

1-1-2008

Community Wellness Center: Providence, Rhode Island

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The Community Wellness Center

Providence, Rhode Island

Healing Mind, Body, and Soul

Independent Project submitted to:

Roger Williams University, School of Architecture, Art and Historic Preservation

In fulfillment of the requirements for the Bachelor of Architecture Degree

May 2008

By:

Eva Marie Mercurio

Class of 2008

Hasan-Uddin Khan

Distinguished Professor

Dean Stephen White, AIA

School of Architecture, Art, and Historic Preservation



Abstract

The Wellness Center in Providence, Rhode Island incorporates alternative medicine, medical, and dental facilities for the benefit and education of patients within and around surrounding neighborhoods as well as for others who reside outside the immediate area. These services, all of which are available in one centrally located area have the potential to captivate and entice those who are interested in creating a better lifestyle for themselves.

A predominant focus of this facility is to instill and promote healthy lifestyles while at the same time educating the public who can contribute to a society and become capable of addressing and solving problems and issues before they become too big. City inhabitants regardless of social or economic status can become the promoters of a healthier life once they receive the tools. They too become educators by spreading the word, which is directly influential to those around them and the society in which they live.

The concept of creating buildings that promote balance between mind, body, and spirit will begin a process, which facilitates a realignment of societal values and ethics through the practice and education of medical, dental, and holistic care. As the building radiates the essence of interactions between people and space, and building within its environment, the experience becomes that of probability.

Another important aspect of this project is to create a purposeful building within a city environment with consideration given to existing historical buildings and landscape while at the same time generating a positive influence and effect in a tactful manner consistent with contextual surroundings.



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Introduction

Many of our cities are in distress, plagued with drugs, crime, murder, lack of education and governmental help, spiritual unawareness, etc, etc. Beginning on an individual basis, it is imperative that we teach how to balance the mind, body, and the spirit. We can facilitate these ideals and influence the lives of people in a positive aspect through buildings promoting the same purpose.

The breakdown of values, morality, and ethics can be restored if we implement changes in a constructive manner as opposed to dictating what we feel would be best for individuals or specific situations. By giving people choices with what type of treatment(s) would be best for them, we can encourage growth in responsibility, self-esteem, confidence, and accountability for ones own actions. This idea could be reflected within the building and its programmatic context having a direct effect among the occupants and users.

Problem Statement

By offering healthcare, fitness, and education under one roof and within easy access to neighborhoods an opportunity is given to re-set the values, beliefs, and ethics within ones self as well as integrating these characteristics into society. The components within the facility employ a variety of cultural techniques and methods offering diversity not only for health-care but also for personal development, societal harmony, and a balance between people and their environment. By creatively integrating functions and purposes, occupants can be directed and encouraged with a new understanding of balance.

Currently, besides Rhode Island Hospital, there isn't a single building attempting to fulfill the aforementioned ideas nor are there separate buildings offering dental and/or alternative medicine along Eddy Street in Providence. Although a proposal to create such a project would be independent of the hospital it is just as important for it to be within close proximity for referrals, emergency cases and for services not offered at the Wellness Center.



Project Statement

This project presents many challenges including but not limited to integrating a diverse program within itself, designing a building whose technical and medical purpose creates a sense of peace, and becoming the center of change for a neighborhood in an attempt to realign and heal adverse conditions that have become a way of life for many.

The chosen site for the proposed project shall dictate an appropriate theme whether it is cultural, technological, spiritual, social, etc., etc. Also playing a role in the selected theme (s) will be interviews conducted on-site polling the opinions and suggestions of residents and those passing through.

The integration of materials and space can have dramatic effects on the psyche when intuitively combined. Although education may appear to be a simple solution to many of our problems, it is the basis of how we interact within society. If we teach balance of the mind, body, and spirit, it will lend itself to peace, harmony, and a society of health, happiness and love.

Architecture can satisfy many objectives, including but not limited to social implications, physical effects, and aesthetic indications. Ideally, any project should strive to accomplish all of these purposes and more. It is my intent to take into consideration all that architecture can satisfy in a logical, orderly, effective, and efficient manner while at the same time benefiting others and their surrounding community. The intentions put forth through this project should serve to satisfy acts of kindness, consideration, and a genuine compassion for others in a manner beneficial to humankind as well as the ecology of this planet.

Project Goals

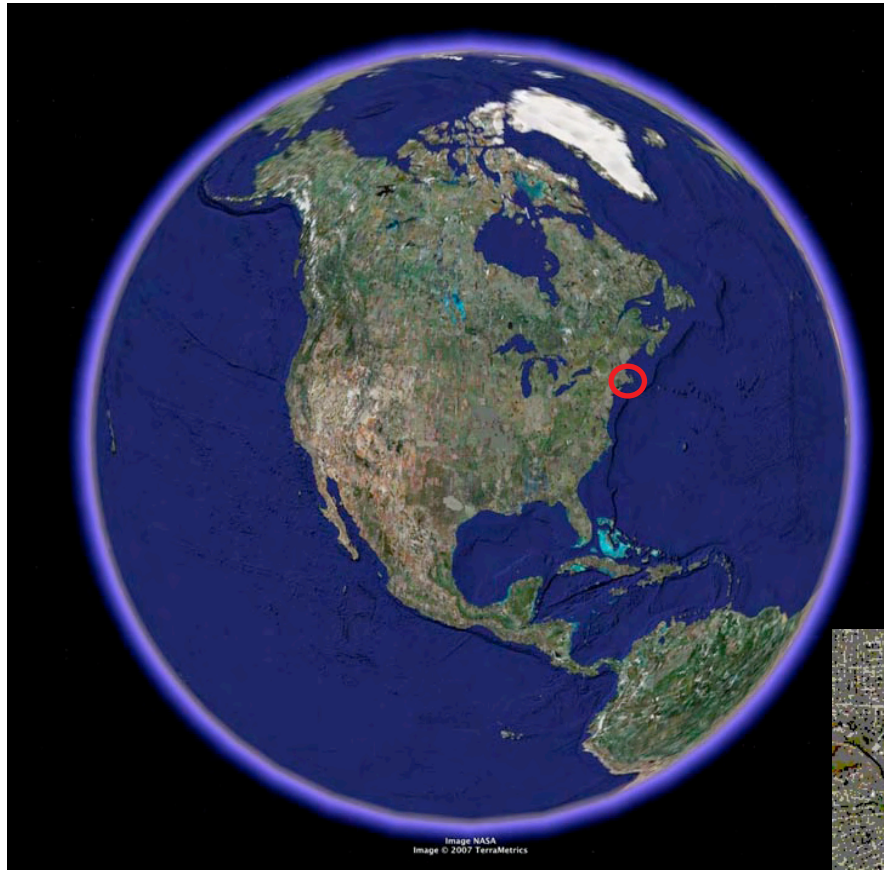
Integration of People and Purpose
Integration of Space and Program
Integration of Materials and Program

Integration of People and Society
Integration of Health and Education
Integration of Building and Site



Providence, Rhode Island

41° 48'27.85"N 71° 24'12.16"W



United States of America

Providence, Rhode Island

- Established in 1636
- Incorporated in 1832

Demographic Information:

- Total Population: 173618
- Population per Sq. Mi.: 9402
- Occupied Dwelling Units: 62389
- Families: 35859
- Land Area Sq. Miles: 18.5

Diversity

- Hispanic: 41.2%
- Black or African American: 34%
- White: 28.7%
- Other: 24.4%
- Non-Hispanic White: 18.8%
- Claimed 2 or more races: 6.8%
- Asian or Pacific Islander: 2.6%
- Native American: 2.6%

Villages

- Dyerville
- Edgewood
- Elmwood
- Federal Hill
- Fox Point
- Geneva
- Manton
- Mt. Pleasant
- Olneyville
- Silver Lake
- Smith Hill
- Starvegoat Island
- Tockwotton
- Washington Park

**Form of Government:**

Fifteen member City Council headed by Mayor
Meetings held first and third Thursday at 7:30 pm

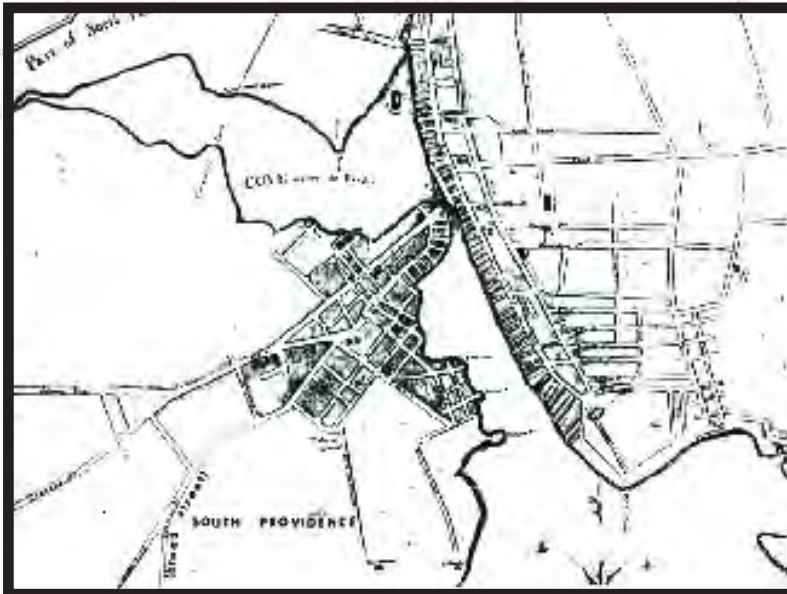
Tax Information

- Res. Real Estate Tax/\$1000.00: 29.65
- Evaluation: 50%
- Yr. Evaluation: 2004
- Commercial Real Estate 37
- Motor Vehicle Tax: 76.78
- Inventory Tax: 30.7
- Business Personal Property: 49.5
- Notes: Provides a homestead exemption

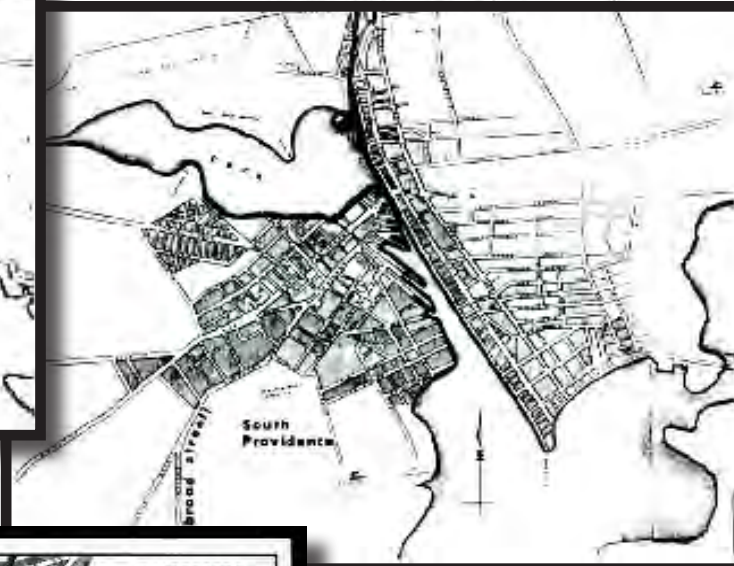
Median Family Income: \$24,656
Median Household Income: \$19,112
Families Below Poverty: 36.4%
Households on Public Assistance: 16.0%

Counties

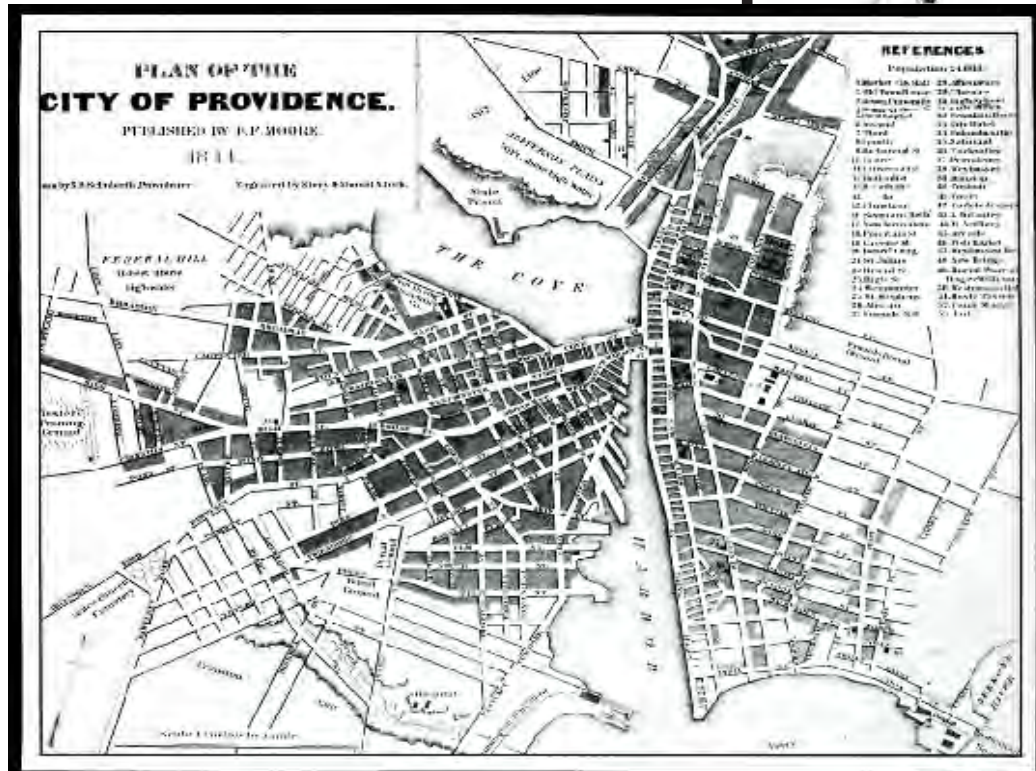
- County: Providence
- Other cities and towns in Providence County:
 - Burrillville
 - Central Falls
 - Cranston
 - Cumberland
 - East Providence
 - Foster
 - Glocester
 - Johnston
 - Lincoln
 - North Providence
 - North Smithfield
 - Pawtucket
 - Providence
 - Scituate
 - Smithfield



1803



1823



1844

South Providence, Rhode Island



New homes on Eddy Street, about 1885
RI Historical Society Rhi X3 4573



View from Public Street (c. 1885)



George A. Rickard House (c. 1872)

Homes of the Period

Greek Revival
1830-1860

- A: Paneled Corner Pilaster
- B: Classical Window Enframement
- C: Pedimented Gable
- D: Classical Entablature
- E: Ionic Portico
- F: Three-Bay Facade with Side Hall Plan



William H. Dyer House (c. 1842)

Italianate
1850-1885

- A: Window cap
- B: Palladian Window
- C: Bracket
- D: Round-Head Dormer
- E: Bracketed Cornice
- F: Quoins
- G: Door Hood on Consoles
- H: Paired Windows
- I: Clapboard Siding
- J: Three-Bay Facade, Center Hall Plan



William C. Rhodes House (c. 1860)

Residential Housing

Second Empire
1855-1890

- A: Palladian Window
- B: Window Cap
- C: Round-Head Dormer
- D: Mansard Roof
- E: Bracketed Cornice
- F: Window Hood
- G: Bracketed Porch with Paneled Posts
- H: Three-Bay Facade with Center Hall Plan



William H. Dyer House (c. 1842)

Colonial Revival
1895-1930

- A: Classical Portico
- B: Palladian Type Window
- C: Classical Entablature
- D: Hipped Roof
- E: Cresting
- F: Hipped Dormer
- G: Bay Window
- H: Urn Finial
- I. Door with Side Lights
- J: Ramped Balustrade





Christ Episcopal Church 1888



Rhode Island Hospital 1886



Eddy Street 1886

Site Selection

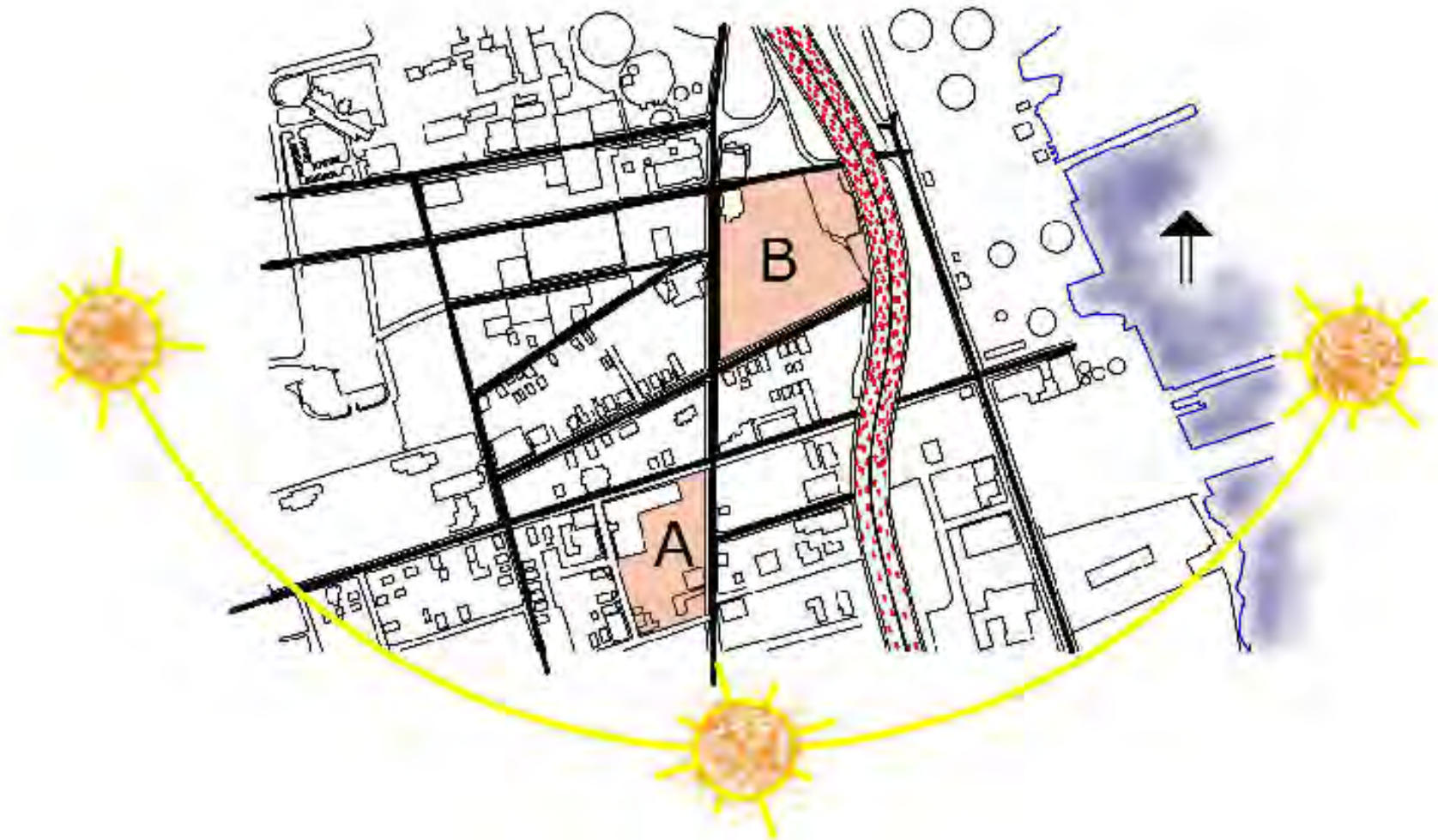
Site selection depended upon a variety of conditions. Accessibility was an important one as the facility should predominantly serve its surrounding neighborhood while at the same time becoming available and easily found by those traveling by vehicle or public transportation. Because of the medical and dental components of the program, locating the project within close proximity to a hospital or other medical facility became beneficial not only to the users of the building but also from a zoning standpoint. Situating the building where zoning is already approved for this particular use saves much time that would otherwise be needed for variance applications and processes.

Two site choices were compared as shown on page 14. Both sites are located on *Eddy Street in South Providence, Rhode Island*. Site A was selected because its location is closer to residential homes, it's located on the RIPTA bus-line, zoning is appropriate, and the lot is partially empty.

Located within the property boundaries remains the Historical Herff Jones building. Constructed of masonry, it remains an active, viable business within the community. The proposed project will integrate a purposeful building into the city environment with consideration to its existing contextual surroundings.

Also located within the boundaries are two buildings suggested to be demolished. One is a small garage (numbered 2 on page 15) and the other is an older medical building (numbered 1 on page 15). While the garage still conducts business, the medical office building remains empty.





Site A

- Empty Lot
- Zoned Medical/Industrial
- Existing Building on Site
- Level Site
- Closer to Residential Dwellings

50000+ sq. ft.

Site B

- Hospital Parking Lot
- Zoned Hospital
- Abuts Interstate 95
- Sloped Site
- Closer to Hospitals
- Busier Intersections

132,000+ sq. ft.

Site Comparison



1

Buildings to be Demolished



2

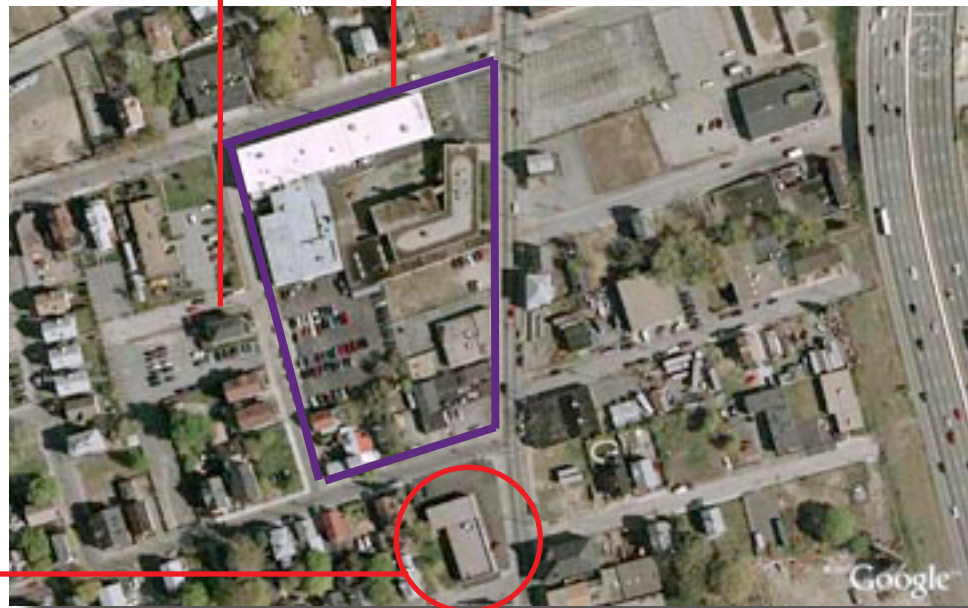


Site A



Herff Jones to remain Intact

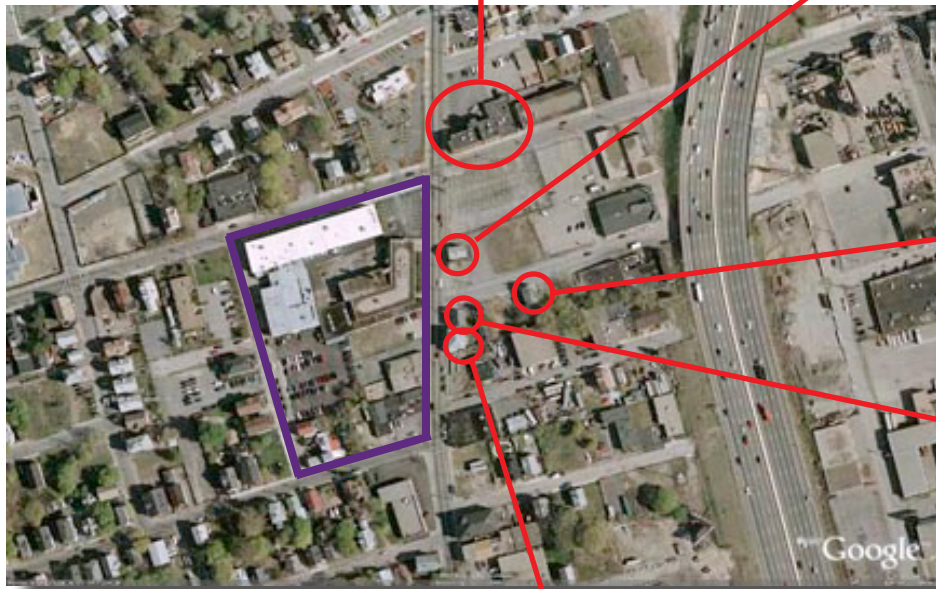
Selected Site



Immediate Surroundings

Context

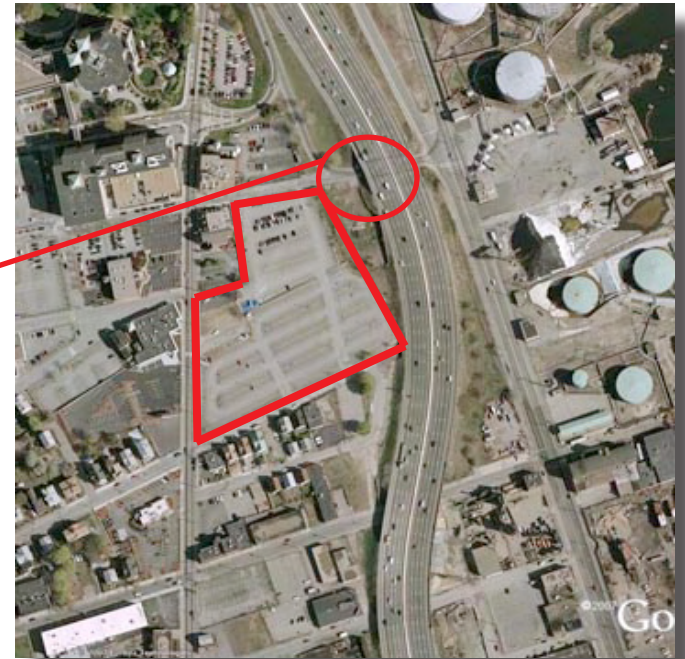
Site



Context

Opposing Surroundings

Interstate 95 Relocation



Unselected Site

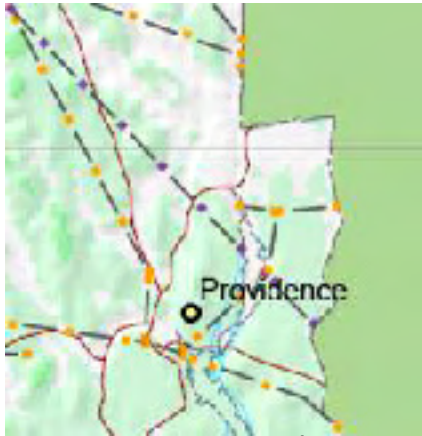
Site B



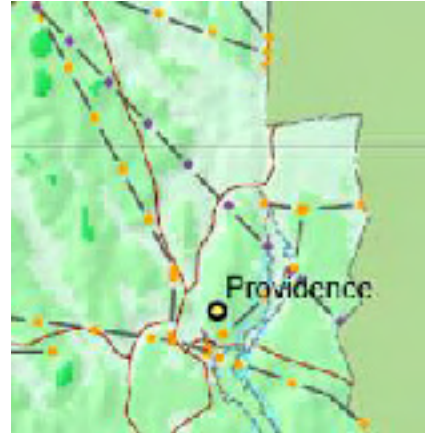
Wind at 30m



Wind at 50m



Wind at 70m



Wind at 100m



Site Evaluation

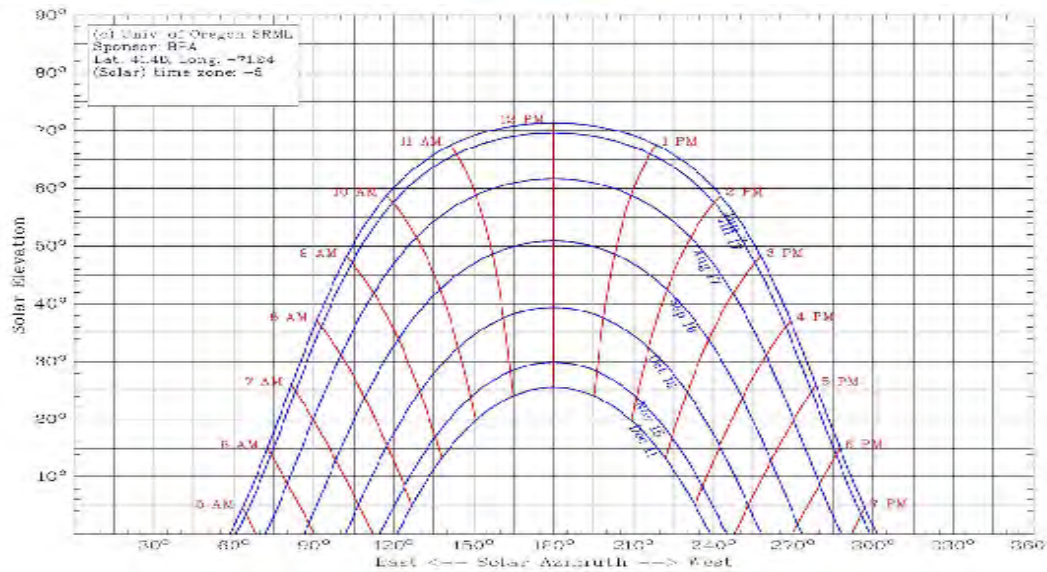
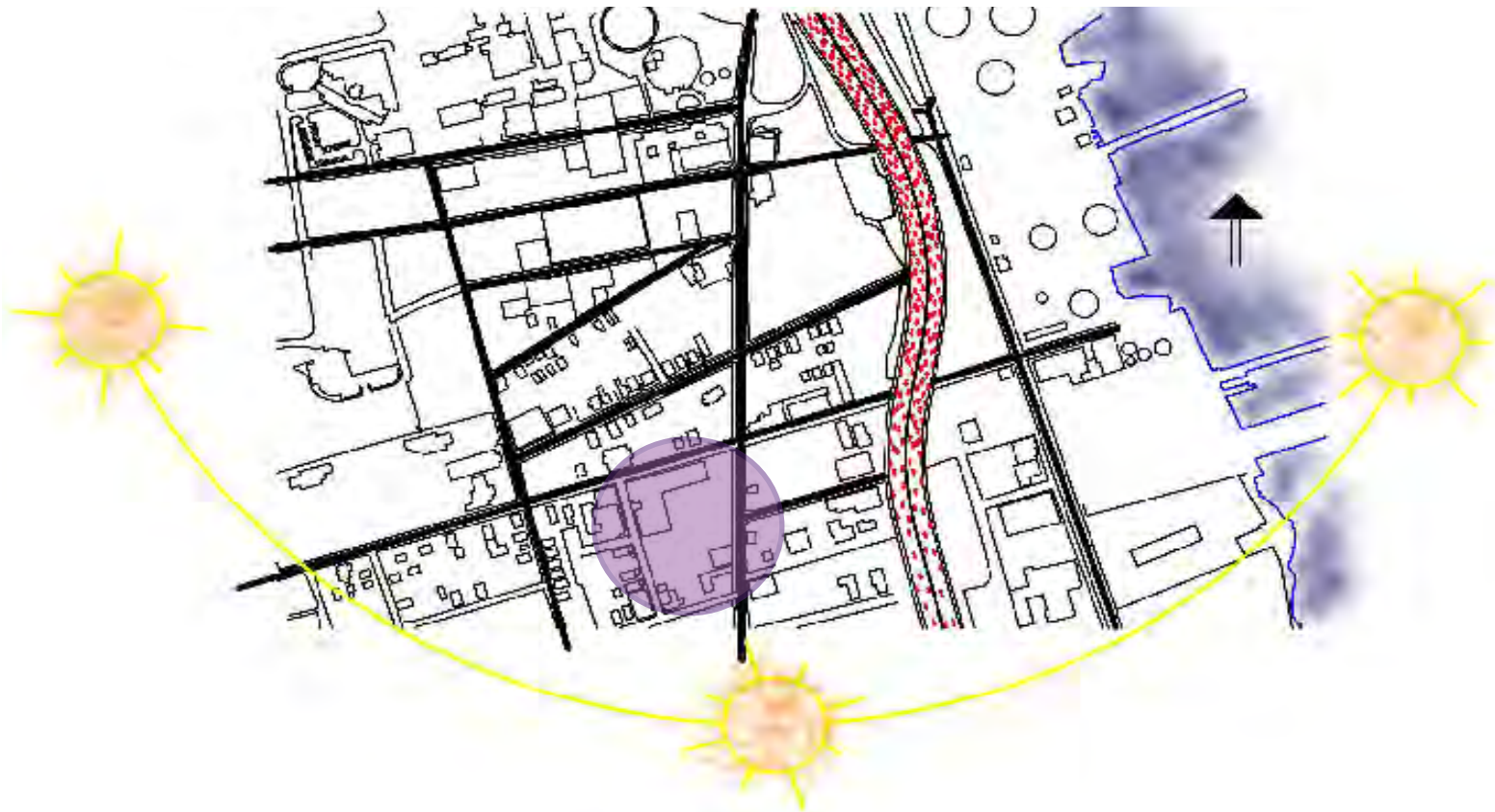


Highest Elevation
812 ft Above Sea Level
Jerimoth Hill

Mean Elevation
200 ft above sea level

Lowest Point
Sea Level
where RI meets the Atlantic Ocean

Topographic and Wind Maps



Sun-Path Diagram

Solar

Weather station **PROVIDENCE** is at about 41.83°N 71.41°W. Height about 21m / 58 feet above sea level

Average Rainfall

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
mm	108.1	109.2	117.0	92.7	89.7	52.3	30.4	118.6	44.4	76.5	150.0	111.4	1120.1
inches	4.3	4.3	4.6	3.6	3.5	2.1	1.2	4.5	1.7	3.0	5.9	4.4	44.1

Source: PROVIDENCE data derived from [NCDC Cooperative Stations](#). 7 complete years between 1950 and 1956

Weather station **PROVIDENCE WSO AP** is at about 41.73°N 71.43°W. Height about 15m / 49 feet above sea level.

