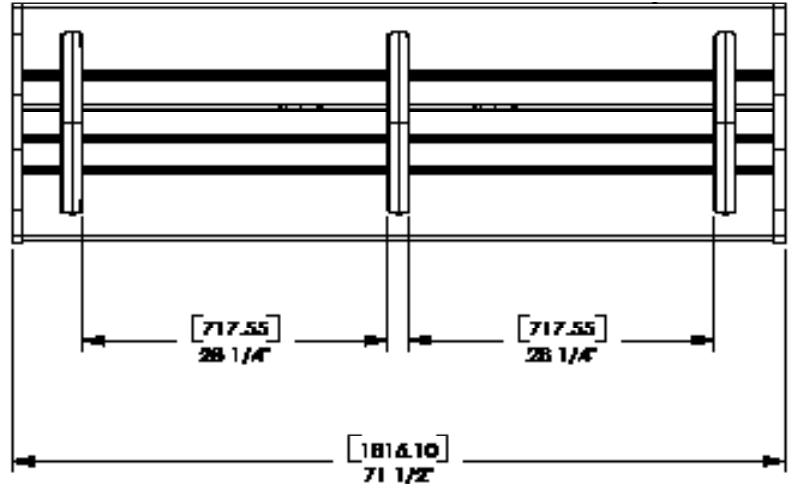
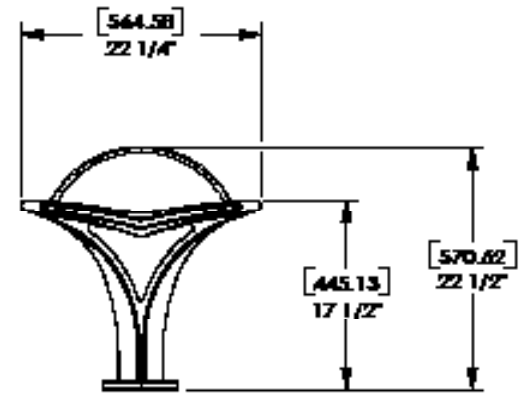
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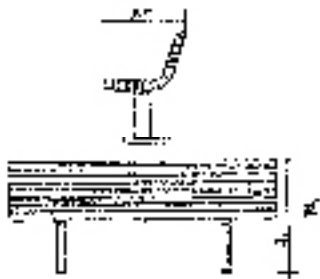
## Proposed Bench



Manufacturer: Landscape Forms  
 Color: Anodized Finish  
 Style: Austin  
 Description: Flat Bench - Cantilever -  
 2 End Arms / 1 Center Arm  
 Notes: 48% Recycled Material  
 100% Recyclable



## Bench - University Village Streetscape Plan



Existing Streetscape Plan Bench  
 Woodplay, Inc.

This type of bench was selected because it is simple, yet attractive, durable, and commonly available from a variety of manufacturers in this style.

This design was selected because of its balance of contemporary style and simplicity. This product is made from 48% recycled material and is 100% recyclable. Landscape Forms powder coat finish contains no heavy metals and is a hard yet flexible finish that resists rusting, chipping, peeling and fading.

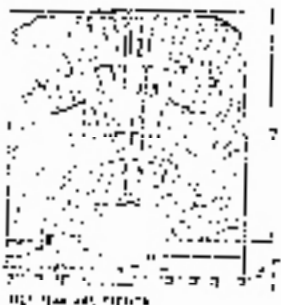




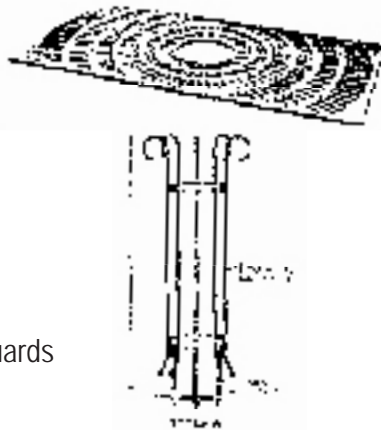
## Proposed Tree Pits



### Tree Grates and Guards - University Village Streetscape Plan



Existing Tree Grates and Guards  
Neenah Foundry



Tree grates are necessary to give the young tree access to oxygen while still allowing the space to be available for pedestrian traffic on a congested sidewalk. Three guards are necessary to protect the tree trunk from vandalism and from damage caused by bicycle locks.

