

**A SPORTS MUSEUM FOR NEW ENGLAND**

by

**CHRISTOPHER VALENTINO MILLER**

B.S.A.D, Massachusetts Institute of Technology (1988)

SUBMITTED TO THE DEPARTMENT OF ARCHITECTURE  
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE  
OF

**MASTER OF ARCHITECTURE**

at the

**MASSACHUSETTS INSTITUTE OF TECHNOLOGY**

February 1994

© Christopher Valentino Miller, 1994. All rights reserved.

The author hereby grants to MIT permission to reproduce and distribute publicly  
paper and electronic copies of this thesis document in whole or in part.

Author .....

Department of Architecture  
January 14, 1994

Certified by .....

Bill Hubbard Jr.  
Associate Professor of Architecture  
Thesis Supervisor

Accepted by .....

Rosemary Grimshaw  
Chairman, Departmental Committee on Graduate Students

MASSACHUSETTS INSTITUTE  
OF TECHNOLOGY

FEB 24 1994

LIBRARIES

MIT

# **A Sports Museum For New England**

by

Christopher Valentino Miller

Submitted to the Department of Architecture  
on January 14, 1994, in partial fulfillment of the  
requirements for the degree of  
Master of Architecture

## **Abstract**

This thesis explores the potential of the sports museum as a major institution and resource. Drawing from the great tradition of sports and from the character of the New England region, the design of a New England Sports Museum is undertaken. The museum's design is formulated on a concept of architectural imbeddedness; the notion of a "world within" - a world which in preserving a contextual fabric and character becomes part of the life of that context, while engendering a distinct experience within which is its own.

Thesis Supervisor: Bill Hubbard Jr.

Title: Associate Professor of Architecture

## **Acknowledgments**

Thanks is owed to those who through their inspiration and/or direct input and guidance have helped to bring this thesis to fruition.

-. -. -. Special thanks to Bill Hubbard Jr. for your guidance and support; to Bill Porter and Charles Bradley for your input and encouragement.

# Contents

<b>Abstract</b>	<b>2</b>
<b>Acknowledgments</b>	<b>3</b>
<b>Table of Contents</b>	<b>4</b>
<b>1 Sports</b>	<b>7</b>
1.1 Historical Perspective . . . . .	7
<b>2 The Sports Museum</b>	<b>10</b>
<b>3 The Site</b>	<b>12</b>
<b>4 The Program</b>	<b>17</b>
<b>5 The New England Sports Museum</b>	<b>19</b>
5.1 Conceptual . . . . .	19
5.2 The Design . . . . .	25
<b>Appendix</b>	<b>47</b>
<b>Bibliography</b>	<b>50</b>

# List of Figures

1-1	Buttock Kicks - tomb of Baqti III, Beni Hasan(11th Dynasty) . . . . .	7
1-2	Wrestling - tomb of Amenemhet, Beni Hasan(12th Dynasty) . . . . .	8
1-3	Balls with leather covers - Egyptian Museum, (Cairo) . . . . .	8
3-1	Green Line T(transit) Plan . . . . .	13
3-2	Site Plan . . . . .	14
3-3	Approaching the site from Boston . . . . .	14
3-4	Site view from the east - Cambridge Street . . . . .	15
3-5	Site view from the west - Monsignor O'Brien Highway . . . . .	15
3-6	First Street fabric . . . . .	15
3-7	Cambridge Street fabric . . . . .	16
3-8	Highway fabric . . . . .	16
4-1	Program . . . . .	18
5-1	Fenway Park's commercial frontage- Brookline Ave. and Landsdowne St. . . . .	20
5-2	Commercial zone and urban fabric wall . . . . .	20
5-3	Highway edge screen wall . . . . .	21
5-4	Access/Circulation zone . . . . .	21
5-5	Photo of access/circulation core stairs . . . . .	22
5-6	Path-Place diagram of access/circulation . . . . .	23
5-7	Photo of process model . . . . .	24
5-8	Model Photo: First Floor Plan . . . . .	25
5-9	Model Photo: East Elevation . . . . .	26
5-10	Model Photo: North Elevation . . . . .	27

5-11 Model Photo: Second Floor Plan . . . . .	27
5-12 Model Photo: West Elevation . . . . .	28
5-13 Model Photo: South Elevation . . . . .	28
5-14 Model Photo: Third Floor Plan . . . . .	29
5-15 Model Photo: Fourth Floor Plan . . . . .	30
5-16 Model Photo: Lower-Level 1 . . . . .	31
5-17 Model Photo: Lower-Level 2 . . . . .	31
5-18 Model Photo: Lower-Level 3 . . . . .	31
5-19 Drawing: Lower-Level 3 Plan . . . . .	32
5-20 Drawing: Lower-Level 2 Plan . . . . .	33
5-21 Drawing: Lower-Level 1 Plan . . . . .	34
5-22 Drawing: First Floor Plan . . . . .	35
5-23 Drawing: Second Floor Plan . . . . .	36
5-24 Drawing: Third Floor Plan . . . . .	37
5-25 Drawing: Fourth Floor Plan . . . . .	38
5-26 Drawing: Roof Plan . . . . .	39
5-27 Model Photo: Roof Plan . . . . .	40
5-28 Drawings: Elevations . . . . .	41
5-29 Drawings: Sections . . . . .	42
5-30 Model Photo: Perspective S-W . . . . .	43
5-31 Model Photo: Perspective S-E . . . . .	43
5-32 Model Photo: Perspective N-W . . . . .	44
5-33 Model Photo: Perspective N-E . . . . .	44
5-34 Model Photo: Perspective E-W . . . . .	45
5-35 Model Photo: Perspective W-E . . . . .	46
A-1 Existing Plan: Sports Museum of New England . . . . .	48
A-2 Existing Program: Sports Museum of New England . . . . .	48
A-3 Existing Plans: Museum of Science . . . . .	49
A-4 Existing Program: Museum of Science . . . . .	49

# Chapter 1

## Sports

### 1.1 Historical Perspective

Mans association with the concept of sport certainly dates back to our earliest history. Competition, the very heart of sport, is inseparable from the human condition. Recorded history reveals the essential role played by sports in the growth and structuring of civilized societies. Ancient Egypt dating back to 2950 BCE was built around a central figure who was of superior stature and physical ability, the very connection to divinity; the pharaoh. Among the wealth of historical artifacts from the tombs of the pharaohs are inscriptions attesting to their athletic prowess and skilled achievements [1]. Beyond the royal figure athletic competition in the form of running, jumping, aquatic and combat sports, and ball games can be found throughout Ancient Egyptian society. Examples of these can be seen in figures 1-1 thru 1-3. [1].

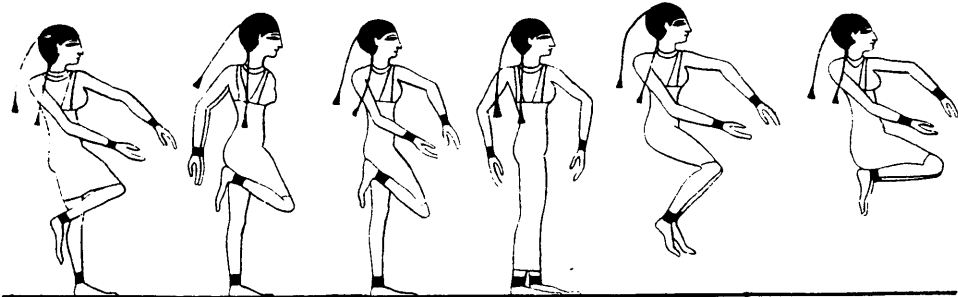


Figure 1-1: Buttock Kicks - tomb of Baqti III, Beni Hasan(11th Dynasty)



Figure 1-2: Wrestling - tomb of Amenemhet, Beni Hasan(12th Dynasty)

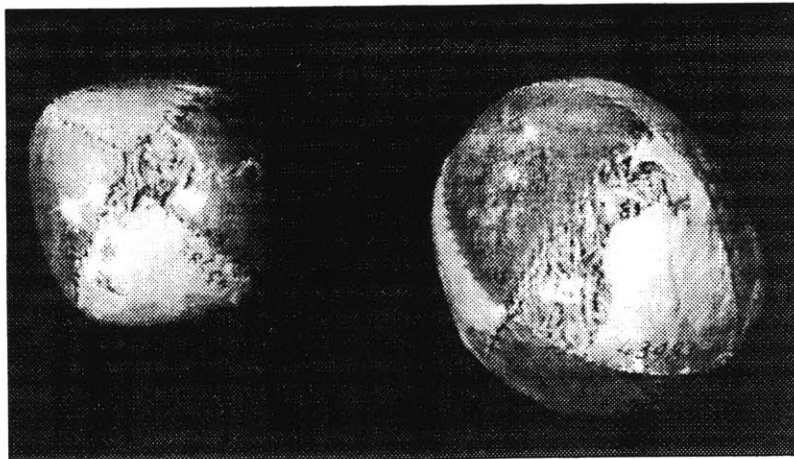


Figure 1-3: Balls with leather covers - Egyptian Museum, (Cairo)



The Olympic games of ancient Greece, 776BCE-393CE, was the culmination of a society in which athletic accomplishment was highly respected and esteemed. A victor at the games was rewarded with a branch of the sacred olive palm, a signal of divine good will [5]. The return home would mean yet more. Triumphant celebrations, material compensation, exemption from paying taxes, and special seats at public events were some of the ensuing rewards. A three-time champion was immortalized as one would imagine only royalty might be. Such was the social status and glory bestowed upon champions that Roman Emperor Nero in 67 CE would inaugurate competitions in music, poetry, and drama, in which he was no doubt winner [5]. From the Mediterranean to East Asia to the Americas, historical evidence abound which indicate the celebrated place sports has always occupied in society.

Across the United States and throughout the world today sporting activities occupy a special place in our society. The great athletes of our time are as highly regarded, and sometimes more so, as our great artists, scientists and thinkers. The great athlete in the midst of his or her occupation is described in commentaries in the most artistic and scientific of terms. As a physically healthy way of life is known to enhance mental capacity, the great athlete is certainly considered a great thinker in his or her field. As in ancient Egypt and Greece the accomplished athletes of today are awarded special recognition and material compensation. They are our esteemed role models and affectors of opinion, enabled by an elevated social status akin to that of royalty.

The veneration of modern sports and of the athlete while generally evident varies in intensity from region to region. The New England region is second to none in its celebration of sports. The birthplace of sports such as basketball and candlepin bowling, and home to a number of sports halls of fame [2], it is to no surprise that New Englanders take special pride in their sports. A rich tradition of sports is part of the essence of life in New England. It is no doubt fitting that the heart of New England, the Boston area, become home to a special place where the world of sports history can be commemorated and celebrated, a New England Sports Museum.

## Chapter 2

# The Sports Museum

Until now efforts to provide a sports museum in New England have fallen short on viability. In the spring of 1993 a small sports museum was opened in a retail space of the Cambridgeside Galleria Mall, (see appendix). This worthy undertaking helps to provide a vision of the sports museum's potential as a center for sports exhibition, knowledge, and interaction.

The traditional sports museum or hall of fame, in its displays, exhibits memorabilia which chronicle historical moments and athletes of a particular sport or a particular region. The potential sports museum extends this tradition to the collective world of sports. Its exhibits could include not only a localized retrospective as its core, but a global historical retrospective on the world of sports, with artifacts dating back to ancient civilizations. A rotating or visiting collection, in addition to an extensive permanent collection, could facilitate a sharing of important exhibits between museums.

In addition to static exhibits, the potential extends to more interactive and engaging exhibits. Interactive exhibits have already shown great potential for engagement and for increased interest in learning. With the advancing technologies of artificial intelligence and virtual reality, the potential of interactive exhibits is only beginning to be realized. Imagine, for instance, walking through an exhibit series detailing the history and development of basketball. At the end of this series you step onto a small court and, donning a virtual reality helmet, are transported to center court of the old Boston Garden parquet to tip off against the great Bill Russell.

The growing fields of physiology and sports medicine offer another potential resource

of the sports museum: the sports library. There is a wealth of information, (books, periodicals, electronic media), on sports history, physiology, medicine and psychology, exploring sporting activity from training to physical therapy, which could be conveniently brought together in a sports library. Such a resource would be an invaluable component to education.

The potential sports museum could also serve sports-related events and functions that may not be suited to an arena or that may be otherwise inaccessible to the fan and the general public. Such events could include celebrations of local accomplishments at the high school, college, and professional levels; signing of new athletes and coaches; retirement ceremonies; special sporting technique demonstrations; etc. It could also serve remote viewings of sporting events,(a sports theater); radio and television broadcasting of events; and be a suitable setting for fans to meet their heroes for special talks, promotions, autograph signings, or to test their knowledge against that of the professionals.

The art museum has become an integral resource to any large city as it provides a window to history and the human condition. The science museum has also become a great resource as it provides not only a window to the past but also a vision of the future. The potential of the sports museum is yet to be fully realized. Sports, as it combines aspects of both art and science, can also provide a window to history and the human condition. Through it could also be made projections to the future. With new technologies advancing the potential of the interactive museum, the concept of the sports museum could become an unprecedented resource and one of great viability.

## Chapter 3

# The Site

The selected site for a New England Sports Museum is the current site of the Lechmere Square Green Line T(transit) station, located just across the Charles River in East Cambridge (see figure 3-1). This site was chosen for several reasons. First, there is a relative consistency in contextual fabric between this site and those of the local major sports venues, the Boston Garden (located at North Station), and Fenway Park (located in Kenmore Square). All three locations have elements of a traditional New England red brick commercial frontage, along with a more raw highway edge backing. All three locations are fed by T stations of the same Green Line , with Lechmere Square, the current end of the Green Line, serving as the symbolic end point to this sports line. Also, there is a projected move of the Lechmere T station north across the Monsignor O'Brien Highway (see figure 3-2), which would make the current site available.

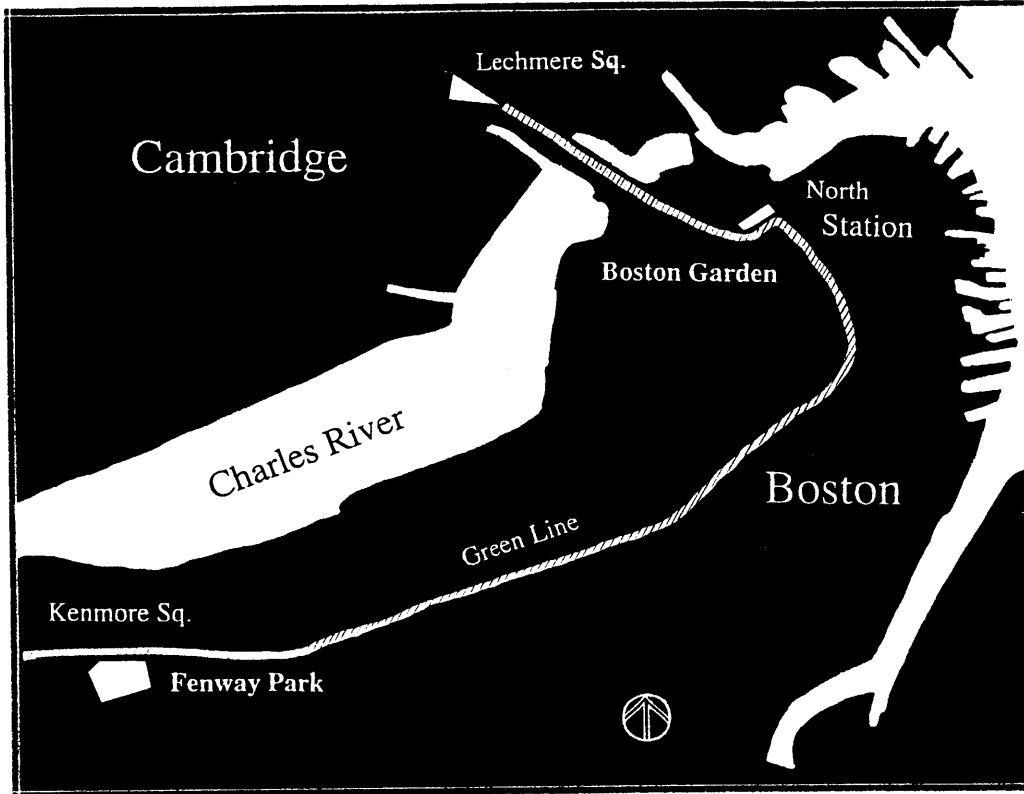


Figure 3-1: Green Line T(transit) Plan

The Green Line approaches the site from the east, crossing the Charles River Dam via elevated rail, and passing by the Museum of Science and Canal Park (figure 3-3). Figure 3-4 shows the T's descent onto the site as Cambridge Street begins. Figure 3-5 shows the site as approached from the west on the highway side. Figures 3-6 and 3-7 are views from the site looking back at the fabric of Cambridge and First Streets. The highway fabric just north of the site is indicated in the eight story concrete frame building in figure 3-8.