Average Minimum Temperature

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
°C	-6.0	-5.9	-1.3	3.7	9.2	14.2	17.7	16.7	12.5	6.8	1.8	-3.8	5.3
°F	21.2	21.4	29.7	38.7	48.6	57.6	63.9	62.1	54.5	44.2	35.2	25.2	41.5

Source: PROVIDENCE WSO AP data derived from [GHCN 2 Beta](#). 1296 months between 1884 and 1996

Weather station **PROVIDENCE WSO AP** is at about 41.73°N 71.43°W. Height about 15m / 49 feet above sea level.

24-hr Average Temperature

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
°C	-2.0	-1.7	2.5	8.3	14.2	19.3	22.4	21.4	17.3	11.5	5.7	-0.1	9.9
°F	28.4	28.9	36.5	46.9	57.6	66.7	72.3	70.5	63.1	52.7	42.3	31.8	49.8

Source: PROVIDENCE WSO AP data derived from [GHCN 2 Beta](#). 1934 months between 1831 and 1996

Weather station **PROVIDENCE WSO AP** is at about 41.73°N 71.43°W. Height about 15m / 49 feet above sea level.

Average Maximum Temperature

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
°C	2.6	2.9	7.7	13.9	20.0	25.0	27.9	26.8	22.8	17.1	10.7	4.6	15.0
°F	36.7	37.2	45.9	57.0	68.0	77.0	82.2	80.2	73.0	62.8	51.3	40.3	59.0

Source: PROVIDENCE WSO AP data derived from [GHCN 2 Beta](#). 1296 months between 1884 and 1996



RIPTA (Rhode Island Public Transit Authority)

- Busline runs along Eddy Street
- Towards Kennedy Plaza
- Away from Kennedy Plaza

Interstate 95 Relocation Project

- Reconnects interrupted links to both sides of the Providence River
- Smoother flow of traffic congestion



Walking Distances

Existing Interstate Route



New Interstate Route



Vehicular and Pedestrian

Pedestrian Travel

- 5 minute walk to hospital zone
- 15 minute walk to University of RI and Johnson and Wales University
- 30 minute walk to RISD and Brown University

Transportation



Existing and Proposed Public Parks

Site Evaluation

Street Hierarchy and Framework

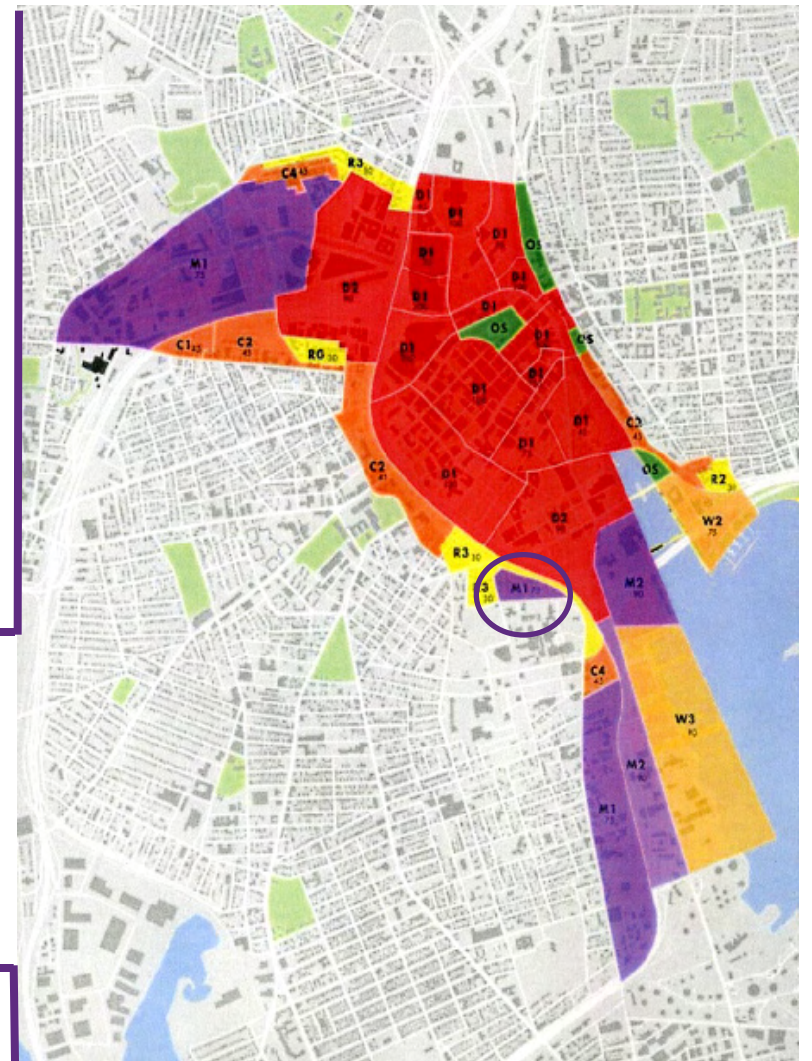


Recreation & Street Hierarchy

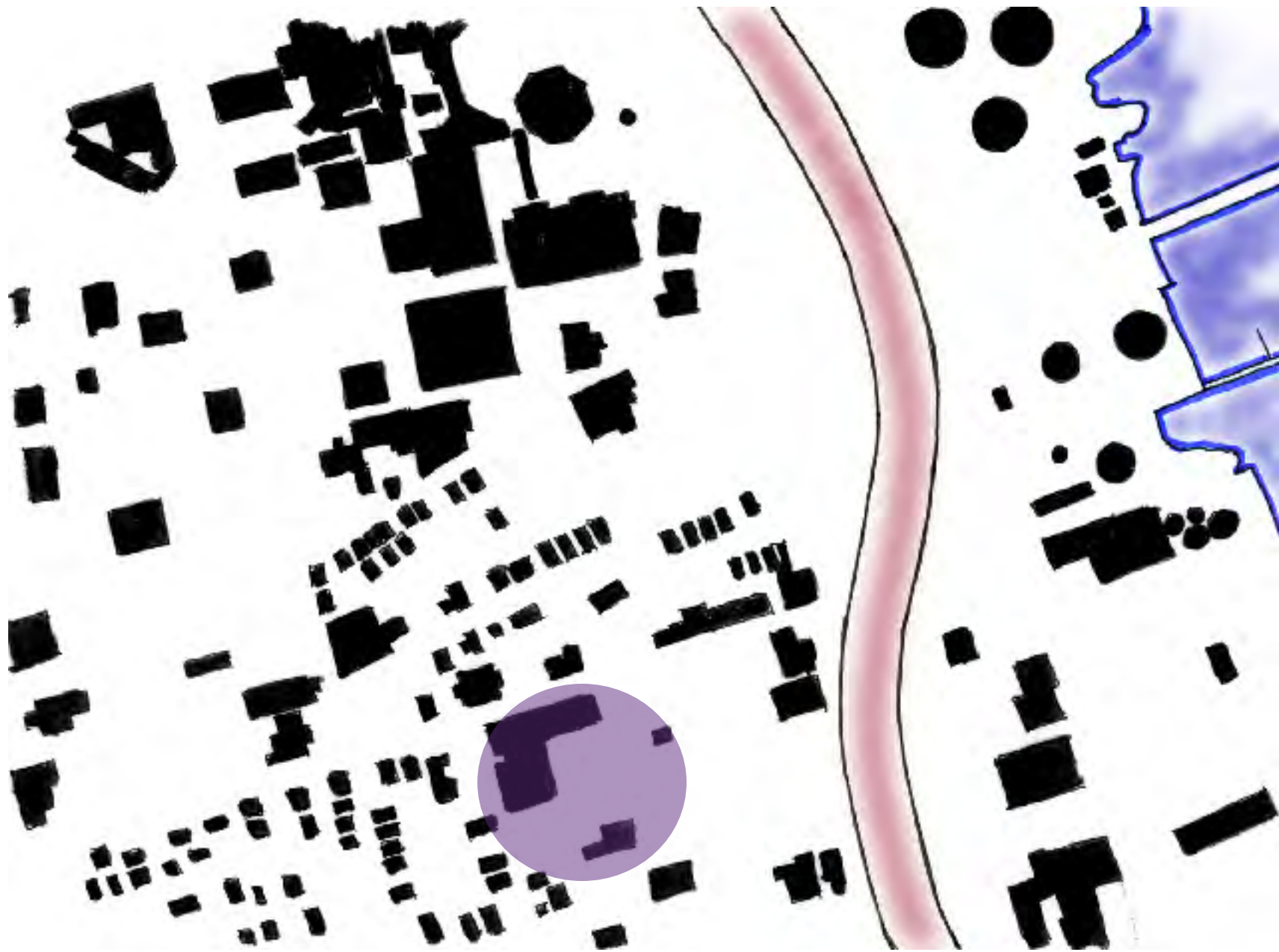


Existing Zoning Heights

Industrial Zoning District (See Section 305 on page 32)
 M-1 Industrial District 75' Height Restriction

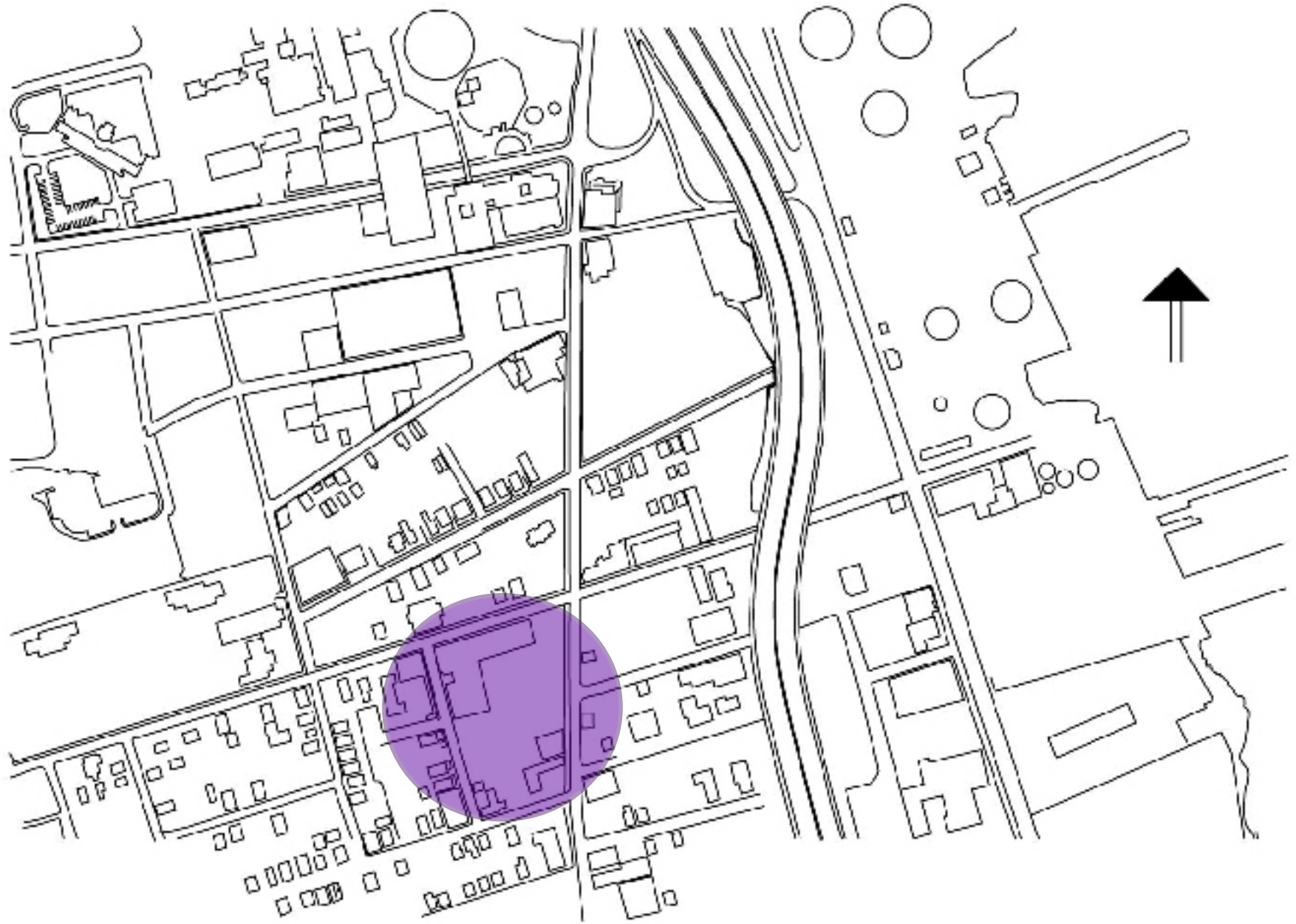


Existing Zoning



Site Evaluation

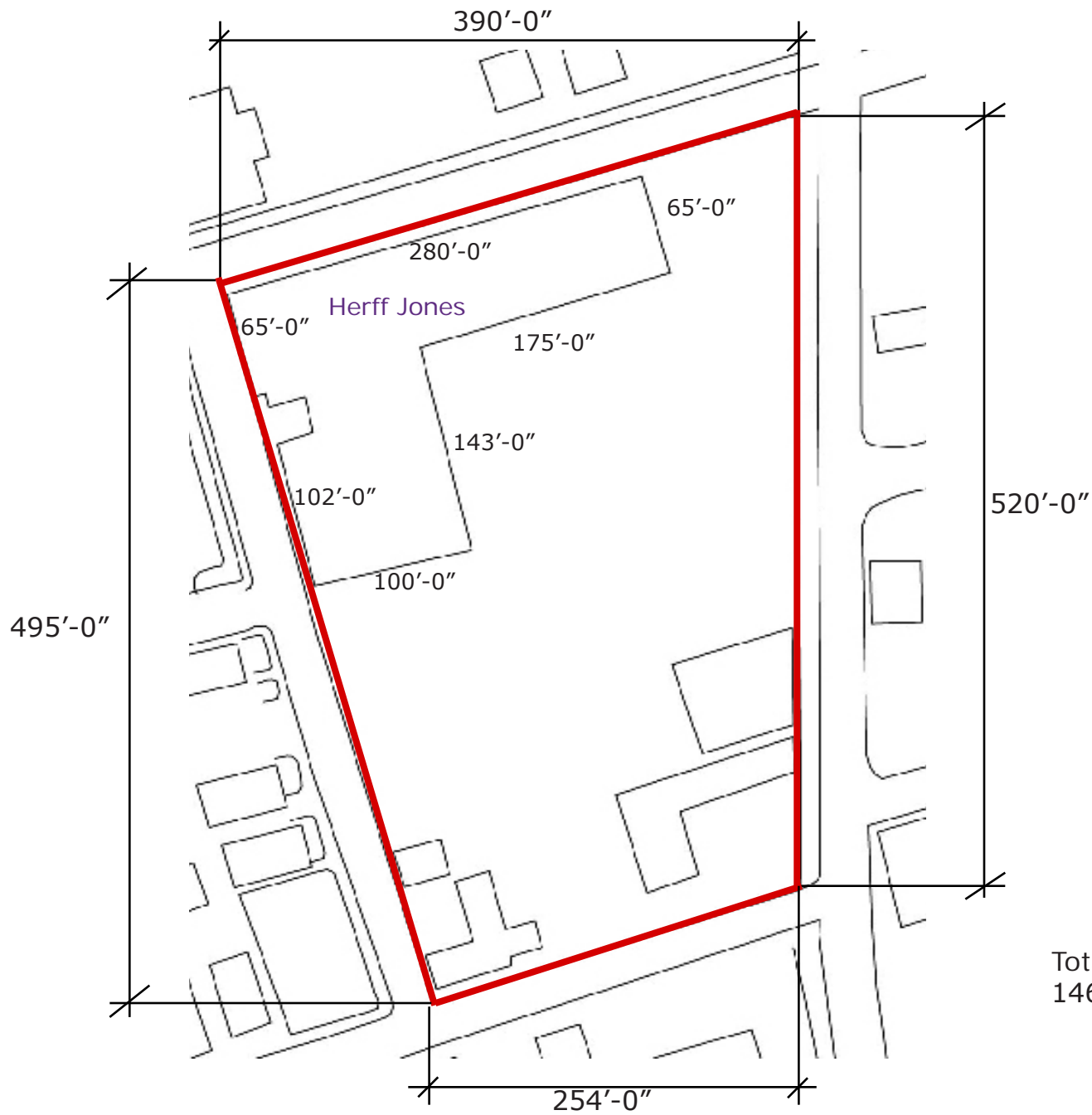
Figure-Ground Relationship



Site

Site Plan

Site Evaluation



Total Area
146,173 sq ft



Hospital Facilities — Residential — Streets and Avenues — **Interstate 95**



Already Demolished

To be Razed
(see attached checklist pg 88)

Spatial Allocations and Effects

Alternative Medicine wing consists of treatment rooms used for Chiropractic, Acupuncture, Hypno-therapy, Aroma Therapy services, etc., etc. Also available are lessons, classes and special illustrations for Tai Chi, Yoga and Nutritional Courses. Sauna, Steam, Massage, and Resting Rooms are also available for public or private use. While most of these treatments already exhibit a sense of *quiet and calm*, material selection can enhance these feelings. The nutritional courses are given in a studio environment requiring participation and interactions with others.

Medical Services consist of space for a family practice of 3 physicians and support services. The spatial effect should be that of *relaxation* so that patients are not anxious about seeing physicians and staff. A spacious waiting room offering interactive activities could offset the stress.

Dental Services consist of space for a general dental practice of 3 or 4 dentists, laboratory and support services. These spaces must produce a feeling and sensation of *peace* so the sounds of dental instruments are not intimidating. The sound of water may counteract the anticipation of frightening sounds.

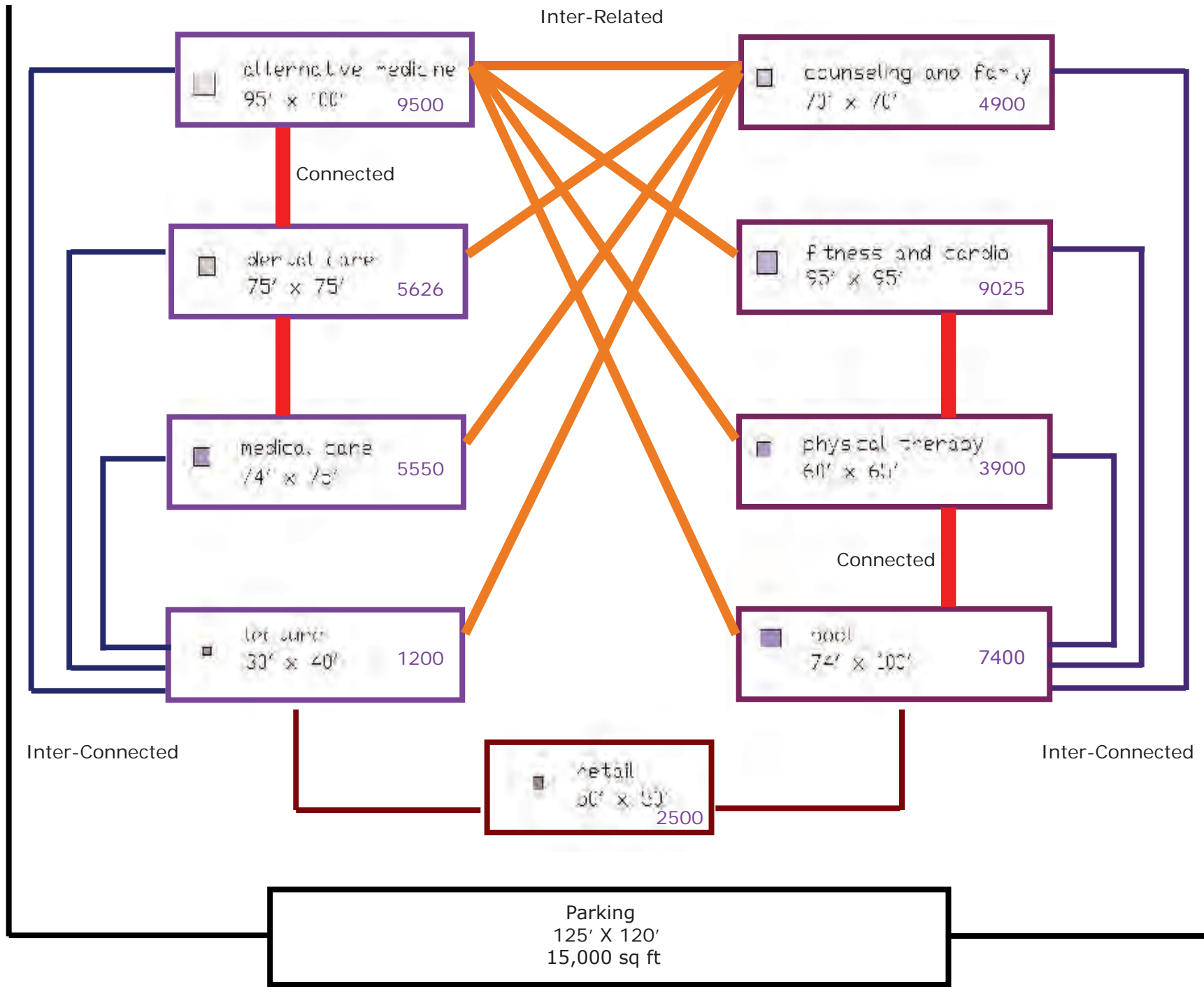
The Counseling, Family, and Community Center focuses on psychological and counseling services for individuals, family planning and counseling and community involvement activities. People visiting this center should get a sense of *closeness* signifying family and community interactions. Warmer colors and comfortable furniture may achieve this affect.

Physical Therapy has space available to support 8 private therapy rooms, a rehabilitation room, stretching area, and 3 whirlpools. This aura should exude a feeling of *healing* as opposed to a sterile medicinal environment

The **Gym/Cardio** area offers floor space for free weights, aerobics, locker rooms, and cardio machines. This space should encourage *interactive* behavior as its underlying purpose suggests.

The **Pool** room offers lessons in swimming, rehabilitative exercising and open time for public access. This space can be a 'springboard' to circumstances requiring teamwork requiring a sense and feeling of high and positive *spirit*.

Parking spaces have been determined to be 83 required spots according to Providence Code of Ordinances. (1 per 500 feet of GFA)



alternative medicine
95' x 100' 9500 sq ft

dental care
75' x 75' 5625 sq ft

medical care
74' x 75' 5550 sq ft

lecture
30' x 40' 1200 sq ft

retail
50' x 50' 2500 sq ft

counseling and family
70' x 70' 4900 sq ft

fitness and cardio
95' x 95' 9025 sq ft

physical therapy
60' x 65' 3900 sq ft

pool
74' x 100' 7400 sq ft

parking
120' x 125' 15,000 sq ft

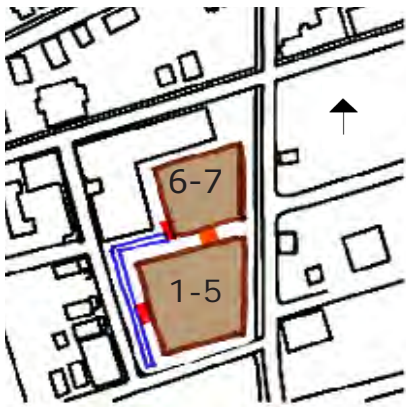
Net Square Footage 64,600

+ 20% Circulation and Additional Support 12,920

Total Gross Square Footage 77,520

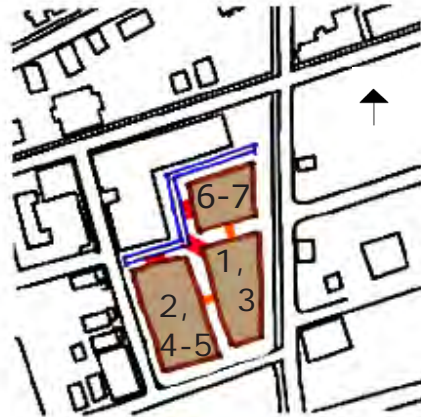
alternative medicine	□ reception 12' x 14' 1 = 168	□ waiting 18' x 20' 1 = 360	□ business 18' x 30' 1 = 540	□ consult □ 12' x 12' □ 3 = 432	□□□ treatment □□□ 8' x 12' □□□ 9 = 864	□□ therapists □□ 8' x 8' □□ 6 = 384	□□ toilets □□ 7' x 8' □□ 6 = 336	□ storage □ 8' x 10' □ 3 = 240	□ housekeeping 10' x 15' 1 = 150	□ staff 10' x 12' 1 = 120
medical	□ reception 12' x 20' 1 = 240	□ waiting 18' x 20' 1 = 360	□ business 18' x 30' 1 = 540	□ consult □ 12' x 12' □ 3 = 432	□□□ exam □□□ 8' x 12' □□□ 9 = 864	□ nurses □ 8' x 8' □ 3 = 192	□□ toilets □□ 7' x 8' □□ 6 = 336	□ storage □ 8' x 10' □ 3 = 240	□ housekeeping 12' x 20' 1 = 240	□ staff 10' x 12' 1 = 120
dental	□ reception 12' x 20' 1 = 240	□ waiting 18' x 20' 1 = 360	□ business 18' x 30' 1 = 540	□ consult □ 12' x 12' □ 3 = 432	□□□ exam □□□ 8' x 12' □□□ 9 = 864	□ assistants □ 8' x 8' □ 3 = 192	□□ toilets □□ 7' x 8' □□ 6 = 336	□ storage □ 8' x 10' □ 3 = 240	□ housekeeping 12' x 20' 1 = 240	□ staff 10' x 12' 1 = 120
counseling family community	□ reception 12' x 14' 1 = 168	□ waiting 18' x 20' 1 = 360	□ business 18' x 20' 1 = 360	□ consult □ 12' x 12' □ 3 = 432	□□□ counseling □□□ 10' x 13' □□□ 9 = 1170	□□ offices □□ 8' x 8' □□ 6 = 384	□□ toilets □□ 7' x 8' □□ 6 = 336	□ storage □ 8' x 10' □ 3 = 240	□ janitor 10' x 15' 1 = 150	□ family rooms □ 12' x 12' □ 3 = 432
physical therapy	□ reception 12' x 14' 1 = 168	□ waiting 18' x 20' 1 = 360	□ business 18' x 20' 1 = 360	□ consult □ 12' x 12' □ 3 = 432	□□ therapy □□ 8' x 12' □□ 6 = 576	□ therapists □ 8' x 8' □ 3 = 192	□□ toilets □□ 7' x 8' □□ 6 = 336	□ storage □ 8' x 10' □ 1 = 80	□ housekeeping 10' x 15' 1 = 150	□ staff 10' x 12' 1 = 120
gyn/cardio	□ reception 12' x 14' 1 = 168	□ juice bar 18' x 20' 1 = 360	□ business 18' x 20' 1 = 360	□ consult □ 8' x 12' □ 3 = 288	□ locker rooms □ 24' x 40' □ 2 = 1920	□ weight floor □ 40' x 45' □ 1 = 1800	□□ toilets □□ 7' x 8' □□ 6 = 336	□ storage □ 8' x 10' □ 3 = 240	□ janitor 10' x 15' 1 = 150	□ staff 10' x 12' 1 = 120
pool	□ reception 12' x 14' 1 = 168	□ juice bar 18' x 20' 1 = 360	□ business 18' x 20' 1 = 360	□ consult □ 8' x 12' □ 3 = 288	□ locker rooms □ 24' x 40' □ 2 = 1920	□ pool □ 45' x 75' □ 1 = 3375	□□ toilets □□ 7' x 8' □□ 6 = 336	□ storage □ 8' x 10' □ 3 = 240	□ janitor 10' x 15' 1 = 150	□ staff 10' x 12' 1 = 120
mech/elect										
totals	1152	2160	2700	2448	6258	3144	2016	1280	1080	1032