An open tree pit allows for seasonal color and groundcover plantings. They also provide a better environment for the tree in the harsh urban environment. The brick edging prevents chemicals, salts and other toxins from flowing into the tree pit. The inspiration comes from the Centennial Campus.

## Street Furniture - Tree Grates and Guards Hillsborough Street Streetscape



## Proposed Pedestrian and Street Lighting

Manufacturer: Beta Lighting

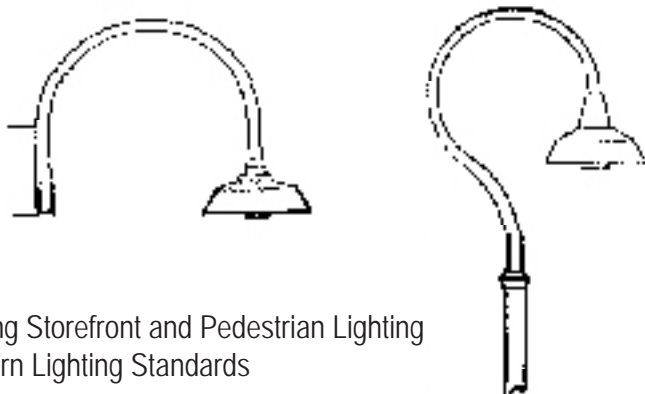
Color: Silver Bronze

Style: The Edge Round Luminaire

Description: LED Light



### Pedestrian and Storefront Lighting - University Village Streetscape Plan



Existing Storefront and Pedestrian Lighting  
Western Lighting Standards

If used consistently throughout the district, this light standard can become a unifying design element along the street. The lights were chosen because they did not recall any particular historic style, and were adapted both to contemporary architecture and traditional building styles.

This contemporary pole and fixture was selected by the City because the linear arm is manufactured of wall extruded aluminum and offers a more contemporary transition between luminaire and pole. The simple elegance allows it to transform appearance while blending seamlessly into the architectural environment.

**\*Note:** There is still no resolution by City Staff on the use of LED lights as a substitute for these fixtures. This decision is pending further analysis by City Staff.

## Street Furniture - Pedestrian and Storefront Lighting Hillsborough Street Streetscape



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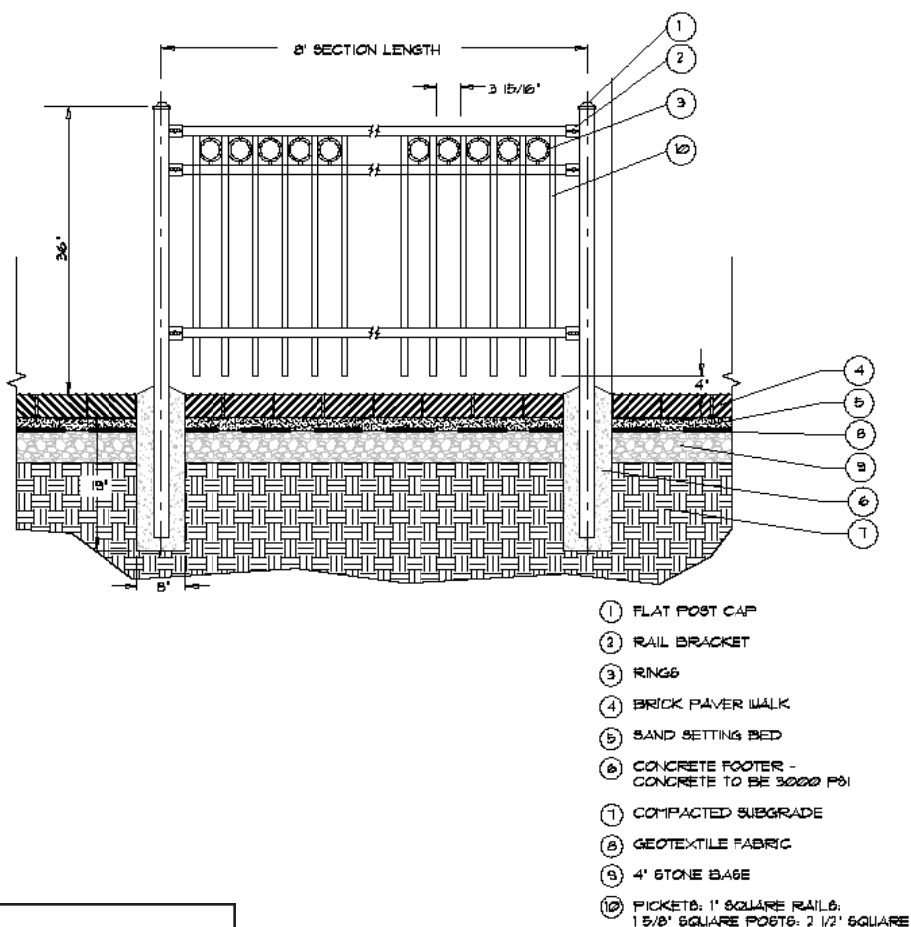
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## Ornamental Pedestrian Fence