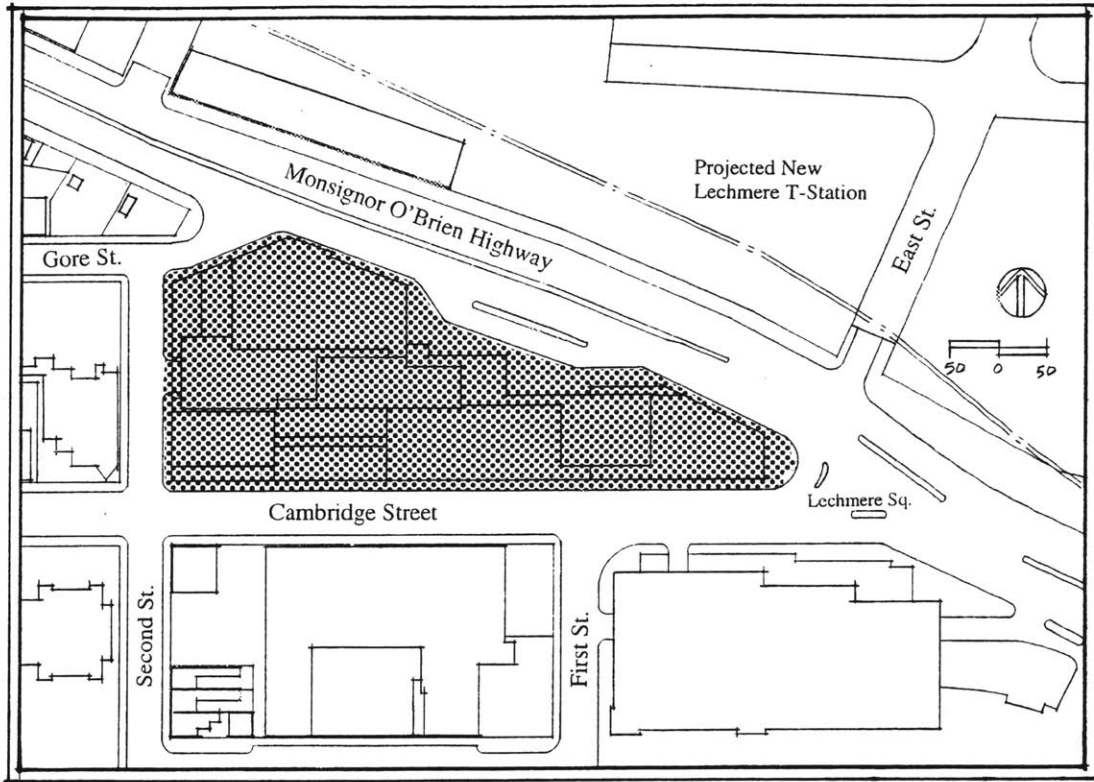


Figure 3-2: Site Plan



Figure 3-3: Approaching the site from Boston



Figure 3-4: Site view from the east - Cambridge Street

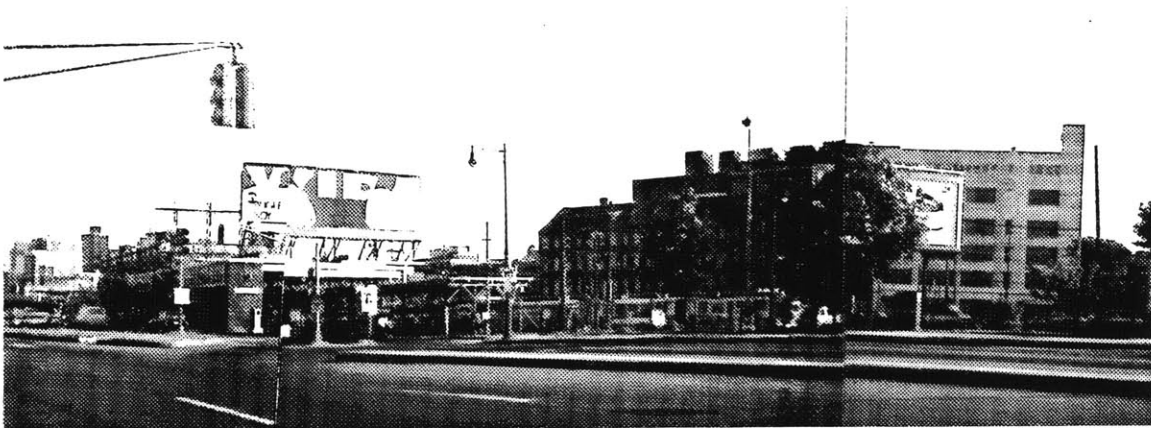


Figure 3-5: Site view from the west - Monsignor O'Brien Highway

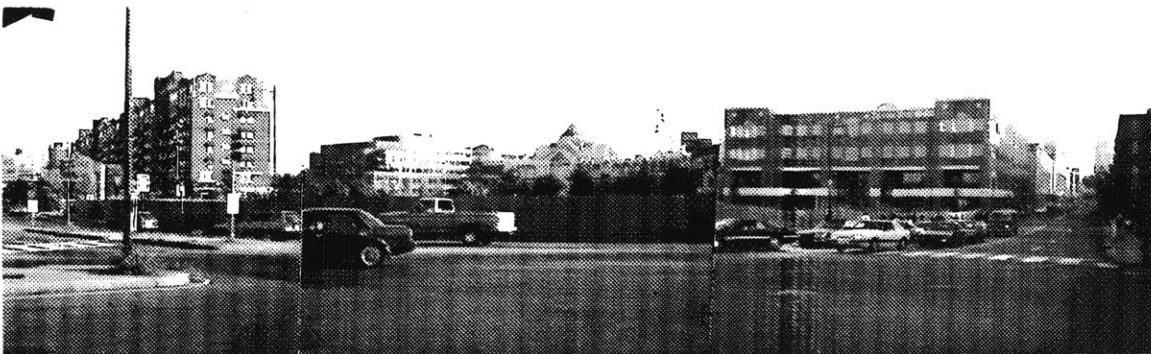


Figure 3-6: First Street fabric

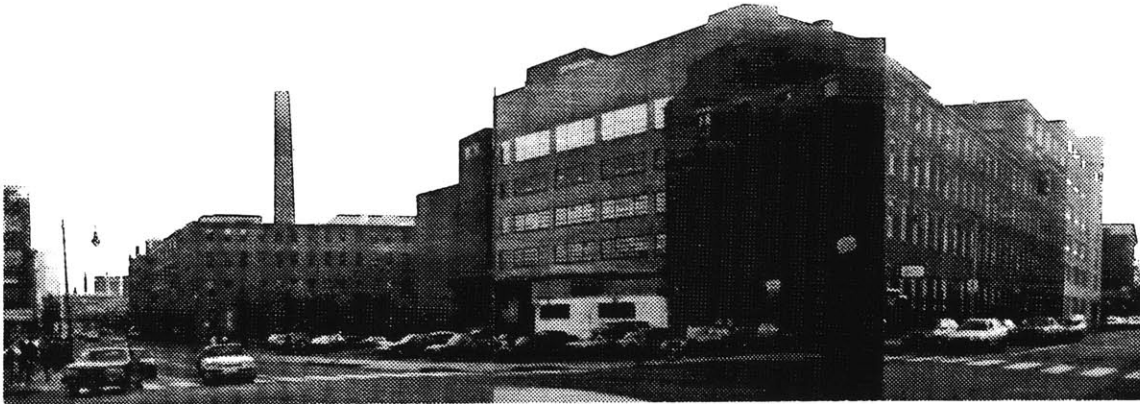


Figure 3-7: Cambridge Street fabric



Figure 3-8: Highway fabric



## Chapter 4

# The Program

The program for the New England Sports Museum (see figure 4-1), was developed using the program of the current Sports Museum of New England as a starting point (see appendix), and making projections based on program percentages from Boston's Museum of Science (see appendix). It was further molded and refined in light of site conditions and restraints, design requirements, and some speculative adjustments intended to allow for flexibility in a design that might realize the potential of the sports museum.

Figure 4-1: Program

	<i>Square Feet</i>	<i>% of Total</i>
Parking	116,500	31.0
Retail	42,000	11.2
Administrative	18,000	4.8
Visitor Services	6,500	1.7
Exhibition	64,000	17.1
Theater	12,500	3.3
Library	19,000	5.1
Workshops	9,000	2.4
Studios	7,000	1.9
Circulation(gen.)	15,000	4.0
Mechanical/Storage	65,500	17.5
<b>Total</b>	<b>375,000</b>	<b>100.0</b>

## Chapter 5

# The New England Sports Museum

### 5.1 Conceptual

For the typical fan the sports experience is an emotional one with the highs and lows of a roller coaster ride. In this experience the journey to the venue of an event is an important one. This is where the stage is set for the upcoming spectacle. In Boston the journey to the event is a unique one. The main venues, the Boston Garden and Fenway Park, are not isolated structures sitting in the middle of great parking lots (the typical image of the modern arena). They are instead set amidst the very life of the city. The Boston Garden is situated along a commercial street in Boston's North End. A large brick building, it is not singularly distinguishable as an arena except for signage. Fenway Park is similarly located in a commercial area, Kenmore Square, and sports a brick facade along the commercial street (see figure 5-1).

In both cases, unless one is specifically seeking out the venues, it is possible to go right by them without realizing these places of tradition, pride and history. There is a sense that they are *imbedded* within the fabric and life of the city. The resulting journey to the venues is one of anticipation and discovery. This notion of *imbeddedness* is at the heart of the New England sports experience.

The design for the New England Sports Museum takes its cue from this concept of *imbeddedness*.



Figure 5-1: Fenway Park's commercial frontage- Brookline Ave. and Landsdowne St.

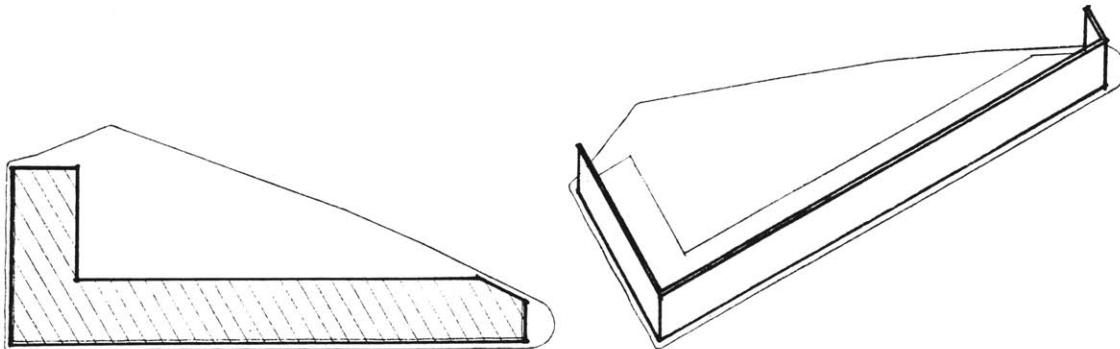


Figure 5-2: Commercial zone and urban fabric wall

The design first establishes a commercial zone at the ground level along Cambridge and Second Streets and extrudes vertically an urban-fabric screen wall (see figure 5-2). These two moves serve to continue the existing pattern of commercial frontage along Cambridge Street.

Next, responding to the highway edge, a tall separation wall is extended along the north facades, screening the site from the noise and traffic of the highway (figure 5-3).

An east-west access/circulation zone is next centrally established running from the Second Street edge to the highway edge (figure 5-4). This sets up vehicular access to the site from Second Street, which is consistent with the contextual pattern found on this street. Allowing this vehicular traffic to extend to lower-level parking and loading areas

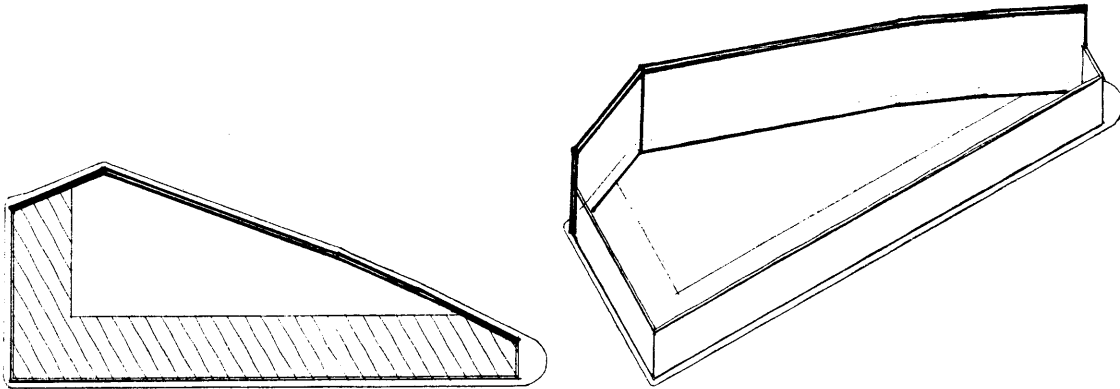


Figure 5-3: Highway edge screen wall

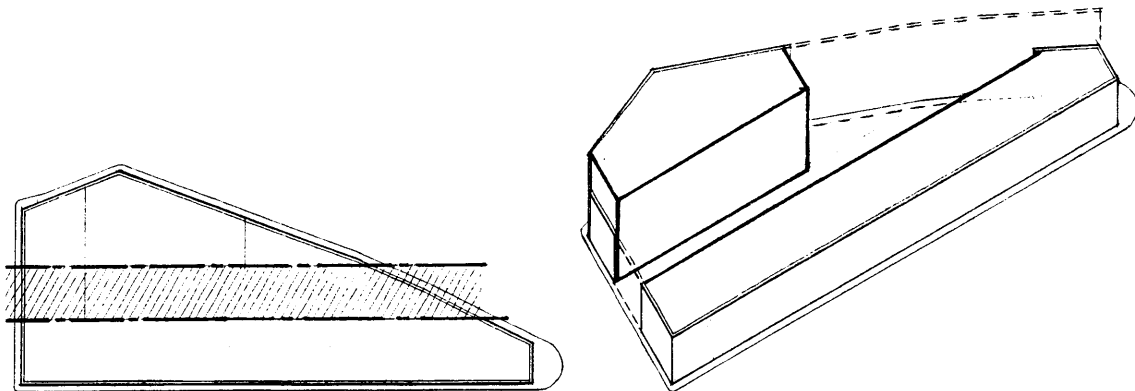


Figure 5-4: Access/Circulation zone

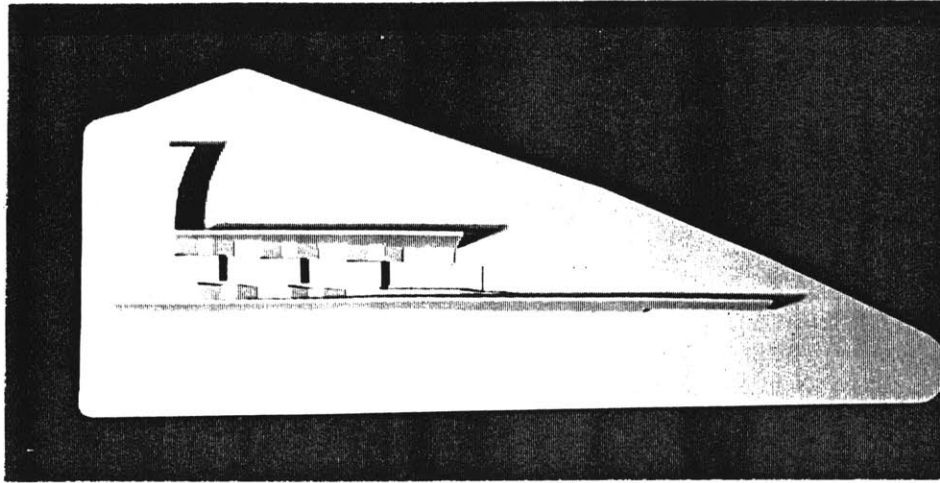


Figure 5-5: Photo of access/circulation core stairs

gives the opportunity to create a more ceremonial vehicular entry from the highway edge. From here entry can be made directly into an extended internal access/circulation core; the museum's "world within." The access/circulation core divides the building massing into two distinct volumes which are then connected and geometrically resolved by a system of stairs (figure 5-5). These stairs set up a system of path-place progression of horizontal and vertical movement thru the museum so that all museum programmatic spaces are accessed from and are returned to the core (figure 5-6).