<input type="checkbox"/> private 10' x 12' 1 = 120	<input type="checkbox"/> changing 20' x 40' 2 = 1600	<input type="checkbox"/> yoga 30' x 40' 1 = 1200	<input type="checkbox"/> tai chi 30' x 40' 1 = 1200	<input type="checkbox"/> nutrition 8' x 8' 6 = 384	<input type="checkbox"/> sauna/steam 8' x 10' 6 = 480	<input type="checkbox"/> massage/rest 10' x 12' 6 = 720				9298	alternative medicine
<input type="checkbox"/> private 10' x 12' 1 = 120	<input type="checkbox"/> conference 12' x 12' 1 = 144	<input type="checkbox"/> surgery 12' x 12' 1 = 144	<input type="checkbox"/> x-ray 12' x 25' 1 = 300	<input type="checkbox"/> laboratory 16' x 16' 1 = 256	<input type="checkbox"/> sterilizing 16' x 8' 1 = 128		<input type="checkbox"/> class 24' x 34' 1 = 816			5472	medical
<input type="checkbox"/> private 10' x 12' 1 = 120	<input type="checkbox"/> conference 12' x 12' 1 = 144	<input type="checkbox"/> hygiene 12' x 8' 3 = 288	<input type="checkbox"/> x-ray 12' x 25' 1 = 300	<input type="checkbox"/> laboratory 16' x 16' 1 = 256	<input type="checkbox"/> sterilizing 16' x 8' 1 = 128		<input type="checkbox"/> class 24' x 34' 1 = 816			5616	dental
<input type="checkbox"/> private 10' x 12' 1 = 120							<input type="checkbox"/> class 20' x 30' 1 = 600			4752	counseling family community
<input type="checkbox"/> private 10' x 12' 1 = 120	<input type="checkbox"/> conference 12' x 12' 1 = 144	<input type="checkbox"/> stretching 12' x 8' 1 = 96	<input type="checkbox"/> rehab 20' x 24' 1 = 480	<input type="checkbox"/> whirlpools 8' x 8' 3 = 192						3806	physical therapy
<input type="checkbox"/> private 10' x 12' 1 = 120	<input type="checkbox"/> conference 12' x 12' 1 = 144	<input type="checkbox"/> aerobics 30' x 40' 1 = 1200	<input type="checkbox"/> cardio 24' x 36' 1 = 864				<input type="checkbox"/> class 20' x 30' 1 = 600			8670	gym/cardio
<input type="checkbox"/> private 10' x 12' 1 = 120										7437	pool
											mech/elect
	<input type="checkbox"/> lecture 30' x 40' 1 = 1200							<input type="checkbox"/> retail 50' x 50' 1 = 2500		3700	
720	3376	2928	3144	1088	736	720	2832	2500	41,314		totals



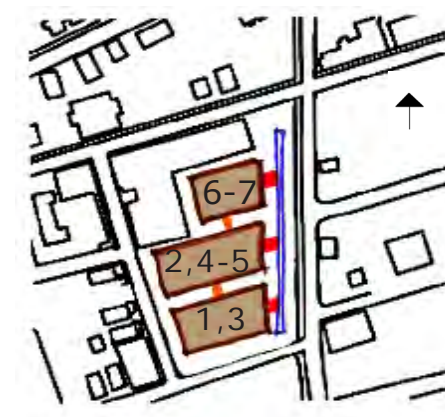
Least Favorable

- rear circulation draws patrons away from main street
- physical activities, counseling, & alternative medicine grouped together
- medical & dental grouped together



Partly Favorable

- northern circulation draws patrons into site along historical Herff Jones
- fitness and pool grouped together
- physical therapy, counseling, & alternative medicine grouped together
- medical & dental grouped together

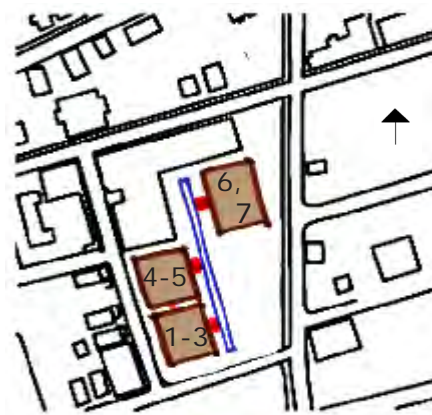


Favorable Option 3

- front circulation draws patrons along main street
- fitness and pool grouped together
- physical therapy, counseling, & alternative medicine grouped together
- medical & dental grouped together

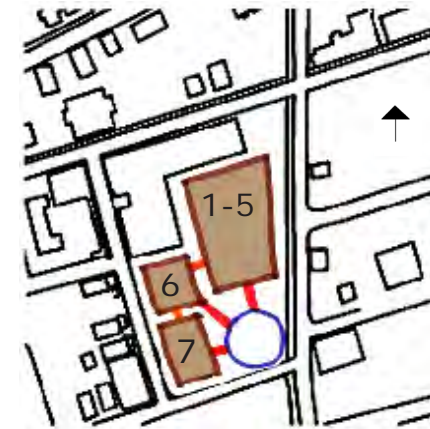
- 1 Fitness and Cardio Center
- 2 Physical Therapy
- 3 Pool and Aquatics
- 4 Counseling & Community
- 5 Alternative Medicine
- 6 Dental Care
- 7 Medical Care

- Circulatory Paths
- Primary Connections
- Secondary Connections



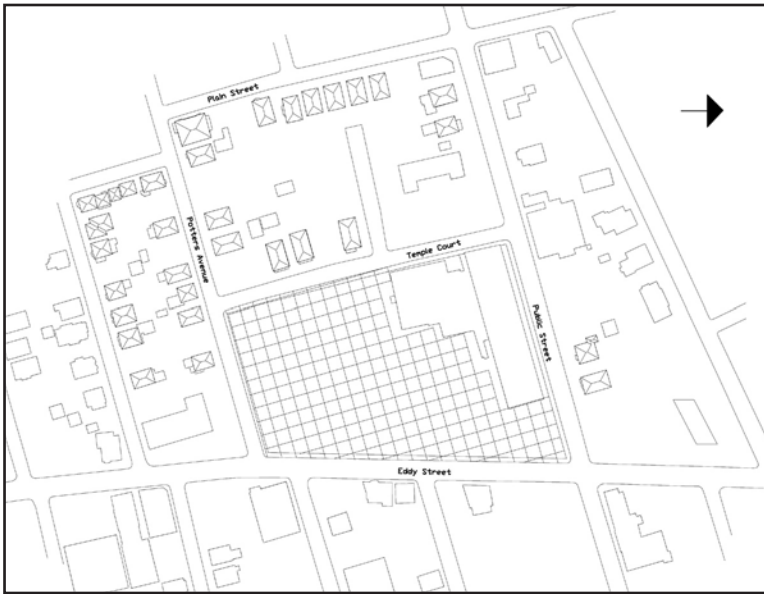
Favorable Option 2

- linear circulation draws patrons through site and building
- counseling and alternative medicine grouped together
- physical activities grouped together
- medical & dental grouped together



Most Favorable Option 1

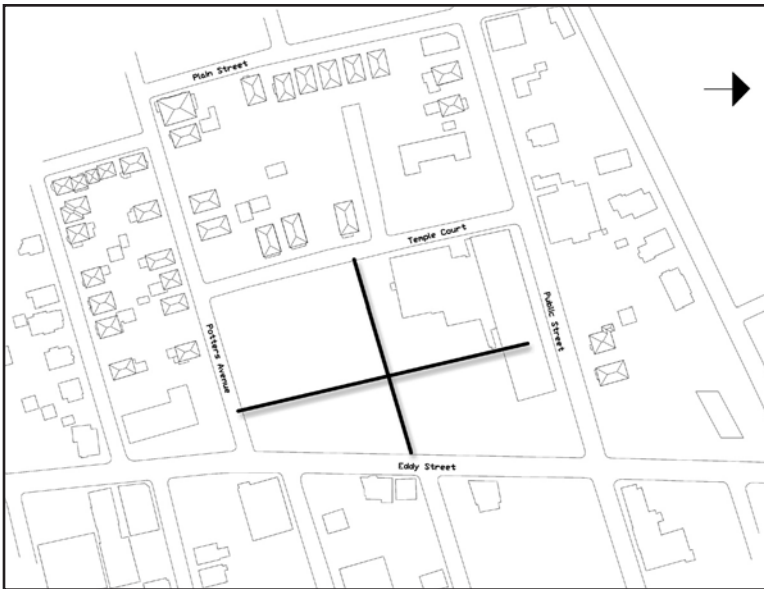
- corner circulation draws patrons into building and site from Eddy Street
- physical activities, counseling, & alternative medicine grouped together
- medical & dental separated



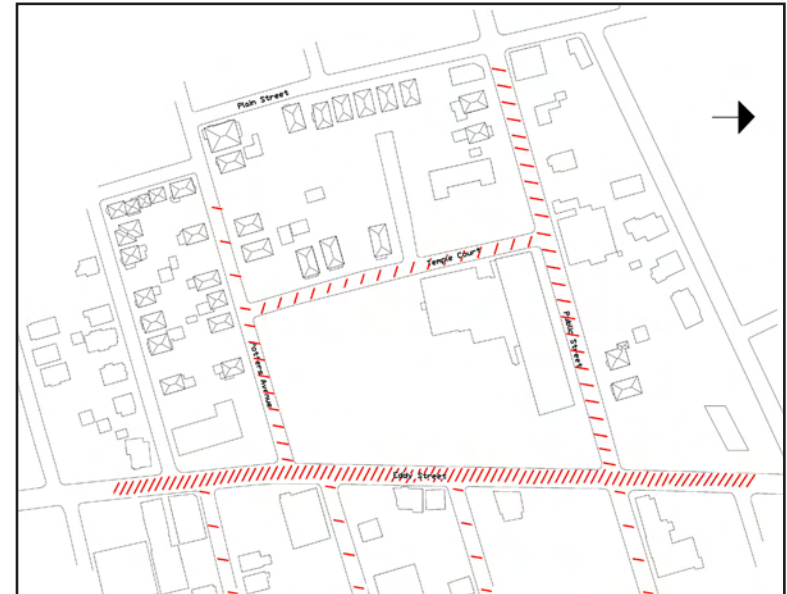
24 x24 Grid



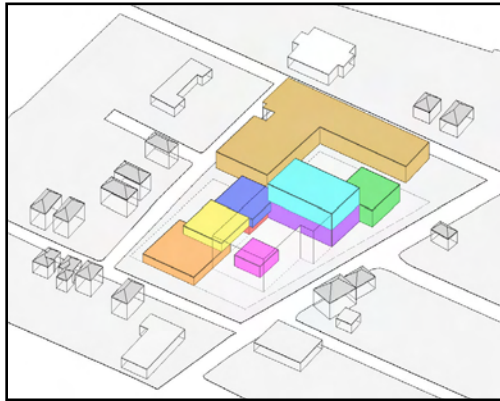
Site Visibility



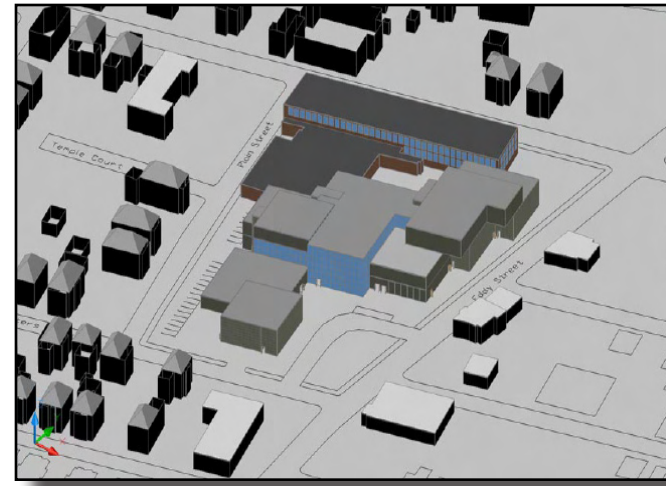
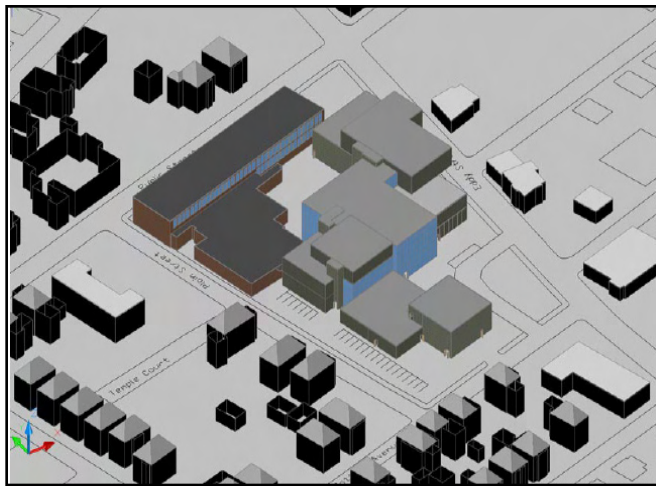
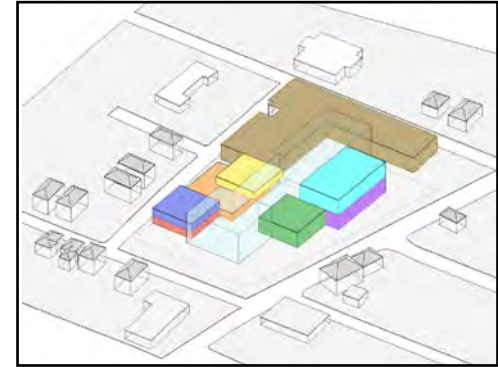
Site Axis



Local Traffic Patterns

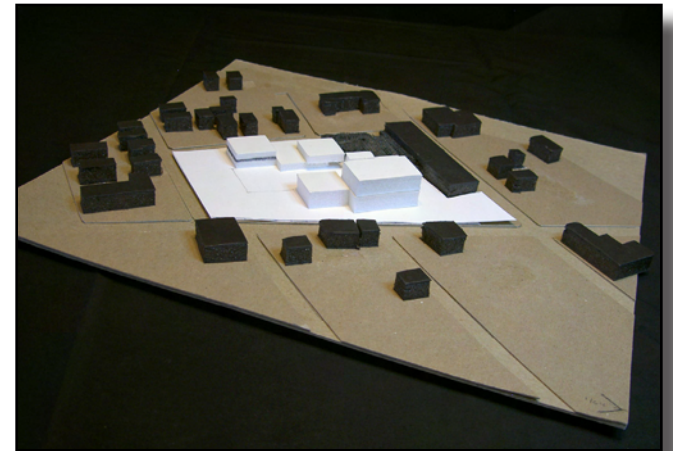
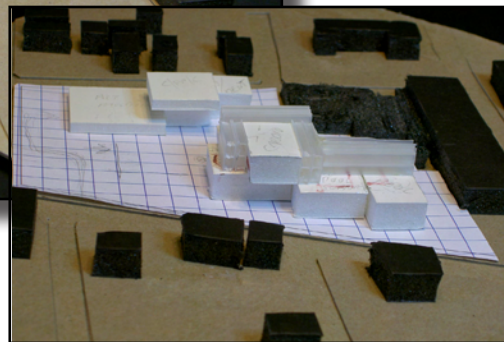
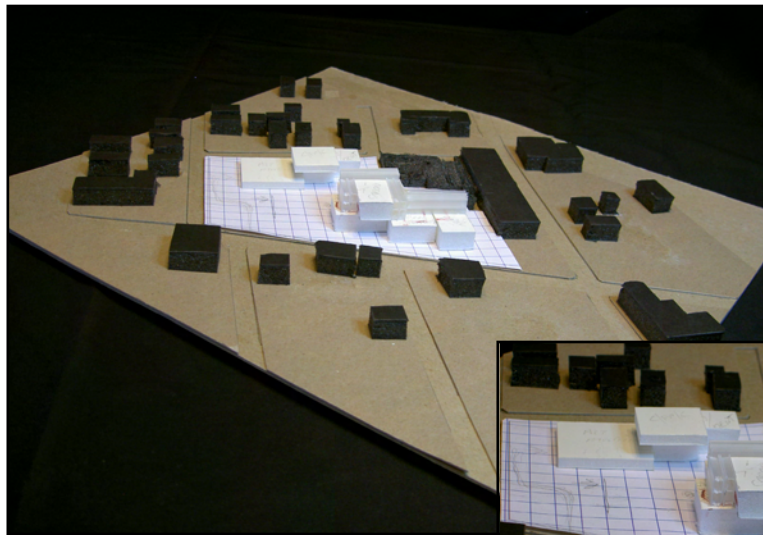
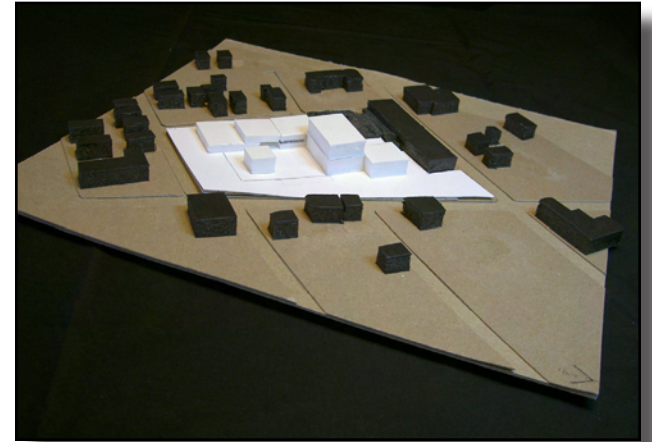
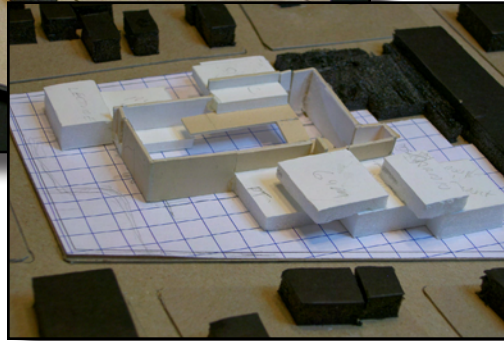
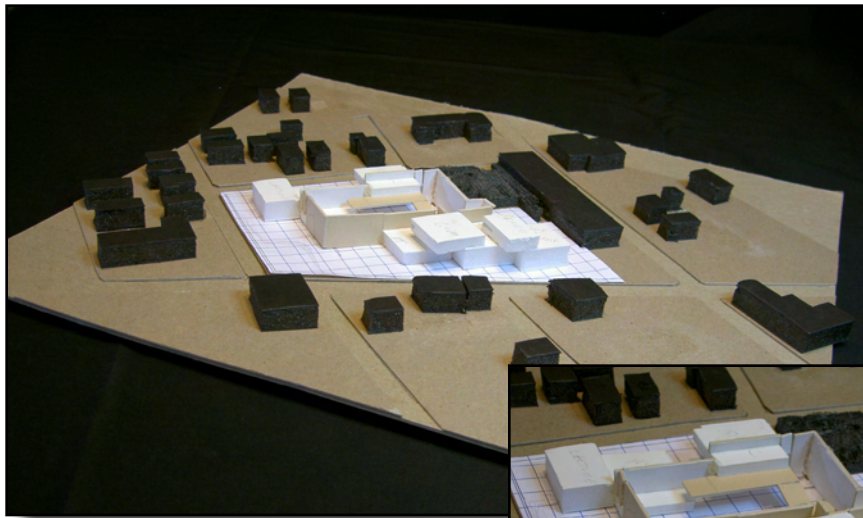


- Herff Jones Existing
- Counseling/Family/Community
- Medical
- Dental
- Alternative Medicine
- Pool
- Gym/Cardio
- Physical Therapy
- Parking
- Cafe/Juice Bar



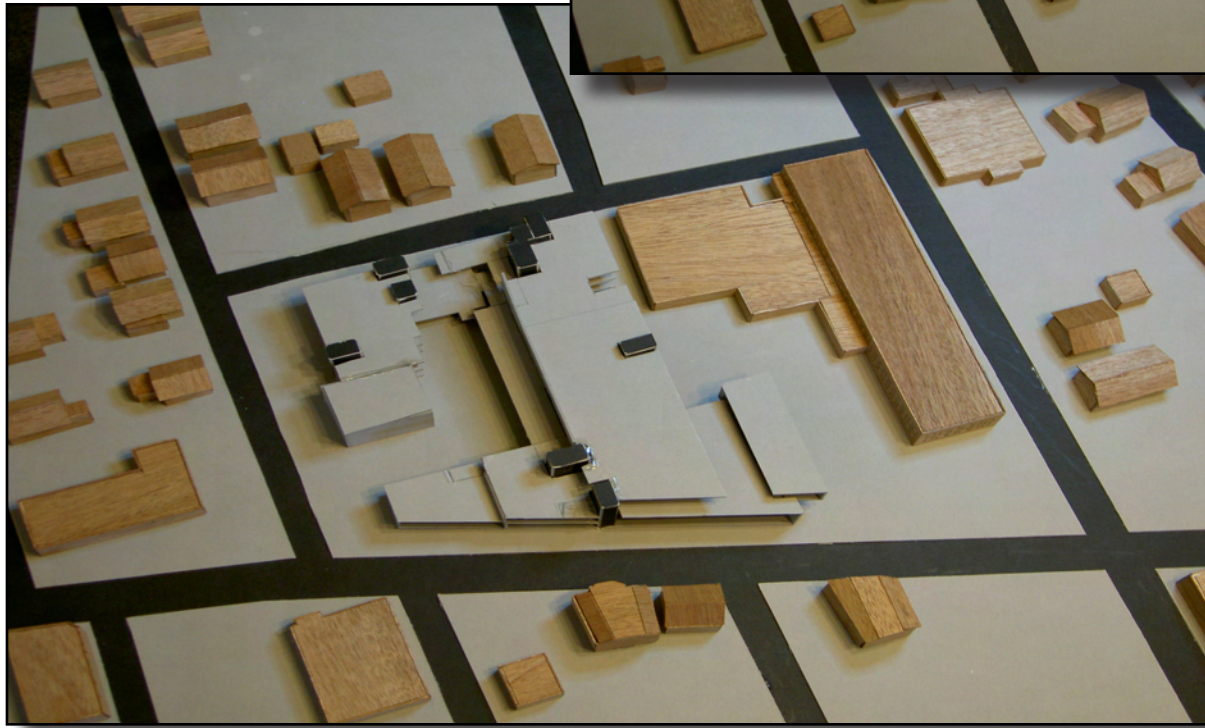
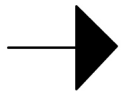
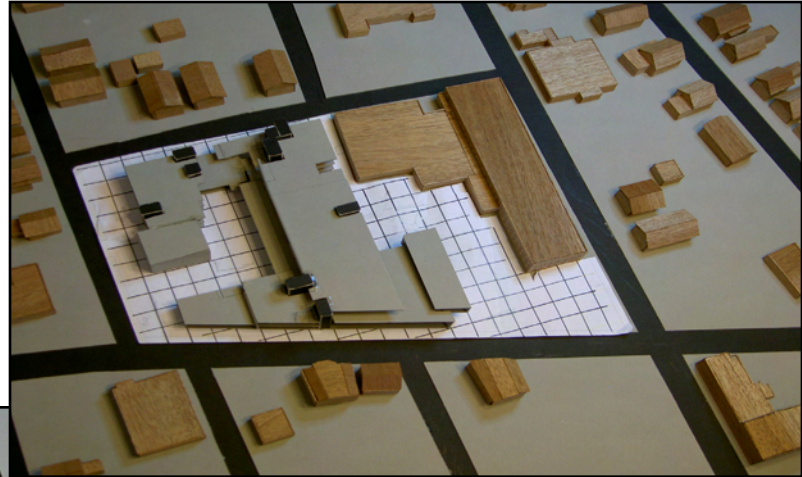
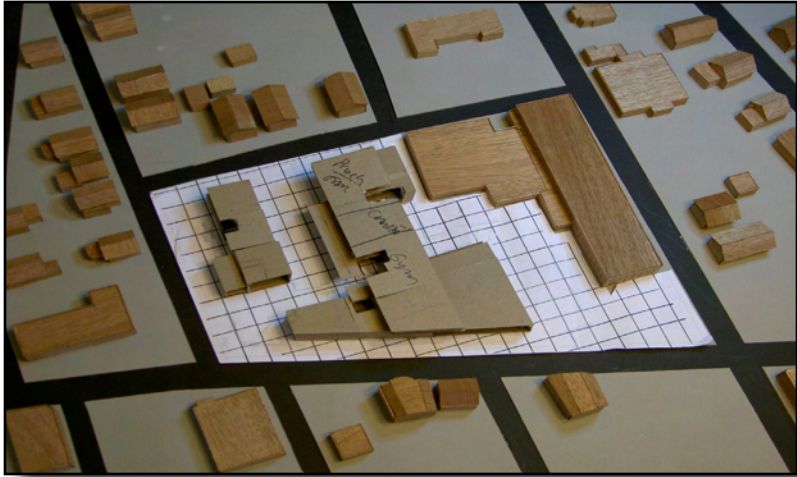
Massing Studies

Digital Process Models



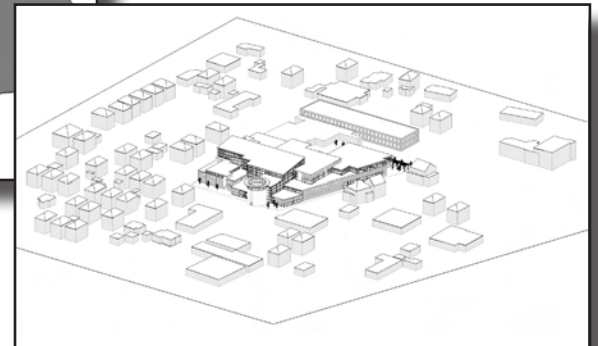
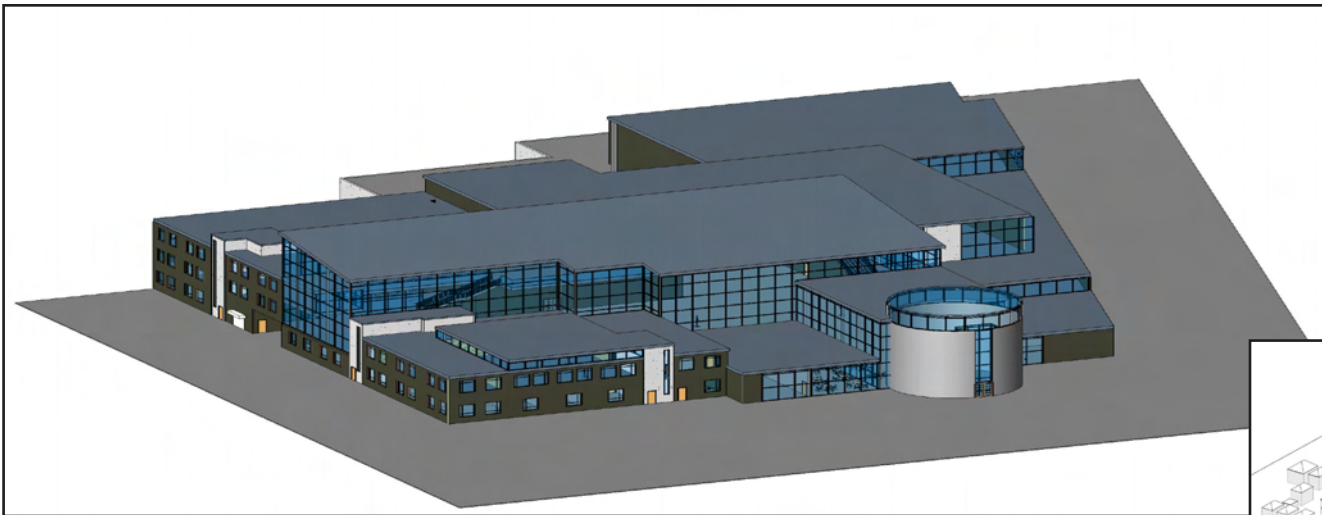
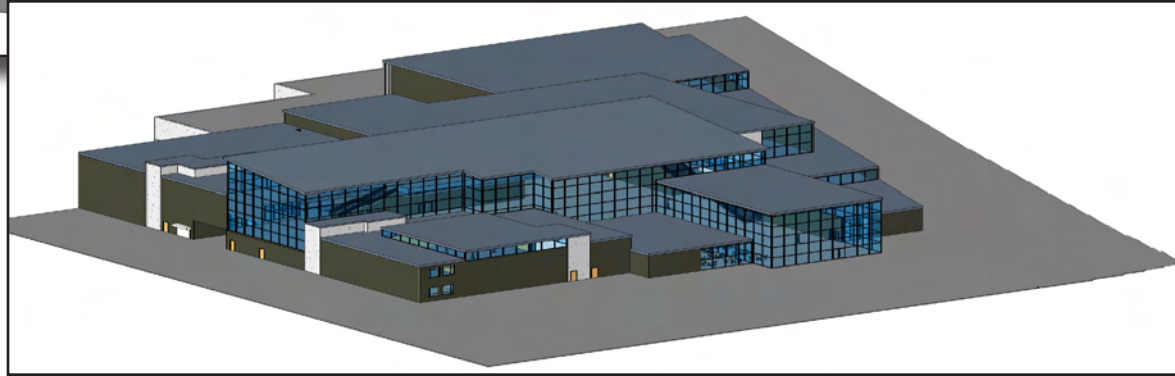
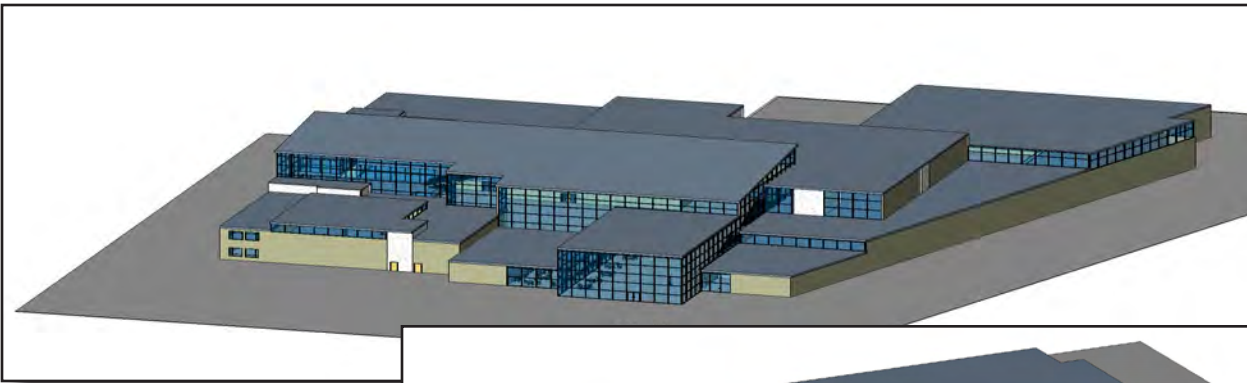
Physical Process Models