Pictured: 4' High Pedestrian Fence  
\*3' High Proposed for Streetscape Plan



### Urban Screen - University Village Streetscape Plan

The current University Village Streetscape does not address urban screens.

This design was selected because the urban fence provides a contemporary screen of unwanted views and creates a physical barrier between vehicular and pedestrian spaces where there is no room for landscape screening.

## Proposed Bike Rack



Manufacturer: Landscape Forms  
Color: Stainless Steel  
Style: Flo Bike Rack  
Notes: 91% Recycled Material  
100% Recyclable

This design was selected because of its contemporary style and simplicity. This product is made of 91% recycled material and is 100% recyclable. This design is similar in character to the existing bike racks on Hillsborough Street.

### Bike Rack - University Village Streetscape Plan



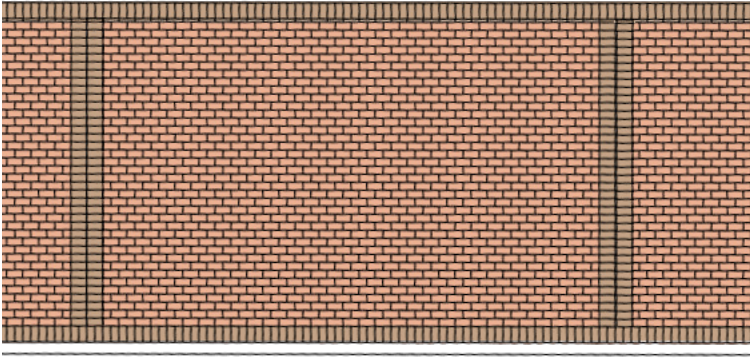
The current University Village Streetscape does not address bike racks.

This contemporary design was selected because of its simple arching form that doubles as a bike rack and a tree guard. The X-Type can accommodate all bicycle types and offers bike parking on three sides of a tree pit. Using this design will add more open space on the sidewalk.





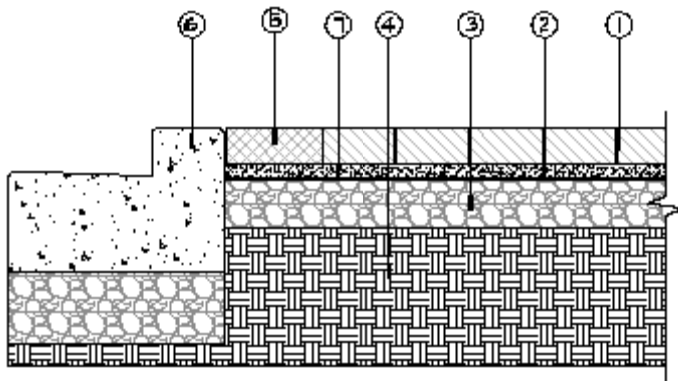
## Proposed Sidewalk Construction



FIELD PAVER  
Pine Hall Brick  
Brick specification:  
PATHWAY RED PAVER

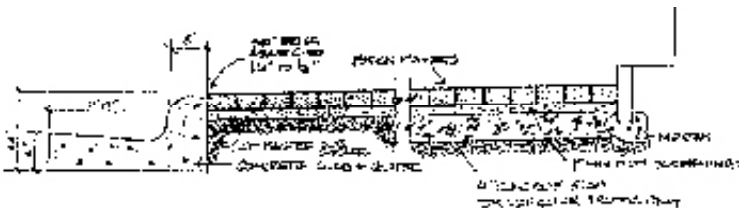


ACCENT PAVER  
Pine Hall Brick  
Brick specification:  
ENGLISH EDGE  
DARK ACCENT PAVER