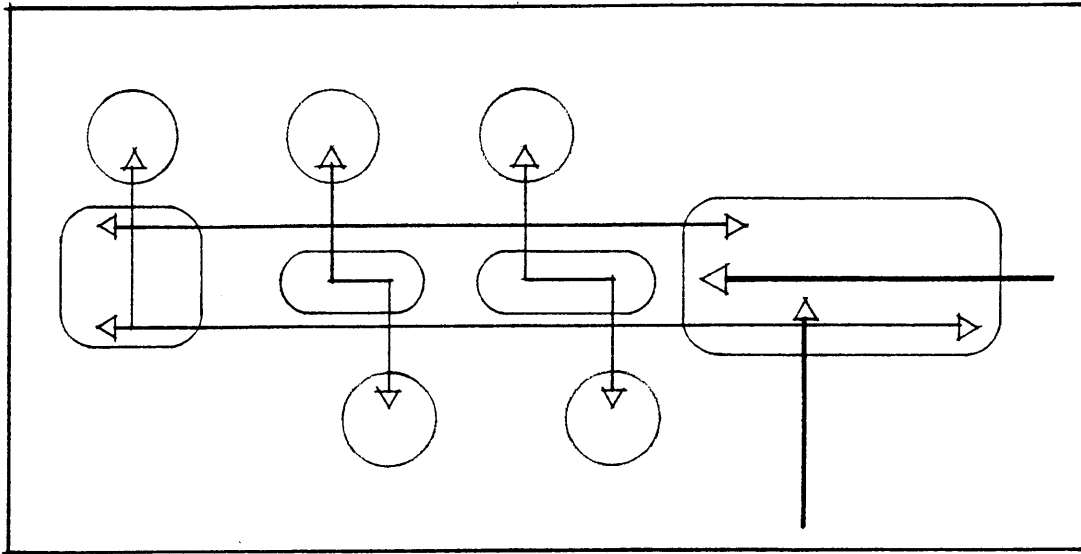


Figure 5-6: Path-Place diagram of access/circulation

The building masses are further articulated by programmatic and design requirements, and the core is enclosed by a glazed space-frame, which follows the progression of levels, and ties the massing together (figure 5-7).

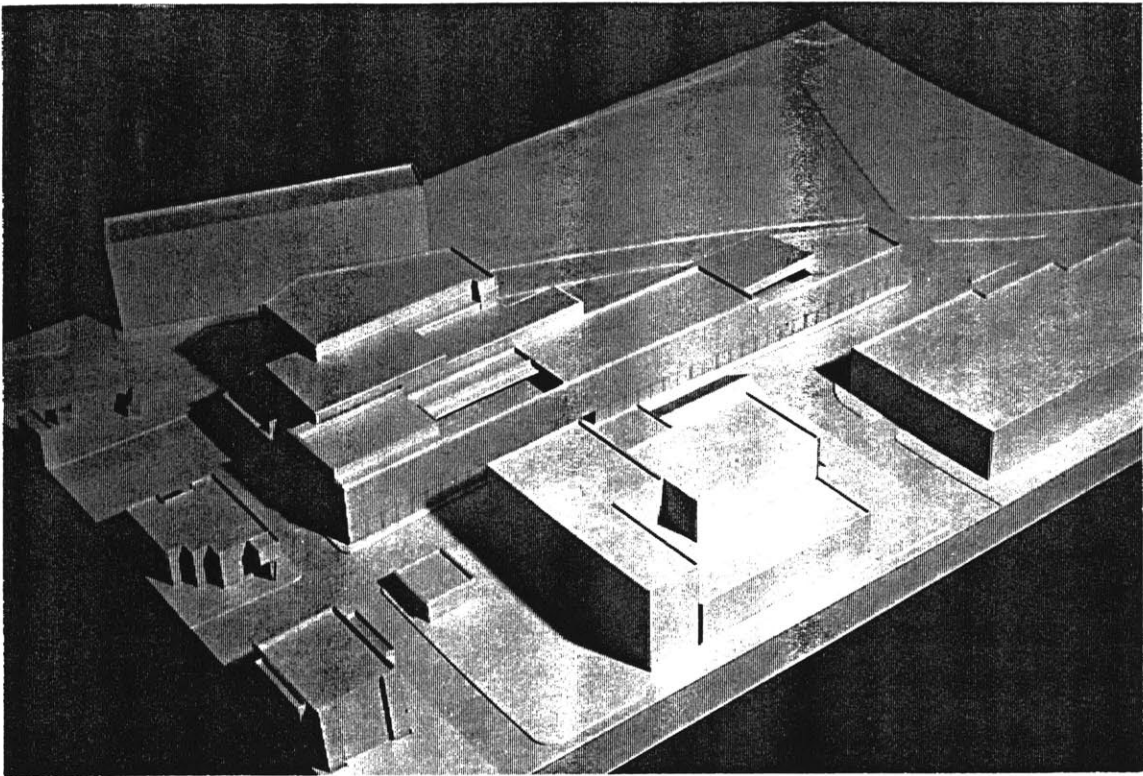


Figure 5-7: Photo of process model



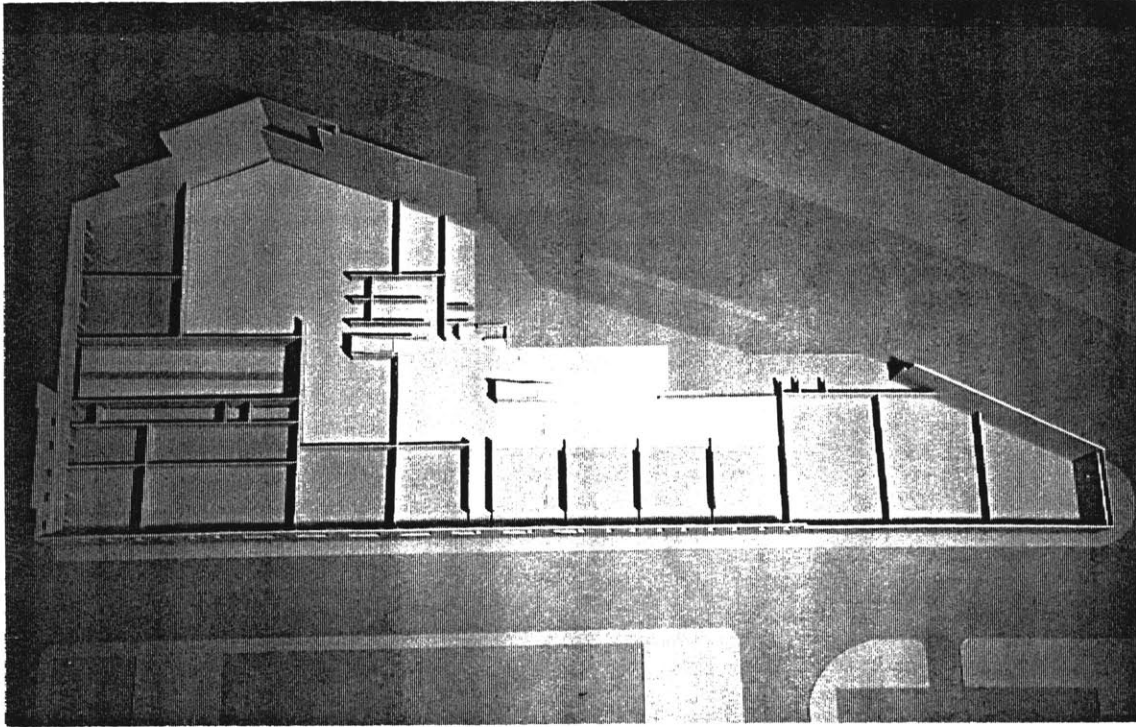


Figure 5-8: Model Photo: First Floor Plan

## 5.2 The Design

The final design for the New England Sports Museum, represented in the following drawings and model photos, is, like the general character of sports throughout New England, an *imbedded* institution and experience. Like the local sports venues it extends the commercial fabric that surrounds it by means of a red-brick facade above retail frontage at street level. From this urban edge the museum is entered via a ramp that brings visitors thru a light-dark-light procession that then opens up into the grand reception area of the space frame covered core (figure 5-8), an experience similar to that of the threshold experience of a stadium ramp. In a similar process of discovery the tall concrete walls facing the highway open up to reveal the museum's formal entry, wrapped by the space-frame cover above (figures 5-9 & 5-10). From the reception area extend the open exhibits of the Sports Central area, which can be seen from the highway to the north and which is bounded by the retail zone to the south, allowing for possible direct connection to specific retail spaces for museum merchandizing. To the north and west of the reception area are administration and visitor services.

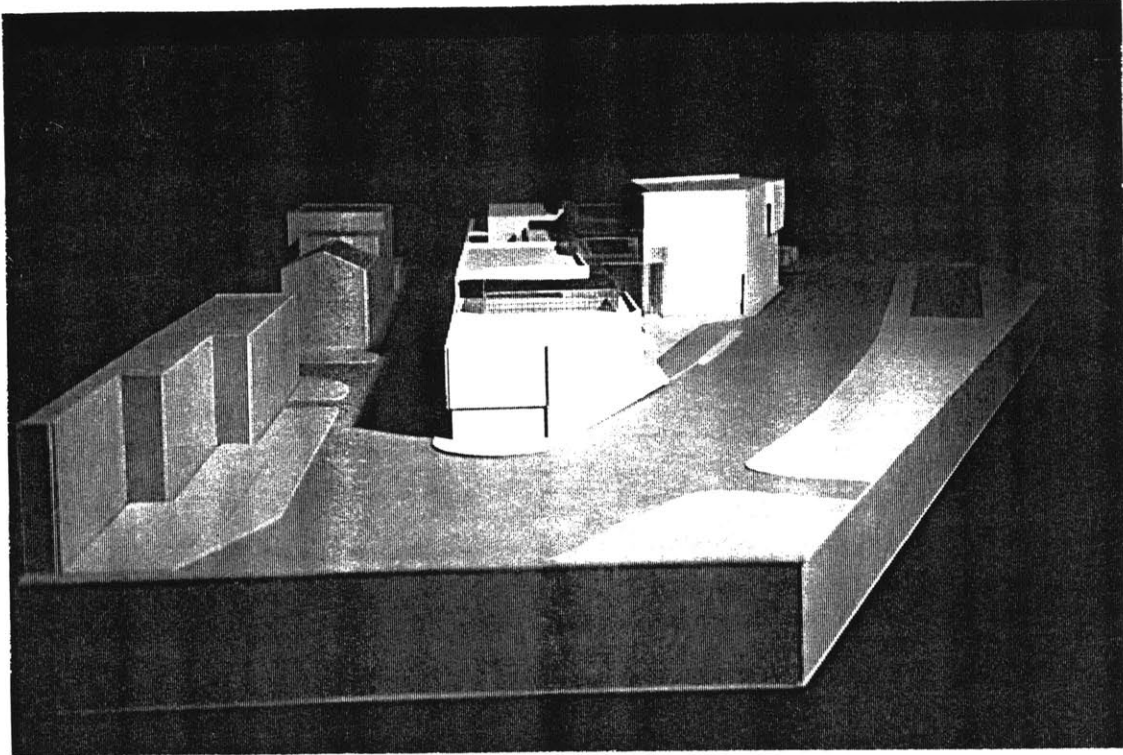


Figure 5-9: Model Photo: East Elevation

At the second level are the exhibition areas (figure 5-11). North of the core is an entirely enclosed exhibition area allowing for fully controlled lighting. The exhibition area to the south of the core extends the full length of the site and sets up a gradation of lighting through its connection to the core and to the exterior. The gradation goes from totally dark at the west end, to an intermediate brightness where it looks back to the core, and to very bright at the east end where it looks out to the highway for north light, and is further wrapped and covered above by the space-frame. The unpenetrated exterior urban walls of the exhibition spaces would be articulated by sign-bands of the individual retail stores below (figures 5-12 & 5-13).

At the third level, to the north of the core, are located the lower end of the sports theater with its exit, and workshop spaces behind (figure 5-14). South of the core are located broadcast studios and a sports library, separated by an open lounge and roof terrace, both of which overlook Cambridge Street.

At the fourth level is the upper end of the sports theater with its main entry (figure 5-15). From this level in the theater the plane of the concrete highway wall is broken to