Massing Studies



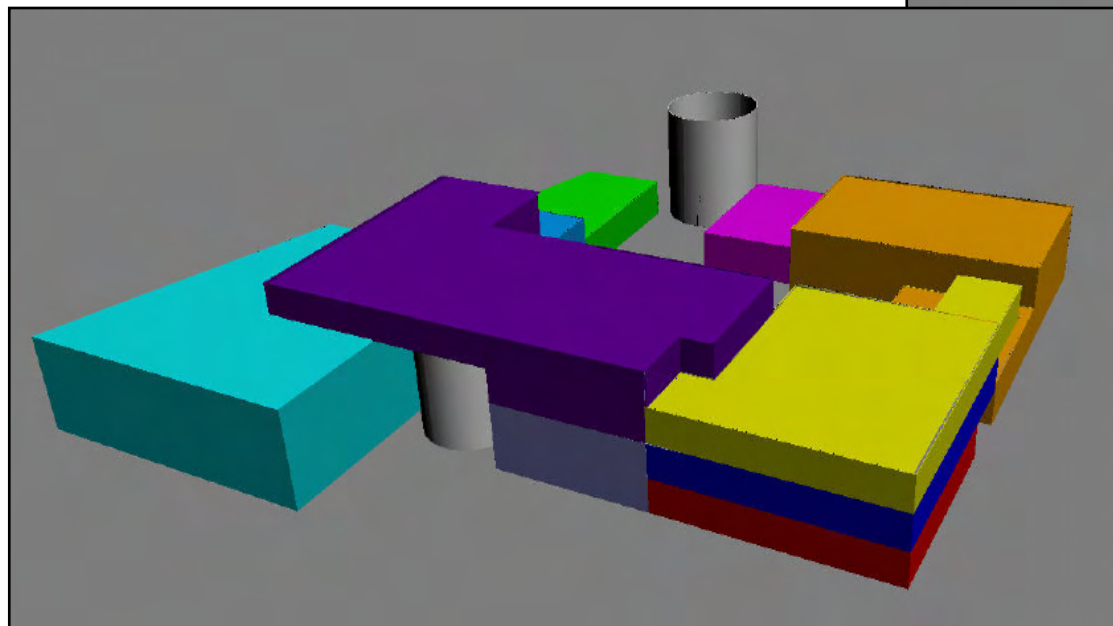
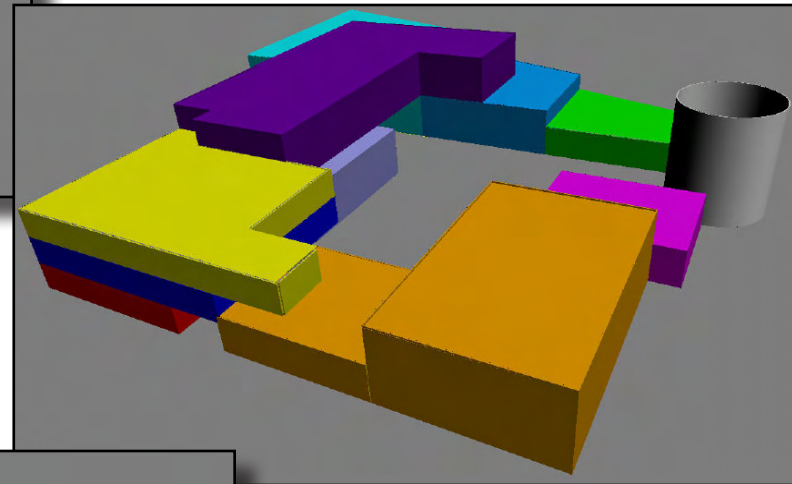
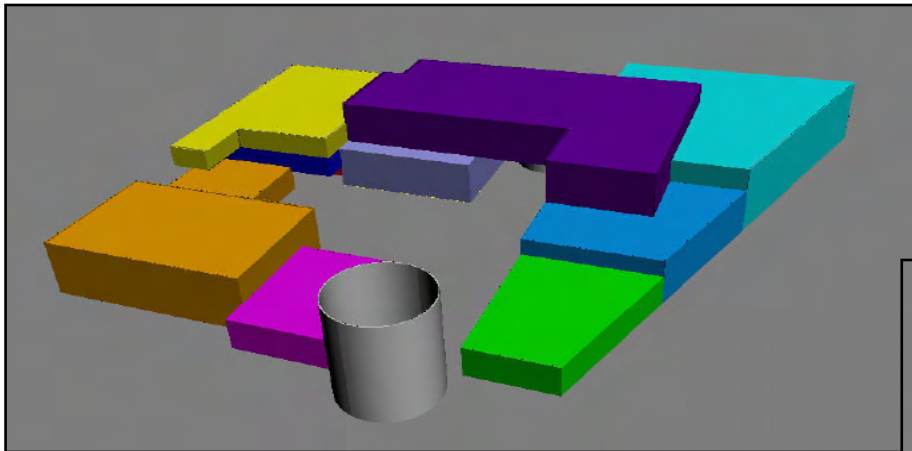
Massing Studies





















Physical Process Models



Digital Design Models

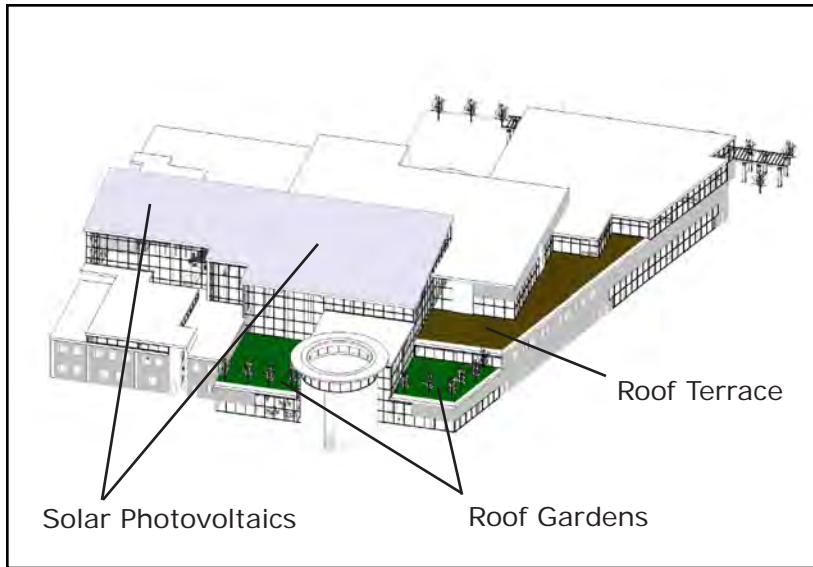
Design Process



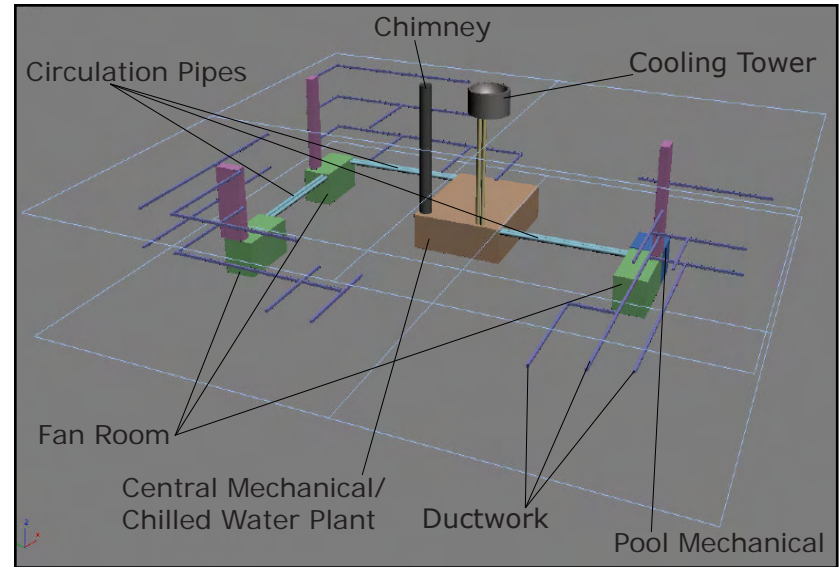
- | | |
|---|---|
|  Counseling/Family/Community |  |
|  Medical |  |
|  Dental |  |
|  Alternative Medicine |  |
|  Pool |  |
|  Changing Rooms/Lockers |  |
|  Gym/Cardio |  |
|  Learning Center |  |
|  Physical Therapy |  |
|  Cafe/Juice Bar |  |

Final Massing

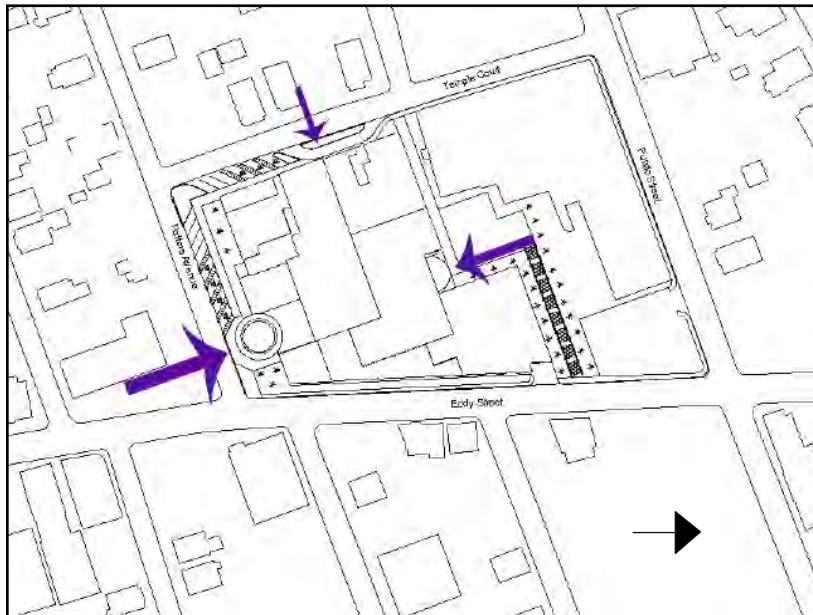
Digital Models



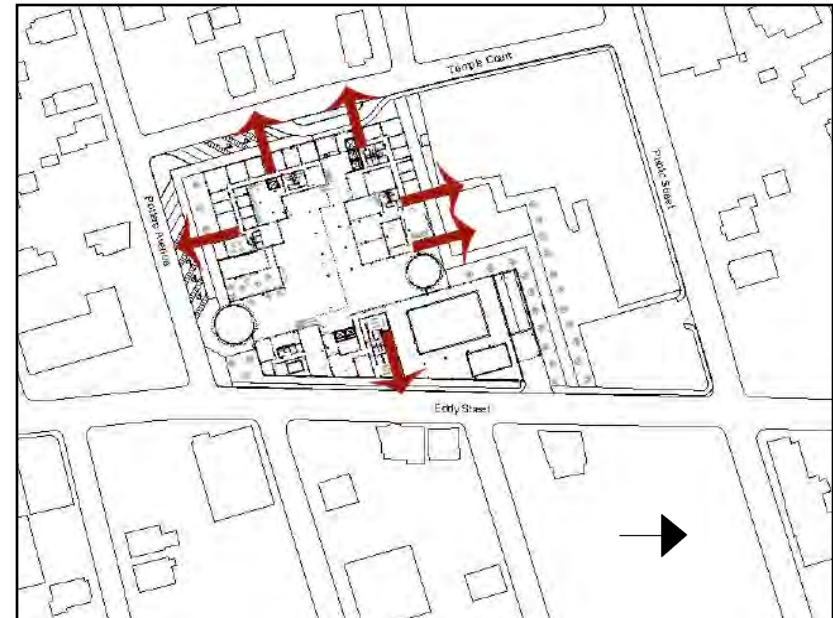
Roof Attributes



Mechanical Systems



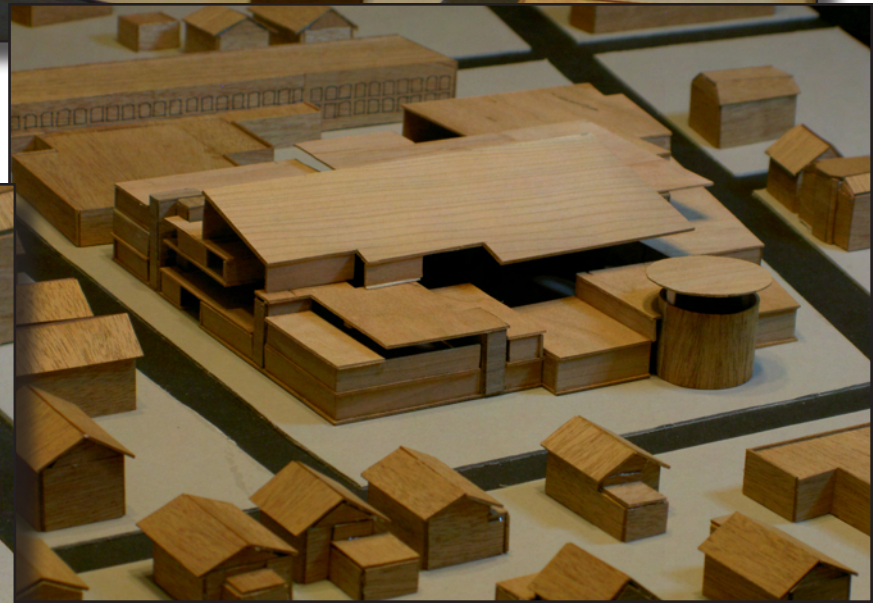
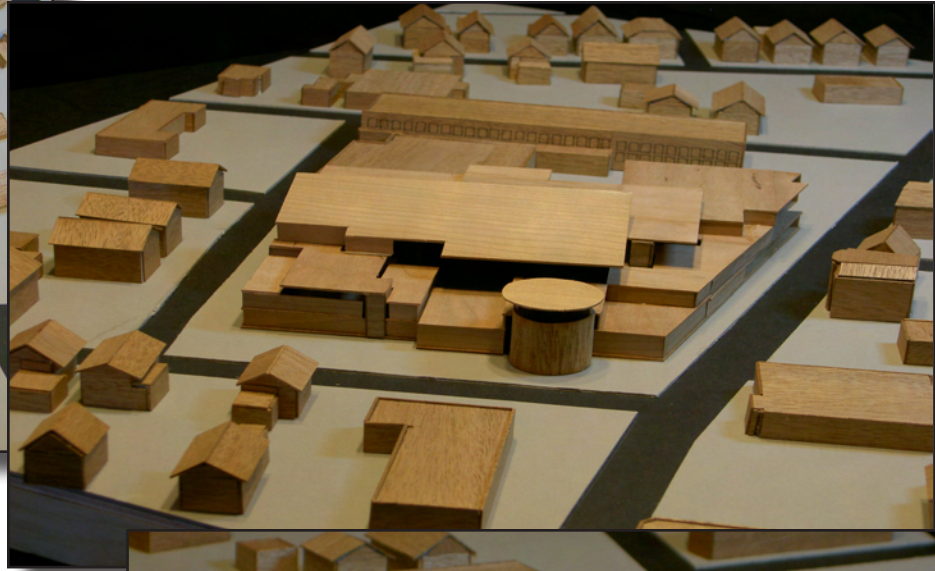
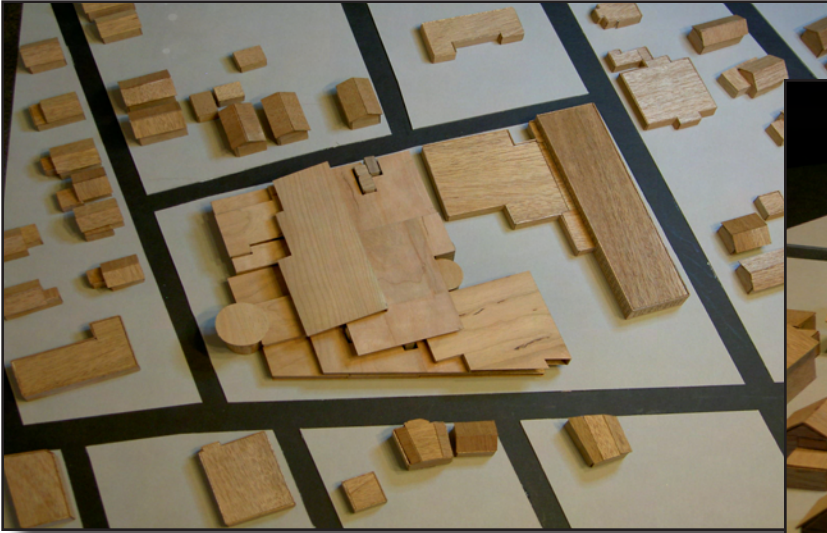
Building Entries



Building Egress

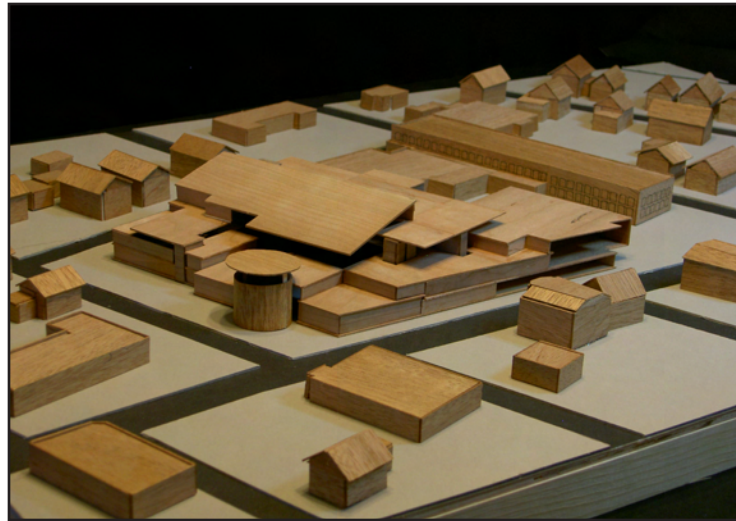
Building Diagrams

Final Diagrams



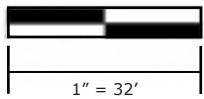
Final Models

Physical Models



Physical Models

Final Models

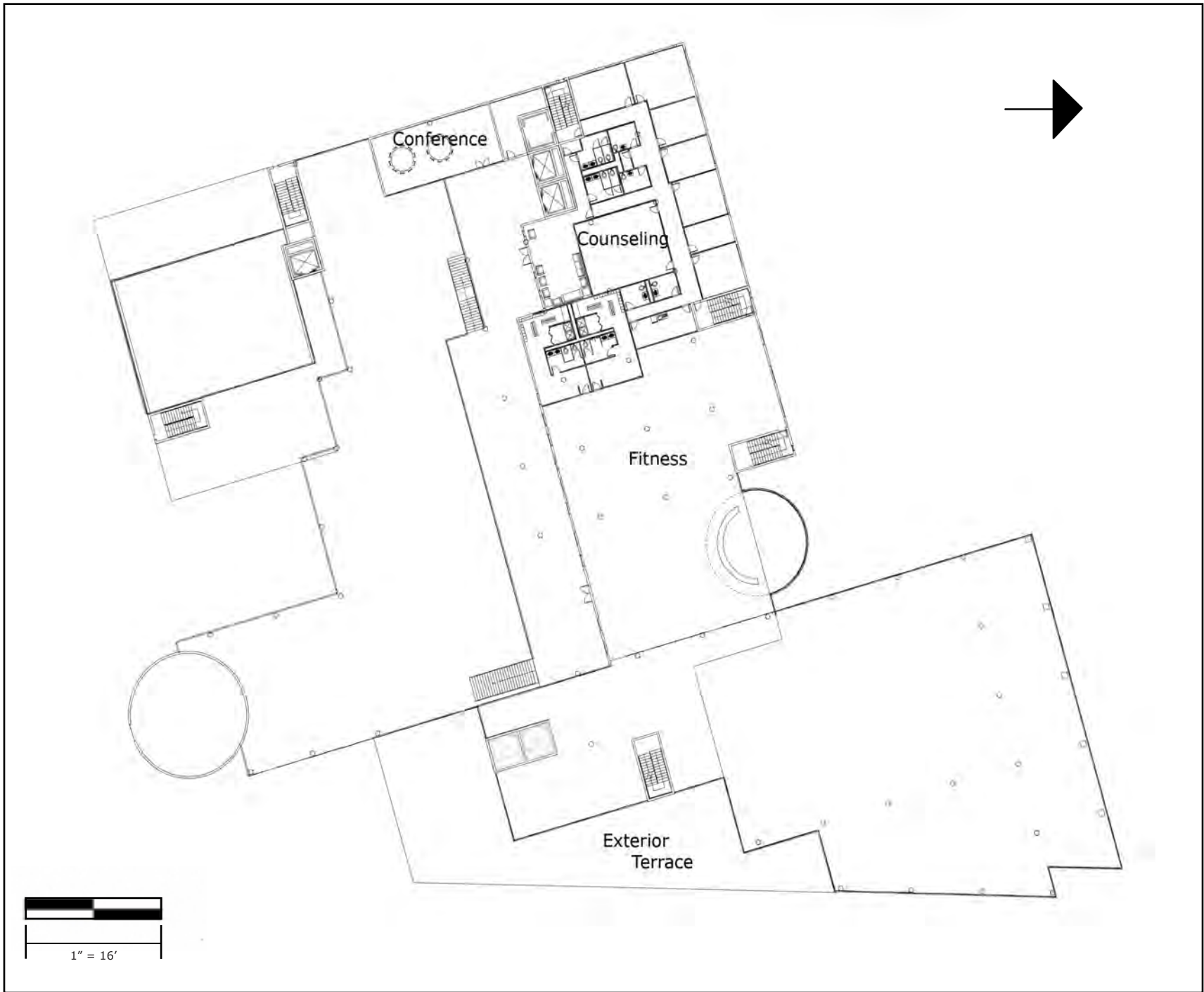




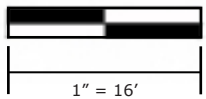
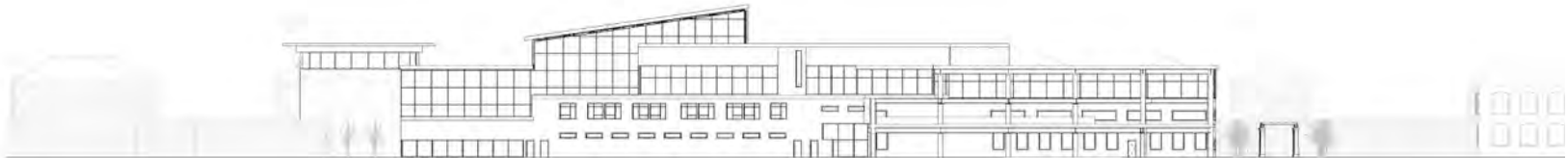
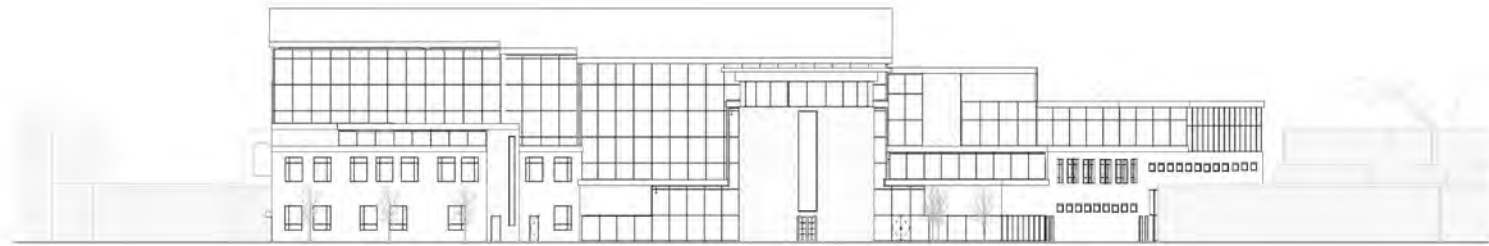
Ground Plan

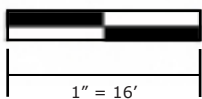
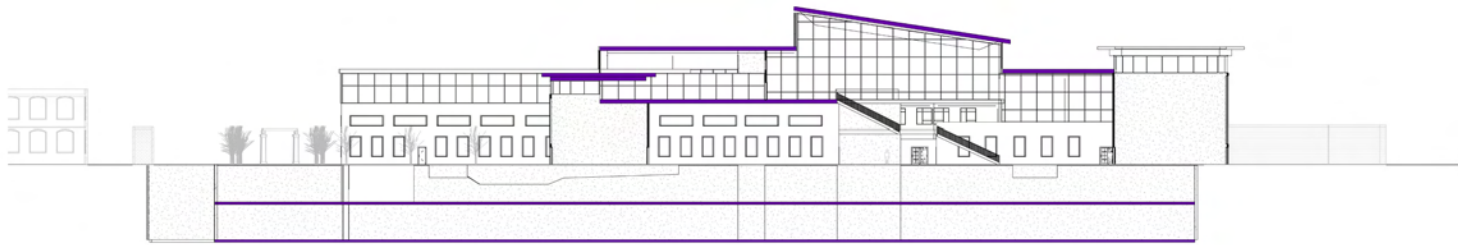
Final Drawings





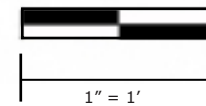
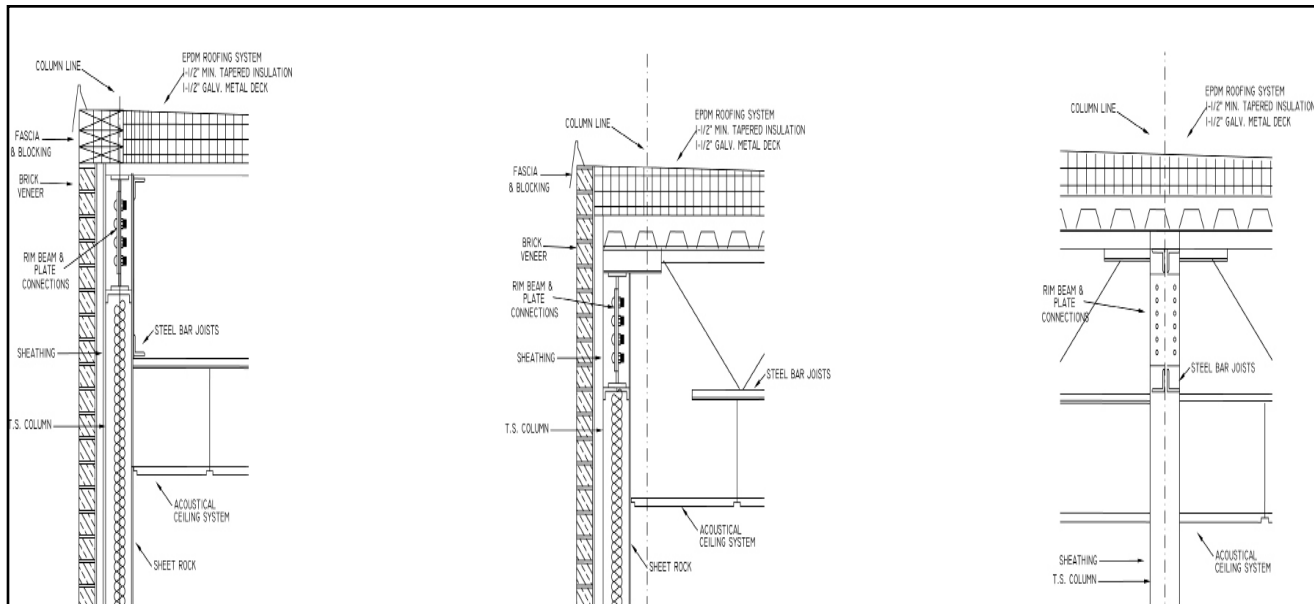
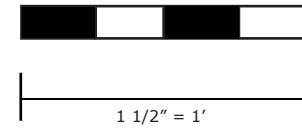
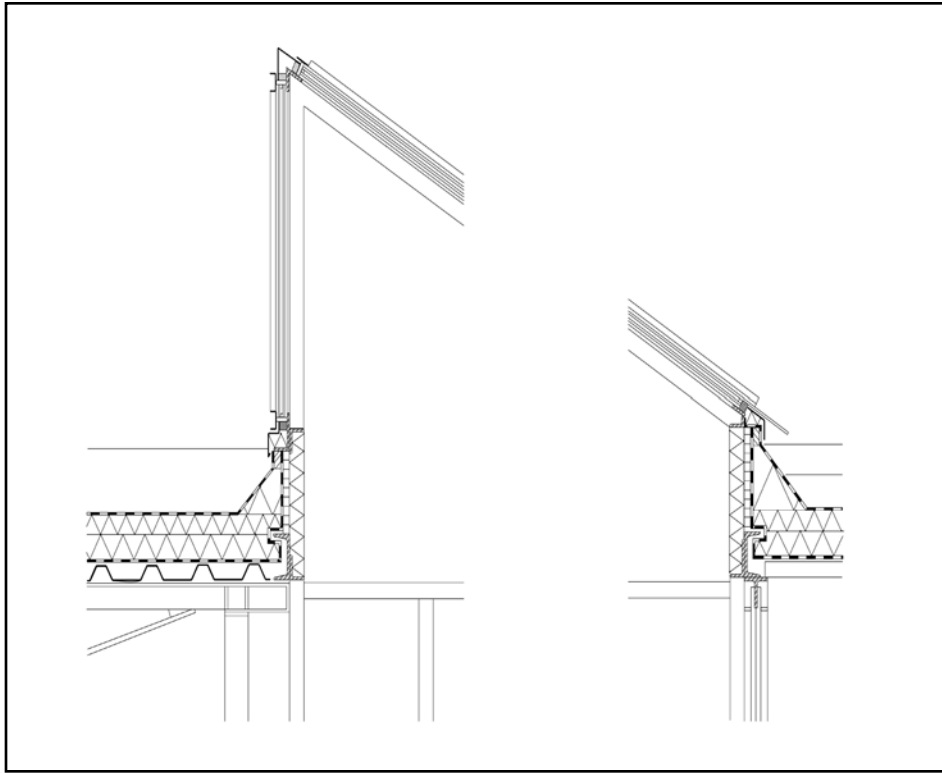
Level 2 Plan