- ① 3/8" X 1 1/8" X 2 1/4" PEDESTRIAN RATED BRICK PAVER FIELD - RUNNING BOND, PATHWAY RED
- ② 2" SAND SETTING BED
- ③ 4" COMPACTED STONE BASE
- ④ COMPACTED SUBGRADE
- ⑤ CONTINUOUS BRICK PAVER ACCENT BAND  
3/8" X 1 1/8" X 2 1/4" BRICK PAVER BAND - DOUBLE SOLDIER COURSE, ENGLISH EDGE DARK ACCENT (REF SPEC6)
- ⑥ CONCRETE CURBS AND GUTTERS (REF ROADWAY PLAN6)
- ⑦ GEOTEXTILE FABRIC - (REF SPEC6)

## Sidewalk Construction - University Village Streetscape Plan



Existing Sidewalk Construction  
Pine Hall Brick

Brick specification:  
WIRE-CUT CHEROKEE FLASH PAVERS, or equivalent

This design was selected because it closely resembles the current University Village Streetscape Plan. This design provides a connection between the north and south sides of the street. The selected Pathway Red paver is a match for the paver chosen for the University Village Streetscape Plan which is no longer available.

## Sidewalks - Sidewalk Construction Hillsborough Street Streetscape

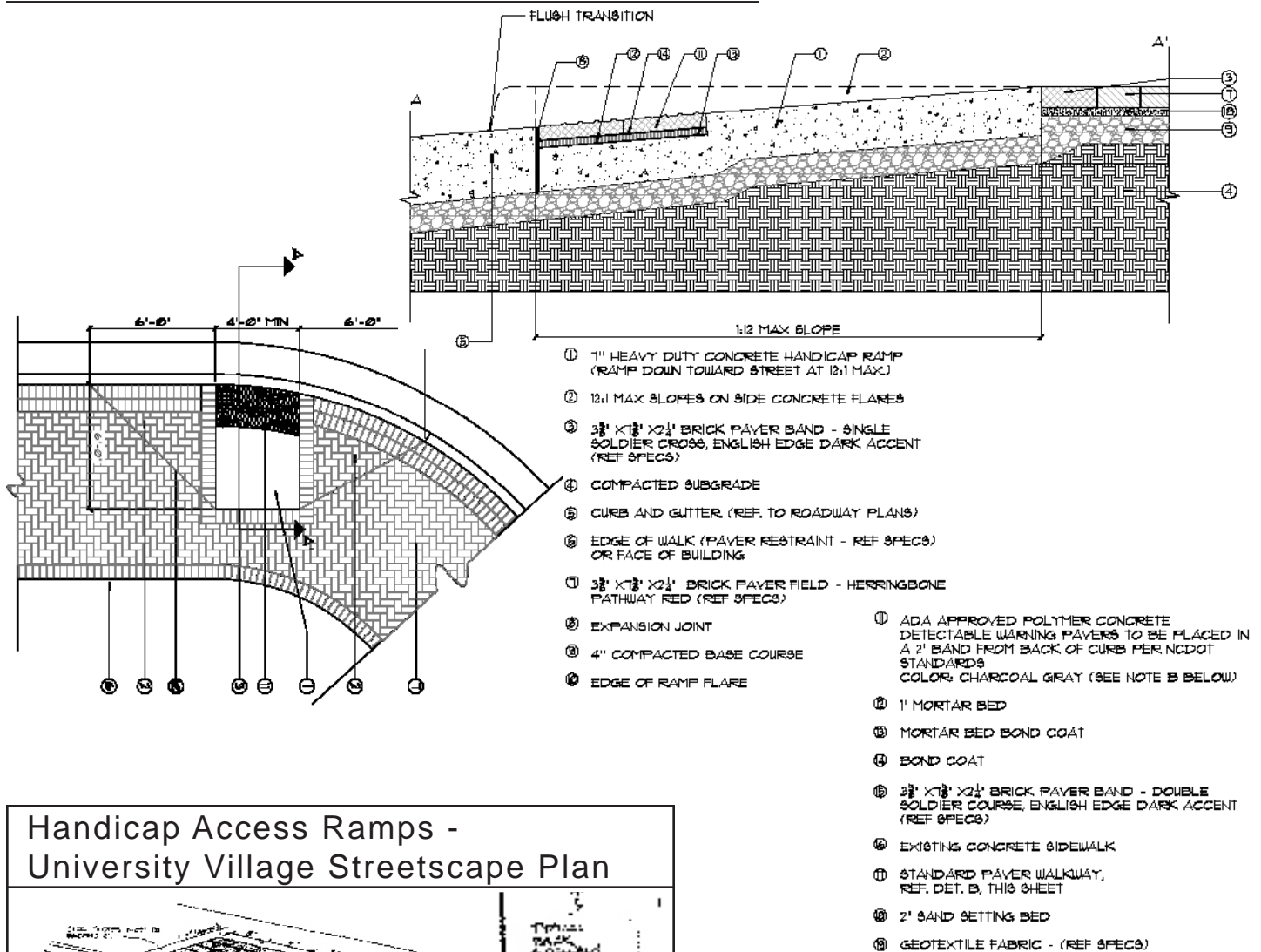


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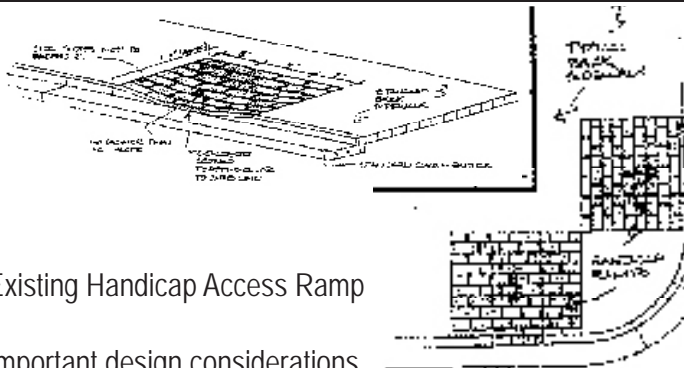
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## Proposed Handicap Access Ramps



### Handicap Access Ramps - University Village Streetscape Plan



#### Important design considerations

for handicap access ramps include the following:

- Scoring at curb edge to aid visually handicapped identify edge of street
- Adequate drainage to avoid ponding at bottom of ramp, and subsequent ice hazard
- Avoid steep slopes, sudden "lumps" or other possible hazards to the non-handicapped as well as the handicapped

This design was selected to meet the current NCDOT standards for ADA accessibility. The ADA approved polymer concrete detectable warning tiles aid visually handicapped identify edge of street.



## Proposed Recommended Species



**PANACHE SHUMARD OAK**  
(*Quercus shumardii* 'QSFTC')

Location: Hillsborough Street  
Shape: Rounded  
Foliage: Lustrous Dark Green  
Fall Color: Red



**HIGHBEAM OVERCUP OAK**  
(*Quercus lyrata* "QSFTC")

Location: Hillsborough Street  
Shape: Uniform, Dense,  
Dominant Leader  
Foliage: Dark Green  
Fall Color: Yellow-Orange



**'VALYNOR' TRIDENT MAPLE**  
(*Acer buergerianum* 'Valynor')

Location: Hillsborough Street  
Shape: Uniform, tight upright  
Foliage: Dark Green  
Fall Color: Red

### Recommended Species - University Village Streetscape Plan

In order to create a consistent visual image from Hillsborough Street, a particular species of street tree is to be used along HILLSBOROUGH STREET:

PINUS BETULUS - European Hornbeam

This tree is well adapted to urban conditions, and is commonly used in Europe. It has a very regular shape, which makes it particularly attractive along thoroughfares.