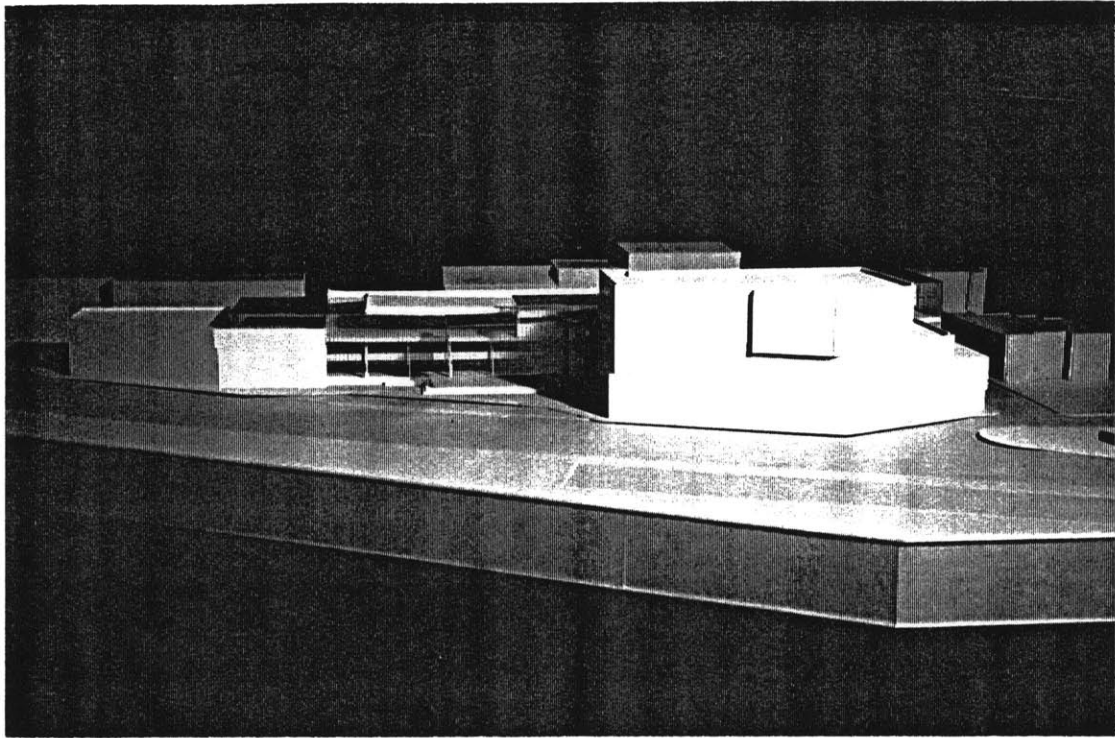


Figure 5-10: Model Photo: North Elevation

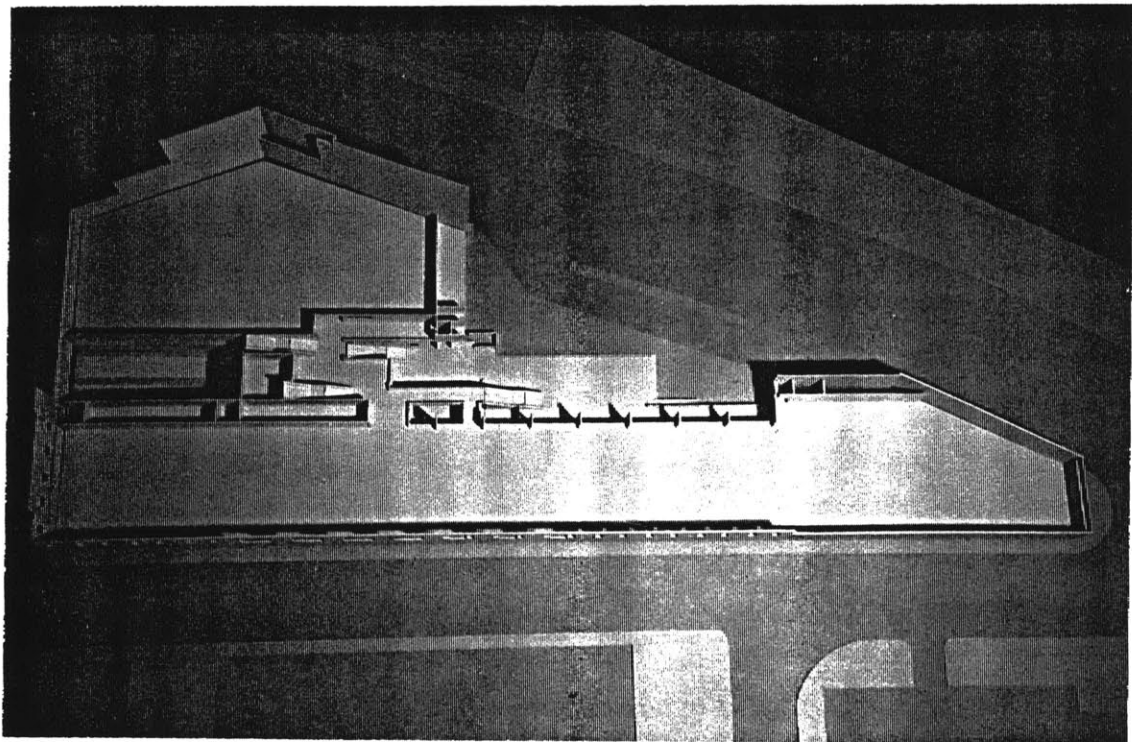


Figure 5-11: Model Photo: Second Floor Plan

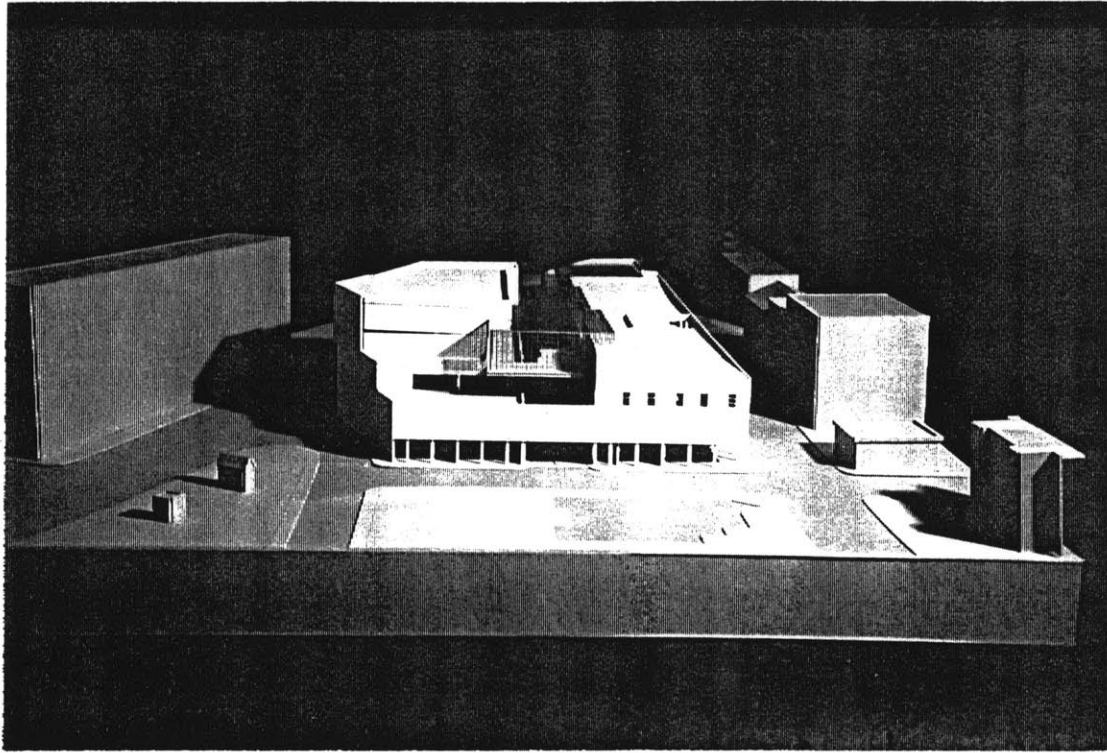


Figure 5-12: Model Photo: West Elevation

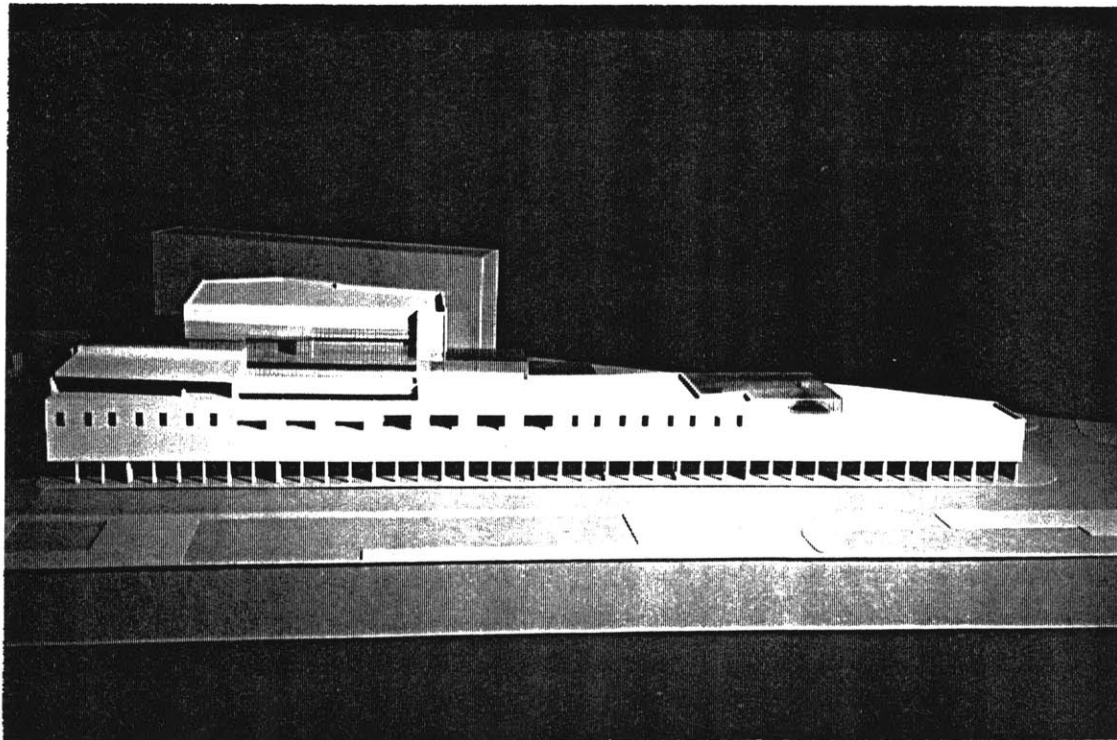


Figure 5-13: Model Photo: South Elevation

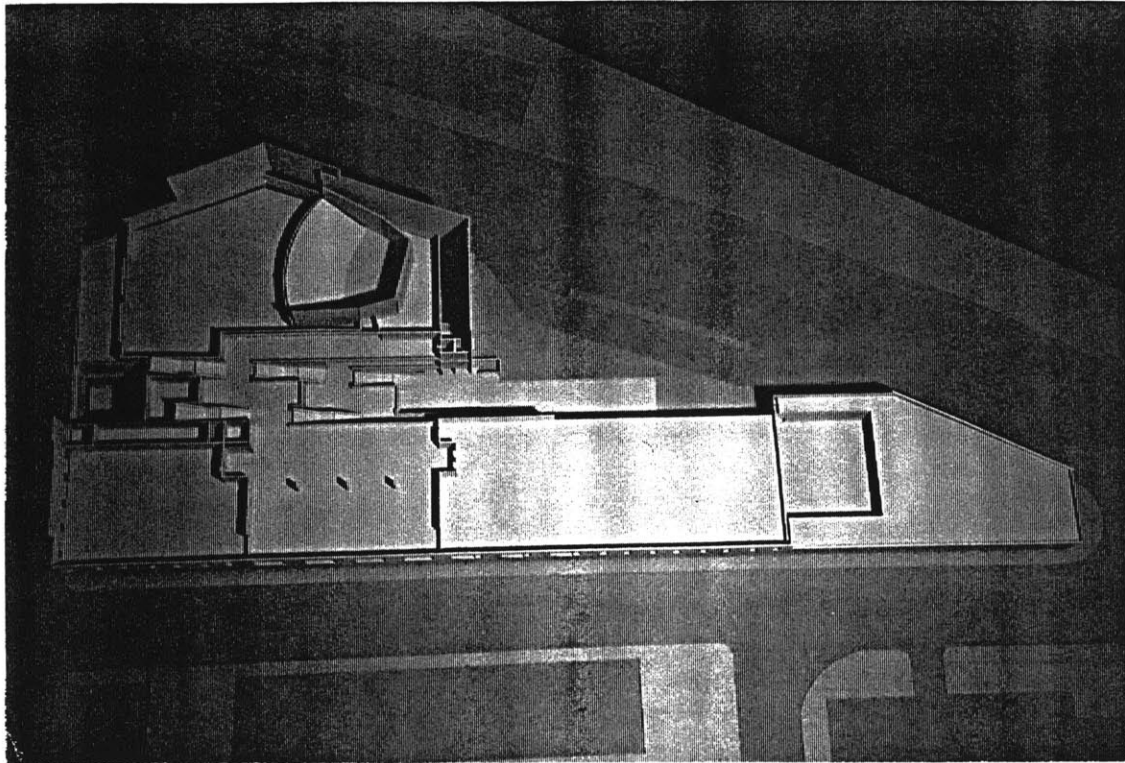


Figure 5-14: Model Photo: Third Floor Plan

make a re-orientation window that looks back toward Boston. The breaking of the plane also lends articulation to the highway facade. At the fourth level are also additional studio space and a roof terrace that are accessed from the studio space at the third level.

The entire arrangement of massing and programmatic elements south of the core, particularly at the third and fourth levels, as well as the variations on a basic window opening, work to break up the roof line of the urban facade. The result of this is a contextually consistent sense of scale (see figures 5-13 & 5-28).