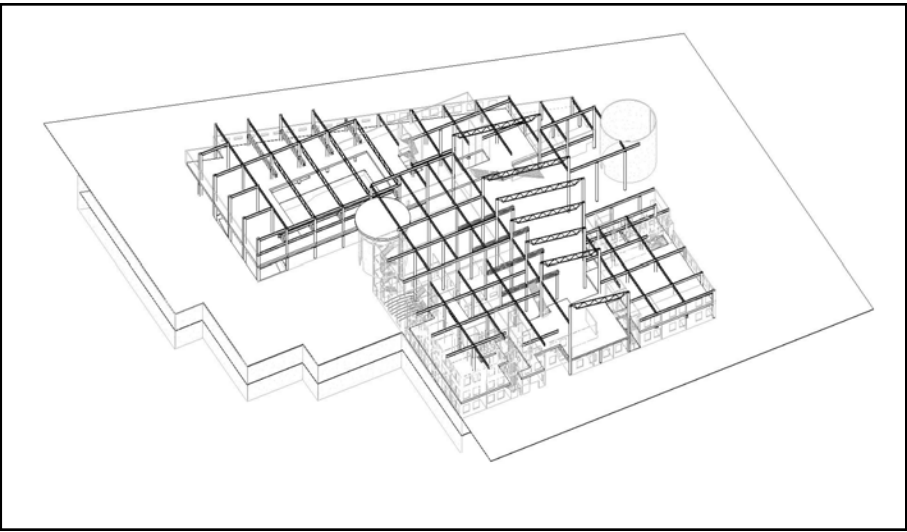
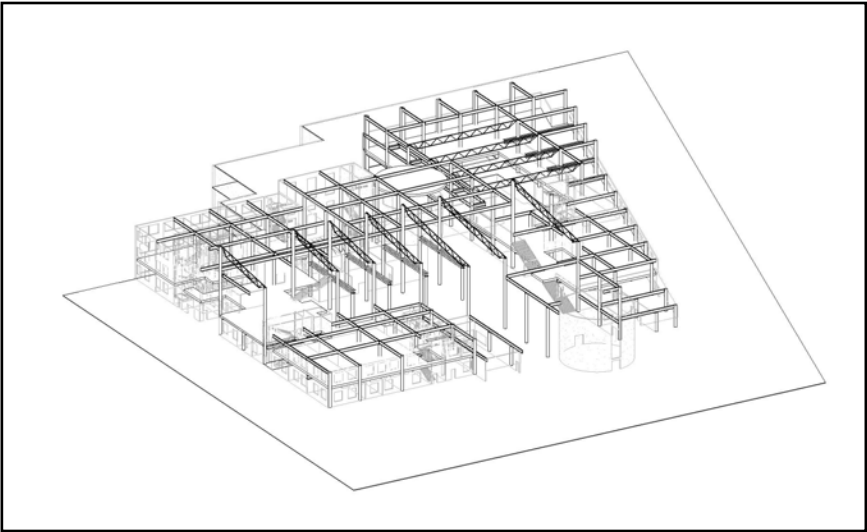
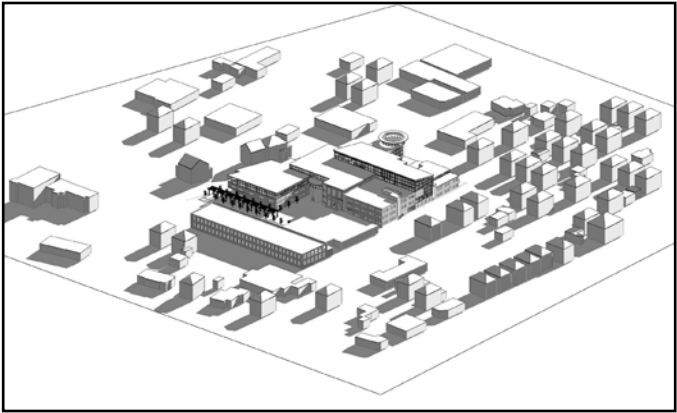
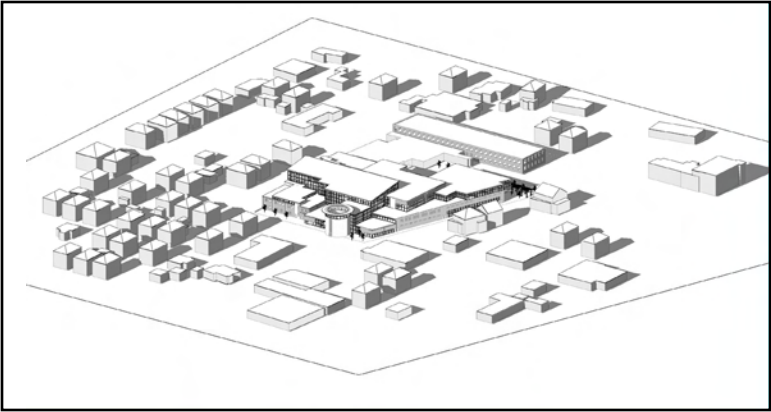




Sections

Final Drawings







Final Renderings

Aerial



Main Entry



Final Renderings



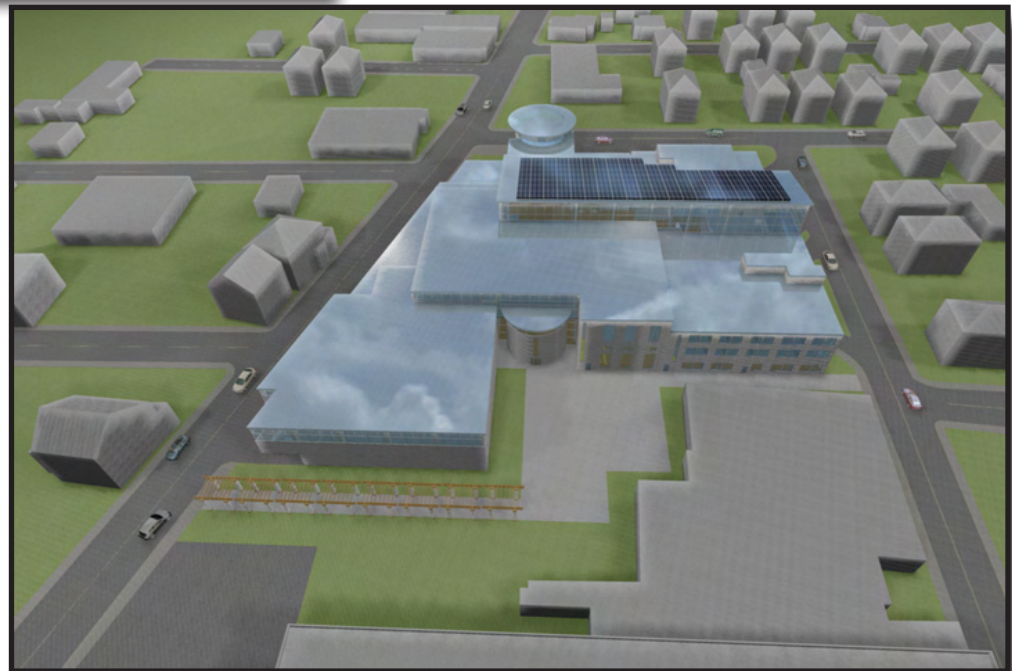
Final Renderings

Side Views



Interior

Final Renderings



Final Renderings

Rear Entry



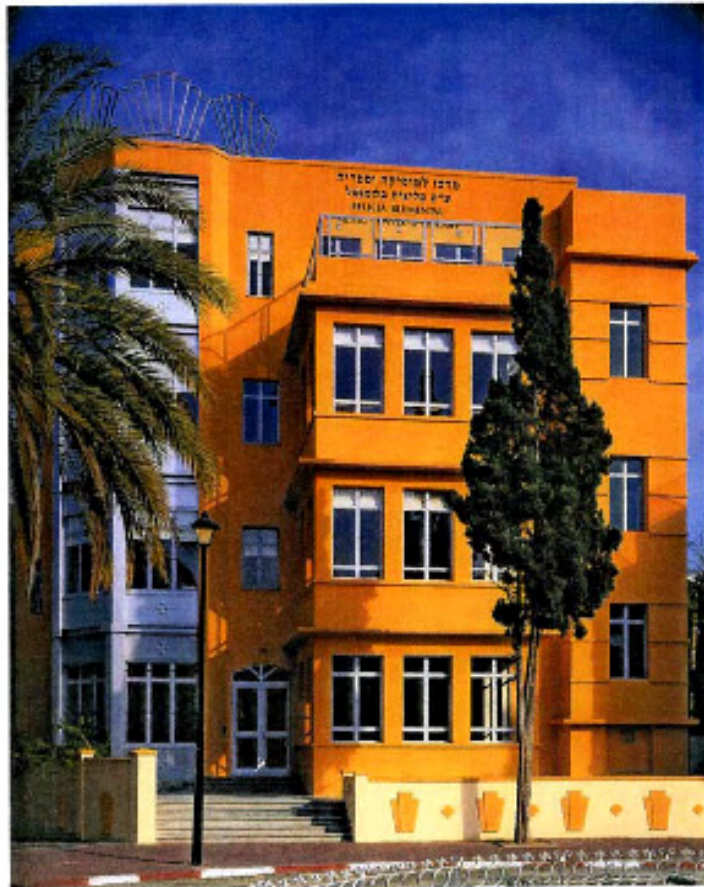
Night Illumination

Final Renderings

Music Center and Library

Tel Aviv, Israel

Nili Portugali



Bialik Square

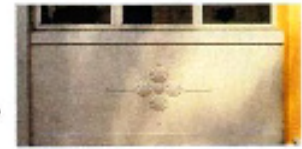


Reconstructed facade

A meaningful *dialogue* between a new building and the historical environment

Precedent

The interrelation between the *Building* and the *Square*



- Façade defines the boundaries of the square
- Orange paint compliments the blue sky and green trees



- Crown provides a graduated link to the sky
- Cement tile has same form of crown
- Railing wall relieves incorporates crown form



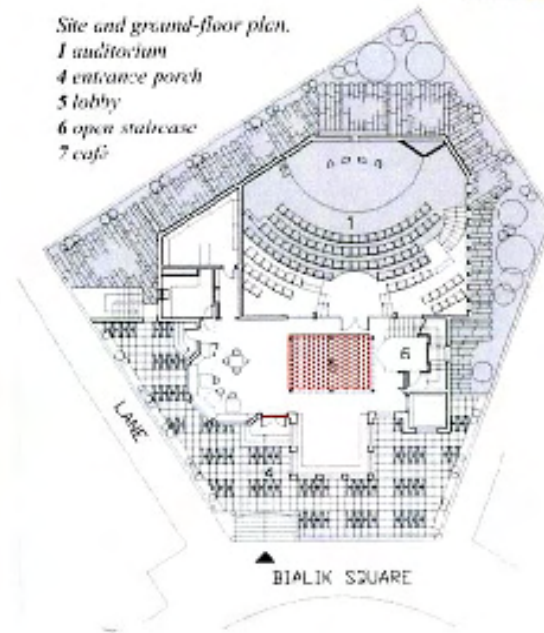
The dimensions of the building are in *harmony* with the human scale of the square

The interior of the building and its *Lobby*



Site and ground-floor plan.

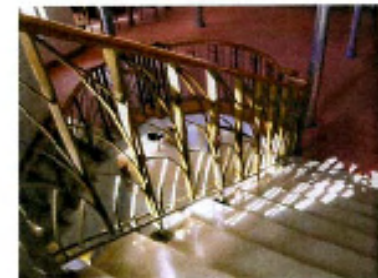
- 1 auditorium
- 4 entrance porch
- 5 lobby
- 6 open staircase
- 7 café



-Six columns define public space on each floor

The form, color, and material of each part of the building flow from the **functional** need it serves

The interior of the building and its open *Stairs*



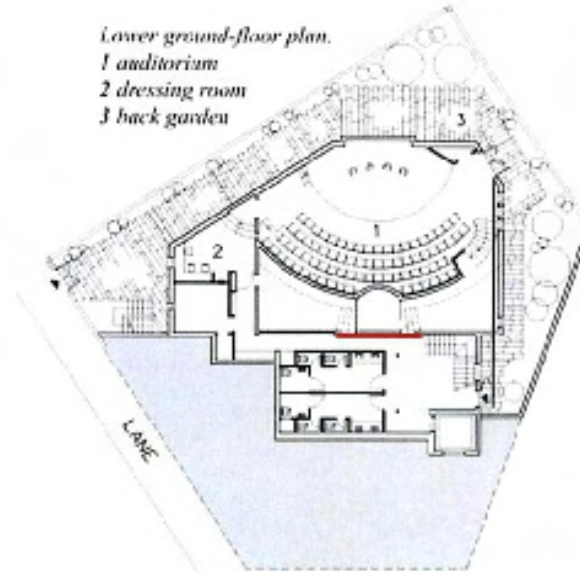
- Stairs provide a view to all floors open to it
- The high windows allow penetration of daylight
- Iron balustrades create a melody
- Sunlight creates silhouettes

The details are an *inherent* part of the building

The interior of the building and its Auditorium



Lower ground-floor plan.
1 auditorium
2 dressing room
3 back garden



- Lobby and auditorium are separated by a glass wall
- Allows a view of depth immediately upon entry

The similarity between the ceiling, glass, gallery and chairs are **parts to a whole**



The interior of the building and its *Lending Library*



- Catalogues and librarian counter at entrance
- Catalogue sitting area overlooks the square



*First-floor plan –
music lending
library:
8 catalogues and
librarian counter
9 notes, scores,
books
10 administration
11 librarian's
room*

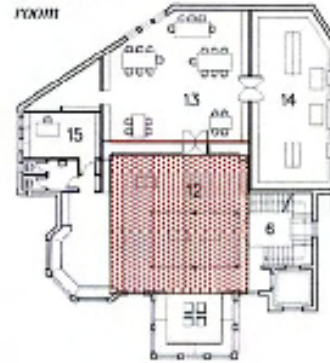


Colors have the power to give life and **enhance** the qualities

The interior of the building and its *Museum*



Second-floor plan.
12 music museum
13 study and
periodicals room
14 archive
15 curator's
room



-Glass partitions separate museum, study, and archive

One *visual continuum* while preserving the identity and uniqueness of each space

The interior of the building and its *Study*

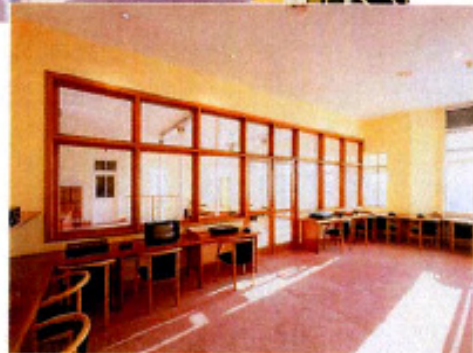


- Study and periodicals visually connected to museum
- Furniture derived from the larger whole to enhance



The square, building and back garden form ***one continuous whole***

The interior of the building and its *Audiovisual Library*



*Third-floor plan,
16 catalogues
and librarian
counter
17 audiovisual
room
18 discs, video-
tapes
19 librarian's
room
20 roof
terrace*

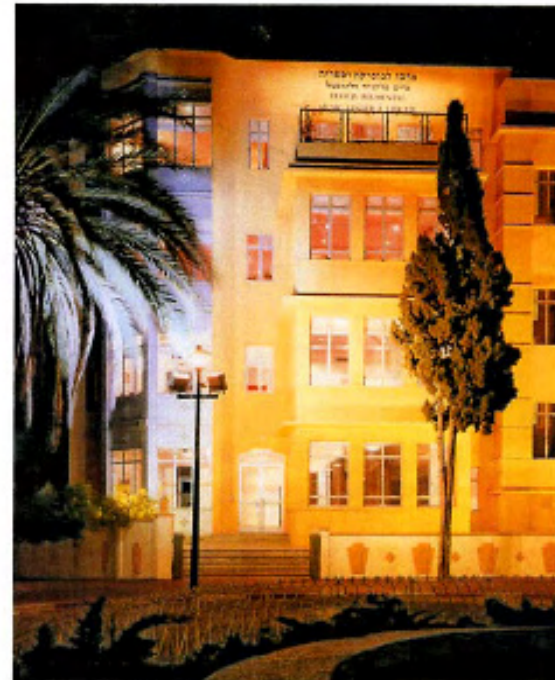


Visual connection with a view of roof, terrace and the sea

Architecture to create *Human Environments* for human beings

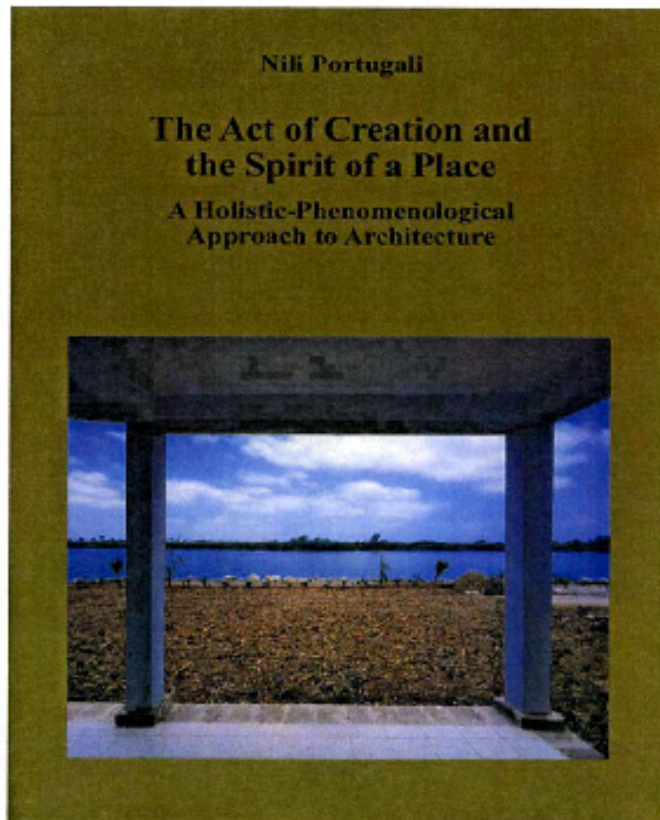
"Striving towards phenomenological architecture that generates a spiritual experience common to all people, no matter where or from what culture they come from"

Nili Portugali



The overall feeling of *inner wholeness and unity* stems from proper interrelations among parts

References and Credits



Data and Imagery compiled by:

Eva Marie Mercurio

For Educational Purposes Only

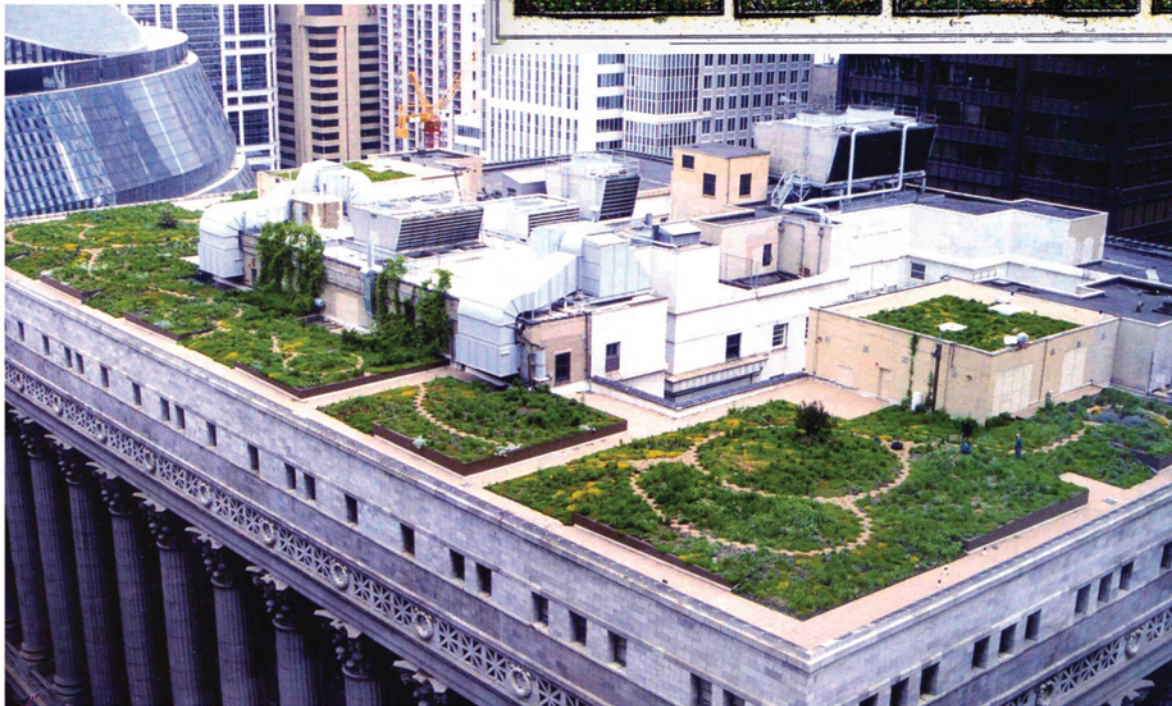
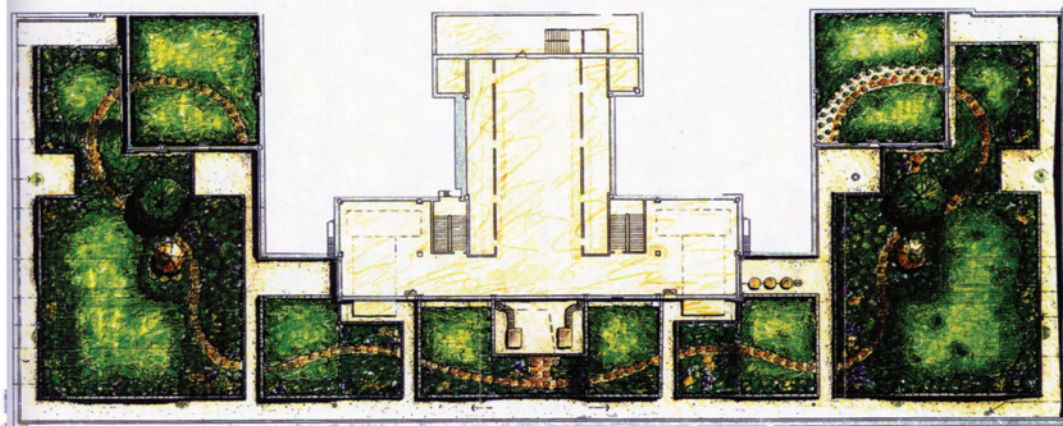


The **holistic approach** to architecture and the relation between the parts and the whole

Site

Roof Gardening

- Rainwater Management
- Heating/Cooling Benefits

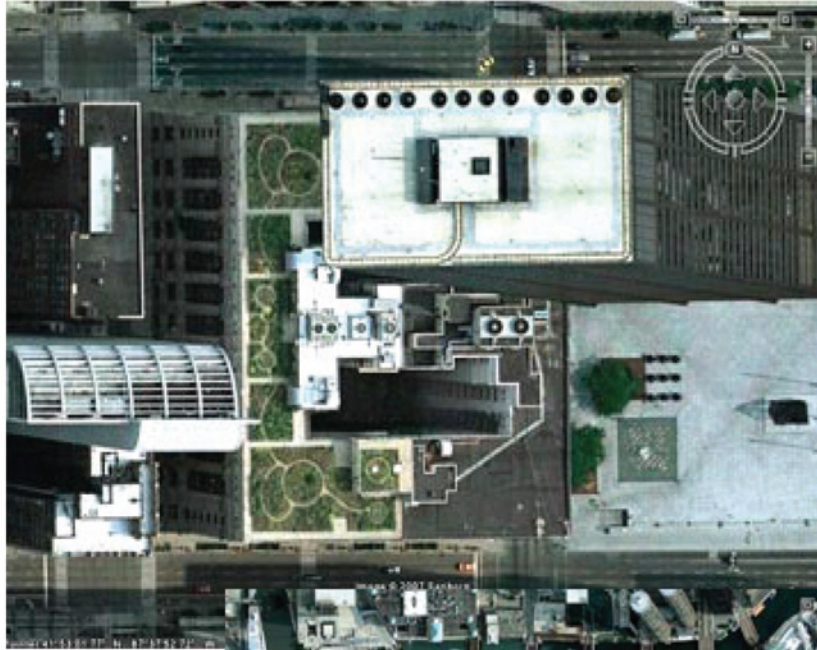


Improving

- City Climates
- Aesthetics

Chicago City Hall
Chicago, Illinois

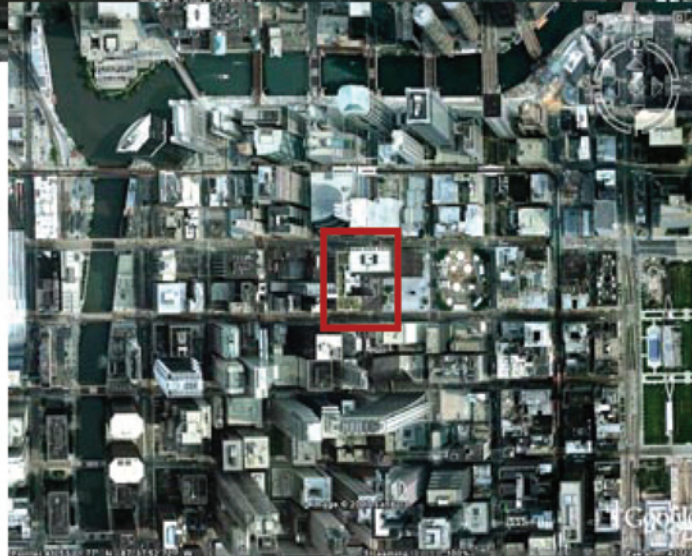
Site



aerials of rooftop



building in context



Chicago City Hall
Chicago, Illinois

Site

Natural Light



52

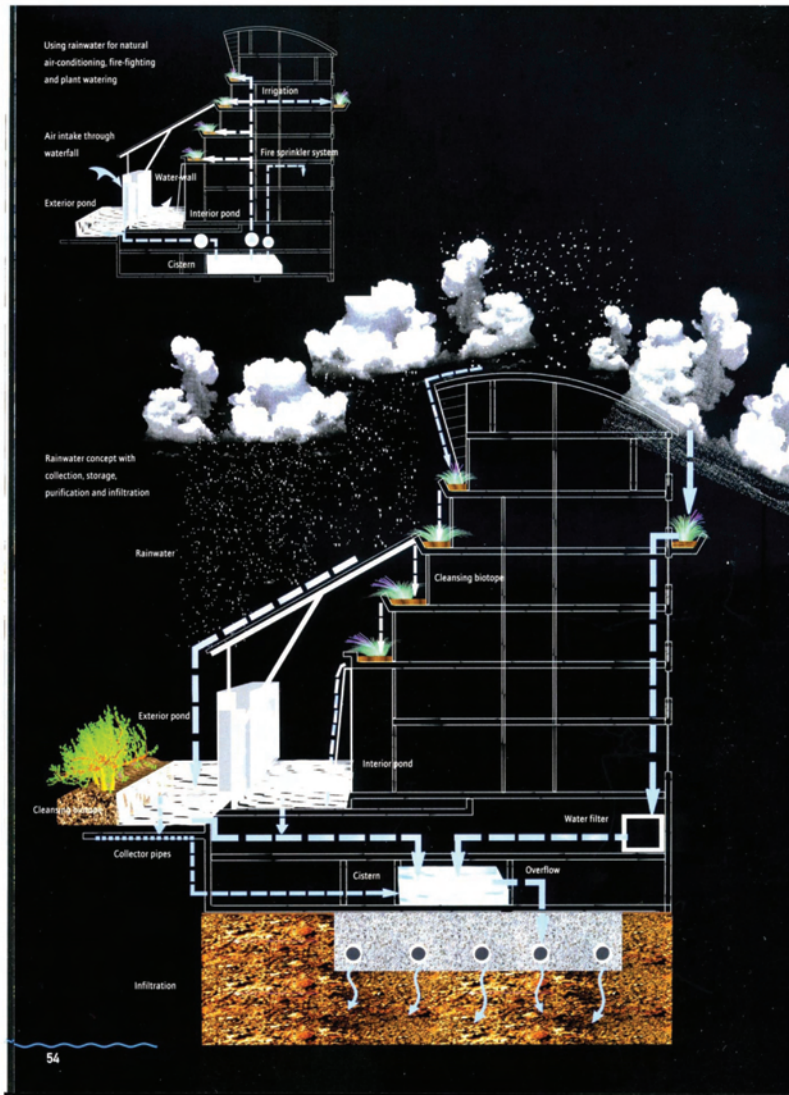


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Nuremberg Prisma

Joachim Eble

Site



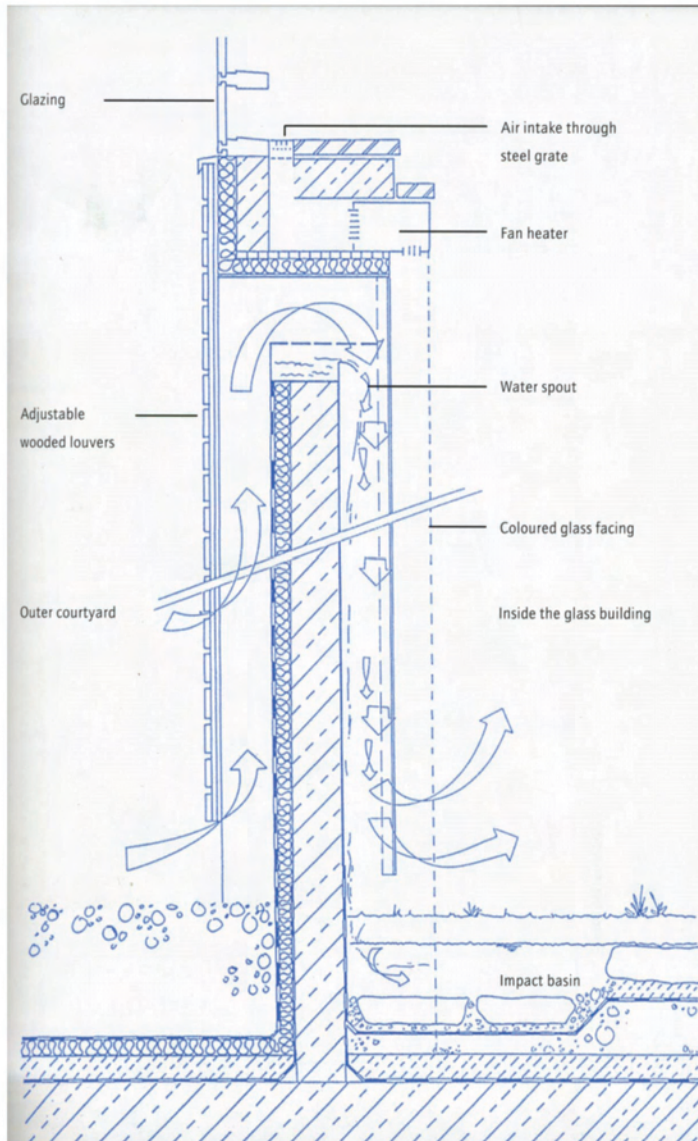
Rainwater Benefits

- Natural air-conditioning
- Fire-fighting
- Plant watering
- Runoff management
- Aesthetics
- Connection to nature/site

Nuremberg Prisma

Joachim Eble

Site



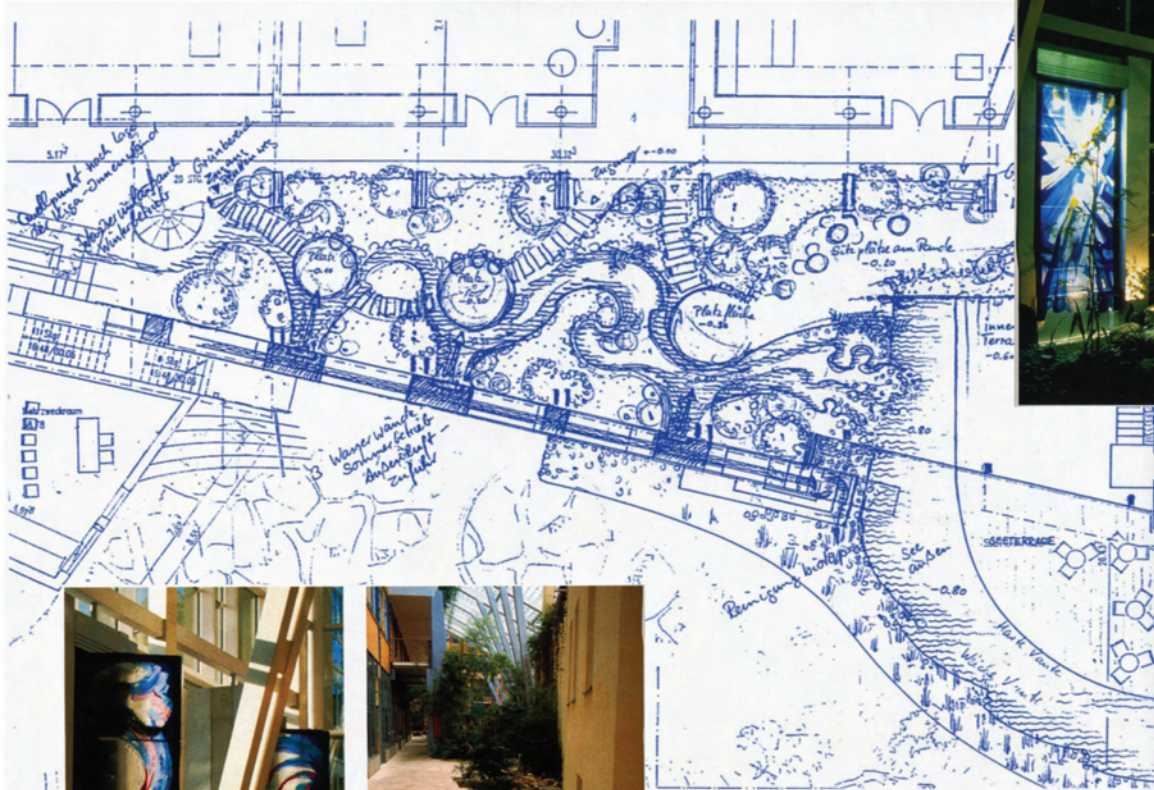
Heating and Cooling Effects

- Direct relationship with exterior climate
- Waterfalls create light wind for cooling
- Introduces humidity into air