Other species are available to be used in special circumstances. These two trees are recommended for SIDE STREETS AND COURTYARDS:

LAGERSTROEMIA INDICA - Crape Myrtle (deciduous)

ILEX OPACA "Savannah" - Savannah Holly (evergreen)

BETULA NIGRA - River Birch (deciduous)

All of these are available in local nurseries

These species were selected in collaboration with the City Urban Forester and the Parks and Recreation Staff for their shape, size, and adaptation to urban settings. These trees will provide much needed shade along Hillsborough Street and will provide variety and help to unify the two sides of the street.

## Street Trees - Recommended Species Hillsborough Street Streetscape



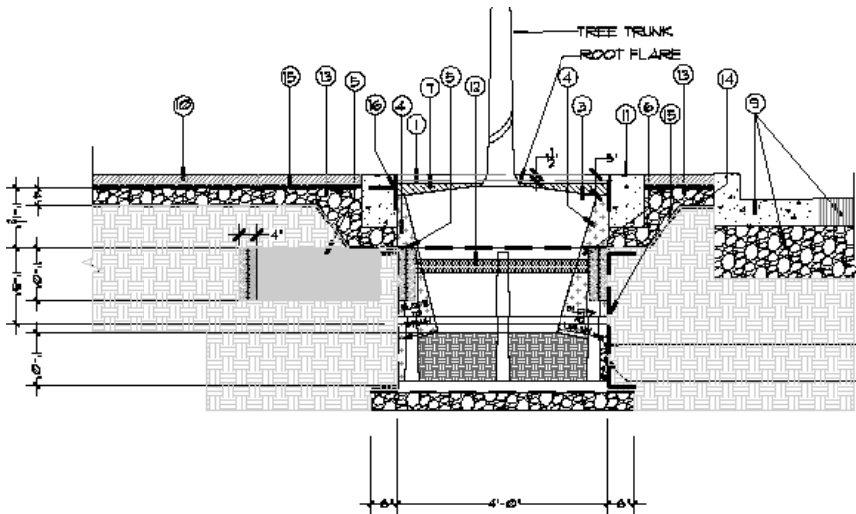
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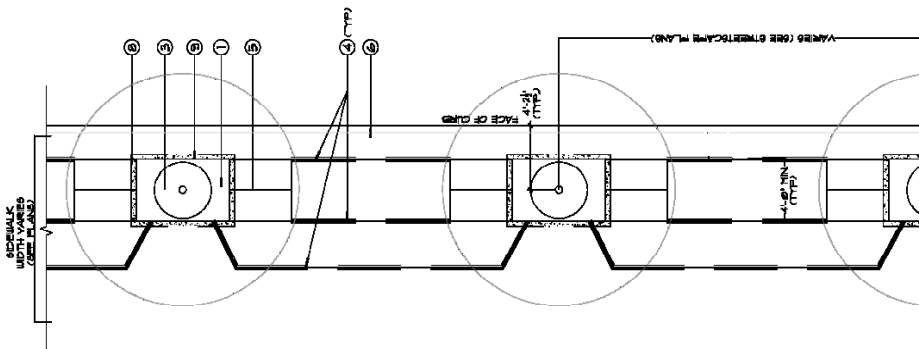
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## Proposed Tree Planting Details