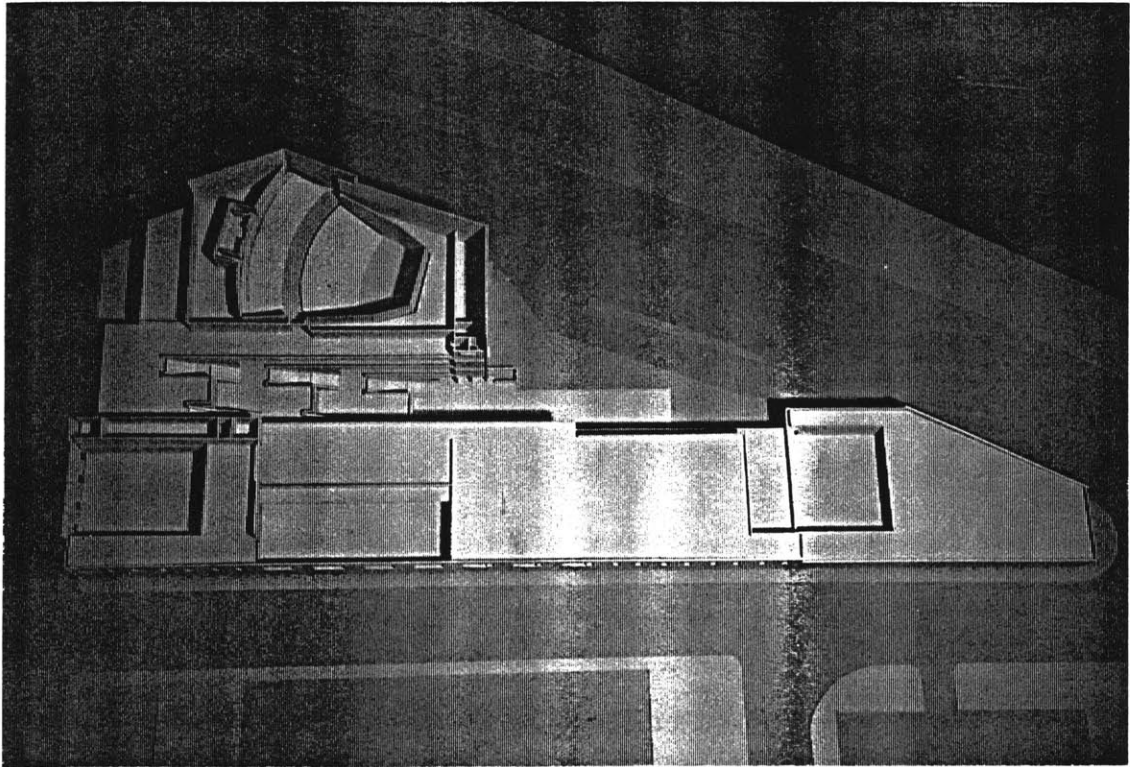


Figure 5-15: Model Photo: Fourth Floor Plan

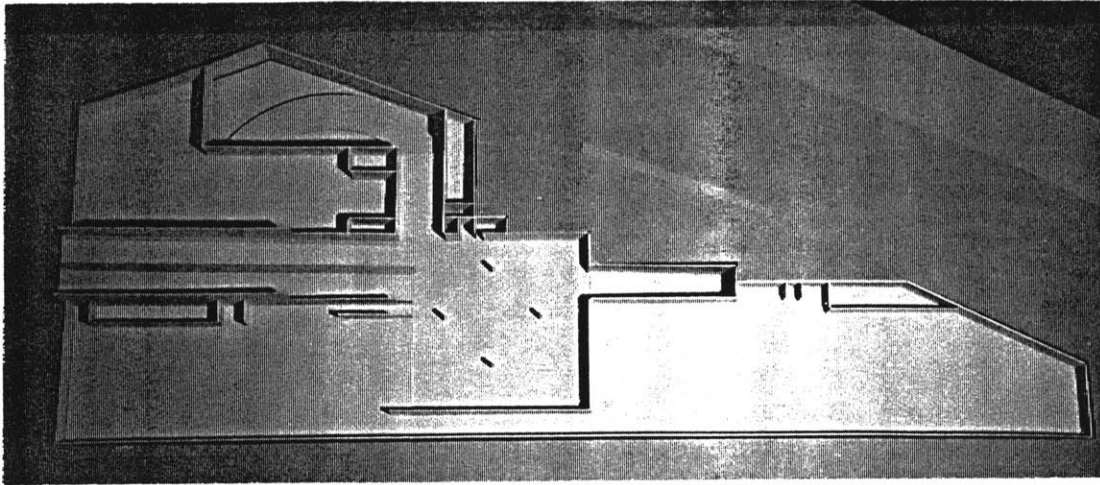


Figure 5-16: ModelPhoto: Lower-Level 1

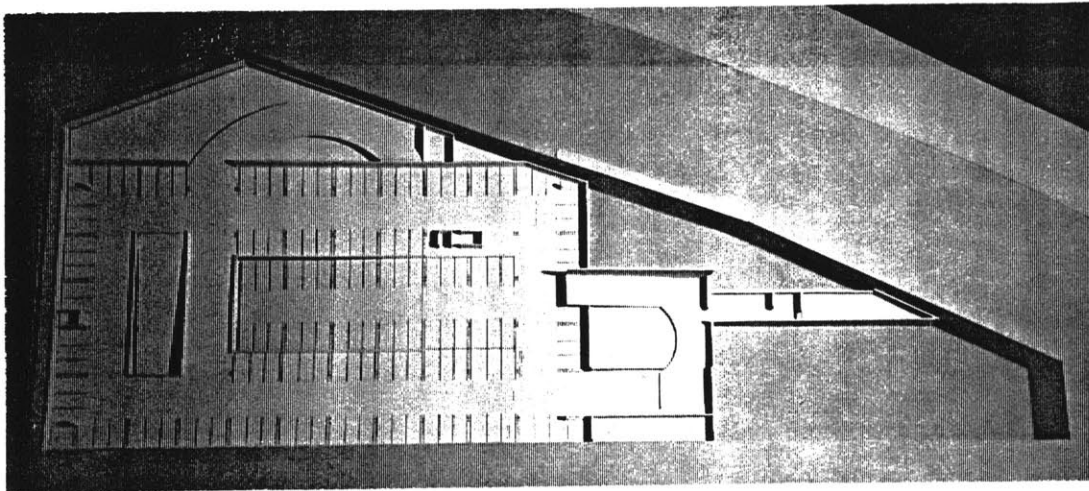


Figure 5-17: Model Photo: Lower-Level 2

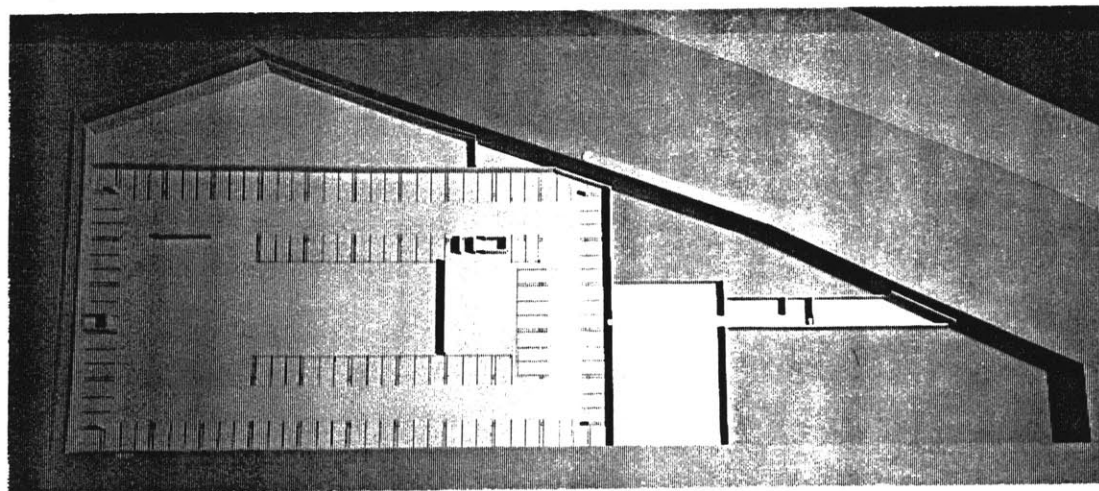


Figure 5-18: Model Photo: Lower-Level 3

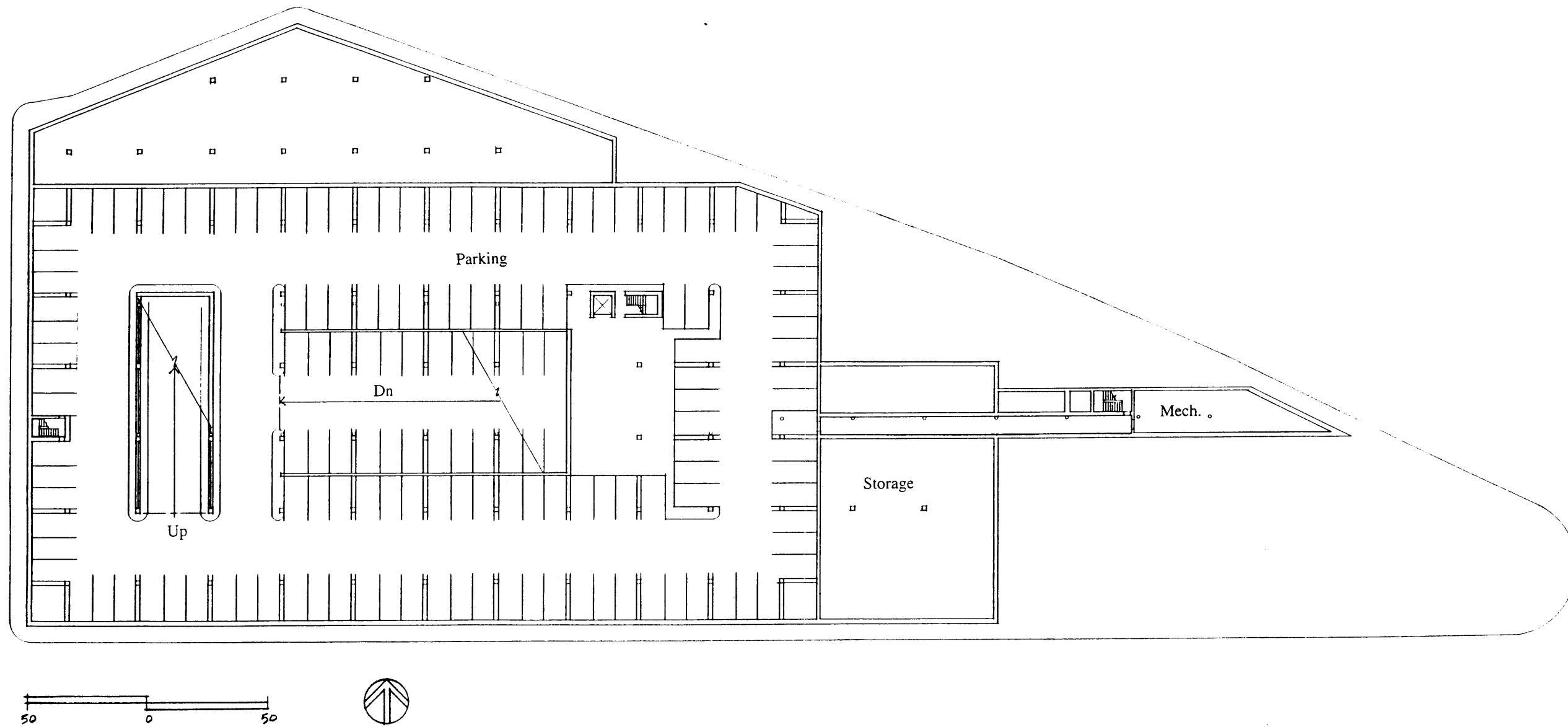


Figure 5-19: Drawing: Lower-Level 3 Plan



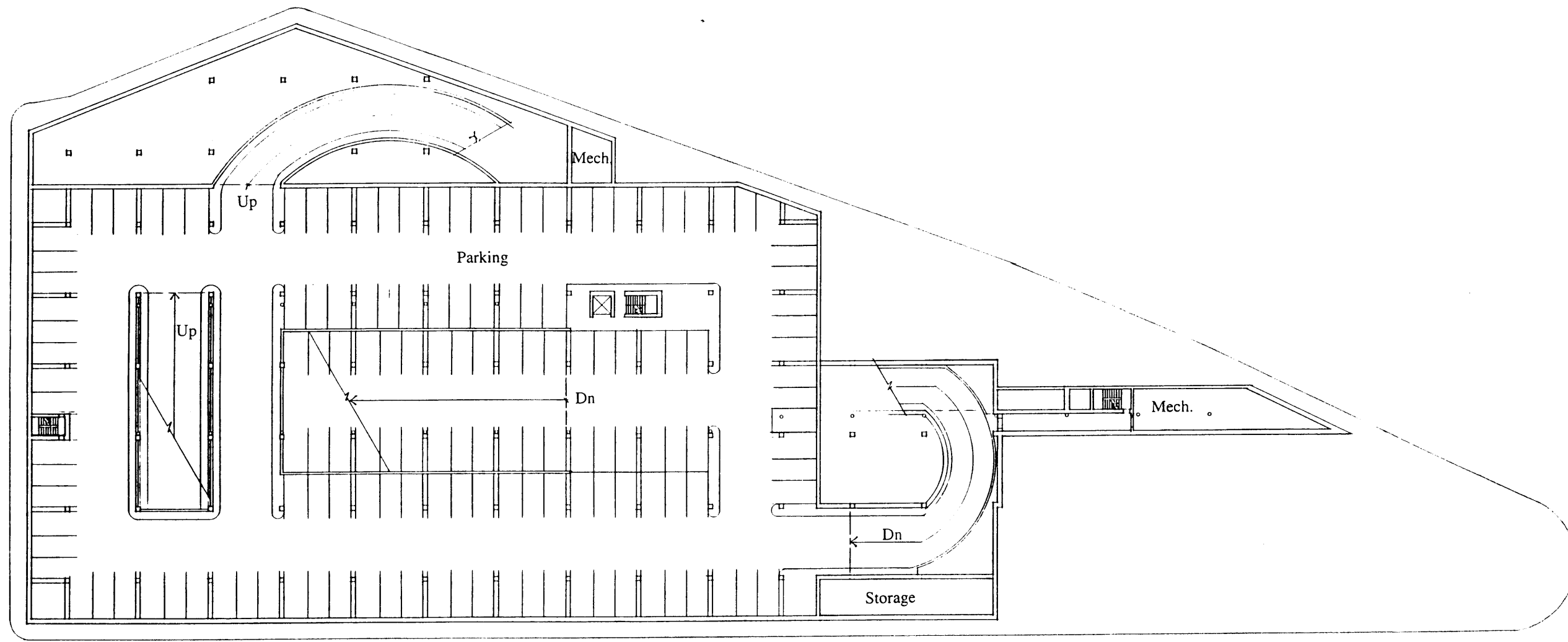


Figure 5-20: Drawing: Lower-Level 2 Plan

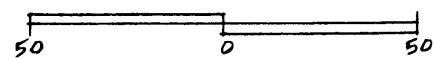
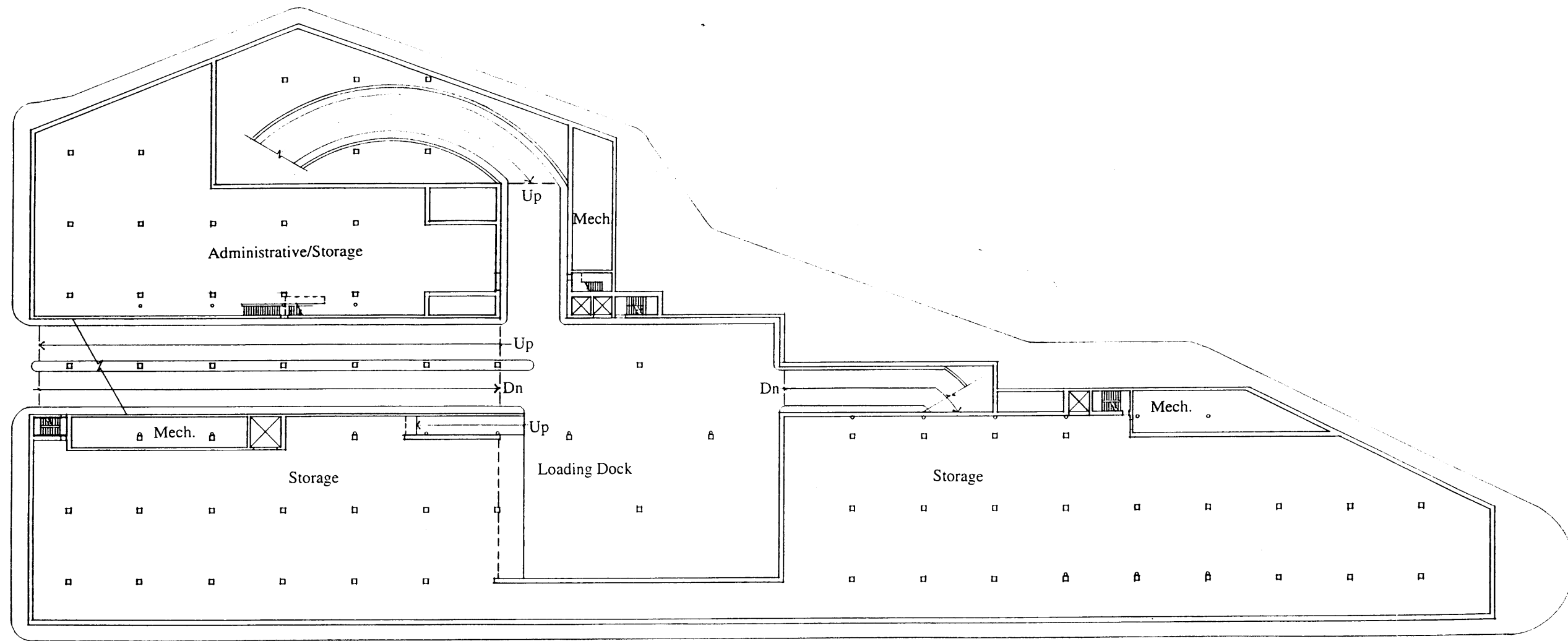


