

SHOPPING ARCADE IN CENTRAL SQUARE,
CAMBRIDGE, MASS.

by

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Abstract

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Submitted to the Department of Architecture on May 11, 1976, in partial fulfillment of the requirement for the degree of Master of Architecture.

The purpose of my thesis is to explore design considerations for the enrichment of the public environment by enhancing existing opportunities and providing a range of new opportunities for people to interact with the public environment.

I have chosen to take a part of the public environment, the commercial shopping environment, and design a physical setting which will encourage and allow a wide range of passive and/or active interaction opportunities. There will be an interface and relationship between the explicitly public space and the private commercial space such that the public environment is made more rich, varied, and stimulating than if either space zone were improved alone or independently.

The design goal for my site in Central Square is to make a lively and engaging mid-block passage from Mass. Ave. and the M.B.T.A. subway and bus stations located there to a newly opened, publicly financed complex containing a branch of the Cambridge Public Library, a 290 car public parking garage, and a 204 unit residential tower for elderly citizens.

Thesis supervisor: Donlyn Lyndon
Title: Professor of Architecture

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Introduction

The general purpose of this thesis is to design a public space which is a lively and rich addition to the public environment. By public environment, I mean that space of the environment which is shared either/or audially, acoustically, visually, olfactorially, tactilely and physically with other people. It is space that no one person or small group of people may claim or control for their exclusive use in the above senses.

Broadly, the public environment may be divided into 3 components: 1) explicitly public areas visually and physically accessible to anyone such as streets, sidewalks, parks; 2) corporately claimed areas such as offices and building lobbies which are visually open to the street, institutions that serve the public, and stores, which are privately owned but become part of the public environment by inviting customers inside; and 3) areas claimed by dwellings, such as the front and side yards of residences which are at least visually accessible to the public or street, despite being physically and/or socially inaccessible due to a non-opaque barrier (fence, hedge, low wall, or ground surface covering change), vestibules of residential buildings, and driveways.

The private environment is that space where the inhabitants can exercise primary control, especially visual, on the relationship of that space to the public.

A public space is defined by me to be a PART of the public environment, tied to a location, having some man-made or built definition as a place, and visually and physically accessible to the public.

The 3 components of the public environment that I broadly made above have different potentials and qualities of interaction in which the public may engage. The space claimed by dwellings usually has some strong degrees of social or physical restriction on public usage. The explicitly public space includes streets which are mostly for auto usage, and sidewalks that are for pedestrian circulation. There may be eddies and niches in those systems which can be appropriated for ad hoc uses. However public authorities usually enforce the public-ness of the space, its non-claimability by a particular person, hence allowing only temporary claims on the public space unless some consensus is arranged. The park and plaza are open spaces expressly for public use. Their interaction qualities depend on their design, and on activities which border them.

In the corporately claimed component, a store voluntarily becomes a part of the public environment by inviting, indeed luring in as many potential customers as possible through some selective address system to the public. Offices, industries, and service institutions do not have such a strongly dependent relationship to the explicitly public space. Stores are often purposely

decorated to encourage such interaction as browsing, trying on a product, feeling it, and the nature of a store usually has the customer interacting at some point with salepeople, and one does share some physical space with fellow customers.

When one looks at other public institutions in the Western culture such as theatres, libraries, museums, zoos, parks, restaurants, and churches, it becomes apparent that though these institutions are wonderfully enriching additions to the public environment, there is some obligation or limitation such as an admission price, or not purchasing and consuming the object, or not touching the object which is levied upon the user in return for his or her passive and/or active interaction with it and other people. Stores in general are freely open to the public, and do not expressly compel one to buy anything. However, there is the tacit understanding that any customer that has entered came in to purchase something or at least is contemplating a purchase and the store will do its best to let one fulfill their desires. If one looks like ~~they~~^{he or she} does not have the potential ability to buy something, for example, a shabbily dressed bum, the store authorities will exercise their latent control over their private space to get rid of the non-customer. This power is usually administered in extreme cases. Generally, stores try to minimize the constraints on customer interaction and try to maximize the number of people from the general public

patronizing their establishment.

The positive attitude toward the public, or at least some segments of the public, on the part of private retail establishments is why I have chosen to use the commercial shopping environment for my design thesis on public environments.

Certainly commercial stores alone do not make THE most optimum public environment. But they do seem to be an important part of and important contributor to the character and nature of the surrounding public environment.

I believe that rich and pleasant public environments are those which are not just physically pleasant to be in and look at, but which also allow and encourage many forms and instances of passive and/or active human interaction with other people, objects, space, and nature. Active interaction may mean talking to and /or touching someone else, feeling an object, or being in motion. Passive interaction may mean just watching, walking, sitting, and being aware of other people. Such states of consciousness may happen in other cultures in the marketplace, bazaar, and piazza; and in the American context this may occur at a concert, fair, park, church, or enclosed shopping mall. Conversely, dead public environments are those where not just people are absent, but also any reference to human scale, activity, or form.

Site Selection and Description

The general site area for my thesis was consciously chosen to be a commercial area. In looking at candidates for a site, I narrowed the field down to areas already established where there was a mix of activities and land uses, not just shopping activities. As previously stated, my image of rich public environments are those with a wide range of activities and choices of interaction.

Central Square in Cambridge, Massachusetts met that criteria, was close at hand, and was an area with which I was familiar.

Examining Central Square in 1976, I find its character to be that of a linear commercial retail and office strip along Massachusetts Avenue, but it is also the area where many civic activities such as City Hall, the Main Post Office, utility companies, the Police station, the YMCA and YWCA are located, making Central Square be perceived as the "downtown" of Cambridge. Some of these civic activities are mapped on Plate 2 on page 50.

Central Square is one of several focii for a city of 100,000 people and it does have many of the problems associated with downtowns of similar sized cities, but it also has some unique problems associated with "college" towns. Central Square seems to me to be in the throes of a painful evolution of its character. The influx of university students, young professionals, and the affluent

is impelling an infusion of expensive, youth oriented services into what was once mostly a shopping strip for low to middle working class Cantabridgians. However, I feel that the basic elements of Central Square's character and nature, its role as the civic center of Cambridge, as well as it being the primary shopping district for the surrounding neighborhoods will probably never allow Central Square to be like that of youthful, sophisticated, metropolitan, and affluent Harvard Square. ~~Plus~~ I do not feel it to be a desireable goal that the two Squares be similar.

I do not feel ^{that} my design can solve the social issues and problems of the site area, but my design will consciously try to provide a range of activities and uses with which both student-types and working class people can interact. Therefore, one design goal I will strive for will be to hold the price of the project down so that commercial leases will not be totally beyond the means of current occupants. This will be done by designing the project, not to a level of luxury, complex technology, and style that would appeal to and be affordable only by the affluent, nor by using camp, funky, "antique" motifs and accoutrements which I feel are patronizing and are a romanticization of the past, but by using materials, hardware, and circulation patterns familiar to the area and "what one would expect in Central Square" or an urban,

downtown context of 1976. However, in being "familiar " and not out of context to Central Square, I of course do not want to merely repeat and reënforce the existing public environment, but improve it. And I assume that the affluent who presently function in the existing public environment can and will continue to do so, plus they more easily than others have the option of going to other areas in the metropolitan region to supplemently satisfy their consumer needs.

I anticipate the behavior of the inhabitants of the space I design to be "formal" in the sense of that behavior which one does in a public place, in front of other people, rather than in an intimate, cosy, or private space. "Formal" behavior does not mean good manners, but an awareness that in this shared space, one cannot do some certain activities without violating someone else's rights or offending their sensibilities.

Analysis of the Existing Public Environment of Central Square:

Realizing that my site cannot encompass the whole Central Square area, nor do I want it to, because a project of that scale is quite complex, and foreseeing no major character changes of the Square, I have decided not

to try to alter the present basic character and nature of Central Square from that of the "downtown" commercial and civic center of Cambridge, but to try to enhance its present public environment. In analyzing the existing public environment of Central Square, I found some problems and deficiencies, but there were also some factors which give rise to optimism that the problems can be mitigated.

What I felt were deficiencies:

1. There is very little public open space not devoted to auto and pedestrian circulation leaving almost no room for people to interact with the environment passively and not be in something's way.
2. This is especially critical for the large number of people who are waiting in the area to use the large number of bus lines which converge on the Central Square area to connect with the M.B.T.A. subway station. There are minimal provisions for shelter during inclement weather, and most of these are provided willingly and sometimes unwillingly by the adjacent stores. There is little coordination and announcing of bus system procedures and waiting areas discernable to a casual user of the M.B.T.A., even though much information is needed I feel, because bus rider's tenancy in that environment may abruptly

change at uncertain times.

3. The only explicitly public open space where there is some street furniture on Mass. Ave. which conveniently allows passive interaction is in the Central Square triangle itself, and further up Mass. Ave. in front of the Main Post Office and City Hall.
4. Although the Central Square triangle was recently landscaped (date uncertain, less than 10 years ago) with 2 trees, brick paving, wood benches and granite sitting blocks, that small bit of public sitting space is surrounded by auto traffic on all sides. The noise and fumes from cars and trucks significantly compromises its niceness.
5. Mass. Ave. is such a wide and busy thoroughfare, that it is a difficult barrier for people to interact across as well as physically cross, especially for elderly citizens and children. The present crosswalks are not maintained and the traffic signals are not sufficiently effective for pedestrian safety and convenience.
6. The M.B.T.A. buses must contend with that heavy and bewildering auto and truck traffic, and the buses stop in odd places which in turn ties up traffic.
7. There is presently existing a mid-block passageway connecting Mass. Ave. to Green St. beside the Purity Supreme supermarket. It is twisting, narrow, grimy

and dirty, and is a haven for drunks and possibly muggers. Although well used by the neighborhood, it is not a pleasant space to interact with and within.

8. The Planning Dept of the City of Cambridge did not have an overall plan for Central Square and other commercial squares. Most efforts to improve the area in the past and individual buildings have been randomly done, scattered in scope, or limited in outlook on how it interacts and relates with its context, what that context is, and what it will be in the future.

Some potential factors which could help spark the revitalization of the public environment of Central Square:

1. Phase I of the publicly financed GREEN-FRANKLIN STREETS project is almost complete. This is a cooperative development of several Cambridge institutions:

- a) The Cambridge Housing Authority is sponsoring a 204 unit high rise residential tower for the elderly. The Authority offices will be located on the 1st. floor. There will be a landscaped plaza and an entrance facing Green Street. There should be a large desire line between this tower and the M.B.T.A. bus and subway stations on Mass. Ave. The handiest and most direct way to get there is

to use the existing passageway beside Purity Supreme supermarket.

- b) The Cambridge Public Library is opening a branch on the corner of Phase I on Pearl and Franklin Streets. It will have a small plaza on the sunny Pearl Street side which also will serve as a heated bus stop shelter, plus the library has a small display case there. A larger plaza with trees, benches, and a fountain will be located between the library and the tower. The library will probably generate a lot of pedestrian traffic, especially kids. The library opened May 1, 1976.
- c) The City of Cambridge opened on November 24, 1976 its first parking garage. The auto entrance is on Green Street and there are 290 spaces for cars. Its primary purpose is for shopper's parking during the day, and the quickest way for the shoppers to get to Mass. Ave. is to use the passageway beside Purity Supreme or use Pearl St.

- 2. Phase II of the GREEN-FRANKLIN Project calls for the below grade extension of the parking garage to Magazine Street, and above it would be commercial space on the street, with low rise - high density housing above. The sluggish state of the economy of

the country in 1975 has delayed the timing of Phase II.

- a) Phase III called for the closing of Magazine St. in the vicinity of the site, removal of the 1st. Baptist Church, rerouting of River St., Western Ave., and Green St., and the construction of an **office tower**. Phase III is extremely unlikely now that the church strongly wishes to remain in its present house of worship.
3. The 1st Baptist Church has become a catalyst for the rebirth and starting of cultural and community groups. Its spaces and facilities are being heavily used.
4. A new sidewalk was installed on Mass. Ave. due to pressure from the business community. It is a great improvement over the old one, having a concrete circulation path next to the stores, but a brick paved portion next to the street with places for trees which form a series of eddy spaces which can be appropriated as rest places, bike parking places, and other ad hoc uses. Although no street furniture was installed, the opportunities for a new set of interactions with the environment have been made.
5. Central Square is being seen as Cambridge's "downtown" by the City authorities. The Planning Dept. is

formulating an overall plan for Central Square and seems hospitable to making improvements in the area.

6. The merchants of Central Square have awakened to the needs and possibilities of improvements. Their organization, Central Square Association of Business and Professionals, Inc., has put pressure on the City to do something, and the recent GREEN-FRANKLIN Project, new sidewalks, new and brighter street lights, and other improvements show their influence.

Site Focus:

After considering some of the deficiencies of and the potential factors for the enrichment of the public environment of Central Square, I have chosen the HEART of the block bounded by Mass. Ave., Pearl St., Green St., Magazine St., and the Central Square triangle as my primary site focus.

This site lends itself very well to a commercial arcade. I will not have to fabricate a path, for I can tie together the Mass. Ave. pedestrian flow and the M.B.T.A. bus and subway stations located there to the newly opened complex of the public parking garage, public library, and elderly tower.

There is presently a mid-block passage on the site, so the idea of it would not be a novel or foreign one to

the area. The passage is in the one story, 80 year old structure presently occupied by Purity Supreme supermarket. That site could be more intensely developed.

I have prepared a site context map on Plate 4, page 52, which shows hard and soft elements to be dealt with in considering the feasible limits of the site.

Assumptions made about the site, its context, and my design:

Almost all building projects proceed based on a set of assumptions the promoters of the project have or have been lead to believe. My project will be programmed and designed based on these assumptions I believe:

1. The general economic climate of Central Square is sparked and spurred upward by municipal, publicly financed redevelopment, and by private initiative such as the renaissance of the 1st. Baptist Church.
2. That with an economic upturn, present retail activity can be expanded, marginal enterprises are made more stable, and new types of enterprises are more easily feasible. I also presume that the pattern of erosion of stores aimed at working class interest will abate.
3. The demand for high quality office space will increase.
4. There will continue to be and perhaps an increase in the demand for luxury and market rate housing in

Cambridge, and along the Mass. Ave. "spine" in particular.

5. The site of the Purity Supreme supermarket has become available and the supermarket does wish to remain in the Central Square area.
6. A private developer with sufficient capital resources comes along and recognizes the potential profitability of some kind of mall or commercial arcade on the site of the formerly mentioned supermarket. He or she wishes the project will make a contribution to the public environment in a beneficial way.
7. The public development sector or Cambridge and the private developer realize this as an opportunity to cooperate on a mutually beneficial development. For example, certain tax advantages and/or zoning variances may be granted with the proviso that the project will include certain amenities freely available to the public such as a plaza with benches, trees, plants, and etc.; that as few as possible existing establishments be unable to remain in the area; and that new jobs be generated. The site is located in an area zoned for business, "B-B", in which there are no height limits.
8. Enthusiastic cooperation from the M.B.T.A., H.U.D., the City of Cambridge, and other public agencies to

improve the physical setting of Central Square. This would include contextural modification such as relandscaping existing open areas, renovation of the subway station, coordination and changing of bus stop waiting areas, installing information boards and directories, and etc.

9. The arcade is being designed to contexturally blend in with what I feel is a fairly harsh built public environment, which was constructed that way over time in reaction to the harsh treatment the public gives the built public environment, and what is now expected by the public is something harsh. Breaking out of this spiral pattern of expectations and reactions that has been built up over the years will be extremely difficult for my design to successfully accomplish in one stroke. I have decided that I will try to use materials familiar to Central Square, but hopefully in new, not so harsh ways. Some public amenities that are extremely vulnerable to vandalism and/or are likely to be maintenance trouble spots due to the public behavior and lifestyle of some of the inhabitants of Central Square will be sacrificed, such as public restrooms, drinking fountains, carpetted floors, and fancy wall coverings. Some of the amenities I wish to retain are public telephones,

a decorative water fountain, plants, trees, kinetic and other types of sculpture, community bulletin boards, and a variety of types of sitting places.