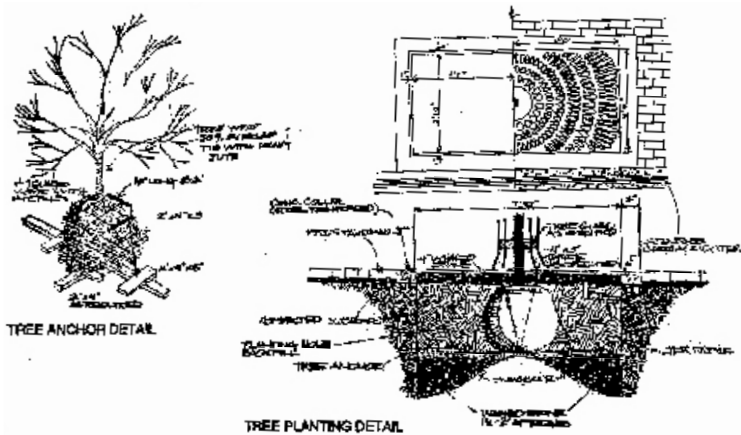


- ① TREE PIT OPENING
- ② CRUSHED STONE DRAIN SUMP WITH FILTER FABRIC WRAP
- ③ TREE ROOTBALL, REMOVE TOP 1/3 OF WIRE BASKET OR ROOTBALL STRAPS. REMOVE TOP 1/2 OF BURLAP ROOTBALL COVERINGS. REMOVE ALL SYNTHETIC STRAP MATERIAL AND COVERINGS FROM ENTIRE ROOTBALL. SET TOP SURFACE ELEVATION OF ROOTBALL FLUSH WITH FINAL EXISTING GRADE.
- ④ BACKFILL WITH PLANTING SOIL (PER SPECIFICATIONS)
- ⑤ TREE PIT ROOT PATH AERATION SHEET IN TRENCH. BACKFILL TRENCH W/SPECIFIC SOILS EXTEND IN-LINE TO NEXT ADJACENT TREE. REF. SHEET LD-02 DET. A FOR PATH LAYOUT.
- ⑥ DEEP ROOT SILVA CELL, WITH 3" OF COMPOST BETWEEN SILVA CELL DECK AND PLANTING SOIL. BACKFILL WITH SPECIFIED SOILS. REF. SHEET LD-02 DET. A FOR LAYOUT.
- ⑦ 2" MULCH AS SPECIFIED (DO NOT MULCH WITHIN 6" OF TREE TRUNK)
- ⑧ 4" DRAIN PIPE (REF. ROADWAY PLANS FOR CONNECTION)
- ⑨ CONCRETE CURB, GUTTER, ROADWAY AND BASE (SEE ROADWAY PLANS)
- ⑩ BRICK PAVER WALKWAY (SEE STREETSCAPE PLANS)
- ⑪ 4" x 12" FLUSH CONCRETE EDGE
- ⑫ 3" COMPOST BETWEEN SILVA CELL AND PLANTING SOIL
- ⑬ AGGREGATE BASE COURSE
- ⑭ 24" WIDE GEOTEXTILE, 18" MINIMUM OVERLAP PAST EXCAVATION
- ⑮ GEOGRID, 1' 6" MINIMUM BELOW BACKFILL AT BASE. OVERLAP 12" MINIMUM AT 1' (REFERENCE SPECIFICATIONS)
- METAL TREE GRATE FRAME



- ① TREE PIT OPENING 6'-8" X 4'-6" (TYP)
- ② 4" PVC DRAIN PIPE IN STONE DRAIN SUMP WRAPPED IN FILTER FABRIC. REFERENCE DRAINAGE PLAN FOR CONNECTING TO STORM DRAIN SYSTEM
- ③ TREE ROOTBALL
- ④ TREE PIT ROOT PATH AERATION SHEET IN 4" WIDE TRENCH. BACKFILL TRENCH W/SPECIFIED SOILS EXTEND IN-LINE TO NEXT ADJACENT TREE
- ⑤ DEEP ROOT SILVA CELL (DOUBLE STACKED); BACKFILL WITH SPECIFIED SOILS
- ⑥ CONCRETE CURB AND GUTTER (SEE ROADWAY PLANS)
- ⑦ PAYER WALKWAY (SEE STREETSCAPE PLANS AND DETAILS)
- ⑧ 4" x 12" CONCRETE CURB AROUND TREE PIT, FLUSH WITH BRICK PAVING
- ⑨ METAL TREE GRATE FRAME

### Tree Planting Details - University Village Streetscape Plan



All street trees are to be planted according to the detail below. PLEASE NOTE: WHEN STORM DRAINAGE IS AVAILABLE ON OR ADJACENT TO THE SITE, ALL TREE PITS MUST BE DRAINED INTO THE STORM SEWER WITH PERFORATED PVC PIPE.

The decision to use root paths and Silva Cells prevents the soil from compacting and allowing the roots more room to grow and providing much needed nutrients for larger healthier tree. The current planting detail provides no additional systems for the tree to thrive in harsh urban environments.

\*Note: The use of Silva Cells and Root Paths has not been finalized at this time. A Consultant is continuing to work with urban forester to finalize this design.