Figure 5-21: Drawing: Lower-Level 1 Plan

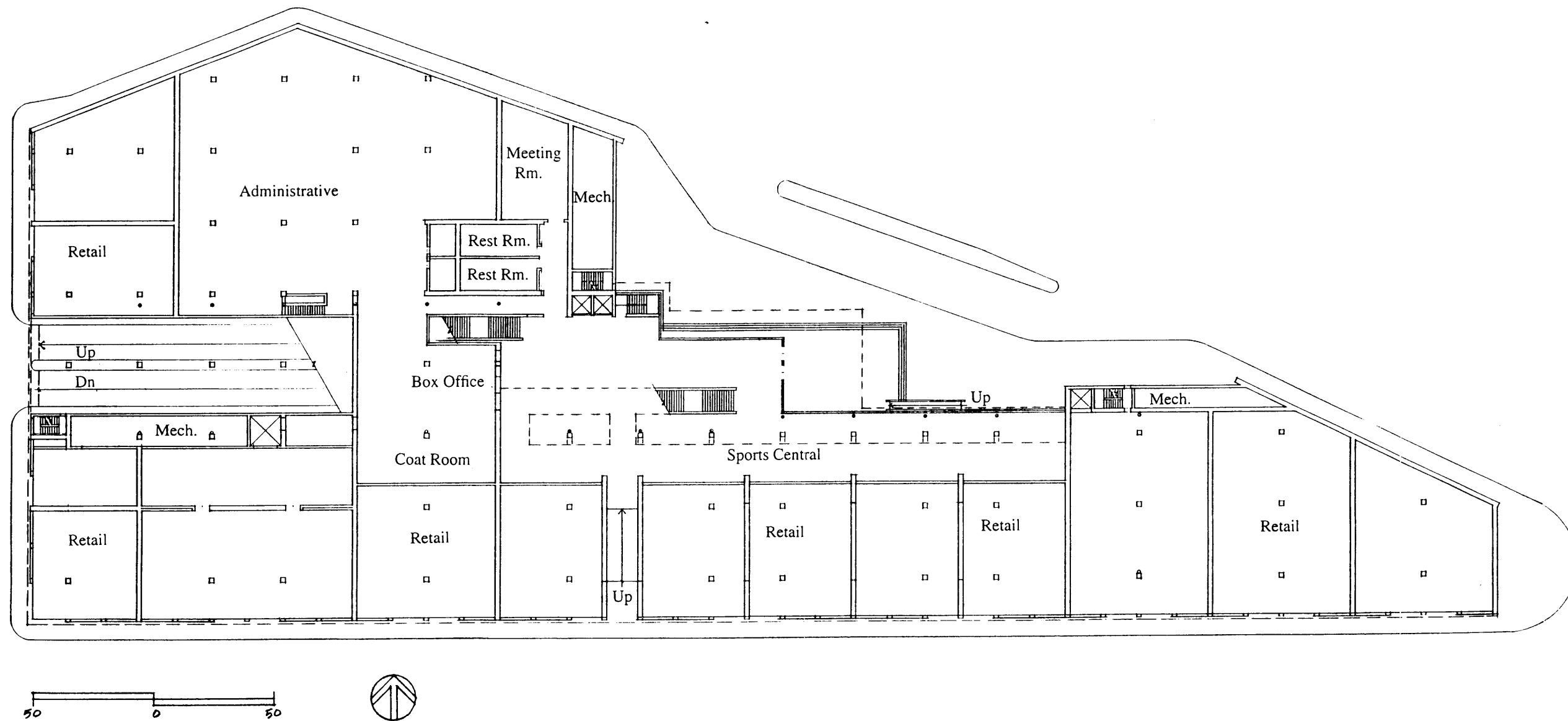


Figure 5-22: Drawing: First Floor Plan

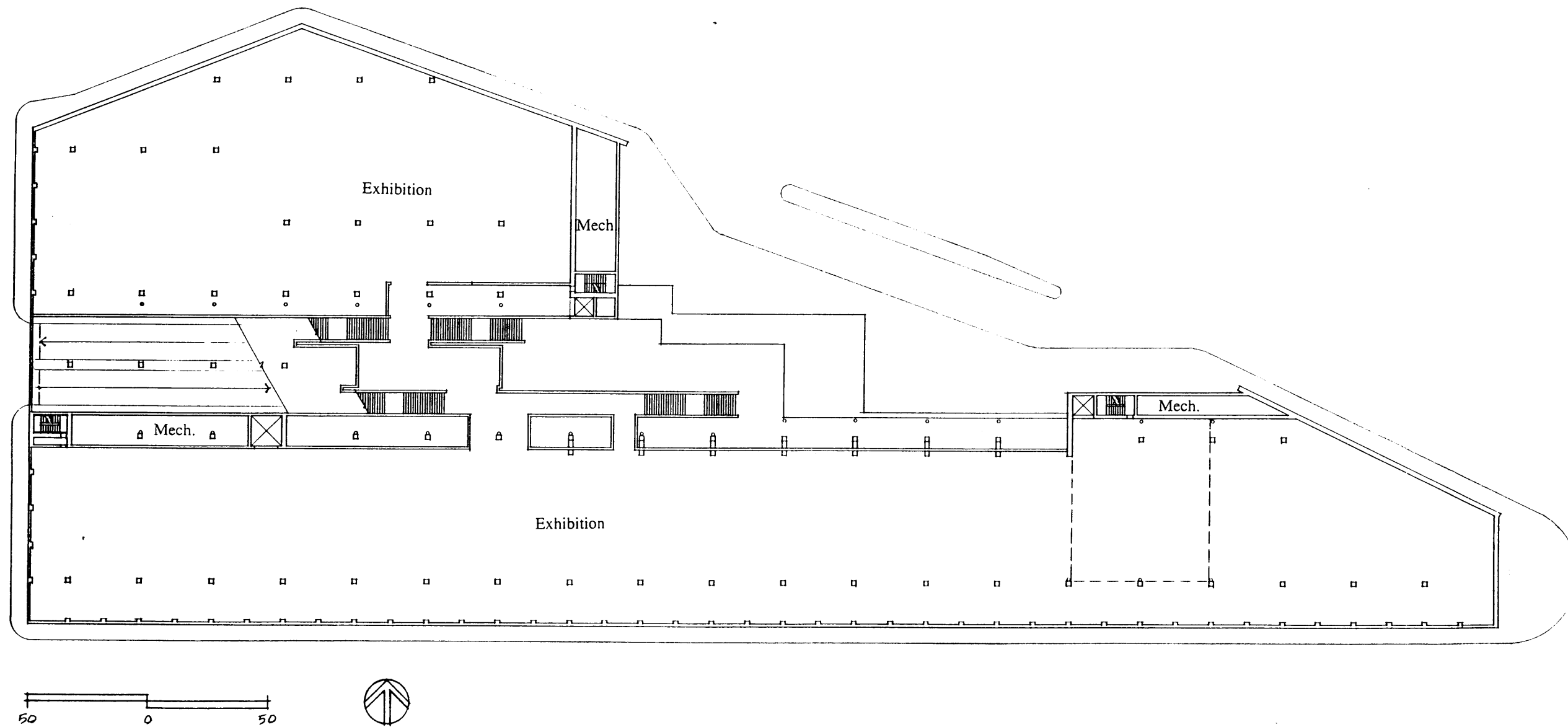


Figure 5-23: Drawing: Second Floor Plan

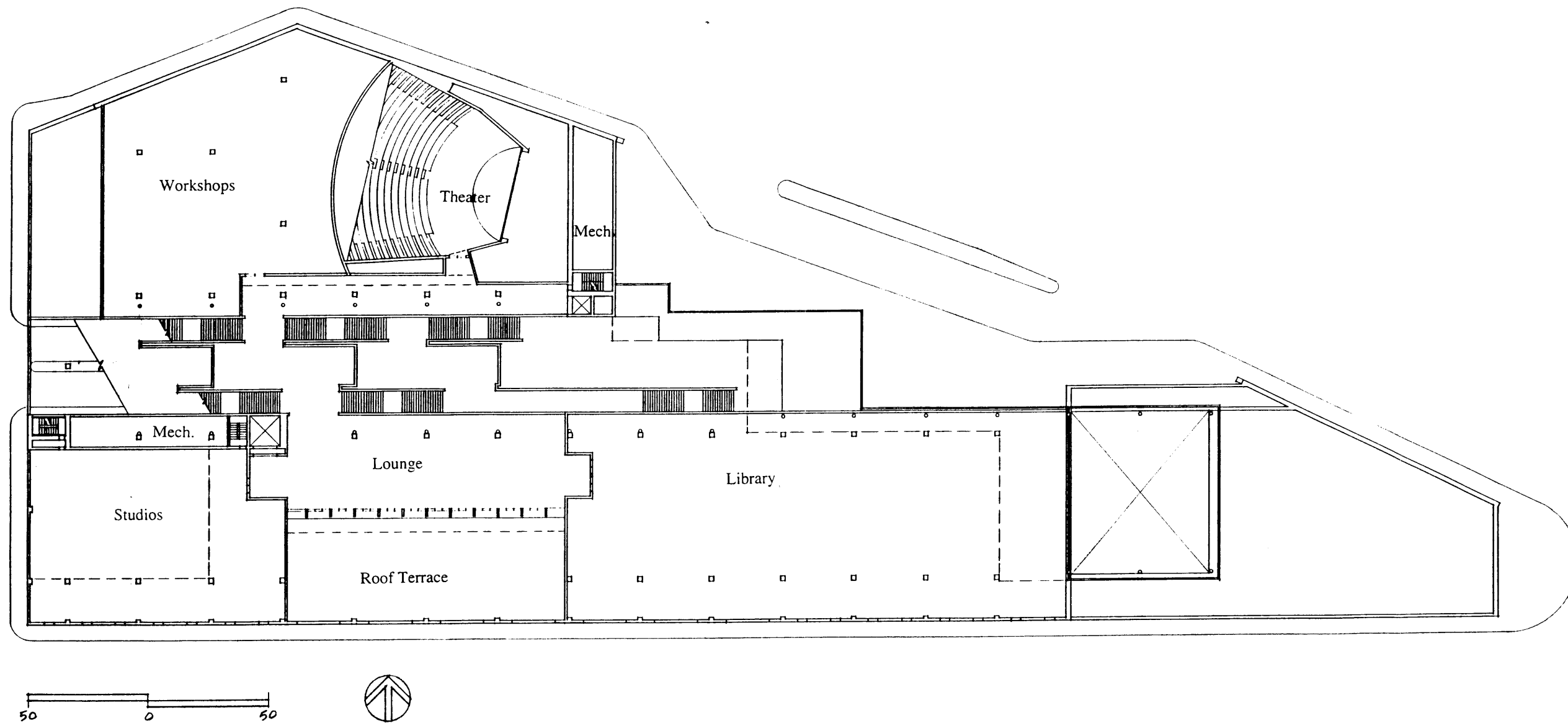


Figure 5-24: Drawing: Third Floor Plan

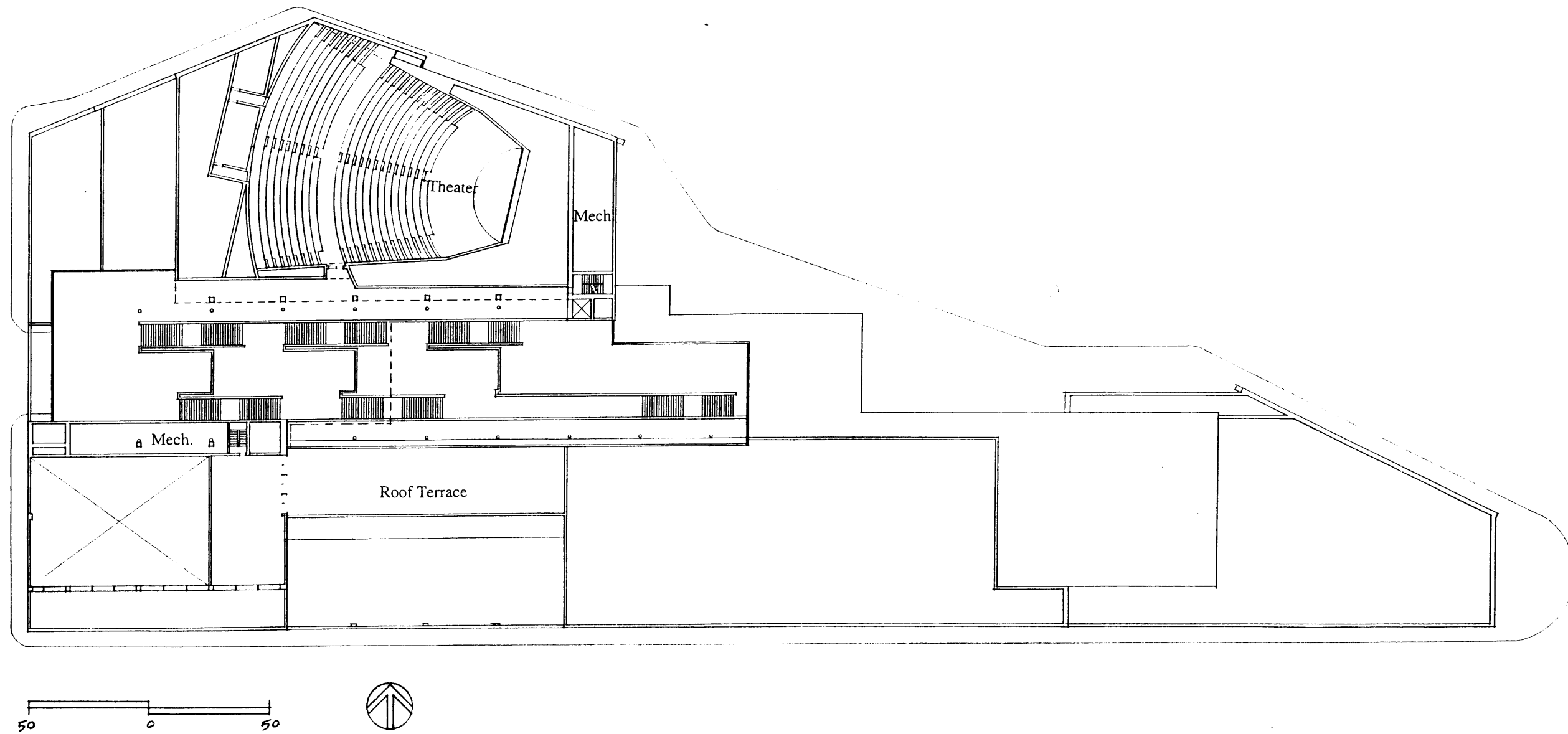
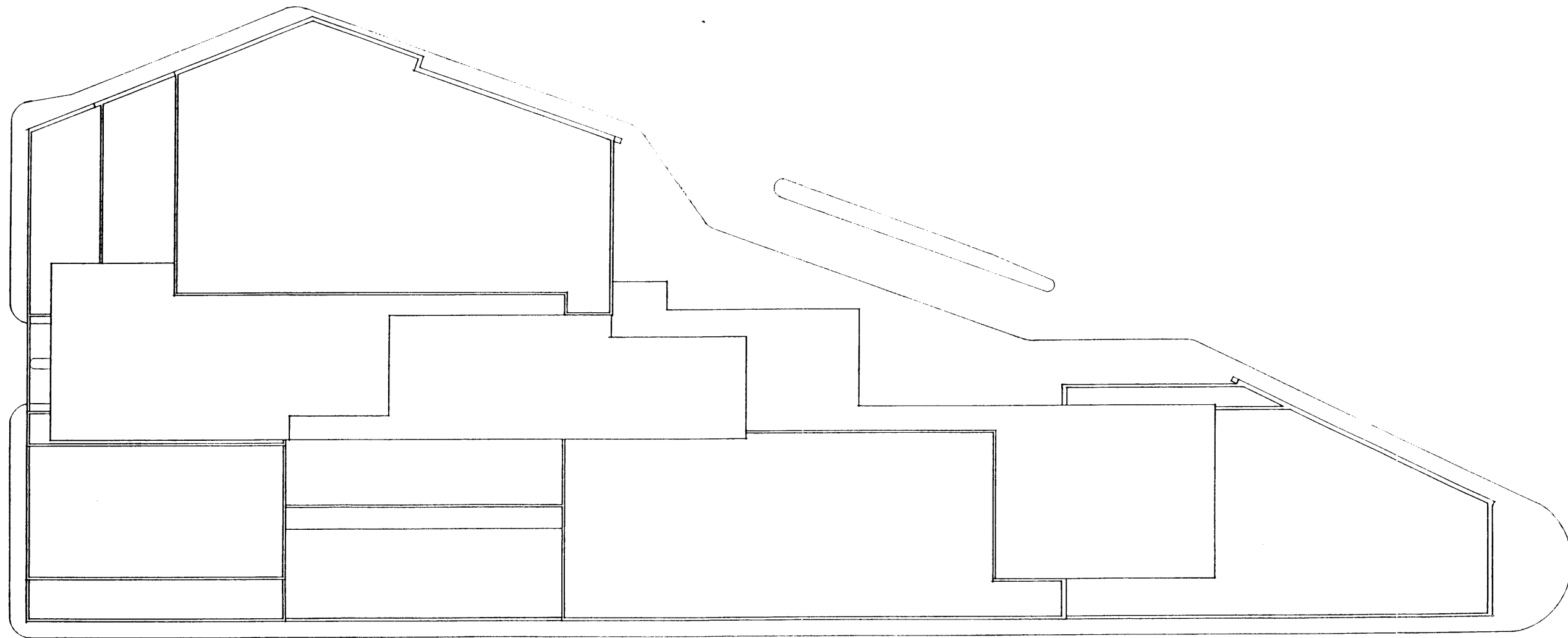