Program Formulation and Description

In general, my program is to provide public open space along the lines of a covered plaza, court, or commercial arcade on the ground level. A second level will provide space for less active commercial space and for public service institutions. Above these levels will be office space and housing. Storage for the commercial stores and housing will be in the basement level.

The project should benefit the public environment by augmenting the open space, sitting area, and shelter amenities of the Square without sucking the life of the Square off the street into an enclave, and without unduly overlapping existing stores and services. Several downtown malls I have studied seem to weaken their urban context by attracting most of the existing viable stores into their climate controlled sanctums and turning a blank face toward the public street.

Although the prime motive for the arcade will be to provide a lively and engageable short cut connection path from Mass. Ave. to the public parking garage, the library, and elderly tower, the arcade will have to be an exciting PLACE and adequately inform the public on the street about that quality to attract in enough clientele to make it profitable. All parties concerned must under-

stand the proposed symbiotic relationship: that an enlivened public environment is a good atmosphere for doing good business, and that a varied, bustling, and engagingly interesting commercial atmosphere can be a major contributor to an exciting public environment.

Other contributors toward an exciting public environment are public service institutions, which includes local community organizations, clubs, religious societies, etc., whose space can be used by the community it serves for meetings, classes, activities, and etc. Such institutions can be "people magnets" and will attract a steady stream of people through the public environment to them (past the display windows of adjacent businesses).

Another body of contributors toward a pleasant and stimulating public environment includes the arts. Impromptu and planned performances, murals, banners, sculpture, kinetic art, and even graffitti can be used to enliven a public space, challenge our senses, and inform the public with varying levels of public participation. Definitely My program will make some provisions for the arts.

My program aims at the ideal of all the present tenants of the site being able to return. I know that in reality this is seldom so. Even if I was able to achieve this ideal, probably many of the establishments would not

be able to afford as much space as they occupied previously, but my program aims at space parity for the new and old amounts of space. Let me reiterate that my design will purposely avoid being totally new, funky, chic, or slick looking and will try to programmatically blend in with the present level of commercial context. I feel **best way to** do that is to try to hold onto as many good existing activities as possible.

It is intuitively obvious that my design must match the present amount of leaseable space, and increase that amount to cover the amount of ground area I am programming for public open space, and increase the **leaseable space again to get** revenue enough to amortize construction costs. The symbiotic relationship of the explicitly public space and private commercial space is again evident. For within a given area, if I have lots of commercial space on the ground level, the resultant explicitly public space is merely a left over channel for circulation, as in a typical shopping mall. Yet, if I have lots of **open space** on the ground level, I will not have much of the high prime street level square footage as leaseable and the design will be unfeasible for private enterprise. To get a **'ballpark'** idea of how much leaseable space I would need to aim for and above, I did research the rough sizes of tenant spaces presently on the site.

Table 1.

<u>Tenants presently on the site:</u>	<u>sales space sq. ft.</u>	<u>storage sq. ft.</u>
STORES:		
Purity Supreme supermarket	14,500	20,000
Putnam Furniture Leasing	13,500	5,500
100 Flowers Co-op Bookstore & Coffee House	2,000	400
Dunkin' Donuts	1,800	300
Kay's Delicatessen	1,500	400
Liquor store inside Purity Supreme	1,100	
Greek Club	1,000	
Thom McAn Shoes	600	200
vacant	1,500	
<hr/> subtotals	<hr/> 37,500	<hr/> 26,800
OFFICES:		
WCAS Radio Station	1,200	
Cleveland Auto Driving School	800	Grand total:
Goldberg Law Office	800	STORES 37,500
vacant	5,575	26,800
<hr/> subtotal	<hr/> 8,575	<hr/> OFFICES 8,575
		72,875

Program for the new activities:

The main purpose of my thesis is not to design a project along the limiting constraints of economic reality of a particular place at a particular time, with the "realistic" goal of it being built. My main purpose is to explore "realistic" design considerations for creating an addition to the public environment in which the forms, instances, range, and choices of opportunities of interaction for the public are increased.

I reiterate my purpose here because I feel that "realistic economic constraints" have been formulated in this society which do not give due consideration to the intangible social and economic benefits derived from a rich and exciting public environment. My Assumption 7 on page 19 would allow for an "unfeasible" project, according to free market conditions, to be built with some public assistance if the public development sector was convinced that the project made significant positive improvements to the public environment and to the City as a whole.

I was not able to do and did not wish to do an in-depth economic analysis of Central Square. However, the costs of the existing land and buildings of my site were researched and are on Plate 4 on page 52 . The costs of leases in Central Square vary quite a bit, with a range

of \$4-\$6 per square foot per year, up to \$12 per square foot per year, depending on the quality of the physical space.

There was considerable flexibility in my mind about being very specific about what exact tenants I would program into the commercial arcade. This was partly due to my feeling that this space would be speculatively leased to establishments that I have no way of really knowing. There was a considerable interplay of considerations between the spaces created in preliminary designs and the program. I made preliminary and refined designs on what types and sizes of building masses that would fit onto the site to my satisfaction that there would be minimum disrelation to its context. After programming in the existing tenants that I wanted to retain on the site into that bulk, I programmed the remaining space with activities that I felt were compatible with existing Central Square ones with as little duplicity as possible, and also activities and stores which would be interesting and stimulating. I considered many activities such as cinemas, ubiquitous shoe and clothing boutiques, a toy shop, jeweler, leather shop, and etc., but I felt comfortable with these:

Table 2.

<u>New tenants</u>		<u>Appr. sq. ft.</u>
Simeone's Restaurant	- - - -	10,000
Community services	- - - -	9,100
Cambridge Coffee, Tea, & Spice House	-	5,500
Clinic	- - - -	3,500
Sporting Goods	- - - -	1,700
Pet shop	- - - -	800
Nature Health Food Store & Snack Bar	-	750
Gift & stationery shop	- - - -	700
Hair Salon	- - - -	700
Optician	- - - -	600
Handicraft gift shop	- - - -	400
<hr/>		
Total	- - - -	33,750
OLD TENANTS (from Table 1.)	- - -	37,500
NEW TENANTS (from Table 2.)	- - -	33,750
<hr/>		
Total		71,250

Design goal for the
commercial arcade
leaseable space.

The rationale behind some of my choices:

Simeone's Restaurant was a nice, moderately priced Italian restaurant which was in the Central Square area until a fire in April 1976 put them out of business. My site would be a much better location than their former one if they chose to reopen.

The community services contain space that local neighborhood groups and others can rent for meetings, classes, and performances. It is intended to be a "people magnet" (along with Purity Supreme supermarket) to draw more people through the arcade than the library-garage-elderly tower complex would attract.

Cambridge Coffee, Tea, & Spice House sells general merchandise of high design quality and was formerly in a very profitable location in Central Square until a fire destroyed that branch of the store chain.

The clinic was included in the program because I felt it was of a class of less active commercial/institutional activities which could be viable being located along Green Street, which is relatively less active than Mass. Ave. That location would also be near a large concentration of people who frequently need health care in the elderly tower.

I feel that a sporting goods store selling items like fishing rods, bowling balls, and athletic shoes

could be viable in Central Square. Right now, Army-Navy, hardware, and regular shoe stores have stretched to cover this market.

There are no pet shops in Central Square and my stereotype of such stores pictures them as interest grabbers of kids from 4 to 94.

There is a small Nature Health Food Store on Mass. Ave., but I felt its clientele would follow it if it moved into a very nice environment. There are a dearth of health food restaurants in general, and I felt Nature could easily fill this demand with a snack bar and use the space inside the arcade for places for its customers to sit while eating. This would also animate the arcade.

The Handicraft gift shop is intended to be owned and operated by the residents of the adjacent elderly tower as a place to sell articles made by them, and as an informal meeting and gathering place for their community. The elderly are a large component of the "people watcher" crowd, and I wanted a relatively safe and collective place in the arcade for them to watch the action from.

Office space is definitely part of my program, however, I did not do any detailed program research to determine potential new tenants and their size needs.

Housing is included in my program because I felt that it would be a "realistic" component of any intense development along the Mass. Ave. "spine" in Cambridge. I did not, and did not want to make any definite housing designs, but concentrated instead on the relationship of the housing as a group to the public environment.

Both housing and office building masses were made to conform and fit within the total building bulk that I felt could reasonably fit with minimum disrelation into the Central Square context.

The net result of the parry between my program aims and my preliminary designs is the program in Table 3, on the next page.

PROGRAM Table 3.

<u>Level</u>	<u>Retail space</u>	<u>Office space</u>	<u>Storage</u>	<u>Housing</u>
basement	2,200		18,000 Purity Supreme 8,200 other 5,275 housing	
1st floor ...	15,200 Purity S. 9,800 spec.	3,500 clinic	1,100	
2nd floor ...	16,200 spec. 7,475 rest.	9,100 comm. service		
3rd floor	2,475 rest.	7,200 spec.		
4th floor		10,500 spec.		9 units
5th thru 8th floors				14 units/floor
9th thru 11th floors				5 units/floor
<hr/>				
New Amounts:	53,350	12,600 17,700 spec.	18,000 P.S. 9,300 other	96 units
Existing Amounts:	37,500	8,575 spec.	20,000 P.S. 6,800 other	
Commercial space totals:		New: 110,950 sq.ft.		
		Existing: 72,875 sq.ft.		

General Design Considerations

The first consideration I made was that my site was in an urban context, the "downtown" or "CBD" of Cambridge. Downtowns have been in a long decline due to the move to the suburbs by the middle class. They have left, and the commercial interests they support went with them for a variety of reasons. I submit that some of those reasons were partly due to the congestion, inconvenience, and discomfort caused by selfish, limited, but financially understandable outlook of individual retail stores' attitudes toward growth, expansion of service, and in general atrophy of a pleasant public environment.

In a typical downtown of a city, there are few designed in oases or eddies which can comfortably shelter people while they passively and/or actively interact with the rest or a portion of the public environment. Looking at Central Square, I found the only open areas to be in the triangular Central Square itself, the lawn of City Hall, and the front lawn and retaining wall of the Main Post Office. All three are expressly public domains. Much interaction does happen, Central Square is not a dead place by any means, but it occurs in spite of the environment in interstitial private domains that are temporarily not guarded and in public areas needed for circulation and only temporarily claimed.

Downtowns are also a heterogenous area. There is more one can do than just shop. There are mixed shopping, religious, business, cultural, recreational, and social activities in Central Square, and each has some way of signaling itself to potential participants on the street. My design will try to conform to this and use it to my advantage. I want to project a mercantile image for the shops of the arcade, and a serious and orderly image for the offices above, into Mass. Ave.

Mass. Ave. is seen by me to be the principal street in the Central Square area. It has high numbers of moving and stationary pedestrians as well as moving and stationary auto and bus traffic. Green Street has evolved into a service area for the stores that face Mass. Ave. and its atmosphere is accordingly fairly grim. I will try to relieve some of that grimness, especially at the place where my circulation path from the arcade connects with that of the library-garage-elderly tower. Phase II of that complex also seemed to be working toward the evolution of a brighter character for Green Street, and my service area should make provisions for future changes.

One of the prime pedestrian traffic goals on Mass. Ave. is the M.B.T.A. subway station set of entrances. They merit high visibility and respect because of their importance. I seriously considered adding an entrance into

the subway from the basement level of my arcade. I decided against this because the expense of a major subterranean alteration to the subway would add enormously to the construction cost of the project, and I felt there was not enough commercial energy to support the additional space of a 3rd commercial level in Central Square. The existing entrances to the subway on Mass. Ave. were still operable and are located such that the extra entry point that could have been added on my site would not make a significant pedestrian traffic pattern improvement to justify its expense. Plus I would rather see any money the M.B.T.A. would have used to make changes in the station physically in receiving my new entrance be used in other ways in the station for better patron convenience.

Another one of the prime pedestrian traffic goals on my site is the Purity Supreme supermarket. It has little competition in the immediate vicinity of Central Square itself and nearly everyone in the area shops there on occasion. It is a powerful people magnet, fairly unique in its context, and I believe it can be moved away from Mass. Ave. as long as some symbolic "presence" of it on Mass. Ave. can indicate its real location.

The management might feel that the store MUST be on Mass. Ave. to indicate its presence to potential customers. However, most neighborhood residents KNOW where Purity Supreme is, and given a change in its location, through

frequent shopping there would soon KNOW its new location. At present, approximately 30% of its facade on Mass. Ave. is a bare brick wall, 15% is a large sign, 40% is bare white metal panel wall, and only 30% of the facade is glass. The glass portion of the facade is often obscured with temporary paper signs advertising sale items, and cartons used by the liquor store. The large sign really is graspable from and is addressed to the other side of 100' wide Mass. Ave. A smaller sign is hung perpendicular to the sidewalk above the store entrance. I think why the management wants to be directly on a street front is that they want the ability to put up their symbolic "presences" with minimal hassle on their own piece of that turf.

I think this leads to a general retailing policy of presenting information of marginal or mundane interest that has little interactive qualities with the public environment. And if the store has a small amount or no such information to convey, a blank face is presented to the public and the interior of the store is turned inward for controlled and contrived vitality.

Still, I recognize the validity of the idea of stores staking a claim, marking a presence, or in some way calling attention to themselves through remote devices on the street. I tried to combine this need of the stores with the need for a space for waiting bus patrons. An eddy

zone of seats, shelters, paving changes, and kiosks which I hope can comfortably foster and allow passive interaction was carved away from the circulation space on the Mass. Ave. sidewalk. This area is shown on Plate 13 on page 61 .

I would like to save and renovate for reuse the 4 story Putnam Furniture building due to its architectural interest and local landmark status in Central Square. It was built in 1908 and the architects were Newhall-Blevins. They also did the Cambridge Y.M.C.A. building addition of 1910 onto the 1896 Hartwell & Richardson design. It has exterior brick bearing walls, with metal columns, wood floors, and a stone and terra cotta facade on Mass. Ave. Imperatively, fire precautions such as sprinklers and smoke detectors must be added to the building.

Shadows are important dampers to liveliness in the winter of streets, hence I want to minimize my design's impact on the Mass. Ave. shadow profile. This will be difficult to do since I am on the southwestern side of Mass. Ave. and the triangular park. Also I sense a general dislike for tall buildings among the surrounding residents, so the design will try to match exist heights of buildings in its context, and not be unnecessarily tall.

A major design decision is whether or not to enclose my public open space and climate control it. The prime

disadvantage to an enclosed arcade from my point of view is that contact with the street is diminished, especially acoustically and thermally. The arcade then becomes semi-public since its accessibility by the public can be regulated by locked doors. To cover an open space is extra expense, thereby raising rents, wasting energy to heat and light it, and could drive away some of the existing marginal tenants. The advantages of an enclosed arcade are that it can be a warm enclave in a harsh cold winter environment, and is rain-free during warm, but inclement weather. The stores and interior public space can have a very open spatial relationship, with the boundary between them no longer insistently defined by a thermal barrier.

What I want to avoid doing is putting in a typical suburban shopping mall into urban Central Square. The animation and transactional energy and attention is concentrated on the interior semi-public circulation space in a shopping mall, with a barren, black, indifferent, and secure wall presented to the public environment. I have also learned a lesson from early shopping centers, which had only stores and promoted a high turnover and customer flow rate through the stores. This homogenous activity package soon was perceived as sterile, and shopping center design has progressively included more amenities over the years in an evolution towards a

village market square. Or even a step beyond that to an all weather, climate controlled, fabricated "pleasant" space which may or may not refer to historical images or futuristic images.

Reluctantly, I have decided to at least cover the open space with some translucent or transparent material and to heat the space via radiant heating techniques during the winter. Ideally, I would like to have demountable thermal barriers which could be removed during the warm season and avoid costly air conditioning, but I have the feeling that the tenants and management will want PERMANENT transparent walls for security reasons and will want an air conditioned public space for its convenience as an oasis of comfort in a hot environment, status, and its fashion. If the arcade is not air conditioned by refridgerated means, I would employ a fan and vent system to induce and aid a thermal chimney breeze to make the space relatively cooler than the street. The thermal chimney effect is where hot air rises in a vertical container drawing more hot air with it from the bottom of the container. The roof of the arcade is about 60' above the street level, and the prevailing summer winds in Cambridge are from the southwest.