Nuremberg Prisma

Joachim Eble

Site



link to water

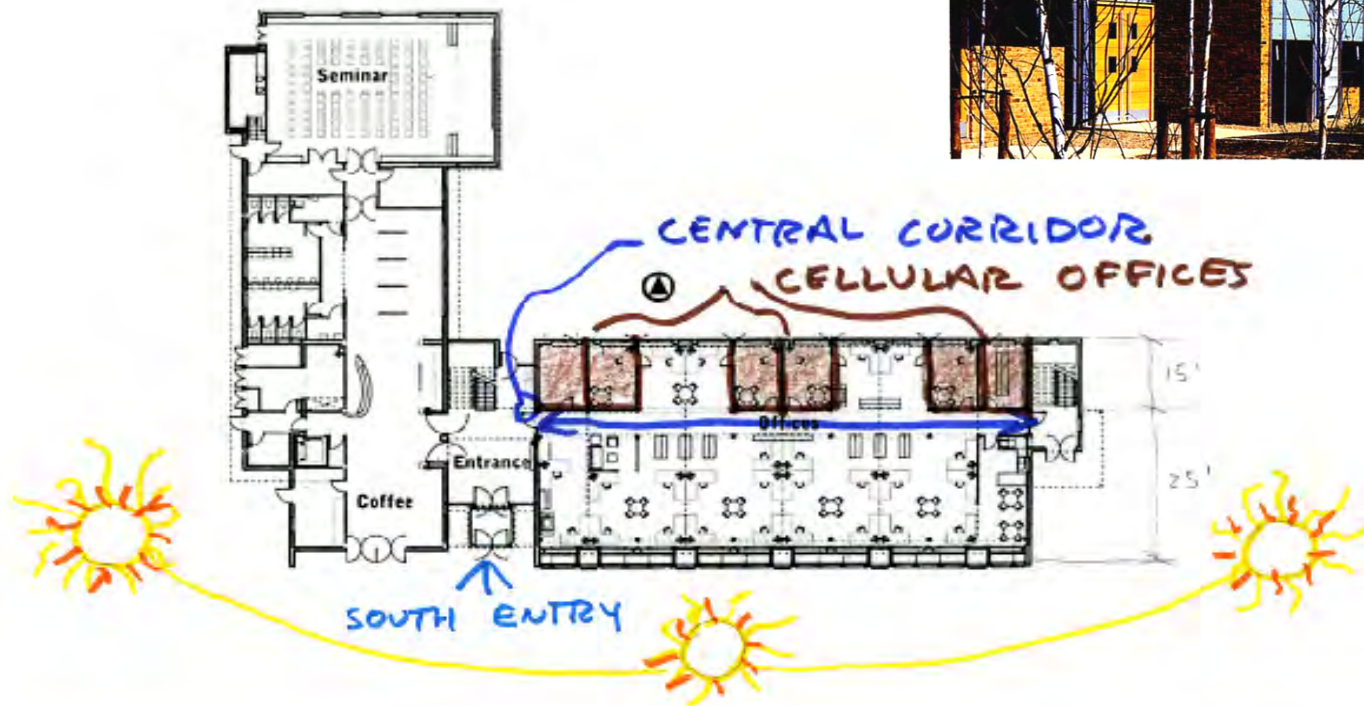
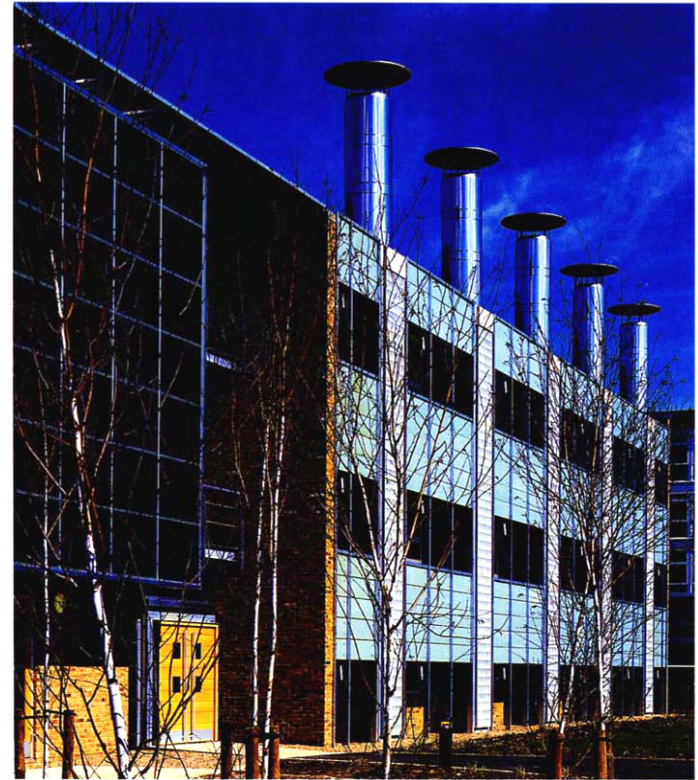
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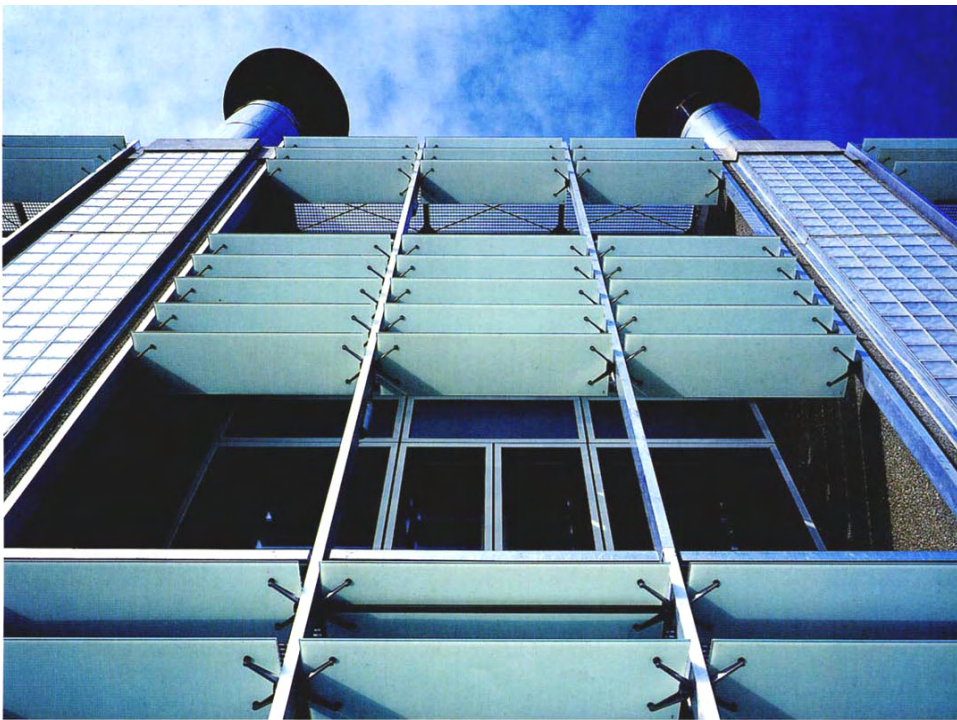
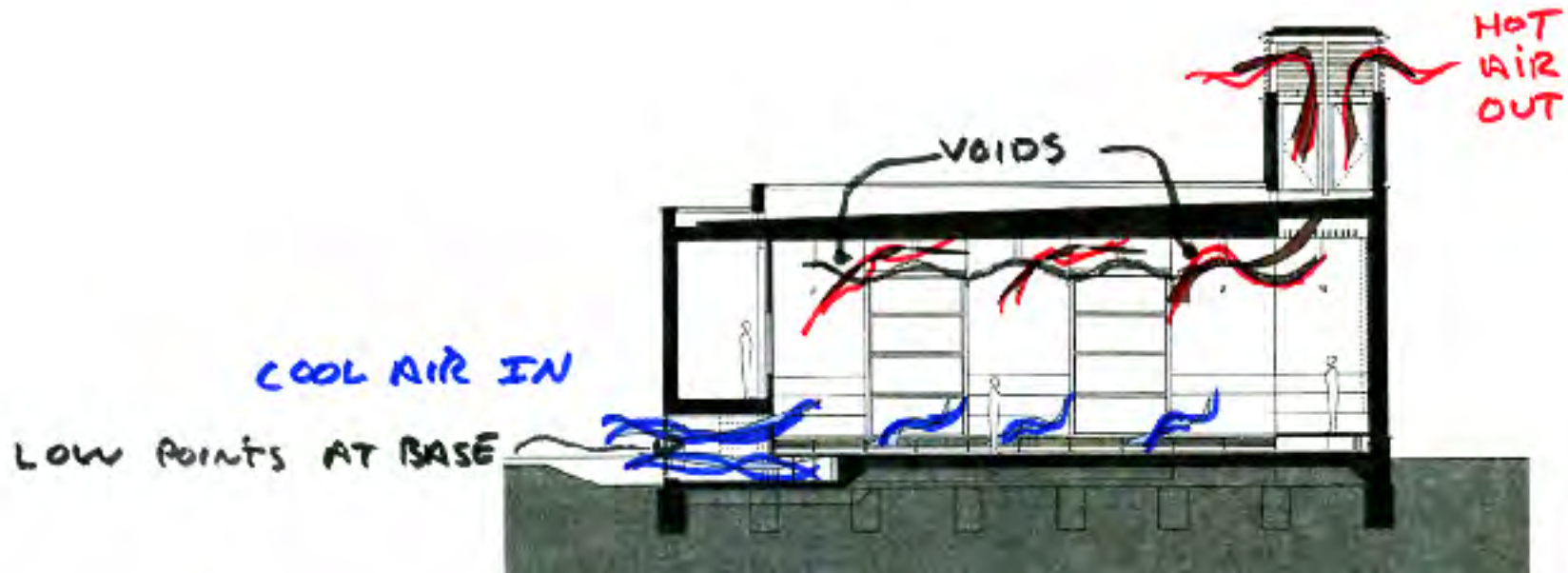
Joachim Eble

Feilden Clegg Architects

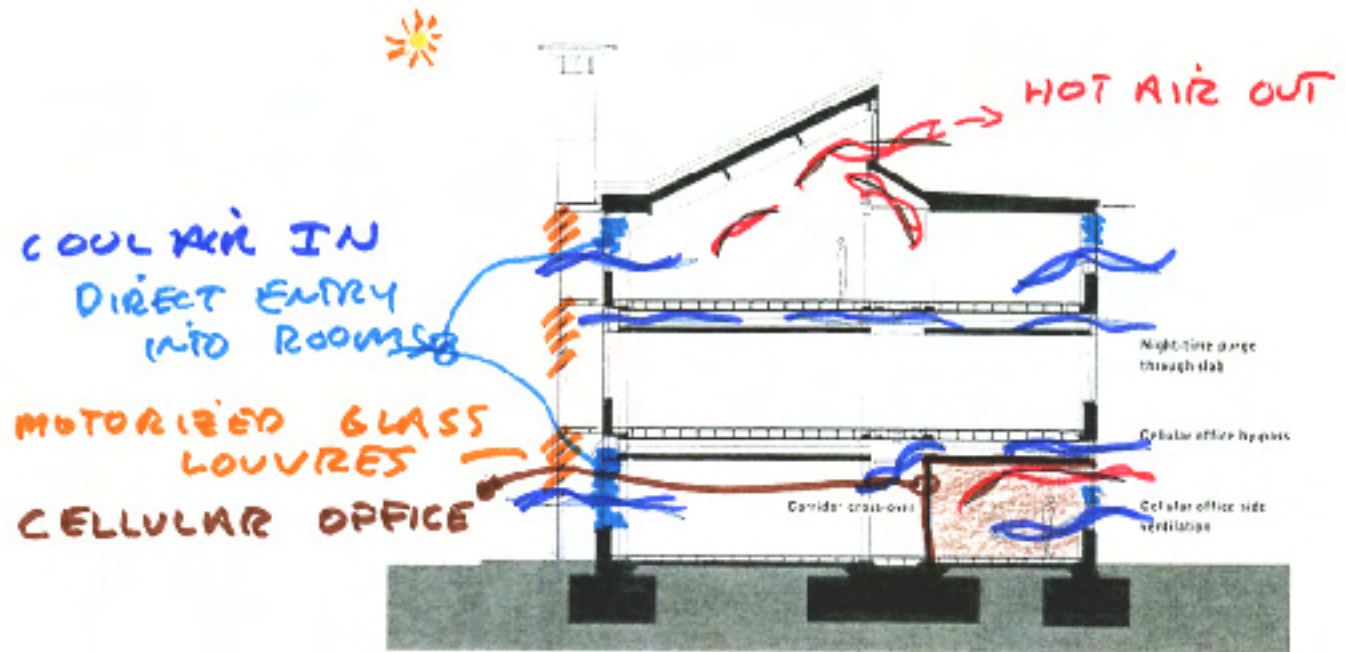
Building Research Establishment (BRE)

Garston, Hertfordshire, UK





- Glazed ventilation stacks w/low velocity propeller fans for assisted stack ventilation
- Intermediate seasoned ventilaton by open windows
- Cold weather heating by low pressure hot water w/ underfloor pipes and perimeter radiators



- Temperate Climate
- 12' floor to floor height
- Low emissivity argon-filled double glazed operable windows (50% facade)
- Trickle ventilation on upper floor
- Outside air controlled by BMS operated windows

ARTICLE I. GENERAL PROVISIONS

Sec. 100. Purpose.

The zones and regulations set forth in this ordinance are in compliance with the Comprehensive Plan and are intended to address the following purposes:

- (A) Promoting the public health, safety, and general welfare.
- (B) Providing for a range of uses and intensities of use appropriate to the character of the City and reflecting current and expected future needs.
- (C) Providing for orderly growth and development which recognizes:
 1. The goals and patterns of land use contained in the Comprehensive Plan as defined;
 2. The natural characteristics of the land, including, but not necessarily limited to, its suitability for use based on topography, potential surface water run-off and susceptibility to surface or groundwater pollution;
 3. The values and dynamic nature of coastal features, riverfronts, freshwater ponds, the shoreline, and freshwater and coastal wetlands;
 4. The values of unique or valuable natural resources and features;
 5. The availability and capacity of existing and planned public and/or private services and facilities;
 6. The need to shape urban development; and
 7. The use of innovative development regulations and techniques.
- (D) Providing for the control, protection, and/or abatement of air, water, groundwater, and noise pollution, and soil erosion and sedimentation.
- (E) Providing for the protection of the natural, historic, cultural, and scenic character of the city.
- (F) Providing for the preservation and promotion of the urban forest, street trees and open space.
- (G) Providing for the protection of public investment in transportation, water, stormwater management systems, sewage treatment and disposal, solid waste treatment and disposal, schools, recreation, public facilities, open space, and other public requirements.
- (H) Promoting a balance of housing choices, for all income levels and groups, to assure the health, safety and welfare of all citizens and their rights to affordable, accessible, safe and sanitary housing.
- (I) Providing opportunities for the establishment of low and moderate income housing.
- (J) Promoting safety from fire, flood, and other natural or man-made disasters.
- (K) Promoting a high level of quality of design in the development of private and public facilities.
- (L) Promoting implementation of the Comprehensive Plan, as it may be amended from time to time.
- (M) Providing for coordination of land uses with contiguous municipalities, other municipalities, the state, and other agencies, as appropriate, especially with regard to resources and facilities that extend beyond the city's boundaries or have a direct impact on the city.
- (N) Providing for efficient review of development proposals, to clarify and expedite the zoning approval process.
- (O) Providing for procedures for the administration of the zoning ordinance, including, but not limited to, variances and special use permits.

(Ord. 1994, ch. 94-24, § 1, 6-27-94)

Sec. 101. Establishment of zoning districts.

For the purpose of this ordinance, the city is divided into zoning districts designated and described as follows:

101.1. Residential Zoning Districts.

- R-1 One-Family District: This zone is intended for low density residential areas comprising single-family detached structures located on lots with a minimum land area of six thousand (6,000) square feet.
- R-2 Two-Family District: This zone is intended for low density residential areas comprising single-family and two-family detached structures located on lots with a minimum land area of five thousand (5,000) square feet.
- R3 Three-Family District: This zone is intended for medium and low density residential areas comprised of structures containing single-family dwelling units, two-family dwelling units and three-family dwelling units located on lots with a minimum land area of five thousand (5,000) square feet and a minimum land area of two thousand (2,000) square feet per dwelling unit.
- R-G General Residence District: This zone is intended for medium density residential areas comprised of structures containing single-family dwelling units, two-family dwelling units, three-family dwelling units and four (4) or more family dwelling units located on lots with a minimum land area of five thousand (5,000) square feet and a minimum land area of two thousand (2,000) square feet per dwelling unit.
- R-M Multi-Family Dwelling District: This zone is intended for high density residential area comprised of structures containing single-family, two-family and three-family, and four (4) or more dwelling units located on lots with a minimum land area of five thousand (5,000) square feet and a minimum land area of one thousand two hundred (1,200) square feet per dwelling unit.
- R-P Residential Professional District: This zone is intended to preserve and enhance the residential integrity of certain heavily travelled streets while permitting compatible professional uses. Compatible professional uses are those that will fit into the existing structure so as to preserve the residential character of the street, including its architecturally attractive and distinctive qualities; provide opportunities for people to live, work, and receive professional services in the same area; and improve public safety by encouraging both day and night time occupancy in the area.

101.2. Commercial Zoning Districts.

- C-1 Limited Commercial District: This zone is intended for neighborhood commercial/residential areas that primarily serve local neighborhood needs for convenience retail, services and professional office establishments.
- C-2 General Commercial District: This zone is intended for commercial areas that serve citywide needs for retail, services and professional office establishments.
- C-3 Commercial: Reserved.
- C-4 Heavy Commercial District: This zone is intended for commercial areas for a wide diversity of commercial uses that serve regional needs for retail, service, professional office and automotive establishments.

101.3. Downtown Zoning Districts.

D-1 Downtown: Central Business District: This zone is intended to encourage revitalization and restoration of the historic core business area and to accommodate appropriate expansion of the downtown area. A variety of business, financial, institutional, public, quasi-public, cultural, residential, and other related uses are encouraged in the downtown area. Compatible and appropriate mixed uses are encouraged to promote commercial, retail and other business activity at street levels; residential, retail, and office uses on the upper floors; and to preserve and foster the economic vitality of the downtown. See DOWNCITY DISTRICT Overlay Zone for additional regulations.

D-2 Downtown: Mill District: This zone is intended to foster expansion of the downtown uses into former manufacturing areas in which commercial, retail, residential, and office uses are being introduced. A variety of business, financial, institutional, public, quasi-public, cultural, residential, light manufacturing and other related uses are encouraged to provide the mix of activities necessary to accommodate the growth of Downtown Providence.

101.4. Industrial Zoning Districts.

M-1 Industrial District: This zone is intended for general industrial uses that accommodate a variety of manufacturing, assembly, storage of durable goods and related activities provided that they do not pose toxic, explosive or environmental hazard in the city; and to support live-work spaces only in those existing underutilized industrial and/or commercial structures that are included in article, V, section 501, Industrial and Commercial Individual Structure District.

M-2 Heavy Industrial District: This zone is intended to provide for areas for heavy industrial uses, especially for those uses that are potentially hazardous, noxious or incompatible with the uses in any other zone.

101.5. Waterfront Zoning Districts.

W-1 Waterfront: Commercial/Residential District: This zone is intended to promote primarily residential development while allowing limited commercial use as well as appropriately scaled mixed use developments; to promote waterfront access and uses which improve the integration of the waterfront and the neighborhoods adjacent to the waterfront.

W-2 Waterfront: Mixed Use District: This zone is intended to promote a balance among appropriately scaled residential, commercial and light industrial development; to enhance compatible development with adjacent areas and surrounding residential neighborhoods; to enhance and create public access to the waterfront as a public resource for the benefit of present and future generations; and, to provide a transition between the Port/Maritime Industrial uses and surrounding neighborhoods.

W-3 Waterfront: Port/Maritime Industrial District: This zone is intended to promote the Port of Providence and related maritime industrial and commercial uses within the areas of Providence's waterfront; to protect the waterfront as a resource for water-dependent industrial uses; and to facilitate the renewed use of a vital waterfront.

Sec. 102. Zone group classification.

Whenever the terms R Zone, C Zone, D Zone, W Zone, M Zone and I Zone are used, they shall be deemed to refer to all zones containing the same letters in their names: e.g., C Zone shall include C-1, C-2, and C-4 Zones.
(Ord. 1994, ch. 94-24, § 1, 6-27-94)

Sec. 103. Official zoning map.

The official zoning map of the city shall consist of two (2) series of maps as follows:

(A) The boundaries of the R, C, D, M, W, RP, OS, and PS Zones are hereby established as shown on a series of maps in the office of the City Clerk entitled "Providence Zoning District Maps" dated April 26, 1991, adopted on October 24, 1991, and amended from time to time in accordance with Rhode Island General Law (RIGL) Title 45 Chapter 24, consisting of 129 separate maps numbered 1 to 129.

(B) The boundaries and regulating information where applicable, of the overlay zoning districts and floating districts, as defined, are hereby established as shown on a series of maps on file in the office of the City Clerk entitled "Providence Overlay Zoning District Maps," dated April 26, 1991, adopted on October 24, 1991, and in accordance with Rhode Island General Laws (RIGL) Title 45 Chapter 24.

The "Providence Zoning District Maps" and the "Providence Overlay Zoning District Maps" constitute the official zoning map of the city and are hereby adopted and made part of this ordinance.

(Ord. 1994, ch. 94-24, § 1, 6-27-94)

Sec. 104. Zone boundaries.

Where uncertainty exists as to the boundaries of the zoning districts as shown on the official zoning map, the following rules shall apply:

- (A) Zone boundaries are generally intended to follow lot lines.
- (B) Zone boundaries, where indicated, are the center lines of streets, parkways, waterways, or railroad rights-of-way.
- (C) Where the street layout on the ground varies from the layout as shown on the zoning map, the director shall interpret said map according to the reasonable intent of this ordinance.
- (D) Where the zone boundary divides a lot so that the lot's frontage is in a more restrictive zone or more than fifty (50) percent of its frontage is on a street in a more restrictive zone, the provisions of this ordinance covering the more restrictive portion of the lot shall be extended to the entire lot.
- (E) Where the zone boundary divides a lot so that the frontage is in a less restrictive zone or at least fifty (50) percent of its frontage is on a street in a less restrictive zone, the provisions of this ordinance covering the less restrictive portion of such lot may be extended to the entire lot, but in no case for a distance of more than thirty (30) feet. Such extension shall be allowed only in a direction parallel to the street frontage. The remaining portion of the lot shall be developed in accordance with the requirements of the more restrictive zone and of this ordinance.

(Ord. 1994, ch. 94-24, § 1, 6-27-94)

Section 305 – Dimensional Regulations – Commercial, Industrial and Institutional I-1 and I-2 Districts:

	C- 1,2,4	M-1	M-2	I-1,2
Maximum Height	45 feet 3 stories	75 feet 6 stories	90 feet ¹ 7 stories	Varies ²
Minimum Lot Area	None ³	None ²	None	N/A
Minimum Lot Area Per Dwelling Unit	1,200 sq. ft.	1,200 sq. ft.	N/A	N/A
Minimum Lot Area Per Rooming Unit	400 sq. ft.	None	N/A	N/A
Minimum Front Yard	0 feet ^{4, 10}	0 feet ^{4, 5}	0 feet	0 feet ^{4, 5}
Minimum Side Yard	0 feet ⁷	0 feet ⁷	0 feet ⁷	0 feet ⁶
Minimum Rear Yard	0 feet ⁸	0 feet ⁷	0 feet ⁸	0 feet ⁶
Maximum Lot Coverage	None	None	None	None

305.J – Footnotes for Dimensional Regulations – Commercial, Industrial, Institutional Districts:

1. Maximum height cannot exceed maximum height of any R-Zone which is not overlaid by an Institution Floating Zone within 150 feet of the structure.
2. The allowable height for any building in an Institutional Floating Zone shall be a function of the distance between the proposed building and nearby residential zones. The allowable height for the entire building shall be determined in accordance with the most restrictive height calculated in accordance with the following requirements.
 - a. Maximum height shall be 30 feet whenever any part of the institutional building is located on a street line and the property on the opposite side of the street is in an R-zone and shall increase by one foot for every one foot setback from said street line up to a maximum height of 75 feet/six stories.
 - b. Maximum height shall be limited to 40 feet whenever any part of the institutional building is located within 30 feet from the property line of a lot in

- an R-zone and shall increase by one foot for every additional one foot setback from said property line up to a maximum of 75 feet/six stories.
- c. In all other cases, building height shall not exceed 75 feet/ six stories.
 - d. Setback distance as outlined in a and b above are not required from lots in R-zones that are overlaid by an I-zone.
3. When a lot is used solely for residential purposes, the minimum lot area shall be 5,000 sq. ft.
 4. Where the block frontage is partly in a R-zone which is not overlaid by an Institutional Floating Zone, the front yard requirements of the R-zone shall apply.
 5. Where the property on the opposite side of the street is in an R-zone which is not overlaid by an Institutional Floating Zone, the front yard requirements of the R-zone shall apply.
 6. Where the lot abuts a lot in an R-zone which is not overlaid by an Institutional Floating Zone, there shall be a minimum yard of 30 feet.
 7. Where the side yard of a lot abuts a lot in an R-zone which is not overlaid by an Institutional Floating Zone, there shall be a side yard of not less than four feet for each story of 12 feet in height, but such yard shall not be less than six feet.
 8. Where the rear yard of a lot abuts a lot in an R-zone which is not overlaid by an Institutional Floating Zone, there shall be a rear yard of not less than 20 % of the lot depth, maximum required need not exceed 20 feet.
 9. Reserved
 10. In the C-1 and C-2 zones, building lines at street level shall be coincident with the lot line without setback and main entrances shall be oriented to face the street. On a lot with curved lot frontage, the building may be built to the chord or the tangent, whichever applies. Building fronts may incorporate articulations not to exceed two feet in depth. Such articulations shall not encompass more than 30% of the total building front. [Ord. 2003-29]



Zoning Map

ARTICLE IV. SUPPLEMENTARY REGULATIONS

Sec. 400. Purpose.

The purpose of supplementary regulations is to set specific conditions for various uses or areas, for dimensional criteria and to set standards for the granting of special exceptions.

(Ord. 1994, ch. 94-24, § 1, 6-27-94)

Sec. 404. Accessory solar uses.

An active or passive solar energy system which collects solar energy and provides heating, cooling, light or electricity to a building or end use, is permitted in all zones as an accessory structure. Such system may be located in any required side or rear yard, but shall not be located in any front yard nor exceed eight (8) feet in height. Solar systems erected on a roof shall comply with the requirements of section 412. In an historic district, solar energy systems and solar collectors shall require the approval of the historic district commission in accordance with Article V.

(Ord. 1994, ch. 94-24, § 1, 6-27-94)

Sec. 406. Screening.

406.1. Screening of trash containers. All commercial, industrial and multifamily residential uses shall provide trash and/or garbage collection areas enclosed on at least three (3) sides by a solid wall, opaque fence or compact planting screen of at least five (5) feet in height if such area is not within an enclosed building or structure. Provisions for adequate vehicular access to and from such area(s) for collection of trash and/or garbage shall be required. Trash areas shall be limited to side or rear yards and must be located at least five (5) feet from any lot line.

406.2. Screening of utilities. Utility substations, telephone exchange substations, television, radio or satellite dish and similar uses shall be enclosed on at least three sides by a vegetative screen of hardy evergreens or shrubs at least three (3) feet high at time of planting and which shall be sufficient to provide a visual screen from adjacent R Zones.

(Ord. 1994, ch. 94-24, § 1, 6-27-94)

Sec. 412. Roof structures.

412.1. Roof structures permitted above maximum height.

(A) The following roof structures are permitted above the maximum height as specified in this ordinance, provided that the total area of all such appurtenances is not more than one-third of the total roof area of the building: structures for the housing of elevators and elevator shafts; stairways; fire or parapet walls; skylights; towers; steeples; chimneys; and fully enclosed mechanical equipment rooms.

(B) The following roof structures are permitted above the maximum height as specified in this ordinance: heating and air-conditioning equipment, ventilating fans, solar collectors, storage tanks for water, television, radio or satellite dish, antennae or masts, or similar equipment required to operate and maintain a building. No such roof structure shall exceed the maximum height for the zone in which it is located, except by the amount allowed herein:

(1) Buildings from one (1) to six (6) stories--Ten (10) feet.

(2) Buildings exceeding six (6) stories--Ten (10) feet plus one (1) foot per story above the sixth story to a maximum total of twenty (20) feet.

(C) If a roof structure exceeds one third of the total roof area, it shall be counted as a story and the building shall conform to the height restriction for the zone in which it is located.

412.2. Structures exempt from height restrictions.

Smokestacks and flag poles, whether or not they are attached to the main structure, are permitted above the maximum height requirement for the zone in which they are located.

412.3. Roof structure setbacks and screening:

It is intended that permitted roof structures shall not be visible from street level, as provided below:

- (A) For all buildings three (3) stories or more in height, all roof structures shall be setback from the edge of the roof a minimum distance of one (1) foot for every two (2) feet by which the structures extend above the roof.
- (B) For all buildings less than three (3) stories in height and for any building where roof structures cannot meet the setback requirement of 412.3(A), there shall be either a parapet wall to screen the roof structure, or the roof structure shall be housed in solid building material which shall be architecturally integrated with the building and which shall be counted as one (1) story.

(Ord. 1994, ch. 94-24, § 1, 6-27-94; Ord. 1995, ch. 95-8, § 1-8, 5-26-95)

Sec. 418. Corner setback.