Figure 5-25: Drawing: Fourth Floor Plan



50 0 50



Figure 5-26: Drawing: Roof Plan

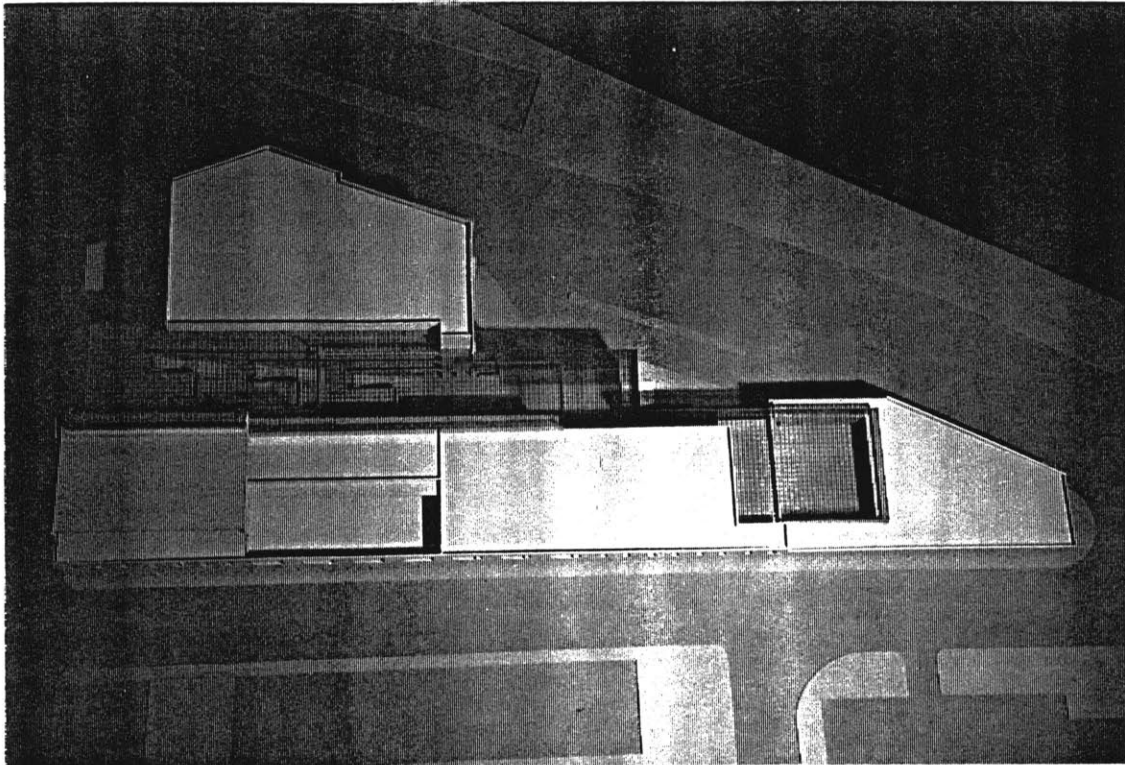
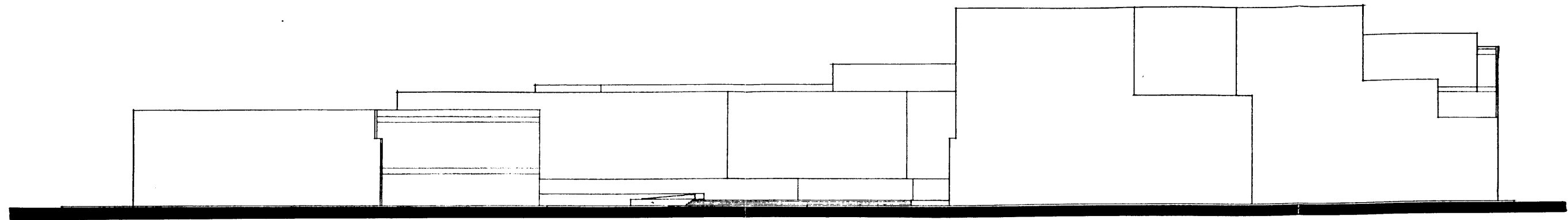
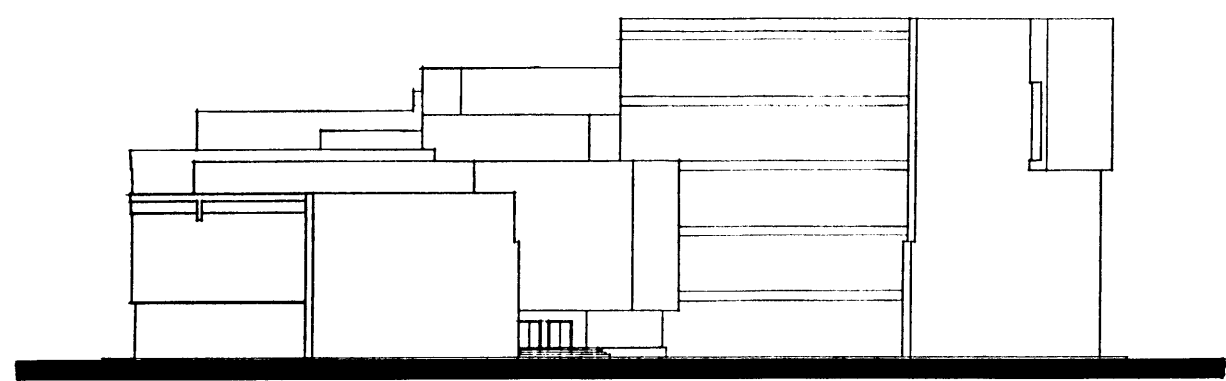