Specific Design Decisions:

In plan, I conceived of the arcade as having 3 zones: 1) an intensely street related "front porch" entry on Mass. Ave.; 2) an interior glass covered atrium visually accessible from the street as well as physically accessible, but focused inward, its vitality less hectic than that of Mass. Ave.; and 3) a fairly quiet, less active rear exit "back porch" on Green Street, where the housing entry, the clinic, and a subsidiary supermarket entry and exit would be located.

The 1st. zone I made intensely street related by orienting lots of seating toward the street, and having lookout balconies at the 2nd level. The offices on the 3rd. and 4th. levels would have their main access from this "front porch", and the stores of the arcade that faced Mass. Ave. would be of the very active type. This open area is covered above by the building mass of the office section, but it is not enclosed from the street.

In the 2nd. zone, I made it an exciting PLACE with a skylight roof, 4 stories high, and placing into that volume space animators such as a hung mobile as a far and high focus, and a fountain and trees for a low close-in focus. A place was intentionally left open for impromptu and planned performances, even though the acoustics of the arcade will be much less than perfect.

There are several 2nd. level decks in the 2nd. zone to allow people to participate and watch the scene from a relatively less active higher place. Some of the offices have a view into the arcade, and so does its circulation space, so that those occupants can easily be a part of what is going on down below at some point.

The 3rd zone is in a less active local context. At its heart is the circulation path across Green Street to the library-garage-elderly tower complex. The entry to the housing is meant to be made separate from the arcade entry with subtle ceiling height changes. I felt that Green Street's lonely character at night would necessitate a guard, or some authoritative "presence", for the safety and peace of mind for the housing residents. A raised landscaped sitting area in front of the clinic on the sunny side of Green Street is a response to the plaza across from it in front of the elderly tower.

Diagrams and a plan of the arcade are on Plate 13 on page 61 .

The facade on Mass. Ave. and inside the arcade will have two zones: 1) a lower one for the stores which is quite changeable, varied, and bustlingly "commercialized"; 2) an upper one for the offices which is more subdued, its character more set by the architecture. While below, the shops will fit into an architectural framework, they will

be more free to establish their own character. In suburban malls, I often notice that the character of the individual store is often suppressed to fit into a standard opening in a uniform way with a uniform sign strip space. This is done to prevent garrish visual clutter, but I also feel that it is often carried to the point of making a mall visually monotonous. My solution is not to impose a set of architectural rules on signs, but to let the merchants of the arcade have a veto power over signage, and that way some consensus will emerge to suit their tastes. New and innovative types of signage could be used as long as it did not offend another merchant.

I chose poured in place concrete for the structure, with concrete exterior walls with a bright colored, smooth finish. Part of the reason for this is concrete's cost and also I wanted to harmonize with the concrete public parking garage, and also the 16 story concrete tower done in 1967 by Catalano, one-half block away on the corner of Mass. Ave. and Prospect St. Further background for the use of concrete was that its cream grey color would harmonize with some older grey granite faced buildings across Mass. Ave. from my site.

Although I came upon my peculiar window detail as a way of reenforcing the upper corner of a rigid plane of

concrete with a hole punched into it, the detail evolved into a decorative element in the facade, and ultimately a place to put an expansion line as well. The detail was intended to be both an expression of the specialness of a window, and as a playful dialog with the facades of older buildings on Mass. Ave. which use columns and capitals as a way of being put together, or use them as imagery of how they could have been put together. This design evolution is illustrated on Plate 20, page 68.

The facade on Mass. Ave. reflects my personal fascination about mercantile imagery of the 19th. century.

Conclusions, Reactions, and Comments

It was hard for me to design an arcade that was not "brightly new looking", zippy and flashy, with the latest materials used in cute ways, and yet not be humdrum and just like what the existing context is. I felt a little disappointed that my design was not so daring, provocative, and never-before-seen, but such designs often satisfy an architect's ego, and are intended to impress his or her peers. I found myself confronting a lot of my own images, stereotypes, and visions which had to be reevaluated. I feel that I really tried to pay attention to and consider what range of solutions were desirable for this terrific site from many viewpoints besides my own.

This design thesis is the cap of my studies at M.I.T. on public environments. These studies have tremendously affected my attitudes toward design, and my design process.

In working on the thesis itself, I was able to use, test, and explore the limits of several types of public space coding that I had helped formulate working with Prof. Stanford Anderson and Prof. Donlyn Lyndon.

Bibliography

- Alexander, Christopher A Pattern Language Which Generates Multi-Service Centers
- Albert, Adrienne Sue M. Arch. Thesis, May 1974
"Considerations in the Design of a Shopping Center"
- Anderson, Stanford Thresholds-Working Paper #1 & #2 - Studies Toward an Ecological Model of the Urban Environment. 1975
- Architectural Forum Pioneer Square - Seattle
December 1973, p 17.
- "Culture As Consumption"
Dec. 1973, p 47.
- Ghirardelli Square-San Francisco, April 1973.
- Peachtree Center - Atlanta
April 1969, p 42.
- Architectural Record Baystate West - Springfield, Mass.
Crown Center - Kansas City
Broadway Plaza - Los Angeles
April 1974, p 137
- "Courthouse Center In Columbus, Indiana"
March 1973, p 128
- Worcester Center - Worcester, Mass., May 1972, p 99.
- "The Mall at Columbia, Mary."
March 1972, p 114
- "The Shopping Centers of Harrell + Hamilton" Mar. 1970.
The Crossroads - Okla. City
Forum 303 - Arlington, Tex.
Town East - Dallas, Texas
- The Garage - Cambridge, Mass.
Dec. 1974, p 110

- Galleria Post Oak - Houston
July 1969, p 136.
- "NorthPark Shopping Center
in Dallas"
April 1966,
- Rockefeller Center - N.Y.C.
April 1931, p 275.
- Battaglia, Paul Lownie M. Arch. Thesis, June 1975
"Arlington's Mill Brook:
Design & Process"
- Beha, Ann Macy M. Arch. Thesis, June 1975
"Restoration and Adaptive Use
of an Urban Church"
- Blake, Peter "Shopping Streets Under
Roofs of Glass" Architectural
Forum - Jan./Feb. 1966.
- Bradley, Randall M. Arch. Thesis, June 1974
"Design Projections For A
Small Non-Residential
Building: Towards A Theory
of 'Associative-Use' Spaces"
- Bramblett and others Thoughts on the Revival of
Downtown USA. 1973.
- Downtown Research & Devel- Downtown Mall: Feasibility
opment Center, New York..... and Development. 1974.
- Gary, Ben "Brattlewalk is Dead, But
Memories Linger On", Land-
scape Arch., April 1973, p 222.
- Geist, Johann Friedrich..... Passagen ein Bautyp des 19
Jahrhunderts, 1969.
- Goodman, Robert After the Planners, 1971.
- Grey, Arthur People and Downtown - Uses,
Attitudes, Settings - Seattle
1970.
- Halprin, Lawrence Cities, 1972

- Interiors Hyatt Hotel - San Francisco
October 1973, p 79.
- Regency Hyatt Hotel - Atlanta
July 1967, p 69.
- York Square - Toronto, Ont.
July 1966, p 70.
- Johnson, Phillip "A There, There" Arch. Forum,
November 1973, p 38.
- Kahn, Albert The Fisher Building - Detroit
Arch. Record - Jan./June 1929
p 188, v65.
- Michigan guide book, 1945,
p 263.
- Lyndon, Donlyn "5 Ways to People Places"
Architectural Record
September 1975, p 89.
- McGrath and Frost Glass in Architecture and
Decoration, 1937.
- Official Guidebook & Map.... Williamsburg, Va. 1926.
- Otsuki, Katsuyoshi M. Arch. A.S. Thesis, June 1973,
"Design Control Program Based
On Visual Survey Case Study -
Charlestown Commercial Site"
- Progressive Architecture .. The MarketPlace at Glaston-
bury, Conn., Oct. 1975, p 61.
- Butler Square - Minneapolis
October 1975, p 74.
- Rockefeller Center - New York
July 1974, p 60 .
- 127 John Street - New York
April 1972, p 78.
- Quincy Market - Boston
September 1971, p 157.
- Redstone, Louis G. New Dimensions in Shopping
Centers and Stores, 1973.

- Rudofsky, Bernard Architecture Without Architects
1964.
- Streets For People, 1969
- Smith, Karen Vogel..... M. Arch. Thesis, June 1974,
"Exploring the Propositions:
An Approach to the Design of
Public - Private Edges"
- Strawbridge, Norris M. Arch. Thesis, Feb. 1976,
"Design Porposal For User
Responsive Housing At Moderate
Density"
- Toffler, Alvin Future Shock, 1970.
- Ziegler, Peter M. M. Arch. Thesis, Feb. 1976
"Housing and Neighborhood
Services for the Cambridge
Riverfront"
- Minor, William M. Arch. Thesis, 1974,
"The Ghetto Market Place:
Program and Design for Black
Street Life"
- Sutnar, Ludislav Design For Point Of Sale, 1952.
- "Report of the Total Studio
of Spring 1975 on the Dudley
Station Area"

All the theses used in my background studies were done by students at M.I.T., and all the material in this bibliography is available in Rotch Library at M.I.T.

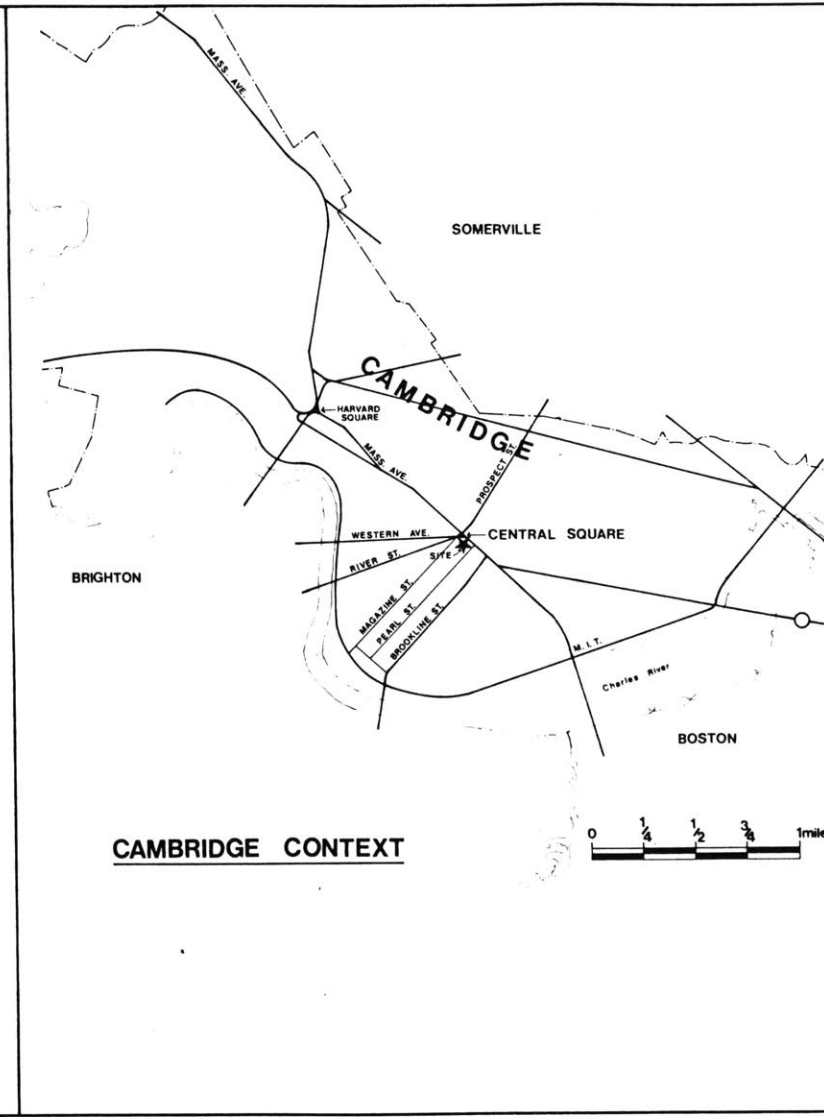
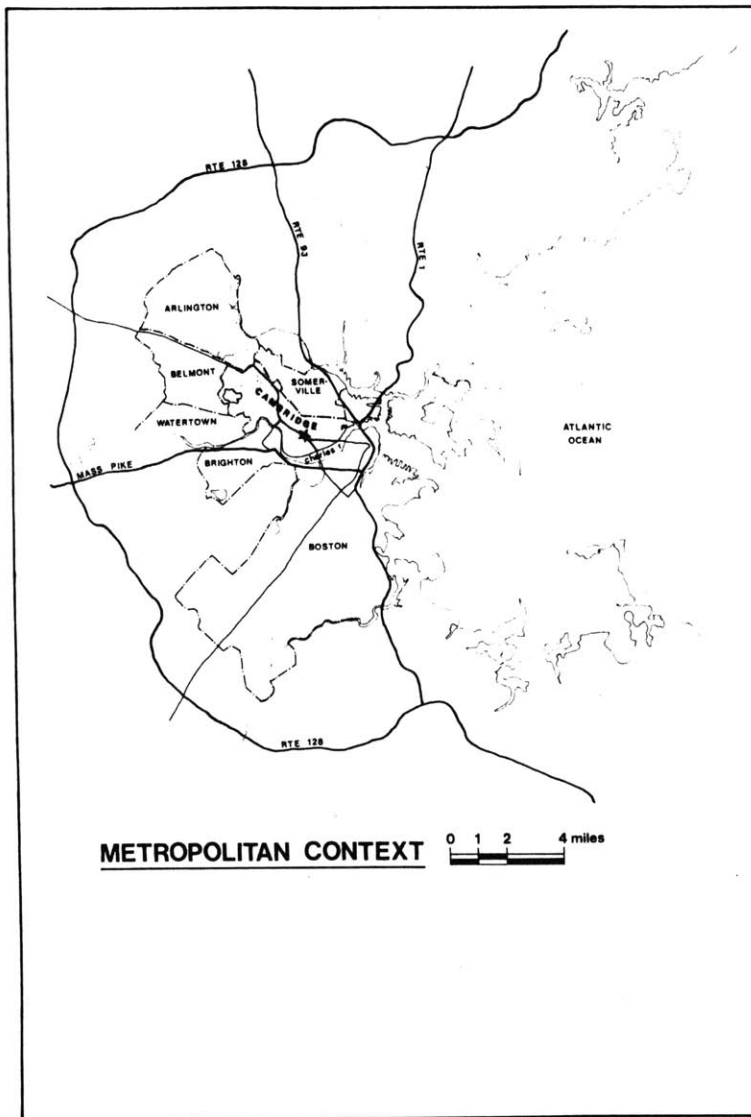
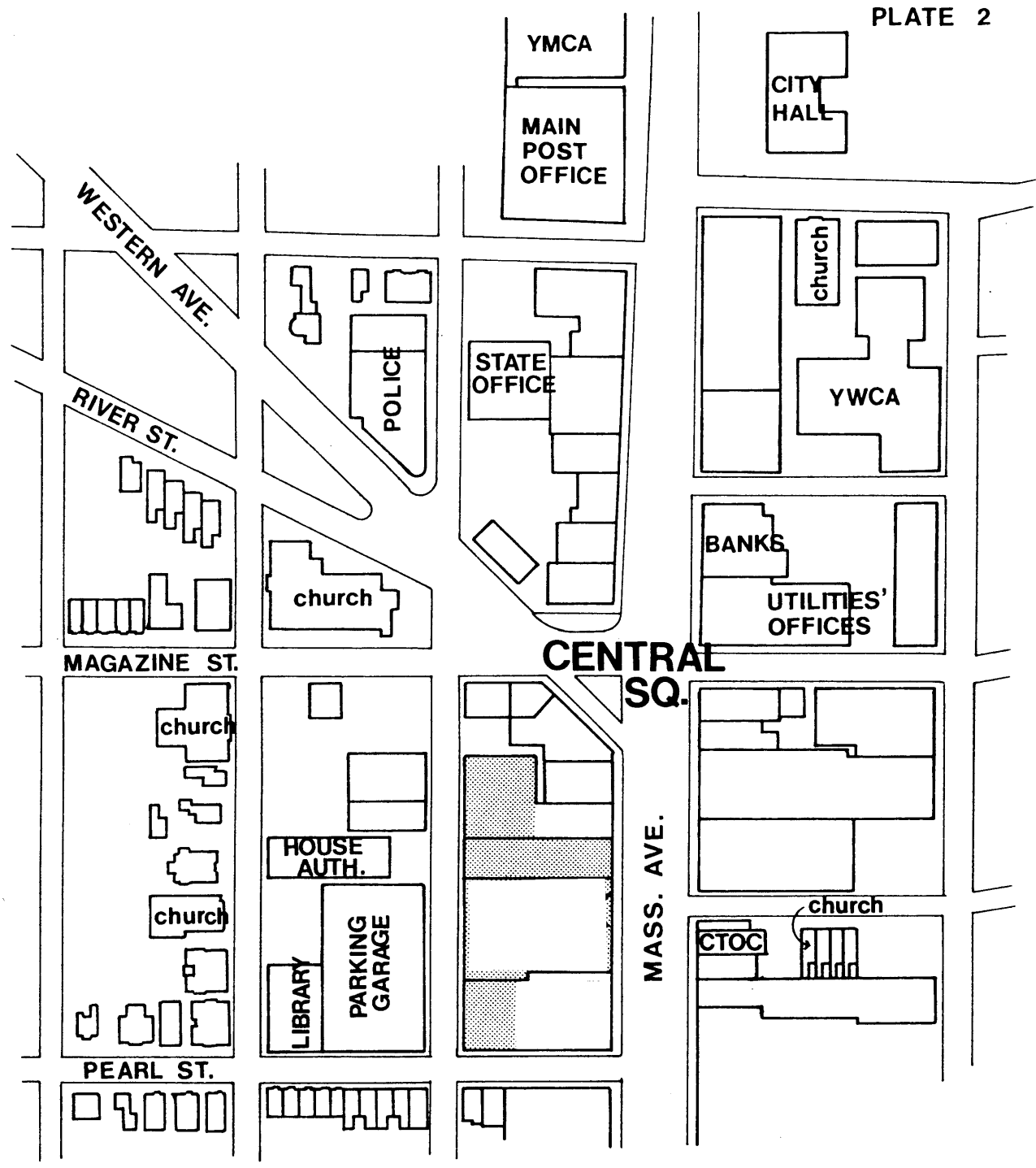