In all zones except the D Zones, in the triangle formed by the street lines intersecting at an angle of less than one hundred thirty-five (135) degrees and a line joining points on such lines fifteen (15) feet distant from their point of intersection, no building or structures may be erected, no parking areas may be created and no vegetation may be maintained between heights of three and one-half (3 1/2) feet and ten (10) feet above the plane through their curb grades. Notwithstanding the provisions of this section, poles not exceeding eight (8) inches in outside diameter designed for the support of lights and signs, may be erected in this triangle.

(Ord. 1994, ch. 94-24, § 1, 6-27-94)

Sec. 420. Variances for maximum height.

420.1. Maximum height in R-1, R-2, R-3, R-G and R-P. The board, upon application for a variance, as provided in section 902.3, may increase the maximum height allowed in this ordinance to three (3) stories not to exceed forty (40) feet provided that the use of building is in conformance with Article III.

420.2. Maximum height in R-M, C, I-1, I-2, and W-1 Zones. The board, upon application for a variance, as provided in section 902.3, may increase the maximum height allowed in this ordinance by ten (10) feet provided the use of the building is in conformance with Article III.

420.3. Maximum height in M, W-2, and W-3 Zones. The board, upon application for a variance, as provided in section 902.3, may increase the maximum height allowed in this ordinance by twenty (20) feet provided the use of the building is in conformance with Article III.

420.4. Maximum height in D and I-3 Zones. The board, upon application for a variance, as provided in section 902.3, may increase the maximum height allowed in this ordinance by twenty-five (25) percent, but to no more than three hundred (300) feet, whichever is less, provided the use of the building is in conformance with Article III.

(Ord. 1994, ch. 94-24, § 1, 6-27-94)

ARTICLE VII. PARKING AND LOADING

Sec. 700. Intent.

No land shall be used and no structure shall be erected or used unless off-street parking spaces as required in this ordinance are provided with either accessory use or principal use parking facilities, as applicable. Any structure or use existing prior to the effective date of this ordinance or any amendment thereto, with parking space that does not meet the requirements of this section shall be subject to the requirements of section 205. While it is the intent of this section to require minimum off-street parking facilities, excessive paving of land that provides significantly more than the minimum number of spaces is discouraged. (Ord. 1994, ch. 94-24, § 1, 6-27-94)

Sec. 701. Accessory parking.

Accessory parking required by this ordinance shall be located on the same or contiguous lot as the principal structure or use the parking is intended to serve. Parking required for use codes 3.0 (Cultural, Entertainment and Recreation Services) through 8.0 (Manufacturing) as listed in the Use Regulations in Article III, is permitted to extend not more than one hundred (100) feet into an adjacent R Zone.

(Ord. 1994, ch. 94-24, § 1, 6-27-94)

Sec. 702. Parking as a permitted use.

Parking, as a use, may be located in zones where permitted by right or by special exception in accordance with the use regulations in Article III.

(Ord. 1994, ch. 94-24, § 1, 6-27-94)

Sec. 703. Parking space requirements.

The following sections specify the minimum number of off-street parking spaces required for each use code as designated in the use regulations in Article III and Appendix A.

703.1. Parking requirements for D Zones. In D Zones, the requirements set forth in section 703.2 shall be reduced by fifty (50) percent, except for institutions that are required to file a master plan in accordance with section 2-256 of the City Code of Ordinances. Parking requirements for eating and drinking establishments in a D Zone shall be zero (0). See section 205.2 for parking requirements for a change of use in an existing building in a D Zone.

703.2. Parking requirements for all other zones. The following Table specifies the minimum number of off-street parking spaces required for each use. All parking facilities shall conform with the Rhode Island State Building Code with respect to number of spaces designated for handicapped persons. In determining parking requirements, all calculations shall be rounded up to the next whole number.

Table Inset: (Partial)

24.5	Medical/Dental Office	1 per 500 square feet GFA
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Sec. 705. Parking Standards; more than four vehicles.

Every parcel of land which, after the effective date of this ordinance or any amendment thereto, is developed as an accessory or principal use parking facility for more than four (4) vehicles, including automobile or trailer sales area, automotive service station or garage, shall be developed as provided herein, subject to the approval of plans thereof by the traffic engineer.

705.1. Minimum size of parking spaces. Parking areas for four (4) or more cars shall meet the following minimum dimensional requirements affecting the width and length of individual parking stalls and the width of aisles exclusive of necessary drives and other access ways:

Table Inset:

Car Type Standard		Compact
Minimum Width.....	8.5 ft.	7.5 ft.
Minimum Length.....	18 ft.	15 ft.
Minimum Aisle Width		
90 degree angle.....	24 ft.	
60 degree angle.....	16 ft.	
45 degree angle.....	12 ft.	
30 degree angle.....	11 ft.	
0 degree (parallel)....	12 ft.	

All parking facilities shall conform with the Rhode Island State Building Code with respect to the sizes of spaces for handicapped persons. In D Zones, if valet parking is supplied and approved by the director, aisles will not be required.

705.2. Striping. For parking areas of more than four (4) cars, each parking space shall be marked by pavement lines.

705.3. Entrance and exit. Each parking space shall be designed with adequate off-street area for approach, turning, and exit with minimal use of any part of a public right-of-way.

705.4. Paving. Parking areas, where subject to wheeled traffic, shall be treated with bituminous, concrete, or equivalent surfacing and shall have appropriate bumper or wheel guards where needed. In R Zones the requirements of section 704 shall also be met.

705.5. Lighting. Any light used to illuminate said parking area shall be so arranged as to reflect the light away from the adjoining premises in an R Zone and from adjoining streets.

RAZE BUILDING PERMITS

- Completed application
Name & Signature of legal owner
Recorded use (number of units, etc)
- Certificate of Liability insurance with Coinsurance – must say
(City of Providence its Employees Agents and Servants)
- Performance bond
- Clear boarding liens
- Use of Public Funds Declaration

- Sewer stamp from DPW
- Environmental stamp from DPW
- Dig Safe file number (1-888-344-7233)
- Statement regarding absence or abatement of asbestos with Plan Number
- Statement regarding pest control
- Providence Water Supply Board
- New England Gas Company
- Narragansett Electric Company
- Verizon Telephone Company
- Cox Cable
- PHDC approval in historic district
- DRC, CCC approval in downcity jurisdiction

*Special Note: If a property is in an overlay district a demolition permit cannot be issued. Owner must apply to the Zoning Board of Review.

Samuel J. Shamoon, AICP
Director

Edgar Paxson, AIA
Building Official



David N. Cicilline
Mayor

Department of Inspection and Standards *"Building Pride In Providence"*

MINIMUM REQUIREMENTS TO APPLY FOR MEDIUM TO LARGE COMMERCIAL (MIXED USE)

- Two sets of construction drawings to include plans, elevations, cross sections, structural drawings and site plan. For additions and new construction, the site plan must show setbacks and be prepared by a Rhode Island Professional Land Surveyor.
- Fire Prevention (243-6060 City)294-0861) State and Telecommunications 243-6008, approvals of residential and non-residential construction, except on to three family dwellings.
- City Plan Commission approval of lot line alteration. 351-4300.
- Traffic Engineer approval of parking areas having more than four spaces. 781-4044.
- Department of Public Works approval for new construction and additions. 467-7950
- State DOT, alteration in State ROW (Right-of-way), change to traffic intensity. 222-2378 ext 4820.
- Narragansett Bay Commission approval of flow change. 461-8848.
- Providence Water Supply Board approval of new or increased service. 521-6300
- Historic District Commission approval of exterior work. 351-4300.
- Downcity Review Committee approval of exterior work. 351-4300
- DEM 222-4700 approval of construction within their respective wetland jurisdictions.
- State Health Department approval of construction pertaining to restaurants, bars, cafes and similar facilities. 222-2750
- Dig Safe # 1-888-DIG SAFE (1-888-344-7233).
- Project Certification from Architect and/or Engineer.
- Owner/Contractor responsibilities form.

Occupancy	General Description
A ASSEMBLY	<p>Assembly uses include social, recreational, and civic gatherings of 50 or more persons. Assembly includes five subgroups:</p> <p>A-1: This group includes theaters for the viewing of motion pictures, dramatic arts, and performances, usually with fixed seating.</p> <p>A-2: This group includes food and drink establishments.</p> <p>A-3: This group includes recreational, amusement, and worship uses not specifically falling under other Assembly groups, including, for example, galleries, auditoriums, churches, community halls, courtrooms, dance halls, gymnasiums, lecture halls, libraries, museums, passenger station waiting areas, and the like.</p> <p>A-4: This group includes indoor sports arenas with spectator seating.</p> <p>A-5: This group includes outdoor sports arenas.</p>
B BUSINESS	<p>Business uses include office, professional, and service activities, and storage of related records and accounts. Business use also includes education facilities past the 12th grade, but does not include retail or wholesale sales, which are classified as Group M, Mercantile.</p>
E EDUCATIONAL	<p>Educational uses include schools for grades K through 12 and day care for children older than 2½ years of age, with 5 or more occupants. Day care for no more than 100 children 2½ years of age or less may also be classified as an Educational use when each day care room is located on the level of exit discharge and has an exit door opening directly to the exterior. For day care facilities with 5 or fewer occupants, use Group R-3, Residential. For educational uses above the 12th grade, use Group B, Business.</p>
F FACTORY	<p>Factory uses include manufacturing and industrial processes, except those considered highly hazardous, which are classified as Group H, Hazardous. Factory use has two subgroups:</p> <p>F-1: This group includes moderate-hazard manufacturing processes and materials, such as those involving aircraft, appliances, automobiles, machinery, electronics, plastics, printing, and wood-working.</p> <p>F-2: This group includes low-hazard manufacturing processes and materials, such as those involving nonalcoholic beverages, brick and masonry, ceramics, glass, gypsum, tea, and metal fabrication.</p>
H HAZARDOUS	<p>Hazardous uses include manufacturing, processing, and storage of materials with a high potential for health or physical safety hazard. Hazardous use classifications are specific and detailed about the amounts and types of explosive, flammable, corrosive, or toxic materials involved. If you are considering design of such a facility, you should consult the building code from the very outset of the project to verify requirements.</p>

I INSTITUTIONAL	<p>Institutional uses include facilities where occupants cannot fully care for themselves, including residential care, day care, assisted living, health care, and correctional facilities. Institutional uses are divided into four subgroups:</p> <p>I-1: This group includes 24-hour residential care facilities for 17 or more occupants, in which occupants are capable of responding to an emergency without physical assistance from facility staff. A facility such as this with 5 or fewer occupants may be classified as Group R-3, Residential, or, with between 8 and 16 occupants, Group R-4.</p> <p>I-2: This group includes 24-hour medical, psychiatric, and custodial care facilities with 6 or more occupants, in which occupants are not capable of self-preservation in an emergency. A facility such as this with 5 or fewer occupants may be classified as Group R-3, Residential. Group I-2 also includes 24-hour care for 6 or more infants 2½ years of age or less.</p> <p>I-3: This group includes facilities whose occupants are under restraint or security, including prisons, correctional centers, and the like.</p> <p>I-4: This group includes custodial care on less than a 24-hour basis for 6 or more occupants of any age. Facilities with 5 or fewer occupants may be classified as Group R-3, Residential. Day care for children older than 2½ may also be categorized as Group E, Educational. In some cases, day care for up to 100 children 2½ years of age or less may also be classified as Group E. See Group E in this table for more information.</p>
M MERCANTILE	<p>Mercantile uses include the display and sale of retail and wholesale merchandise and the related stocking of such goods.</p>
R RESIDENTIAL	<p>Residential uses include facilities where people live and sleep when not in a supervised setting that would be classified as an institutional use. Residential uses are subdivided into four subgroups:</p> <p>R-1: This group includes all residential facilities where the occupants are primarily transient, including hotels, motels, and the like.</p> <p>R-2: This group includes primarily permanent residential occupancies that contain three or more dwelling units, such as apartment houses, dormitories, fraternities, sororities, and the like.</p> <p>R-3: This group includes one- and two-family residential occupancies. It also includes adult or child care facilities for 5 or fewer persons.</p> <p>R-4: This group includes residential care or assisted living facilities for between 5 and 16 occupants.</p>
S STORAGE	<p>This group includes storage not classified as H, Hazardous, and is divided into two subgroups:</p> <p>S-1: This group includes storage of moderate-hazard items such as books and paper, furniture, grain, lumber, tires, and other materials, as well as motor vehicle repair facilities.</p> <p>S-2: This group includes parking garages and the storage of goods considered low hazard and non-flammable.</p>
U UTILITY	<p>Utility uses include agricultural buildings and other miscellaneous uses such as aircraft hangars, barns, carports, private garages, greenhouses, livestock shelters, retaining walls, sheds, stables, tanks, towers, and the like.</p>

Building Use	Occupancy	Building Use	Occupancy
Agricultural buildings, barns, livestock shelters	II	Child care, 6 or more children 2½ years of age or less, less than 24-hour	I-4, or E with certain occupant number and egress restrictions
Aircraft hangars	S-1	Childcare, 6 or more children 2½ years of age or less, 24-hour	I-2
Aircraft hangars, accessory to one- or two-family residences	U	Childcare, 6 or more children older than 2½ years of age	E or I-4
Airport traffic control towers	B	Churches	A-3
Alcohol and drug centers, 24-hour, 17 or more persons	I-1	Civic administration	B
Amusement arcades	A-3	Clinic outpatient	H
Amusement park structures	A-3	Community halls	A-3
Animal hospitals, kennels, pounds	B	Congregate care facilities, 24-hour, 17 or more persons	I-1
Apartment houses	R-2	Convalescent facilities, 24-hour, 17 or more persons	I-1
Art galleries	A-3	Convents	R-3
Assisted living, 11 or more persons	I-1	Correctional centers	I-5
Assisted living, 8 or fewer persons	R-3	Courrooms	A-3
Assisted living, between 6 and 10 persons	R-4	Dance halls	A-3
Auditoriums	A-3	Day care, 5 or fewer adults of any age, less than 24-hour (for children, see Child care)	R-3
Banks	B	Day care, 6 or more adults of any age, less than 24-hour (for children, see Child care)	I-4
Banquet halls	R-3	Department stores	M
Barber and beauty shops	B	Detention centers	I-5
Barns	II	Detoxification facilities, 24-hour	I-2
Bleachers, outdoors	A-5	Drug stores	M
Boarding houses, not transient	R-2	Dry cleaning and laundries	B
Boarding houses, transient	R-1	Educational occupancies above the 12th grade	B
Bowling alleys	A-3	Educational occupancies E through 12	E
Car washes	B		
Carports	U		
Child care, 5 or fewer children, any age	R-3		
Child care, places of worship, during religious functions	Included with primary use, usually B		

Electronic data processing	B	Post offices	B
Exhibition halls	A-3	Prisons	I-3
Factories depending on hazard	F-1 or F-2	Professional services	B
Fences, more than 6 ft (2 m) high	U	Radio and television stations, without audience facilities	B
Fire and police stations	B	Radio and television studios, admitting an audience	A-1
Fraternities, sororities	R-2	Reformatories	I-3
Funeral parlors	A-3	Rehabilitation facilities, 17 or more persons, 24-hour	I-1
Grandstands, outdoors	A-5	Residences, single- or two-family	R-3
Greenhouses	U	Residential care, 17 or more persons, 24-hour	I-1
Group homes, 17 or more persons	I-1	Residential care, between 6 and 16 persons, 24-hour	R-4
Gymnasiums	A-3	Residential care, 5 or fewer persons, 24-hour	R-3
Halfway houses, 17 or more persons	I-1	Restaurants	A-2
Hazardous materials processing and storage	H-1 through H-5; consult the code for more information	Retail or wholesale stores	M
Hospitals	I-2	Retaining walls	U
Hotels	R-1	Salon rooms	M
Jails	I-3	Sheds	U
Laboratories, testing and research	B	Skating rinks with spectator seating, indoor	A-4
Lecture halls	A-3	Sports arenas, indoor	A-4
Libraries	A-3	Stadiums, outdoor	A-5
Markets	M	Storage	S-1 or S-2, depending on hazard
Medical care, 24-hour, with 5 or fewer persons	R-3	Swimming pools, indoor, with spectator seating	A-4
Medical care, 24-hour, with 6 or more persons	I-2	Swimming pools, indoor, without spectator seating	A-3
Monasteries	R-2	Tanks	U
Motels	R-1	Taverns and bars	A-3
Motion picture theaters	A-1	Telephone exchanges	B
Motor vehicle repair	S-1	Tennis courts, indoor, with spectator seating	A-4
Motor vehicle service stations	M	Tennis courts, indoor, without spectator seating	A-3
Motor vehicle showrooms	B	Theaters	A-1
Museums	A-3	Towers	U
Night clubs	A-3		
Nursing homes	I-3		
Parking garages, open or closed	S-3		
Passenger station waiting areas	A-3		
Pool and billiard halls	A-3		

SECTION 1004 OCCUPANT LOAD

1004.1 Design occupant load. In determining means of egress requirements, the number of occupants for whom means of egress facilities shall be provided shall be determined in accordance with this section. Where occupants from accessory areas egress through a primary space, the calculated occupant load for the primary space shall include the total occupant load of the primary space plus the number of occupants egressing through it from the accessory area.

1004.1.1 Areas without fixed seating. The number of occupants shall be computed at the rate of one occupant per unit of area as prescribed in Table 1004.1.1. For areas without fixed seating, the occupant load shall not be less than that number determined by dividing the floor area under consideration by the occupant per unit of area factor assigned to the occupancy as set forth in Table 1004.1.1. Where an intended use is not listed in Table 1004.1.1, the building official shall establish a use based on a listed use that most nearly resembles the intended use.

Exception: Where approved by the building official, the actual number of occupants for whom each occupied space, floor or building is designed, although less than those determined by calculation, shall be permitted to be used in the determination of the design occupant load.

1004.2 Increased occupant load. The occupant load permitted in any building, or portion thereof, is permitted to be increased from that number established for the occupancies in Table 1004.1.1, provided that all other requirements of the code are also met based on such modified number and the occupant load does not exceed one occupant per 7 square feet (0.65 m²) of occupiable floor space. Where required by the building official, an approved aisle, seating or fixed equipment diagram substantiating any increase in occupant load shall be submitted. Where required by the building official, such diagram shall be posted.

1004.3 Posting of occupant load. Every room or space that is an assembly occupancy shall have the occupant load of the room or space posted in a conspicuous place, near the main exit or exit access doorway from the room or space. Posted signs shall be of an approved legible permanent design and shall be maintained by the owner or authorized agent.

1004.4 Exiting from multiple levels. Where exits serve more than one floor, only the occupant load of each floor considered individually shall be used in computing the required capacity of the exits at that floor, provided that the exit capacity shall not decrease in the direction of egress travel.

1004.5 Egress convergence. Where means of egress from floors above and below converge at an intermediate level, the capacity of the means of egress from the point of convergence shall not be less than the sum of the two floors.

1004.6 Mezzanine levels. The occupant load of a mezzanine level with egress onto a room or area below shall be added to that room or area's occupant load, and the capacity of the exits shall be designed for the total occupant load thus established.

1004.7 Fixed seating. For areas having fixed seats and aisles, the occupant load shall be determined by the number of fixed seats installed therein. The occupant load for areas in which fixed seating is not installed, such as waiting spaces and wheelchair spaces, shall be determined in accordance with Section 1004.1.1 and added to the number of fixed seats.

For areas having fixed seating without dividing arms, the occupant load shall not be less than the number of seats based on one person for each 18 inches (457 mm) of seating length.

The occupant load of seating booths shall be based on one person for each 24 inches (610 mm) of booth seat length measured at the backrest of the seating booth.

**TABLE 1004.1.1
MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT**

FUNCTION OF SPACE	FLOOR AREA IN SQ. FT. PER OCCUPANT
Accessory storage areas, mechanical equipment room	300 gross
Agricultural building	300 gross
Aircraft hangars	500 gross
Airport terminal	
Baggage claim	20 gross
Baggage handling	300 gross
Concourse	100 gross
Waiting areas	15 gross
Assembly	
Gaming floors (keno, slots, etc.)	11 gross
Assembly with fixed seats	See Section 1004.7
Assembly without fixed seats	
Concentrated (chairs only—not fixed)	7 net
Standing space	5 net
Unconcentrated (tables and chairs)	15 net
Bowling centers, allow 5 persons for each lane including 15 feet of runway, and for additional areas	7 net
Business areas	100 gross
Courtrooms—other than fixed seating areas	40 net
Day care	35 net
Dormitories	50 gross
Educational	
Classroom area	20 net
Shops and other vocational room areas	50 net

Exercise rooms	50 gross
H-5 Fabrication and manufacturing areas	200 gross
Industrial areas	100 gross
Institutional areas	
Inpatient treatment areas	240 gross
Outpatient areas	100 gross
Sleeping areas	120 gross
Kitchens, commercial	200 gross
Library	
Reading rooms	50 net
Stack area	100 gross
Locker rooms	50 gross
Mercantile	
Areas on other floors	60 gross
Basement and grade floor areas	30 gross
Storage, stock, shipping areas	300 gross
Parking garages	200 gross
Residential	200 gross
Skating rinks, swimming pools	
Rink and pool	50 gross
Decks	15 gross
Stages and platforms	15 net
Warehouses	500 gross

For SI: 1 square foot = 0.0929 m².

1004.8 Outdoor areas. Yards, patios, courts and similar outdoor areas accessible to and usable by the building occupants shall be provided with means of egress as required by this chapter. The occupant load of such outdoor areas shall be assigned by the building official in accordance with the anticipated use. Where outdoor areas are to be used by persons in addition to the occupants of the building, and the path of egress travel from the outdoor areas passes through the building, means of egress requirements for the building shall be based on the sum of the occupant loads of the building plus the outdoor areas.

Exceptions:

1. Outdoor areas used exclusively for service of the building need only have one means of egress.
2. Both outdoor areas associated with Group R-3 and individual dwelling units of Group R-2.

1004.9 Multiple occupancies. Where a building contains two or more occupancies, the means of egress requirements shall apply to each portion of the building based on the occupancy of that space. Where two or more occupancies utilize portions of the same means of egress system, those egress components shall meet the more stringent requirements of all occupancies that are served.

**SECTION 1005
EGRESS WIDTH**

1005.1 Minimum required egress width. The means of egress width shall not be less than required by this section. The total width of means of egress in inches (mm) shall not be less than the total occupant load served by the means of egress multiplied by the factors in Table 1005.1 and not less than specified elsewhere in this code. Multiple means of egress shall be sized such that the loss of any one means of egress shall not reduce the available capacity to less than 50 percent of the required capacity. The maximum capacity required from any story of a building shall be maintained to the termination of the means of egress.

Exception: Means of egress complying with Section 1025.

**TABLE 1005.1
EGRESS WIDTH PER OCCUPANT SERVED**

OCCUPANCY	WITHOUT SPRINKLER SYSTEM		WITH SPRINKLER SYSTEM*	
	Stairways (inches per occupant)	Other egress components (inches per occupant)	Stairways (inches per occupant)	Other egress components (inches per occupant)
Occupancies other than those listed below	0.3	0.2	0.2	0.15
Hazardous: H-1, H-2, H-3 and H-4	0.7	0.4	0.3	0.2
Institutional: I-2	NA	NA	0.3	0.2

For SI: 1 inch = 25.4 mm. NA = Not applicable.

a. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.

1005.2 Door encroachment. Doors opening into the path of egress travel shall not reduce the required width to less than one-half during the course of the swing. When fully open, the door shall not project more than 7 inches (178 mm) into the required width.

Exception: The restrictions on a door swing shall not apply to doors within individual dwelling units and sleeping units of Group R-2 and dwelling units of Group R-3.

**SECTION 1006
MEANS OF EGRESS ILLUMINATION**

1006.1 Illumination required. The means of egress, including the exit discharge, shall be illuminated at all times the building space served by the means of egress is occupied.

Exceptions:

1. Occupancies in Group U.
2. Aisle accessways in Group A.
3. Dwelling units and sleeping units in Groups R-1, R-2 and R-3.
4. Sleeping units of Group I occupancies.

1006.2 Illumination level. The means of egress illumination level shall not be less than 1 foot-candle (11 lux) at the walking surface level.

Exception: For auditoriums, theaters, concert or opera halls and similar assembly occupancies, the illumination at the walking surface level is permitted to be reduced during performances to not less than 0.2 foot-candle (2.15 lux), provided that the required illumination is automatically restored upon activation of a premises' fire alarm system where such system is provided.

1006.3 Illumination emergency power. The power supply for means of egress illumination shall normally be provided by the premises' electrical supply.

In the event of power supply failure, an emergency electrical system shall automatically illuminate the following areas:

1. Aisles and unenclosed egress stairways in rooms and spaces that require two or more means of egress.
2. Corridors, exit enclosures and exit passageways in buildings required to have two or more exits.
3. Exterior egress components at other than the level of exit discharge until exit discharge is accomplished for buildings required to have two or more exits.
4. Interior exit discharge elements, as permitted in Section 1024.1, in buildings required to have two or more exits.
5. Exterior landings, as required by Section 1008.1.5, for exit discharge doorways in buildings required to have two or more exits.

The emergency power system shall provide power for a duration of not less than 90 minutes and shall consist of storage batteries, unit equipment or an on-site generator. The installation of the emergency power system shall be in accordance with Section 2702.

1006.4 Performance of system. Emergency lighting facilities shall be arranged to provide initial illumination that is at least an average of 1 foot-candle (11 lux) and a minimum at any point of 0.1 foot-candle (1 lux) measured along the path of egress at floor level. Illumination levels shall be permitted to decline to 0.6 foot-candle (6 lux) average and a minimum at any point of 0.06 foot-candle (0.6 lux) at the end of the emergency lighting time duration. A maximum-to-minimum illumination uniformity ratio of 40 to 1 shall not be exceeded.

SECTION 1007 ACCESSIBLE MEANS OF EGRESS

1007.1 Accessible means of egress required. Accessible means of egress shall comply with this section. Accessible spaces shall be provided with not less than one accessible means of egress. Where more than one means of egress is required by Section 1015.1 or 1019.1 from any accessible space, each accessible portion of the space shall be served by not less than two accessible means of egress.

Exceptions:

1. Accessible means of egress are not required in alterations to existing buildings.
2. One accessible means of egress is required from an accessible mezzanine level in accordance with Section 1007.3, 1007.4 or 1007.5.
3. In assembly spaces with sloped floors, one accessible means of egress is required from a space where the common path of travel of the accessible route for access to the wheelchair spaces meets the requirements in Section 1025.8.

1007.2 Continuity and components. Each required accessible means of egress shall be continuous to a public way and shall consist of one or more of the following components:

1. Accessible routes complying with Section 1104.
2. Stairways within vertical exit enclosures complying with Sections 1007.3 and 1020.
3. Exterior exit stairways complying with Sections 1007.3 and 1023.
4. Elevators complying with Section 1007.4.
5. Platform lifts complying with Section 1007.5.
6. Horizontal exits complying with Section 1021.
7. Ramps complying with Section 1010.
8. Areas of refuge complying with Section 1007.6.

Exceptions:

1. Where the exit discharge is not accessible, an exterior area for assisted rescue must be provided in accordance with Section 1007.8.
2. Where the exit stairway is open to the exterior, the accessible means of egress shall include either an area of refuge in accordance with Section 1007.6 or an exterior area for assisted rescue in accordance with Section 1007.8.

1007.2.1 Elevators required. In buildings where a required accessible floor is four or more stories above or below a level of exit discharge, at least one required accessible means of egress shall be an elevator complying with Section 1007.4.

Exceptions:

1. In buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2, the elevator shall not be required on floors provided with a horizontal exit and located at or above the level of exit discharge.
2. In buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2, the elevator shall not be required on floors provided with a ramp conforming to the provisions of Section 1010.

1007.3 Exit stairways. In order to be considered part of an accessible means of egress, an exit stairway shall have a clear width of 48 inches (1219 mm) minimum between handrails and shall either incorporate an area of refuge within an enlarged floor-level landing or shall be accessed from either an area of refuge complying with Section 1007.6 or a horizontal exit.

Exceptions:

1. Unenclosed exit stairways as permitted by Section 1020.1 are permitted to be considered part of an accessible means of egress.
2. The area of refuge is not required at unenclosed exit stairways as permitted by Section 1020.1 in buildings or facilities that are equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.
3. The clear width of 48 inches (1219 mm) between handrails is not required at exit stairways in buildings or facilities equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.
 4. The clear width of 48 inches (1219 mm) between handrails is not required for exit stairways accessed from a horizontal exit.
 5. Areas of refuge are not required at exit stairways serving open parking garages.

1007.4 Elevators. In order to be considered part of an accessible means of egress, an elevator shall comply with the emergency operation and signaling device requirements of Section 2.27 of ASME A17.1. Standby power shall be provided in accordance with Sections 2702 and 3003. The elevator shall be accessed from either an area of refuge complying with Section 1007.6 or a horizontal exit.

Exception: Elevators are not required to be accessed from an area of refuge or horizontal exit in open parking garages.

1007.5 Platform lifts. Platform (wheelchair) lifts shall not serve as part of an accessible means of egress, except where allowed as part of a required accessible route in Section 1109.7, Items 1 through 9. Standby power shall be provided in accordance with Section 2702.2.6 for platform lifts permitted to serve as part of a means of egress.

1007.5.1 Openness. Platform lifts on an accessible means of egress shall not be installed in a fully enclosed or fire-rated shaft.

1007.6 Areas of refuge. Every required area of refuge shall be accessible from the space it serves by an accessible means of egress. The maximum travel distance from any accessible space to an area of refuge shall not exceed the travel distance permitted for the occupancy in accordance with Section 1016.1. Every required area of refuge shall have direct access to an enclosed stairway complying with Sections 1007.3 and 1020.1 or an elevator complying with Section 1007.4. Where an elevator lobby is used as an area of refuge, the shaft and lobby shall comply with Section 1020.1.7 for smokeproof enclosures except where the elevators are in an area of refuge formed by a horizontal exit or smoke barrier.

1007.6.1 Size. Each area of refuge shall be sized to accommodate one wheelchair space of 30 inches by 48 inches (762 mm by 1219 mm) for each 200 occupants or portion thereof, based on the occupant load of the area of refuge and areas served by the area of refuge. Such wheelchair spaces shall not reduce the required means of egress width. Access to any of the required wheelchair spaces in an area of refuge shall not be obstructed by more than one adjoining wheelchair space.

1007.6.2 Separation. Each area of refuge shall be separated from the remainder of the story by a smoke barrier complying with Section 709 or a horizontal exit complying with Section 1021. Each area of refuge shall be designed to minimize the intrusion of smoke.

Exception: Areas of refuge located within a vertical exit enclosure.

1007.6.3 Two-way communication. Areas of refuge shall be provided with a two-way communication system between the area of refuge and a central control point. If the central control point is not constantly attended, the area of refuge shall also have controlled access to a public telephone system. Location of the central control point shall be approved by the fire department. The two-way communication system shall include both audible and visible signals.

1007.6.4 Instructions. In areas of refuge that have a two-way emergency communications system, instructions on the use of the area under emergency conditions shall be posted adjoining the communications system. The instructions shall include all of the following:

1. Directions to find other means of egress.
2. Persons able to use the exit stairway do so as soon as possible, unless they are assisting others.
3. Information on planned availability of assistance in the use of stairs or supervised operation of elevators and how to summon such assistance.
4. Directions for use of the emergency communications system.