PLATE 1

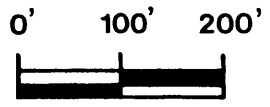
M. I. T.
M.A.RCH. THESIS
MAY 1976

WESLEY H.
HENDERSON

METROPOLITAN
& CAMBRIDGE
CONTEXT



**INSTITUTIONAL CONTEXT OF
"DOWNTOWN" CAMBRIDGE**



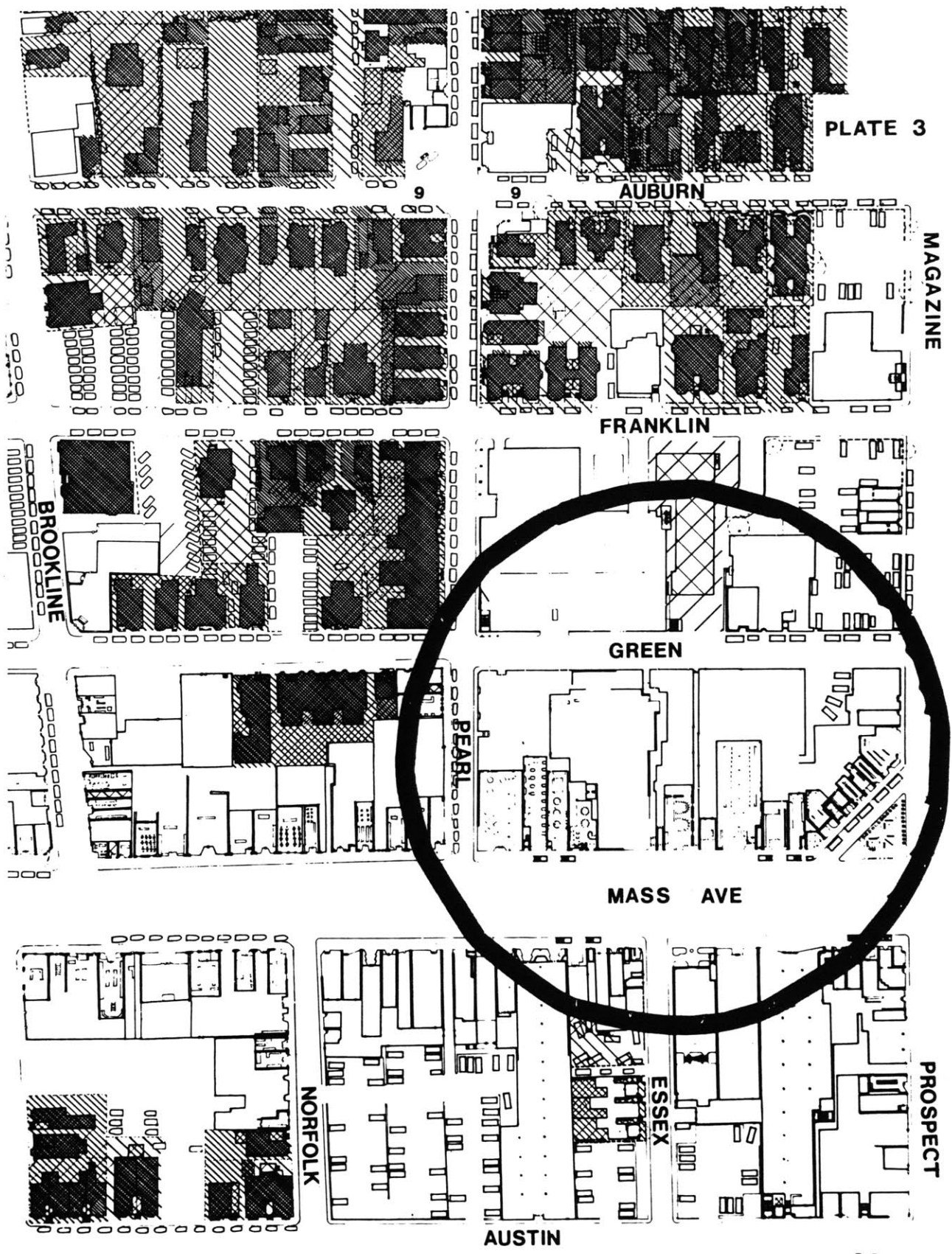


PLATE 3

MAGAZINE

AUBURN

FRANKLIN

BROOKLINE

GREEN

PEARL

MASS AVE

NORFOLK

ESSEX

PROSPECT

AUSTIN

RESIDENTIAL CONTEXT



26

Site acquisition costs:

Land:

parcel 1 -	\$ 38,400
2 -	127,000
3 -	27,000
4 -	25,425
5 -	12,000
	6,480
	\$236,305

Buildings:

parcel 1 -	\$ 15,000
2 -	109,900
3 -	25,000
4 -	18,000
5 -	15,000
	\$182,900

Land	236,305
Buildings	182,900
total	\$419,205

City of Cambridge
Assessor's Office

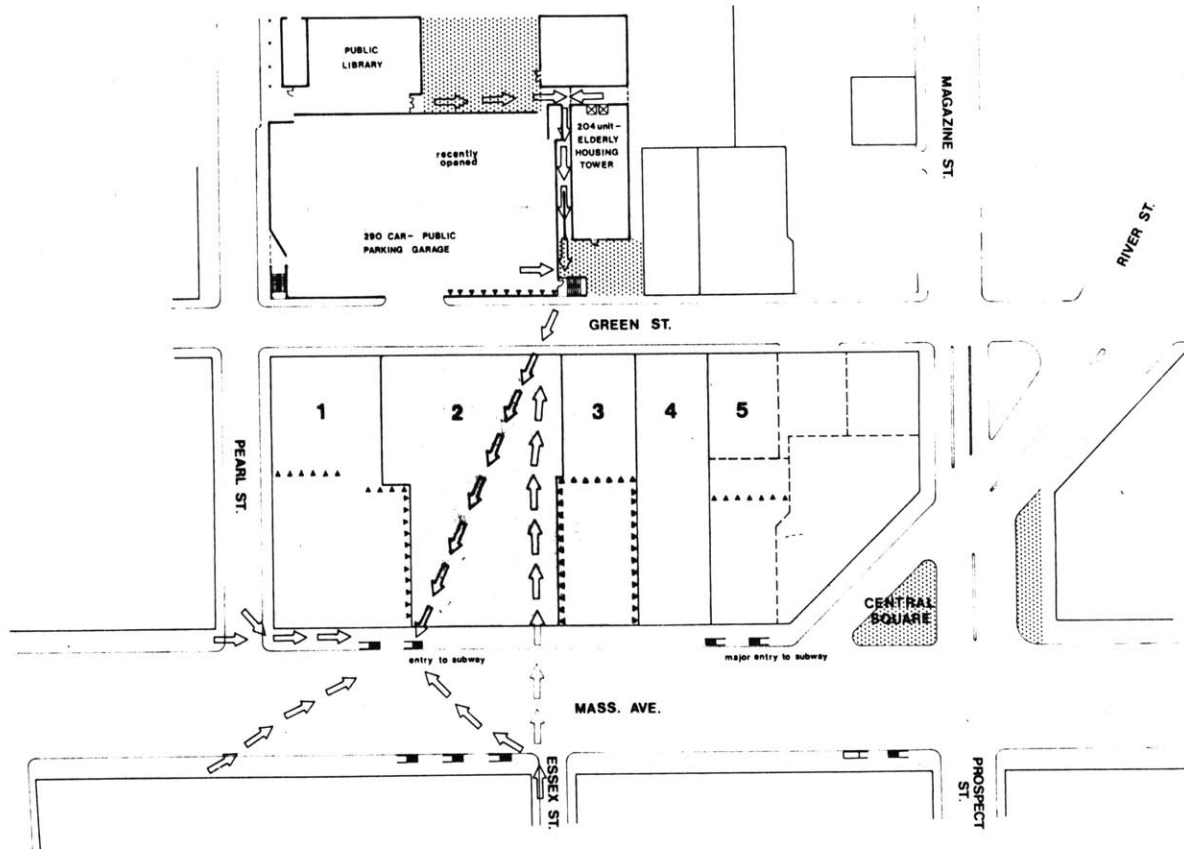






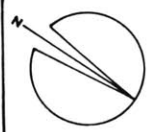
PLATE 4

M. I. T.
M. ARCH. THESIS
MAY 1976

WESLEY H.
HENDERSON

-  PROPOSED SITE
-  EXISTING OPEN AREAS
-  HARD EDGES
-  PEDESTRIAN DESIRE LINES

SITE
CONTEXT



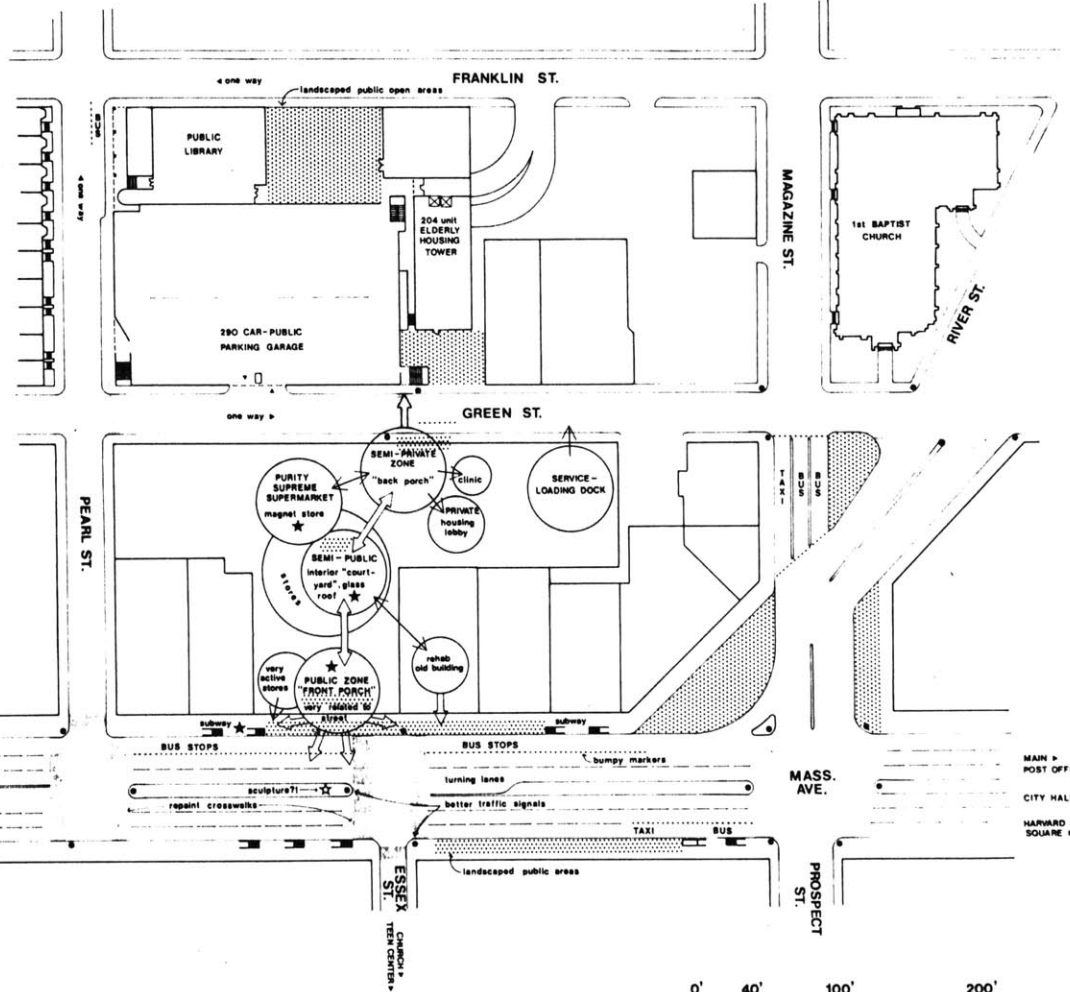
CENTRAL SQUARE

CONTEXT PROBLEMS

1. Mass. Ave. is so wide, pedestrians—especially elderly and children—find it hard to cross.
2. Traffic often is snarled because of bus and double parking, also streets do not have lane stripes.
3. There are too few places and provisions for waiting bus patrons.

PROPOSED SOLUTIONS

1. Provide a pedestrian island as a mid-point refuge. Repaint crosswalks and coordinate traffic signals for more pedestrian convenience.
2. Placing a median strip off center to have a large bus stop lane. Provide turning lane, and paint lane stripes to traffic flow.
3. Put more street furniture in the area. Develop the front of my arcade to augment existing sitting and waiting places.



CONTEXT INTENTION DIAGRAM

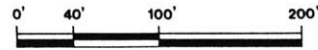


PLATE 5

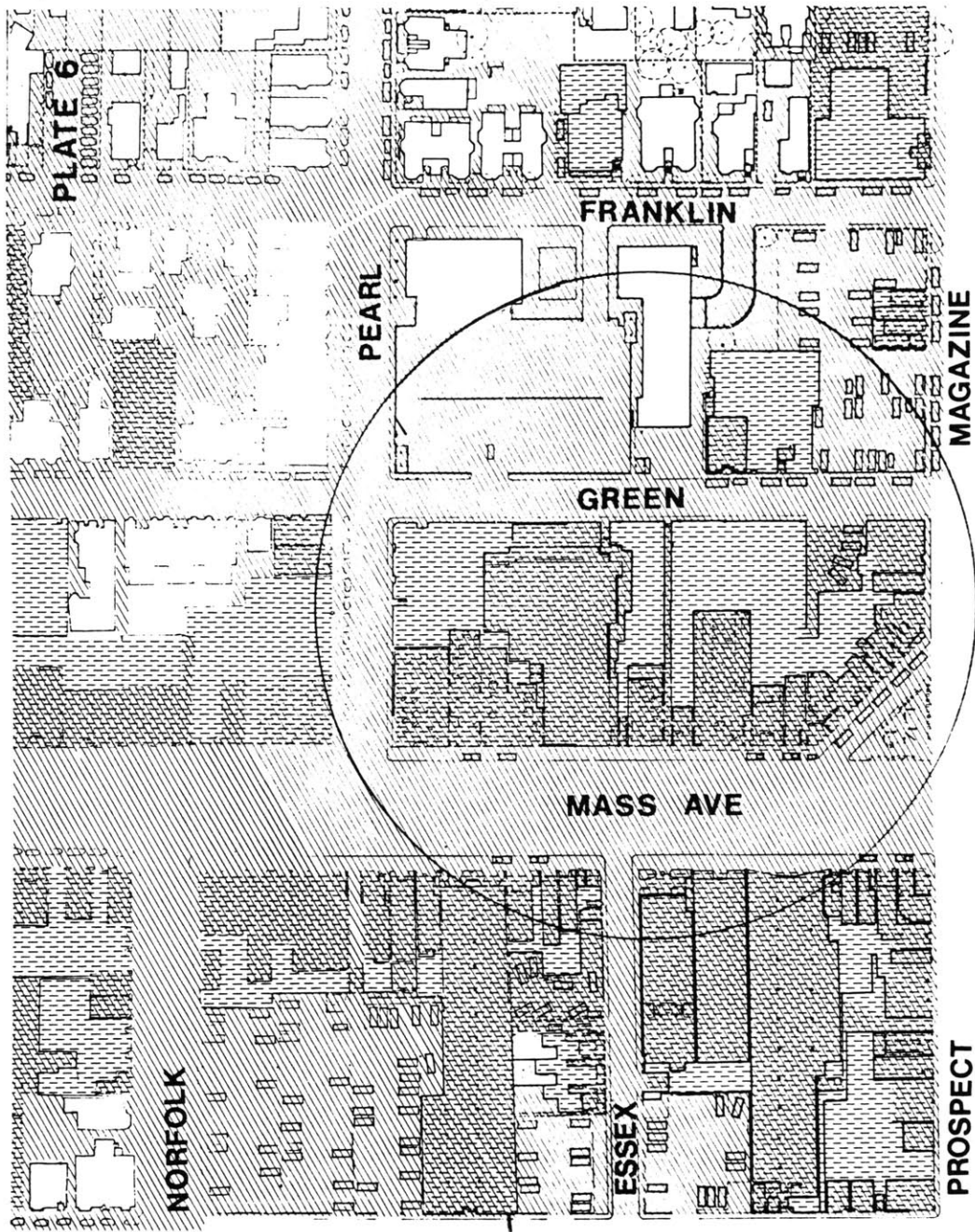
M. I. T.
M. ARCH. THESIS
MAY 1976

WESLEY H.
HENDERSON


- LANDSCAPED PUBLIC AREAS
- CROSSWALKS
- TRAFFIC SIGNALS
- BUMPY MARKERS
- RAISED LANE STRIPES
- STRONG CONNECTION RECOGNIZED RELATIONSHIP
- ATTENTION / FOCUS

CONTEXT MODIFICATION





 Areas under some form of private business or institutional control or claim.

 Areas to which there is SOME form of public access – physical and/or visual.

 Private space – not accessible to public.



EXISTING PUBLIC ACCESS/ PRIVATE CONTROL

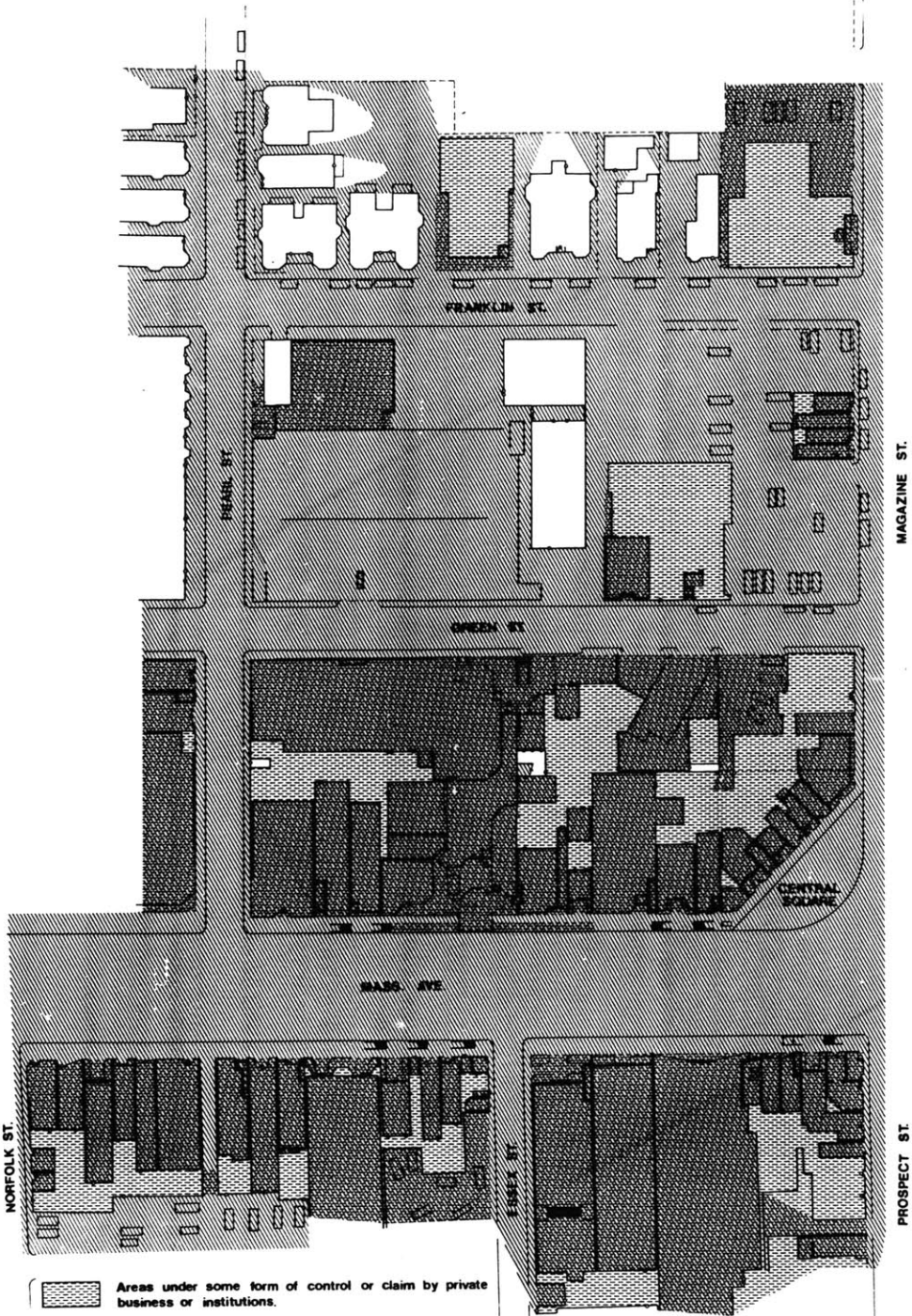
PLATE 7

M. L.T.
M. ARCH. THESIS
MAY 1976

WESLEY H.
HENDERSON

- SOLID WALL
- GLASS OR NON-OBSTRUCTIVE WALL
- CHAIN-LINK FENCE
- DOOR
- AUTO

PROPOSED
PUBLIC ACCESS/
PRIVATE CONTROL



- Areas under some form of control or claim by private business or institutions.
- Areas to which there is some form of public access—physical and/or visual.
- Private space— not accessible to the public.

PROPOSED
PUBLIC ACCESS/
PRIVATE CONTROL

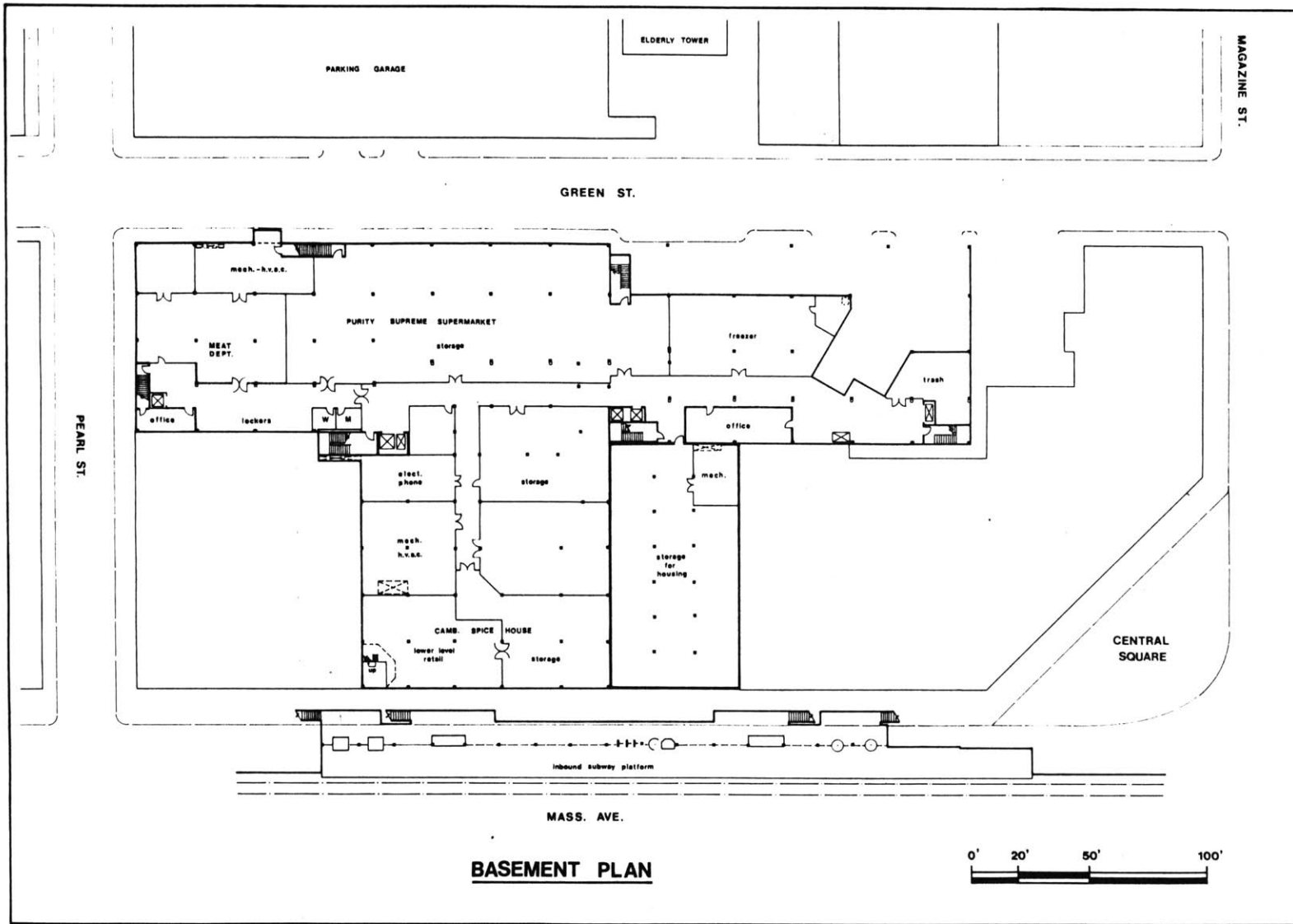


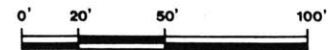
PLATE 8

M. I. T.
M. ARCH. THESIS
MAY 1976

WESLEY H.
HENDERSON

AREAS	SQ.FT.
SUPERMARKET	18,000
OTHER STORAGE	4,800
HOUSING STOR.	5,275
94 units	90 ¹ / ₂
GEN. MECH. & UTIL.	3,000
CIRCULATION	4,200
C-SPICE HSE	4,200