1007.6.5 Identification. Each door providing access to an area of refuge from an adjacent floor area shall be identified by a sign complying with ICC A117.1, stating: AREA OF REFUGE, and including the International Symbol of Accessibility. Where exit sign illumination is required by Section 1011.2, the area of refuge sign shall be illuminated. Additionally, tactile signage complying with ICC A117.1 shall be located at each door to an area of refuge.

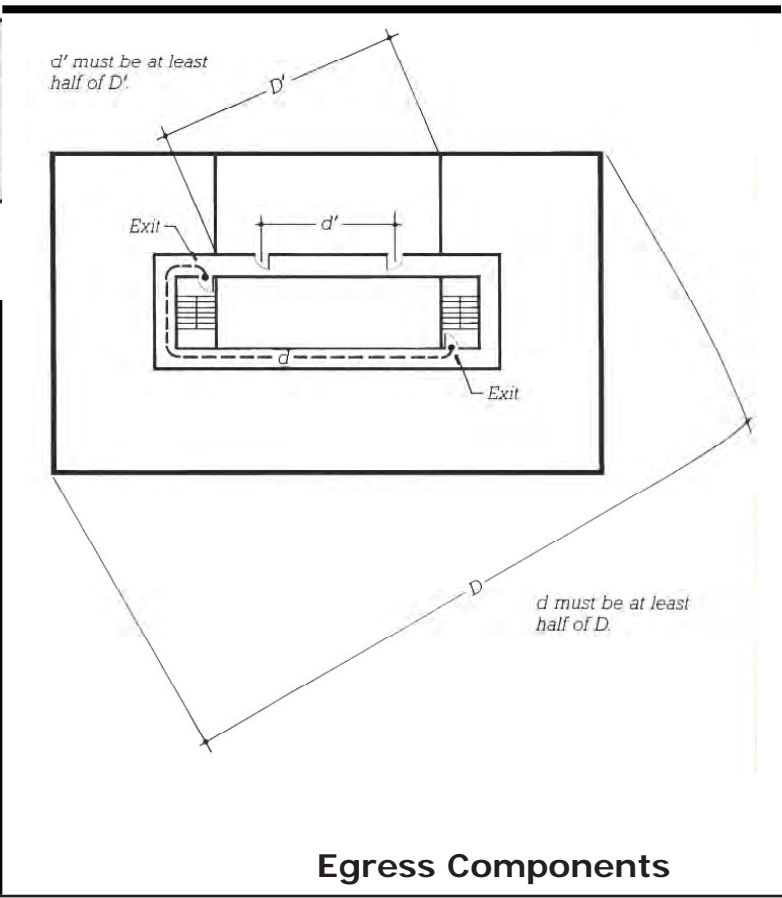
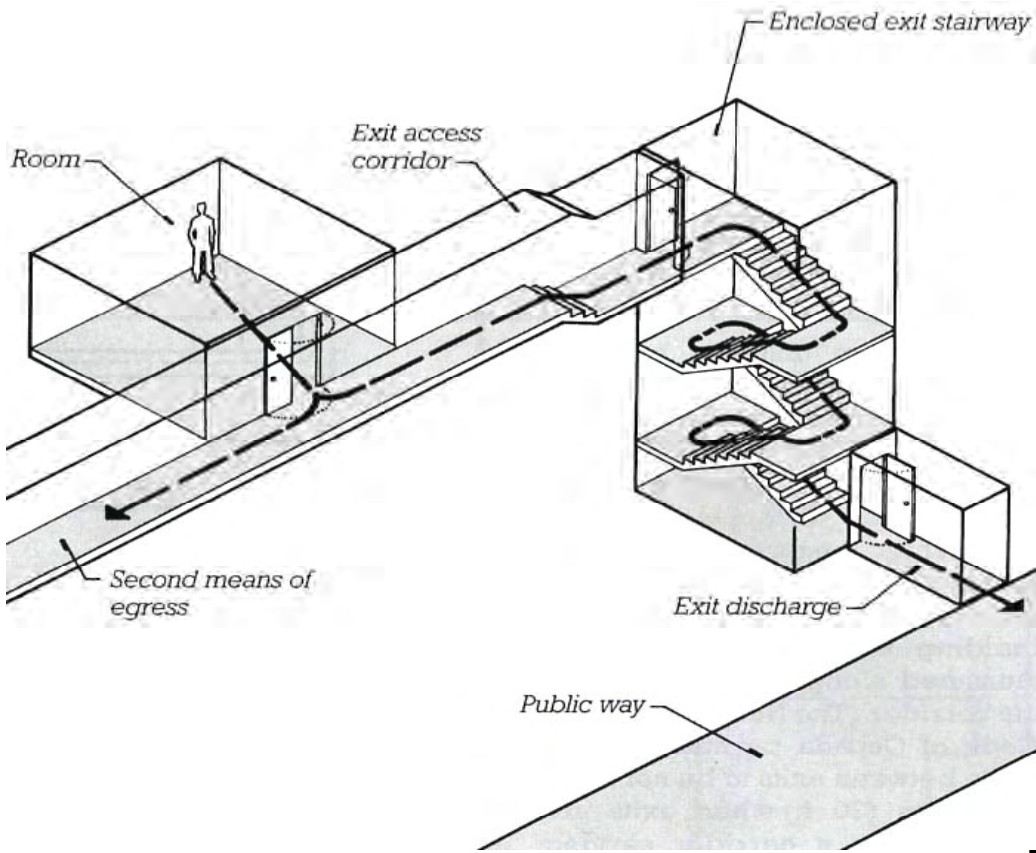
1007.7 Signage. At exits and elevators serving a required accessible space but not providing an approved accessible means of egress, signage shall be installed indicating the location of accessible means of egress.

1007.8 Exterior area for assisted rescue. The exterior area for assisted rescue must be open to the outside air and meet the requirements of Section 1007.6.1. Separation walls shall comply with the requirements of Section 704 for exterior walls. Where walls or openings are between the area for assisted rescue and the interior of the building, the building exterior walls within 10 feet (3048 mm) horizontally of a nonrated wall or unprotected opening shall have a fire-resistance rating of not less than 1 hour. Openings within such exterior walls shall be protected by opening protectives having a fire protection rating of not less than $\frac{3}{4}$ hour. This construction shall extend vertically from the ground to a point 10 feet (3048 mm) above the floor level of the area for assisted rescue or to the roof line, whichever is lower.

1007.8.1 Openness. The exterior area for assisted rescue shall be at least 50 percent open, and the open area above the guards shall be so distributed as to minimize the accumulation of smoke or toxic gases.

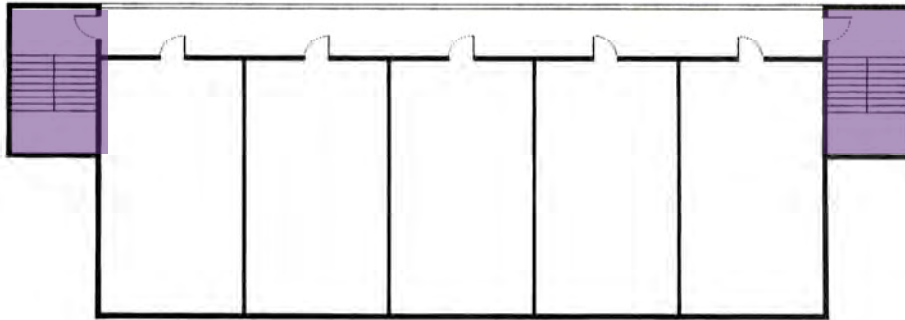
1007.8.2 Exterior exit stairway. Exterior exit stairways that are part of the means of egress for the exterior area for assisted rescue shall provide a clear width of 48 inches (1219 mm) between handrails.

1007.8.3 Identification. Exterior areas for assisted rescue shall have identification as required for area of refuge that complies with Section 1007.6.5.

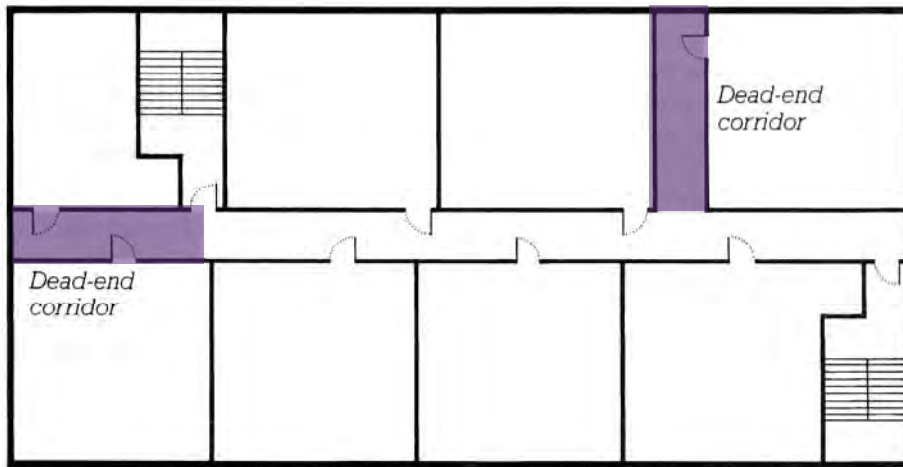


Regulatory

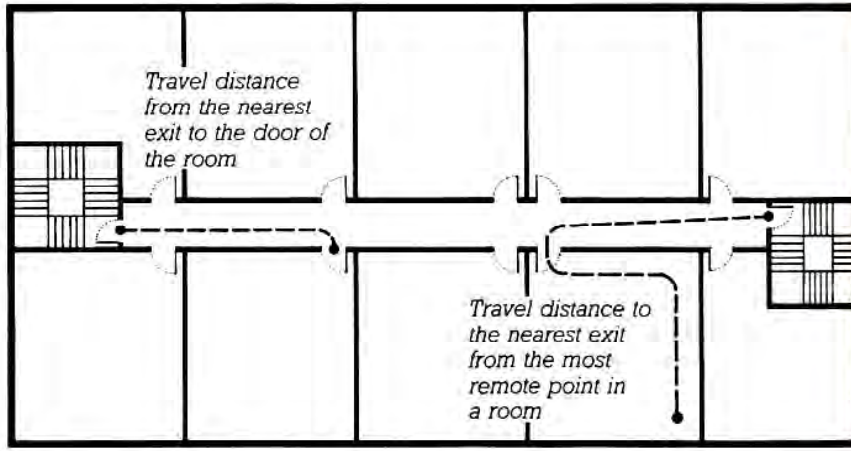
*Exit access corridor
on an open balcony*



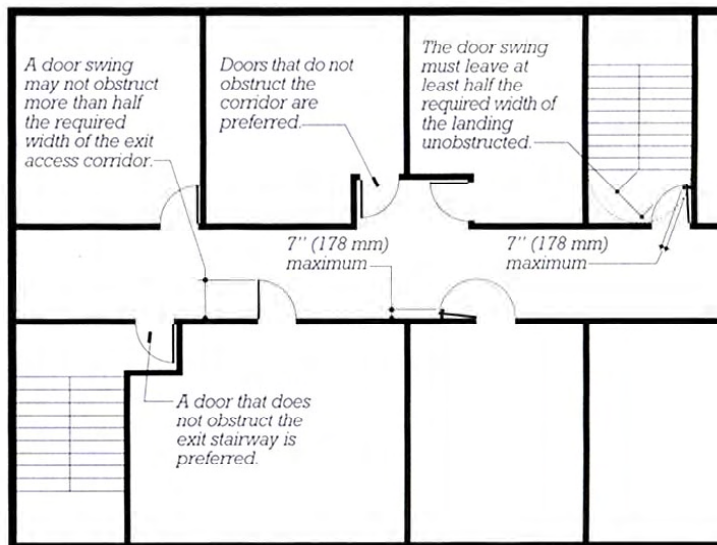
Exterior Corridors



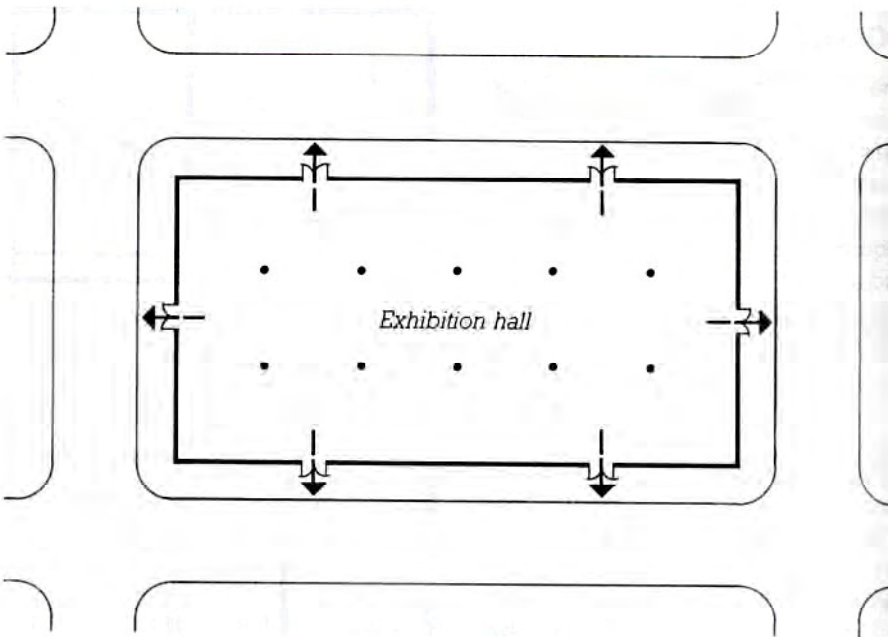
Dead-End Corridors



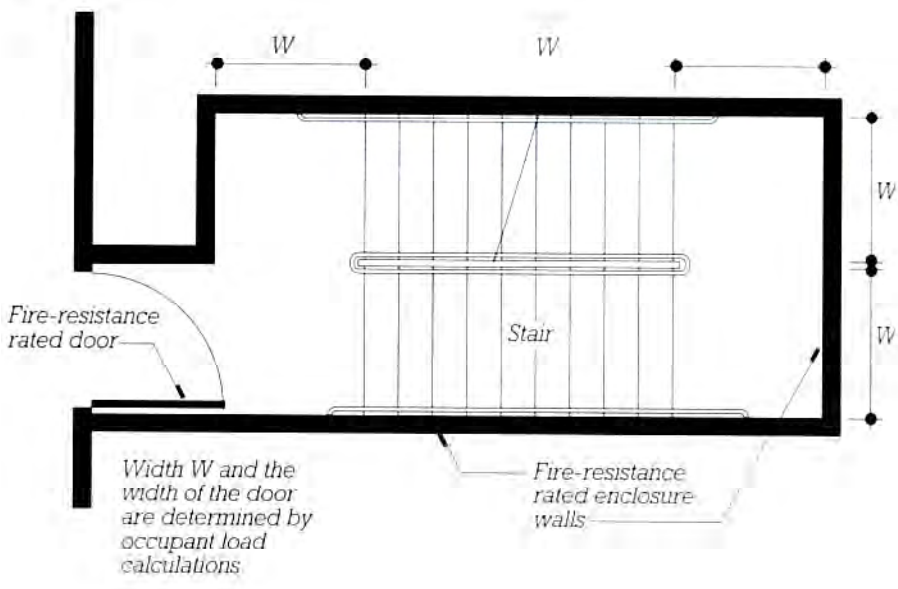
Maximum Travel Distance



Doors

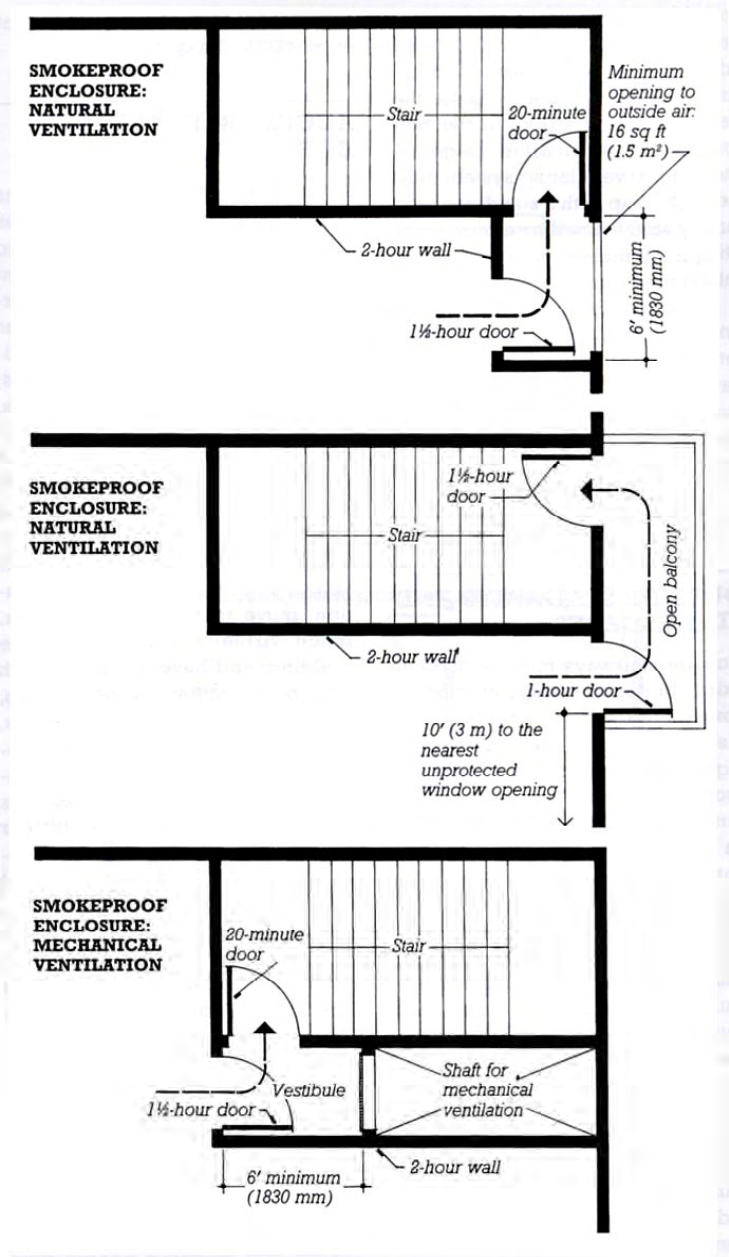


Direct Exits



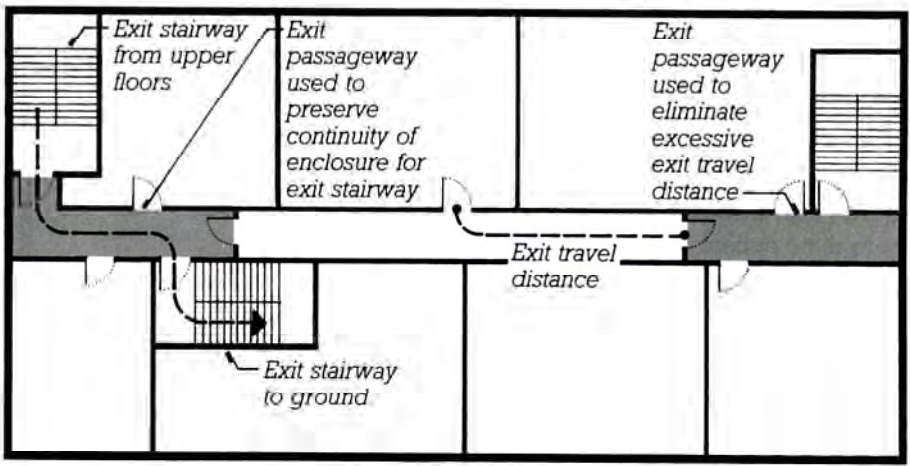
Exit Stairways

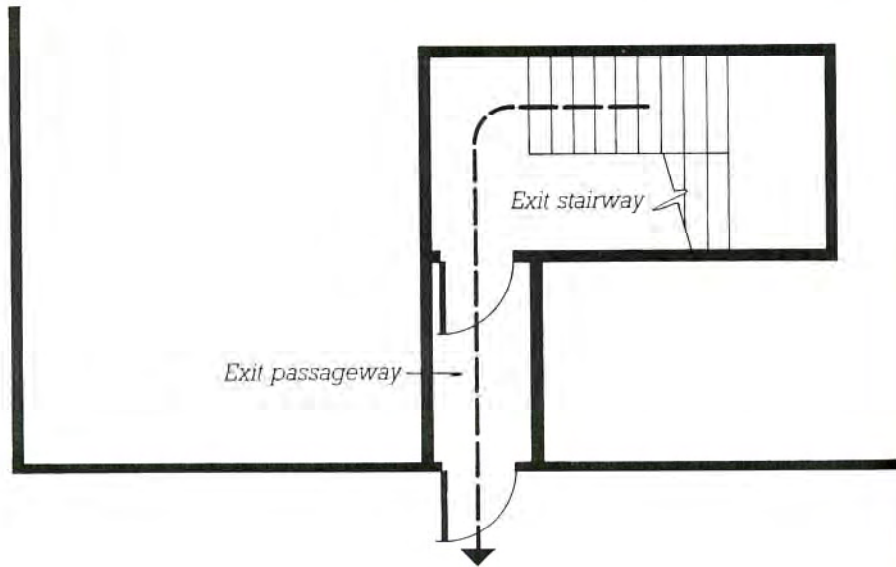
The Exit Access



Smokeproof Enclosures

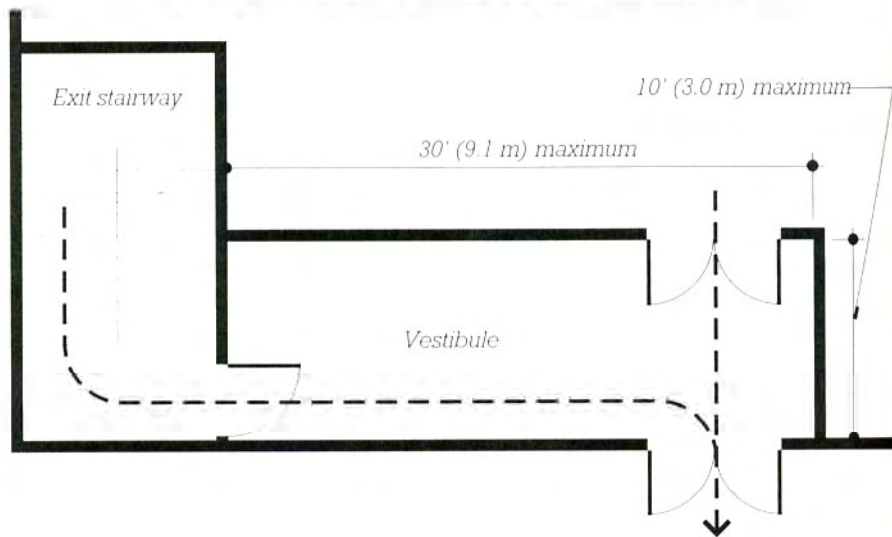
Exit Passageways





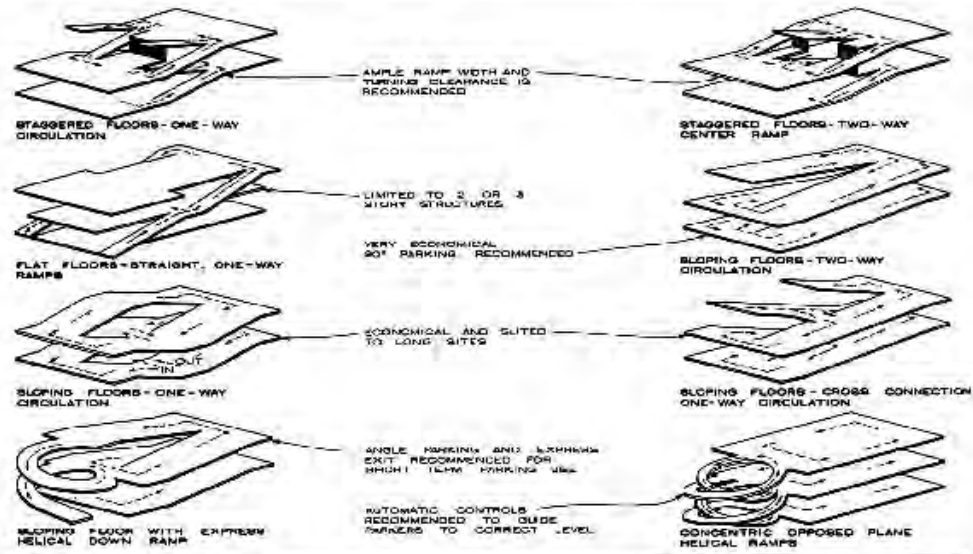
Passageway Exit

EXIT DISCHARGE THROUGH AN EXIT PASSAGEWAY

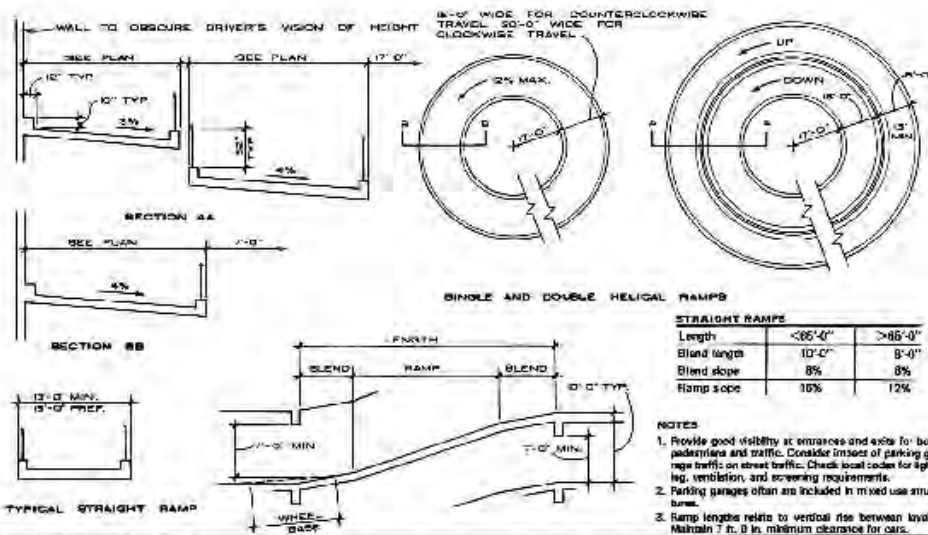


Vestibule Exit

EXIT DISCHARGE THROUGH A VESTIBULE



TYPICAL RAMP SYSTEMS



TYPICAL RAMP DETAILS

William T. Mahan, AIA, Santa Barbara, California

Bibliography:

- Allen, Edward & Joseph Iano. The Architect's Studio Companion-Rules of Thumb for Preliminary Design. 2002 by John Wiley & Sons, Inc. New York.
The authors have compiled a handy manual with general 'Rules of Thumb for Preliminary Design' with charts and graphs to help determine sizes, types of equipment, and components of design. This book was used primarily for egress components and exit access.
- Ching, Francis D. K. Building Construction Illustrated. 2001 by John Wiley & Sons, Inc., New York.
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- Conley, Patrick T. & Paul Campbell. Providence-A Pictorial History. 1986 by The Donning Company/Publishers, Norfolk, Virginia.
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This book was also used for the historical chapter and some of the included images.
- International Code Council, Inc. International Building Code 2006. USA: Jan. 2006.
All information relating to the International Building Code was obtained from this publication. It also helped with the understanding of occupant loads, egress design, fixed seating, elevators, etc.
- Jones, David Lloyd. Architecture and the Environment-Bioclimate Building Design. 1998 by the Overlook Press. Peter Mayer Publishers, Inc., Woodstock, NY
This resource summarized many projects from around the world that had bioclimatic concerns at the forefront. The Building Research Establishment (BRE) was a great precedent study focusing on interior climate control and how to minimize the impact on the ecology.
- Portugali, Nili. The Act of Creation and the Spirit of a Place-A Holistic-Phenomenological Approach to Architecture. 2006 Edition Axel Menges, Stuttgart/London.
A step by step guide describing how to incorporate a holistic feeling into architectural projects designed and completed in the Middle East. This book was very informative in explaining "parts to a whole" concept where a dialogue exists between program and environment, materials and use as well as the importance of visual links to the site and beyond.

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Architectural Graphics Standards was used for technical information regarding ramped parking structures and other important useful data.

Richardson, Phyllis. New Spiritual Architecture.

2004 by Abbeville Press, New York, NY.

A book predominantly written about spiritual projects based on religious beliefs, this book helped with unique ideas relating to creating a particular feeling within a specific space.

Schittich, Christian (Ed.). inDetail Building Skins-Concepts, Layers, Materials. 2001 Institut fur international Architekture-Dokumentation GmbH & Co. KG.

What type of building skin best suits the project can be found in this book. For this document, it was used as a reference manual for different ideas and how to utilize them.

Schittich, Christian (Ed.). inDetail Solar Architecture-Strategies Visions Concepts. 2003 Institut fur international Architekture-Dokumentation GmbH & Co. KG.

Everything you always wanted to know about modern solar design and how to apply the techniques. The projects depicted within this book varied from across the world from housing to complex projects.

Schulitz, Helmut C., Sobek, Werner, and Haberman, Karl J. Steel Construction Manual.

2000 Birkhauser-Publishers for Architecture, Basel, Switzerland

Another book used for construction techniques and ideas relating to steel.

Stein, Benjamin & John S. Reynolds. Mechanical and Electrical Equipment for Buildings.

2000 by John Wiley & Sons, Inc.

This book will be used in conjunction with the Studio Manual with reference to sizing and determining mechanical and electrical systems. It was also used for egress requirements.

Sturzebecher & Sigrid Ulrich. Architecture for Sport.

2002 by Wiley-Academy.

Although this book was mainly about designing building for sport and recreation, I found it helpful for material selections and how texture can add essence to a space.

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<http://awstruwind.com>

This site was used to generate wind maps and speeds for the Providence area.

City of Providence Department of Planning and Development.

<http://www.providenceplanning.org>

A comprehensive website offering many directories of data for Providence, Rhode Island. For this document, the site was used for demographic information, Upper South Providence neighborhood information, statistical information and links to other useful websites.

Municode.com.

<http://www.municode.com>

Used to obtain City of Providence Code of Ordinances.

University of Oregon Solar Radiation Monitoring Laboratory.

<http://solardat.uoregon.edu>

This website was used for solar charting in the Providence area.

Other Acknowledgments:

Dedicated to my father **Joseph M. Mercurio** who, through divine intervention led the way.

Special thanks to **family** and **friends** whose support made it possible.

Hasan-Uddin Khan, Distinguished Professor of Architecture and Historic Preservation. Thank you for your guidance, advice and patience.

Jeffrey L. Staats, AIA, AICP. Roger Williams University School of Art, Architecture, and Historic Preservation. Thanks to him for his direction, guidance, and assistance.

Mehdi Khosrovani, AIA. New England Medical Design, Inc. Rumford, RI. For help with a better understanding of programatic context within the medical industry.

Maps used on pages 22, 23, 24 are courtesy of SASAKI, ZHA Barbara Sokoloff Associates VHB borrowed from the Providence 2020 document available through the City of Providence Department of Planning and Development.

Department of Inspections and Standards. City of Providence.

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