LEVEL B



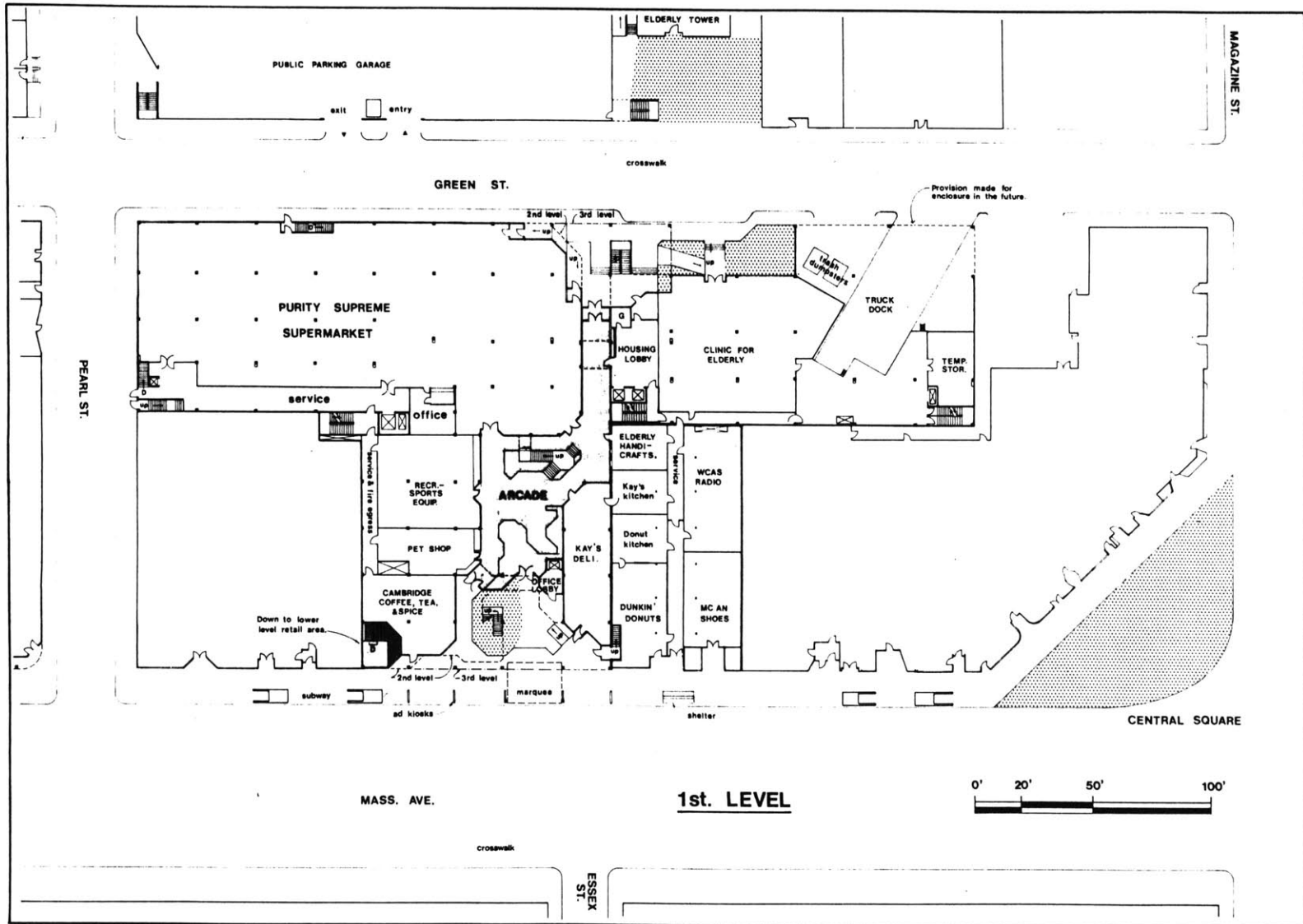


PLATE 9

M. I. T.
M. ARCH. THESIS
MAY 1976

WESLEY H.
HENDERSON

AREA	SQ. FT.
PURITY SUPREME	18,200
OTHER RETAIL	8,800
CLINIC	3,500
TRUCK DOCK	7,000

LEVEL 1



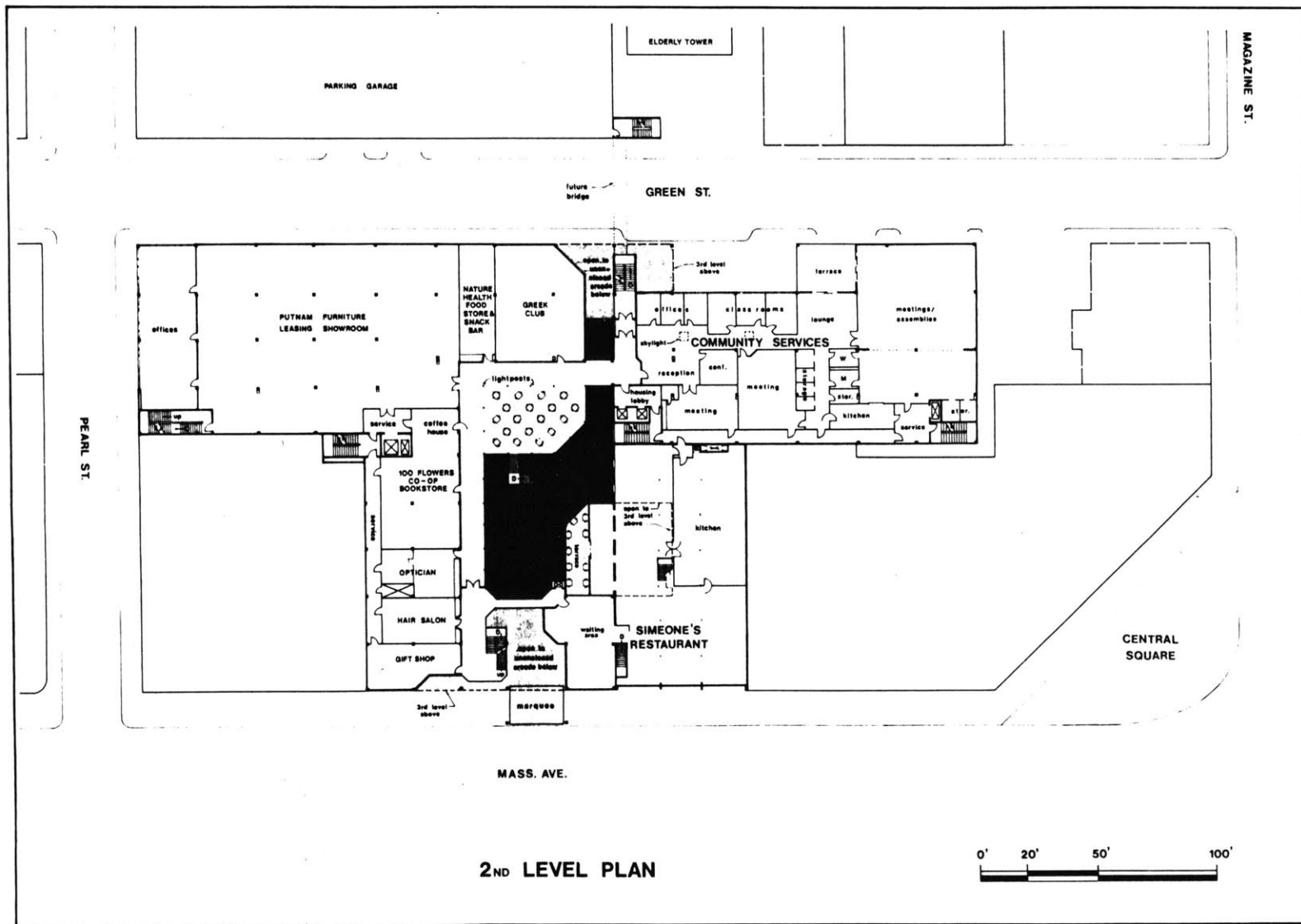


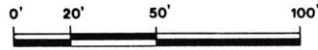
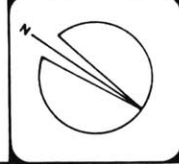
PLATE 10

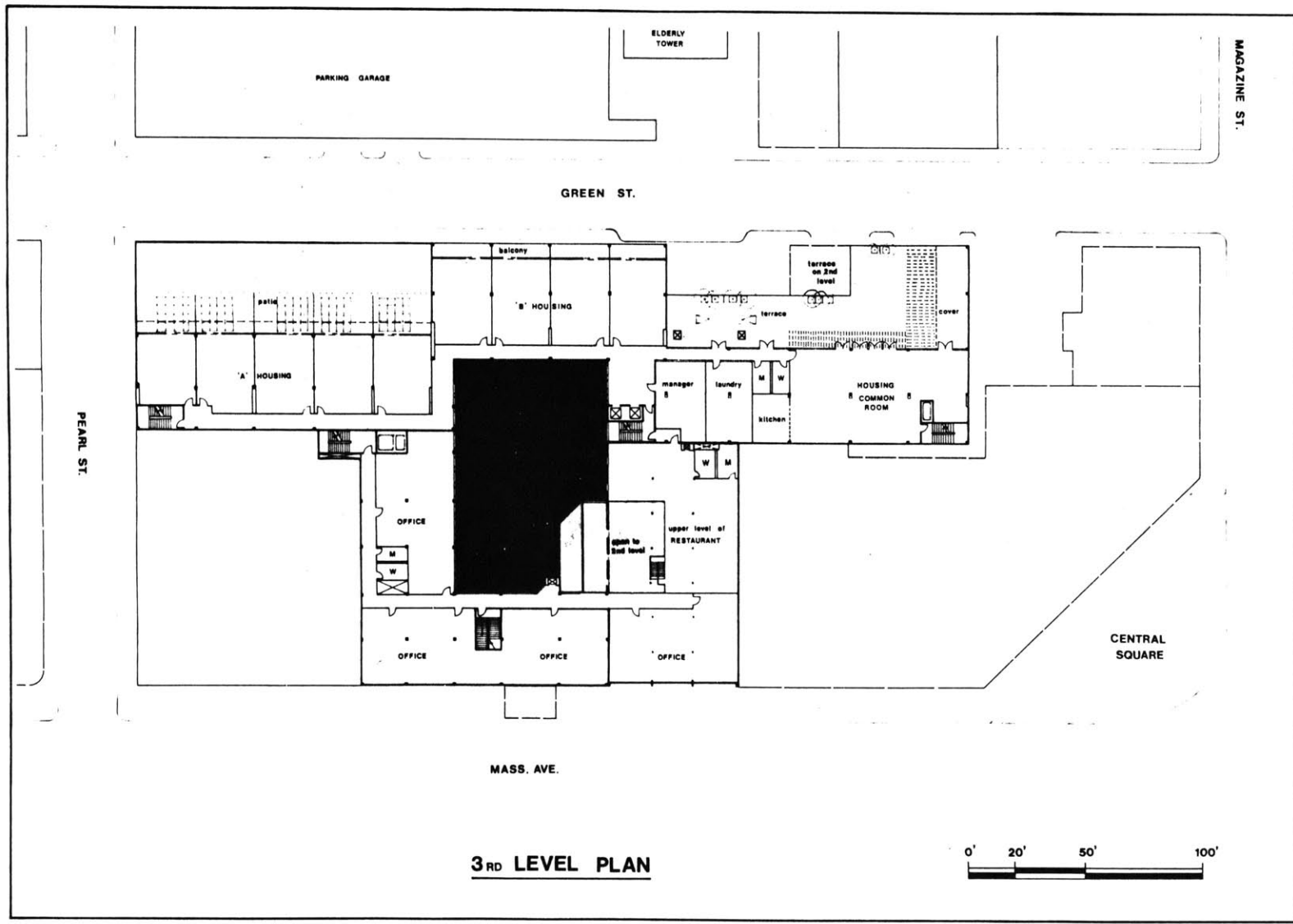
M. I. T.
M. ARCH. THESIS
MAY 1976

WESLEY H.
HENDERSON

AREAS	SQ. FT.
RETAIL	16,300
RESTAURANT	7,475
COMMUNITY SERV.	9,100
SERVICE	1,780

LEVEL 2





3RD LEVEL PLAN

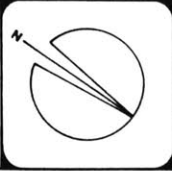
PLATE 11

M. I. T.
M. ARCH. THESIS
MAY 1976

WESLEY H.
HENDERSON

AREAS	SQ. FT.
OFFICE	7,200
RESTAURANT	2,475
HOUSING	
unit 'A'	800
unit 'B'	925

LEVEL 3



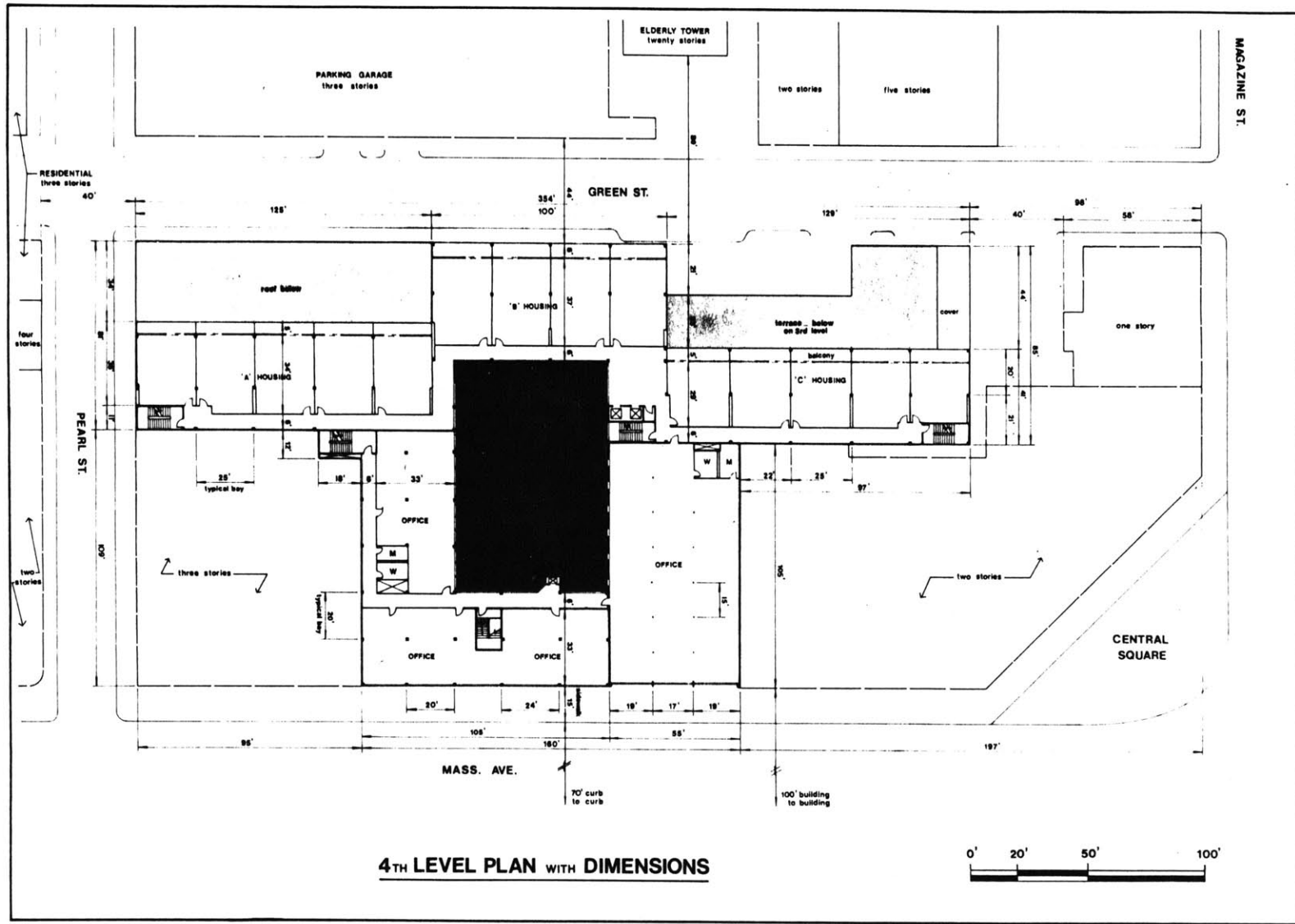


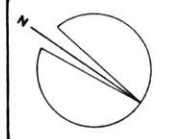
PLATE 12

M. I. T.
M. ARCH. THESIS
MAY 1976

WESLEY H.
HENDERSON

AREAS	SQ. FT.
OFFICE	10,800
HOUSING	
unit 'A'	800
unit 'B'	925
unit 'C'	725

LEVEL 4



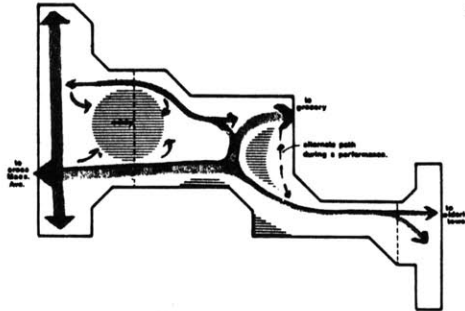
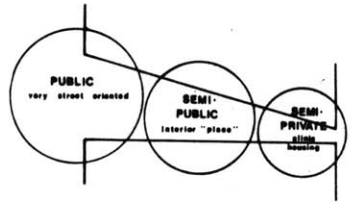
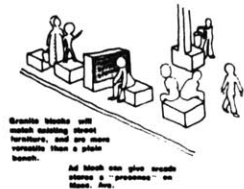
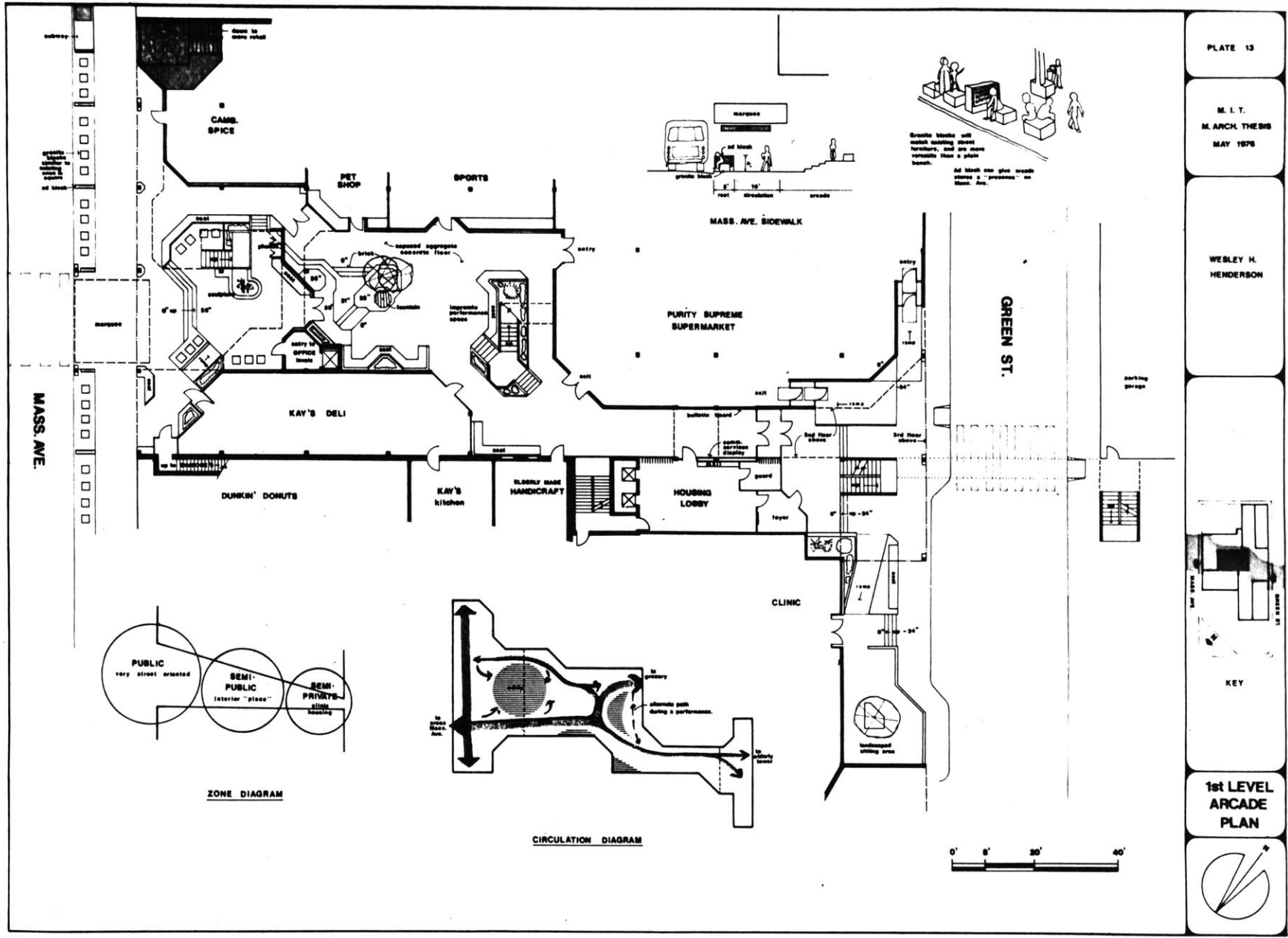
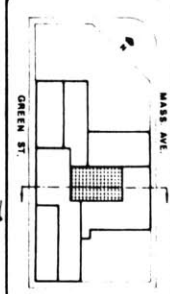


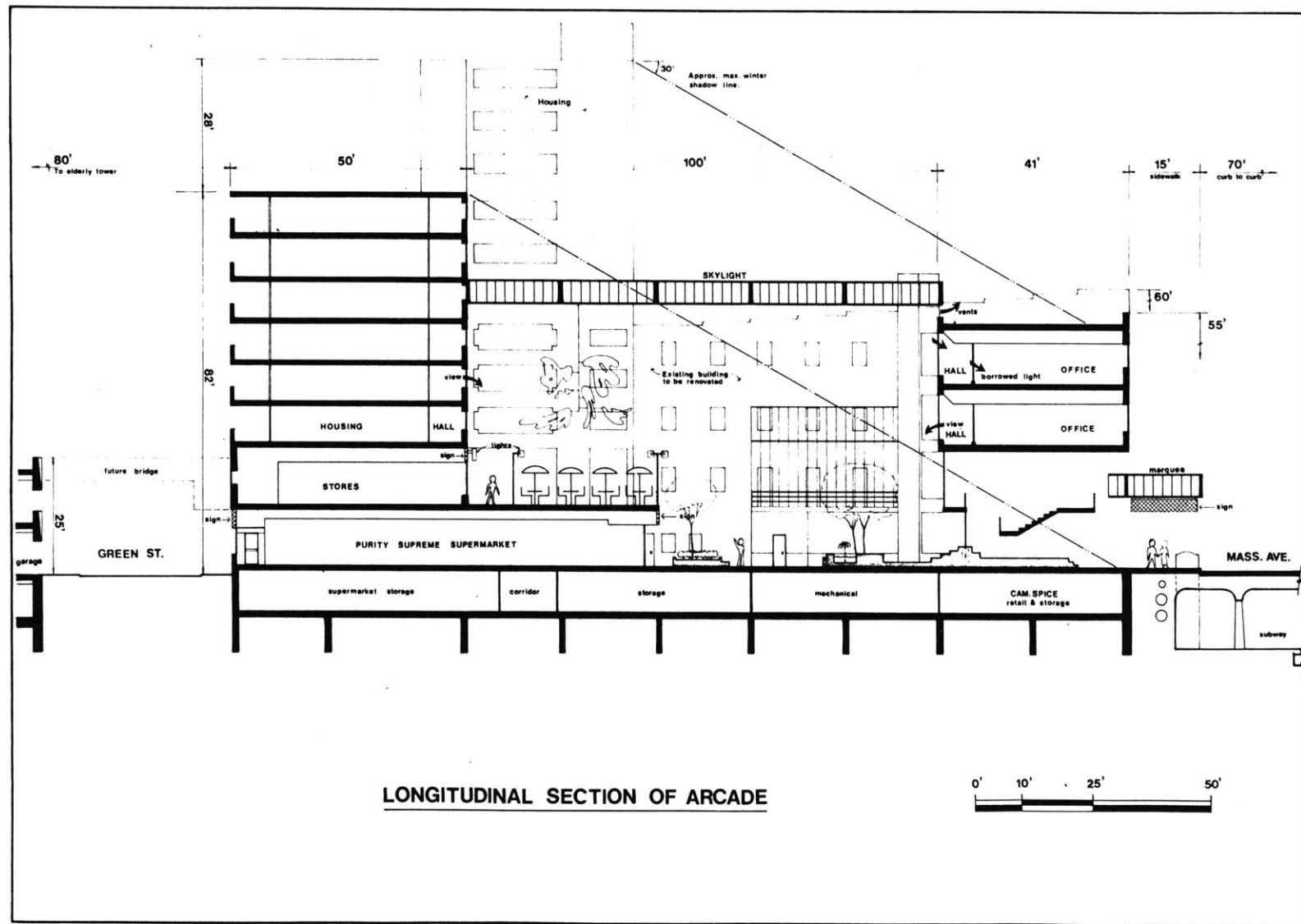
PLATE 14

M. I. T.
M. ARCH. THESIS
MAY 1976

WESLEY H.
HENDERSON



KEY



LONGITUDINAL SECTION OF ARCADE

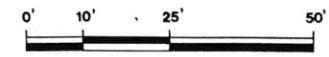
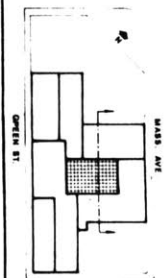


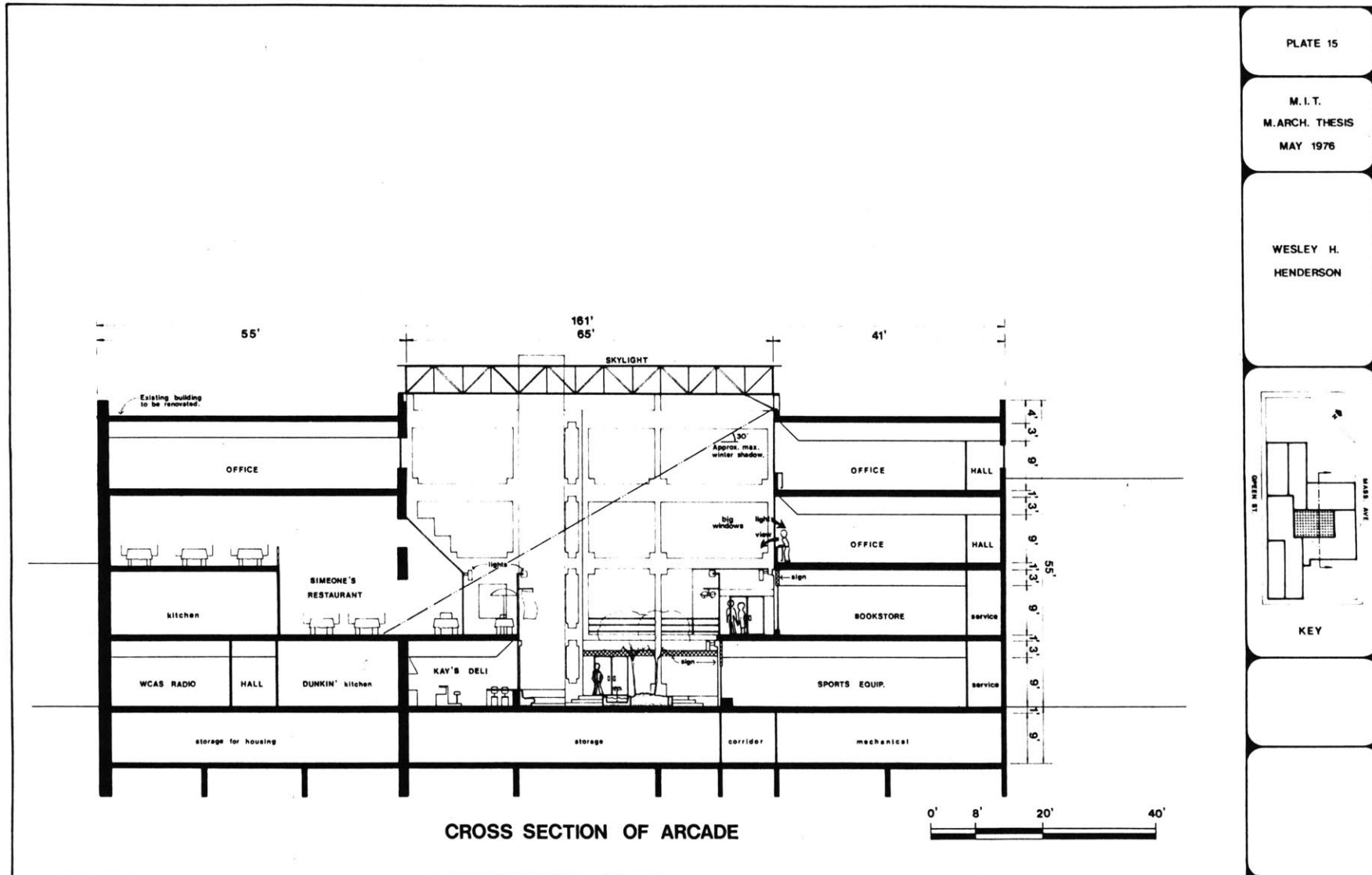
PLATE 15

M.I.T.
M.Arch. THESIS
MAY 1976

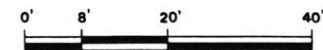
WESLEY H.
HENDERSON

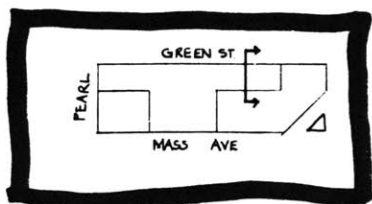
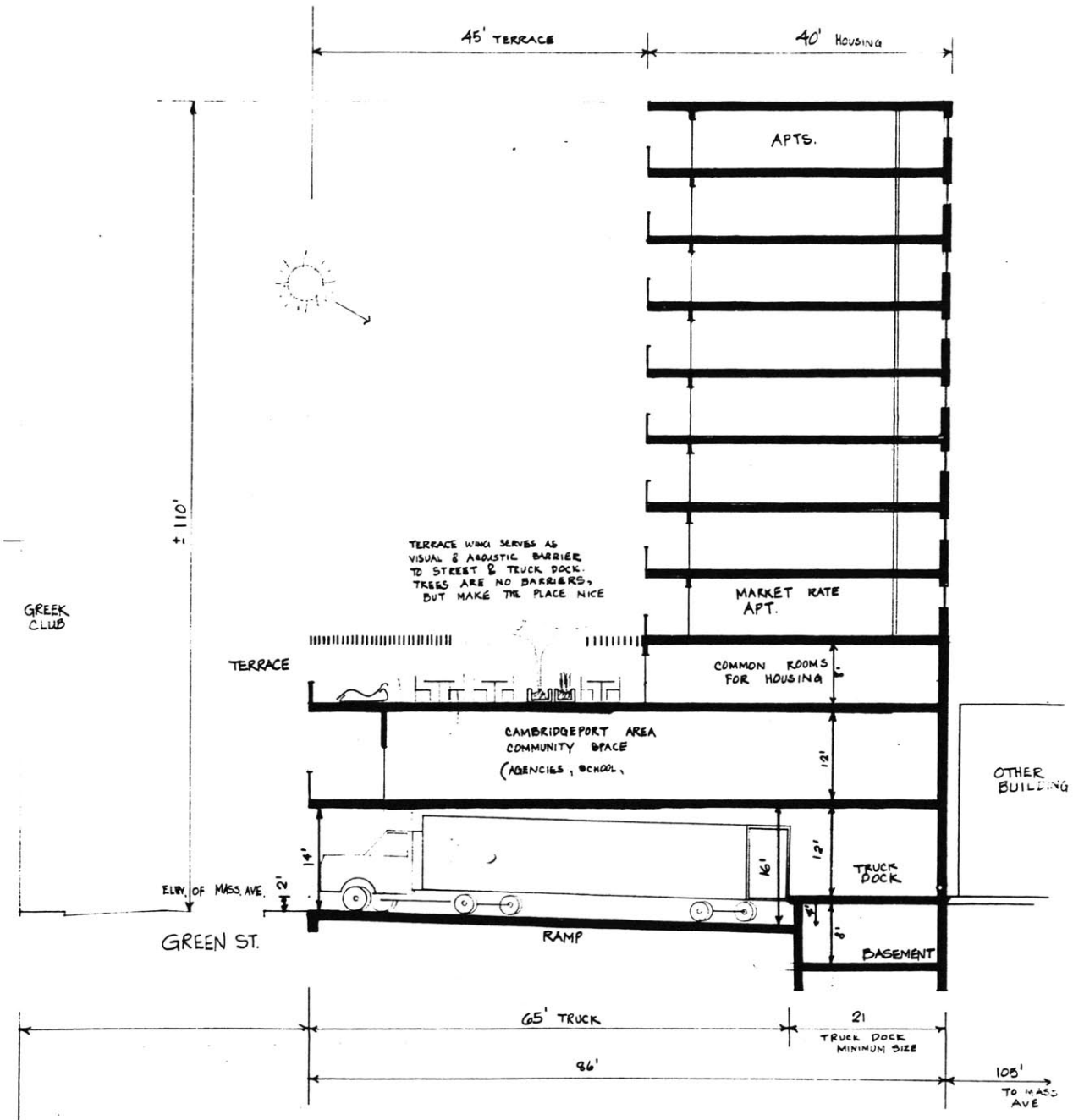


KEY

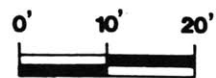


CROSS SECTION OF ARCADE





TRUCK DOCK SECTION

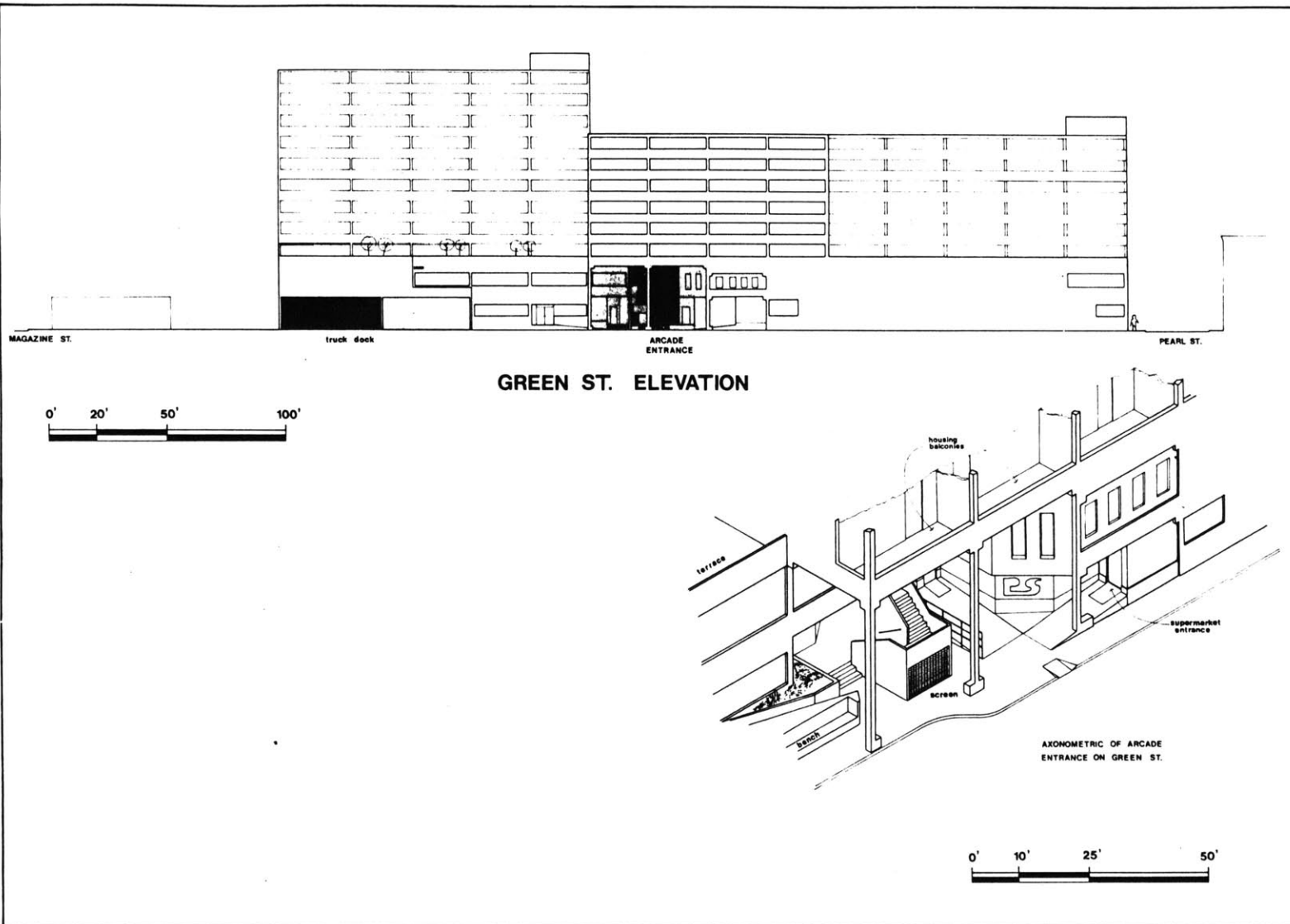


12

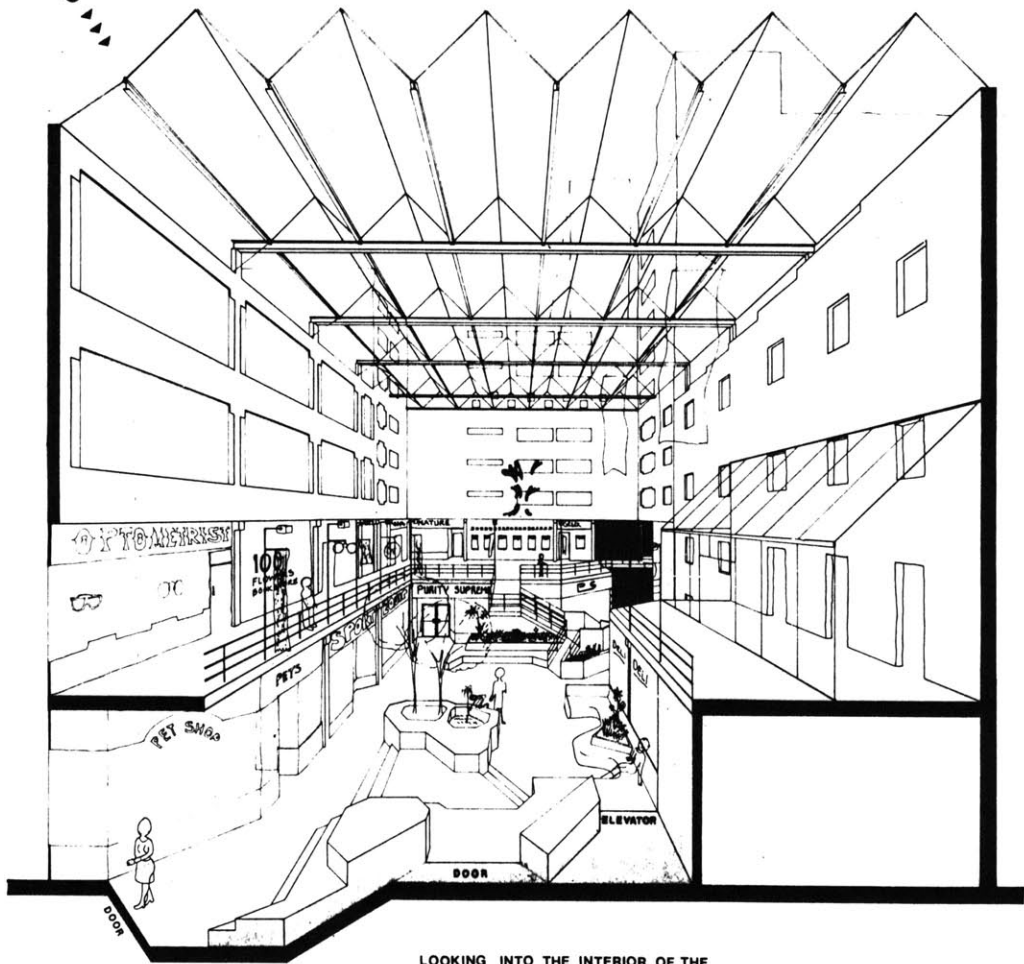
PLATE 17

M. I. T.
M. ARCH. THESIS
MAY 1976

WESLEY H.
HENDERSON



SUN

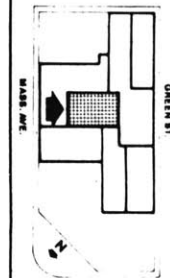


LOOKING INTO THE INTERIOR OF THE
ARCADE FROM MASS. AVE.

PLATE 18

M. L. T.
M. ARCH. THESIS
MAY 1976

WESLEY H.
HENDERSON



KEY

ARCADE
PERSPECTIVE

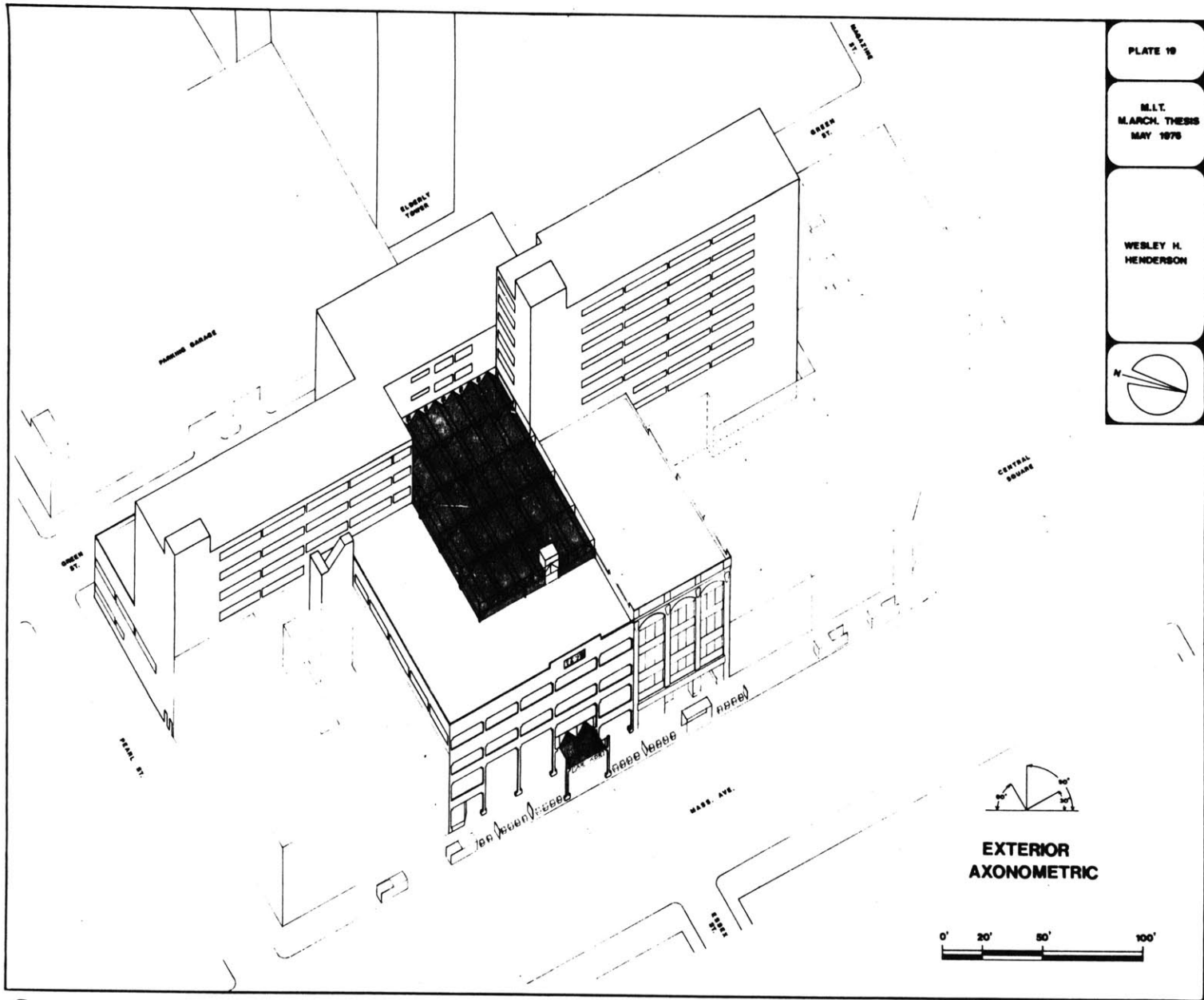


PLATE 19

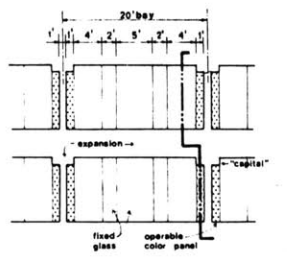
M.L.T.
MARCH, THESIS
MAY 1976

WESLEY H.
HENDERSON



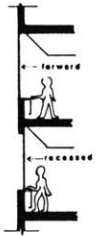
EXTERIOR
AXONOMETRIC



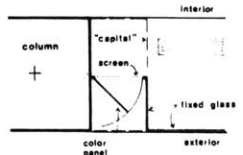


ELEVATION

0" 8"



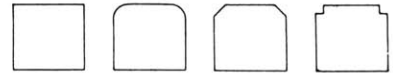
SECTION



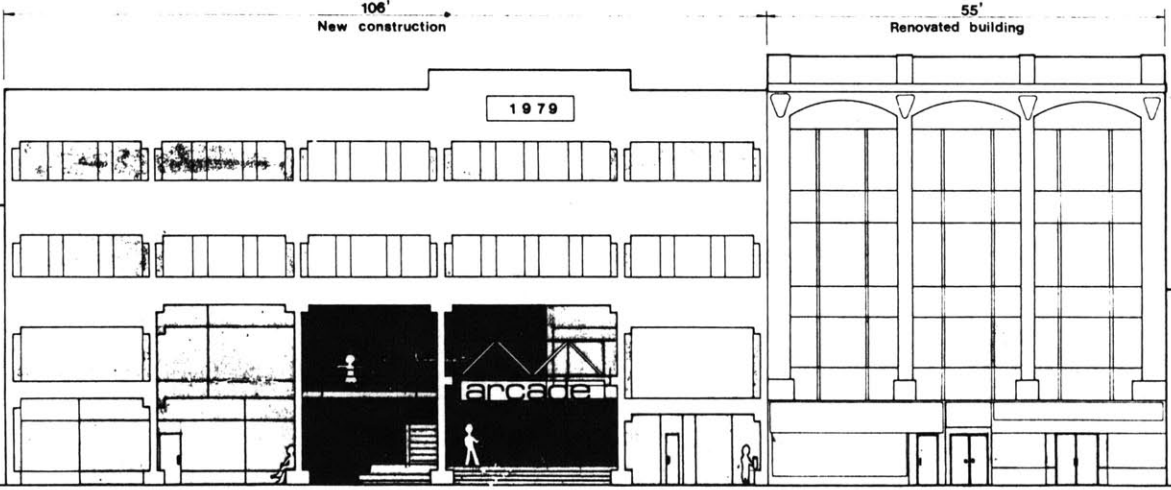
PLAN

0" 8" inches

WINDOW DETAILS



DESIGN EVOLUTION



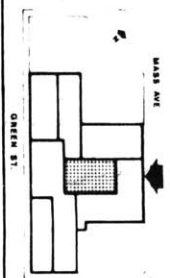
MASS. AVE. FAÇADE

0' 8' 20' 40'

PLATE 20

M. I. T.
M. ARCH. THESIS
MAY 1976

WESLEY H.
HENDERSON



KEY

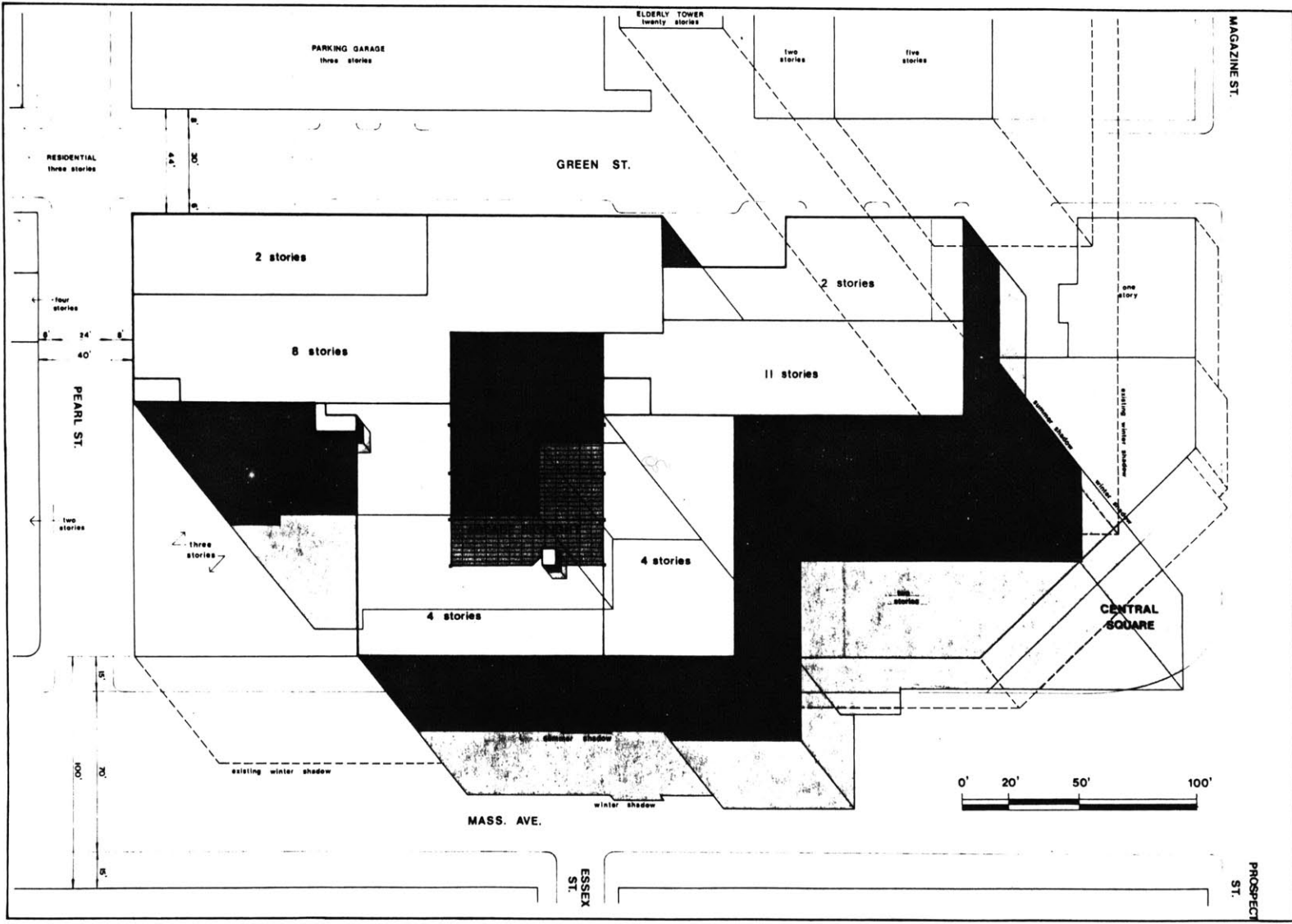


PLATE 21

M. I. T.
M. ARCH THESIS
MAY 1976

WESLEY H.
HENDERSON

SHADOW
STUDY