Figure 5-27: Model Photo: Roof Plan

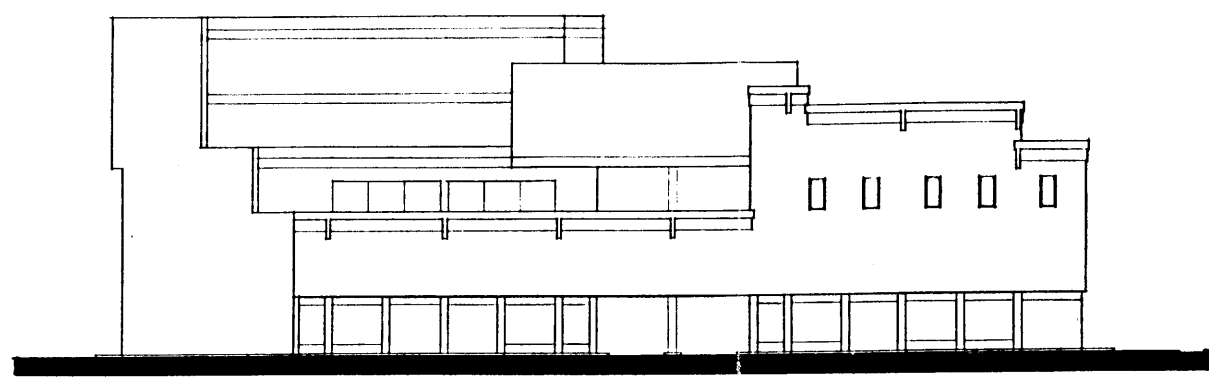




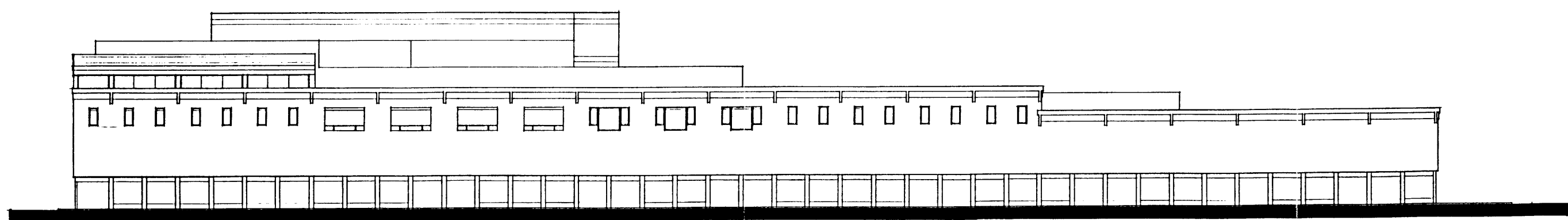
NORTH



EAST

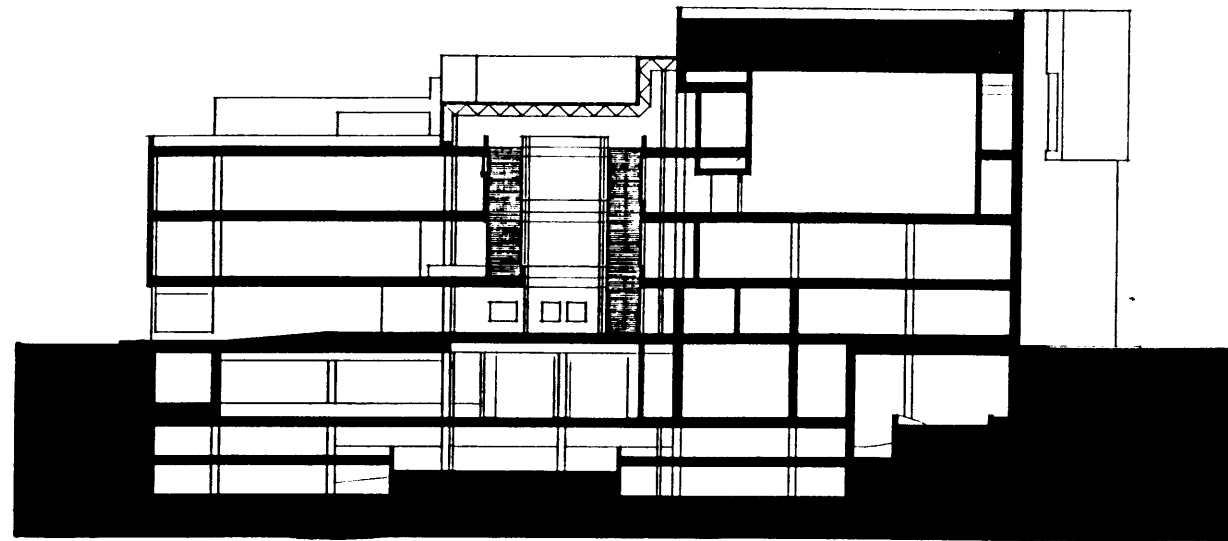


WEST

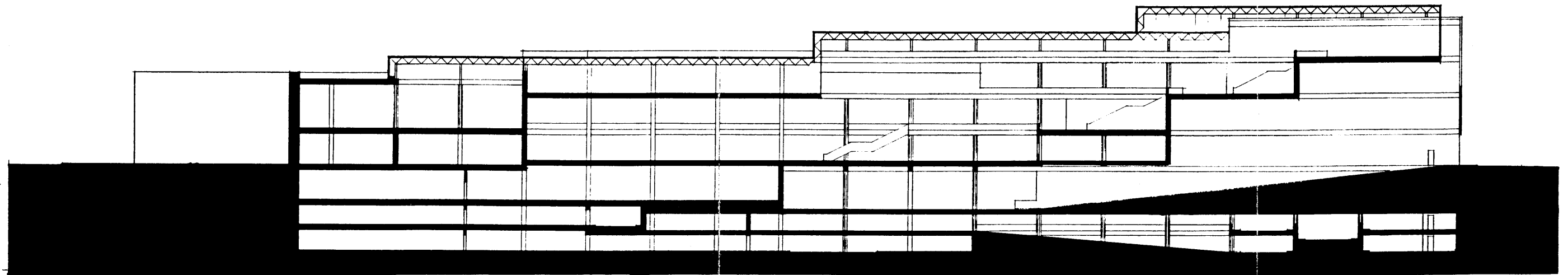


SOUTH

Figure 5-28: Drawings: Elevations



NORTH-SOUTH



EAST-WEST

Figure 5-29: Drawings: Sections

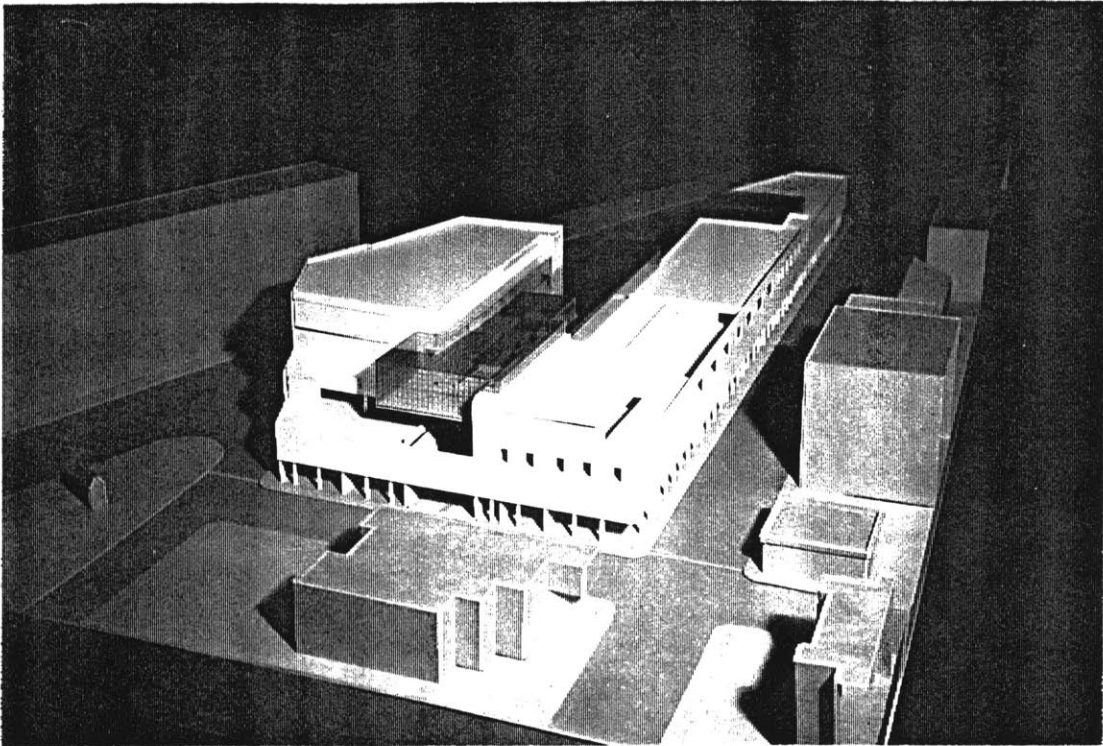


Figure 5-30: Model Photo: Perspective S-W

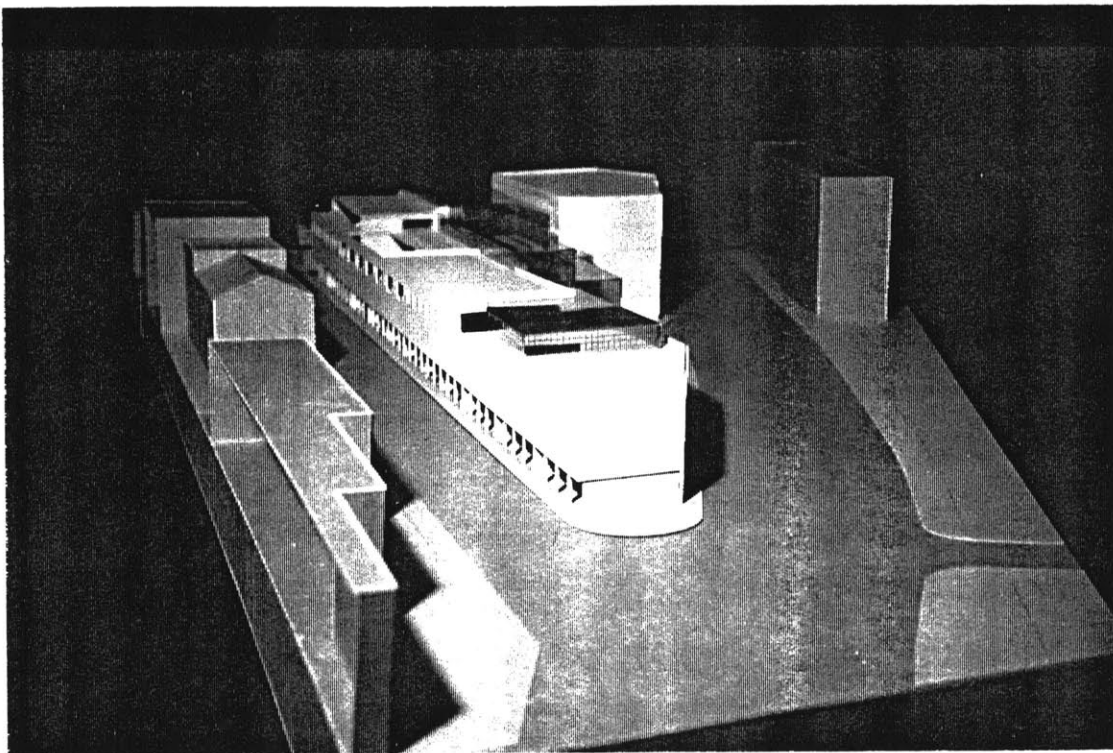


Figure 5-31: Model Photo: Perspective S-E

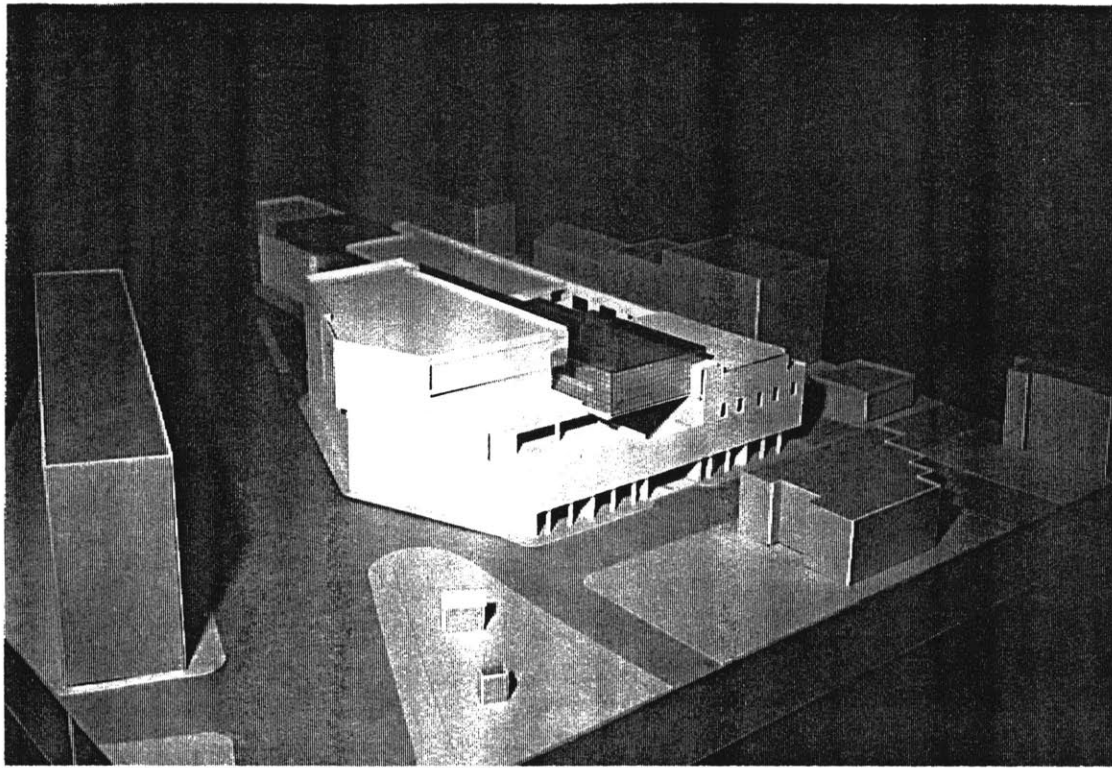


Figure 5-32: Model Photo: Perspective N-W

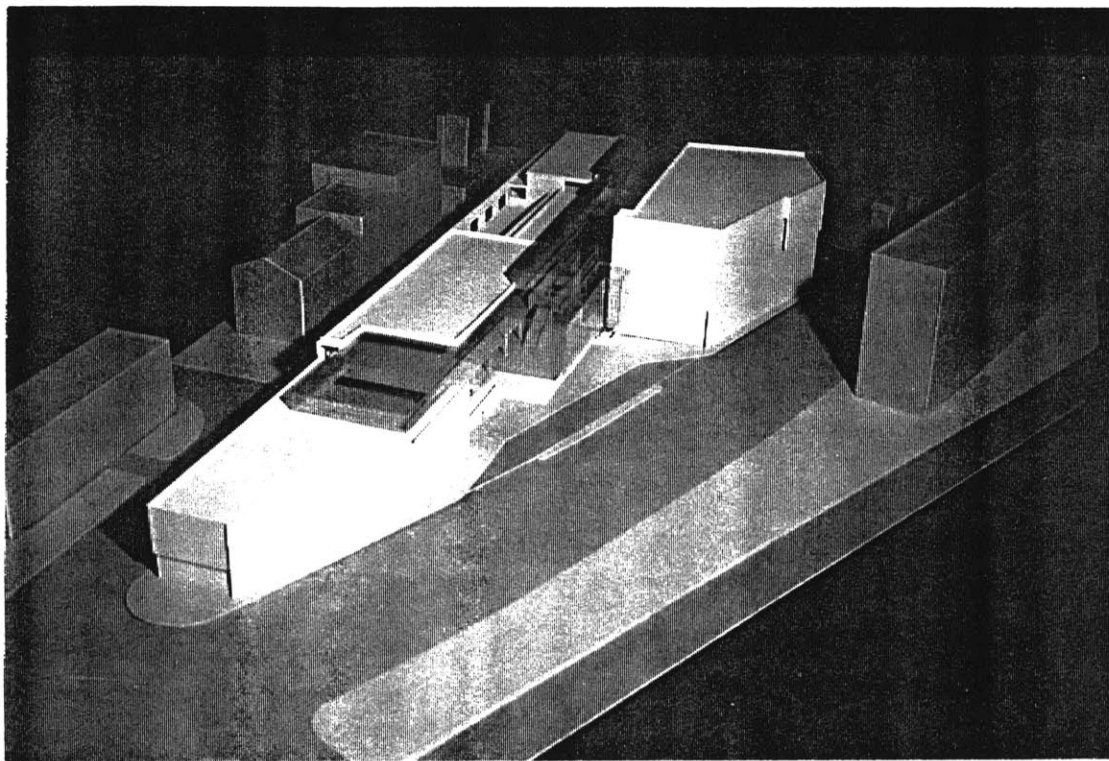


Figure 5-33: Model Photo: Perspective N-E

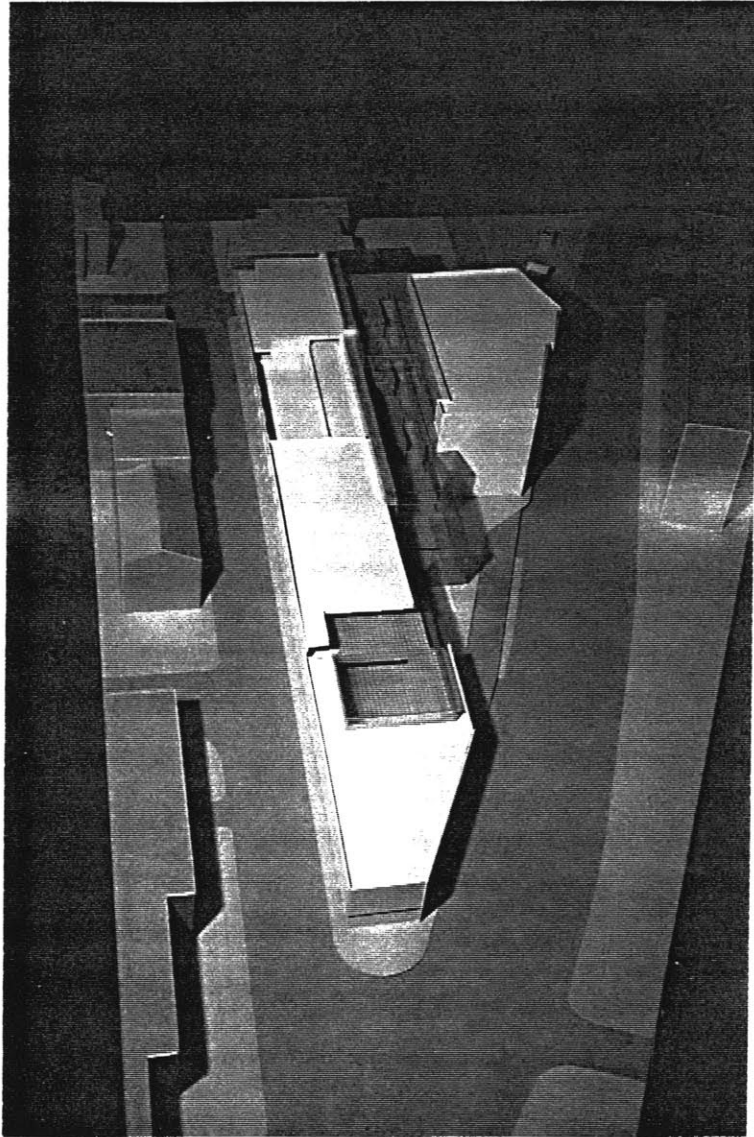


Figure 5-34: Model Photo: Perspective E-W

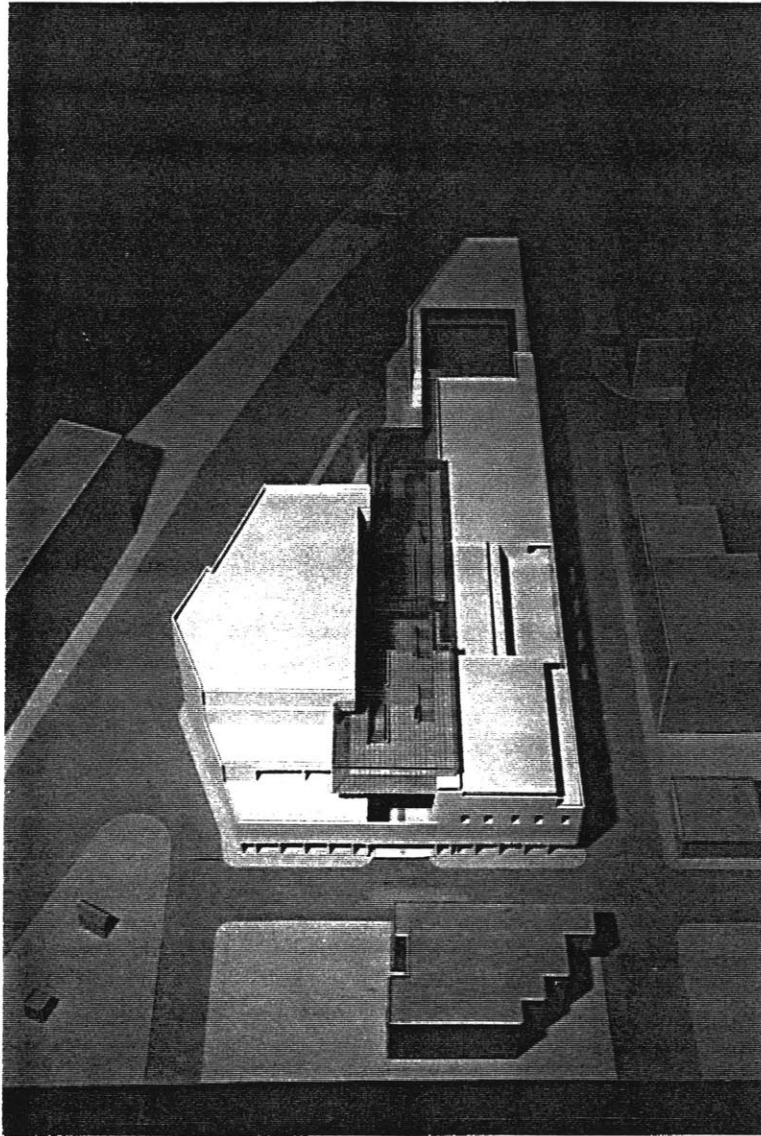


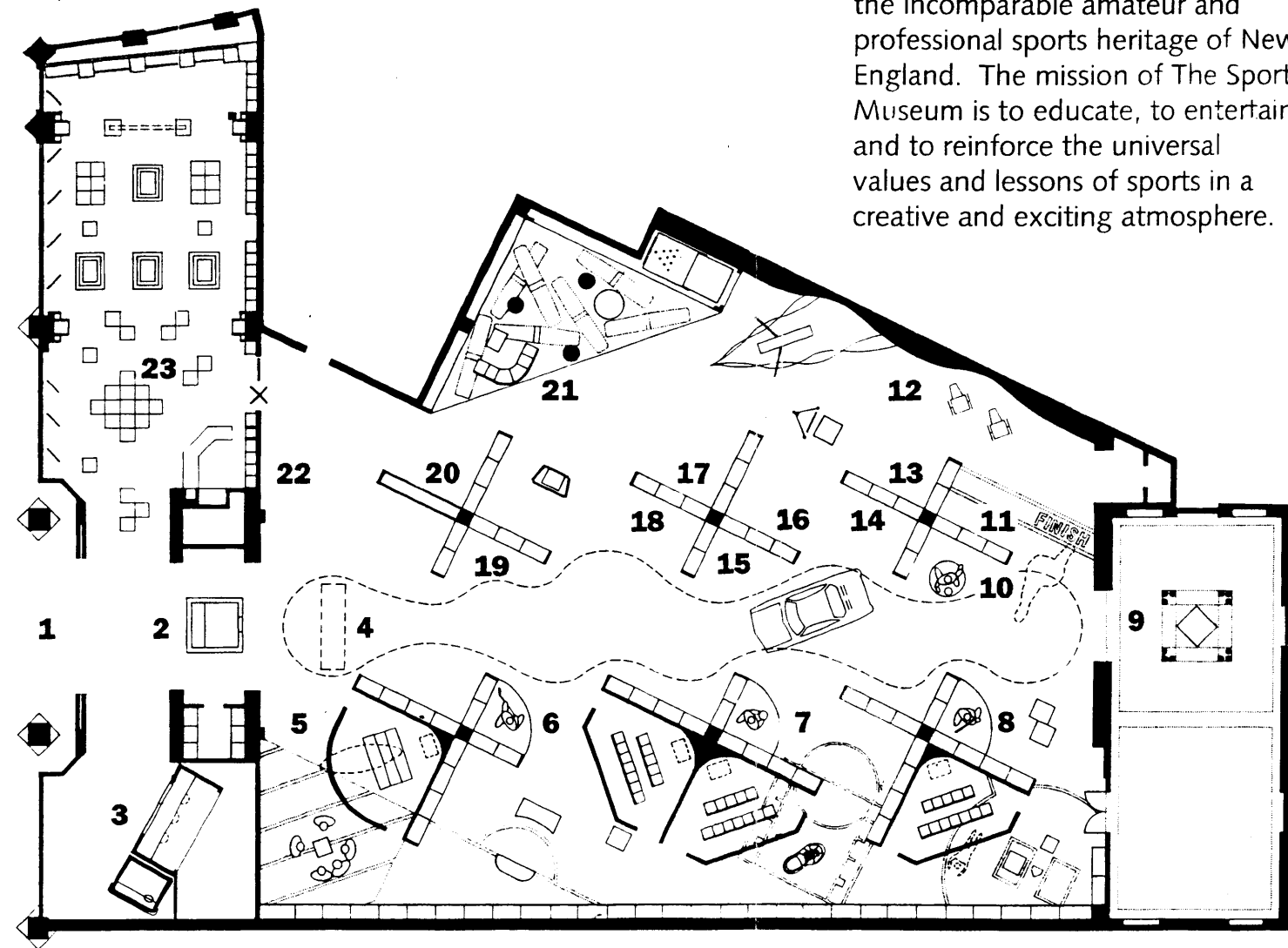
Figure 5-35: Model Photo: Perspective W-E

# Appendix

Figure A-1: Existing Plan: Sports Museum of New England

### The Sports Museum of New England

- 1 Enter from Mall
- 2 Tickets/ Admission
- 3 Sports Central
- 4 Cavalcade of Sports
- 5 Football  
*Harvard Stadium Theatre*  
*The Huddle*
- 6 Hockey  
*Boston Garden Theatre*  
*In the Net*
- 7 Basketball  
*Boston Garden Theatre*
- 8 Baseball  
*Fenway Park Theatre*  
*Catching Clemens*
- 9 Yawkey Pavilion  
Classroom & Meeting Room
- 10 Soccer & Rugby
- 11 Marathon
- 12 Activity Area
- 13 Swimming & Fitness
- 14 Rowing & Sailing
- 15 Golf & Tennis
- 16 Boxing & Racing
- 17 Summer Olympics
- 18 Winter Olympics
- 19 Hometown Heroes  
*Stump Haggerty*
- 20 Visiting Exhibits
- 21 Candlepin Bowling
- 22 Champions in All Sizes
- 23 Museum Store



Exhibits Plan

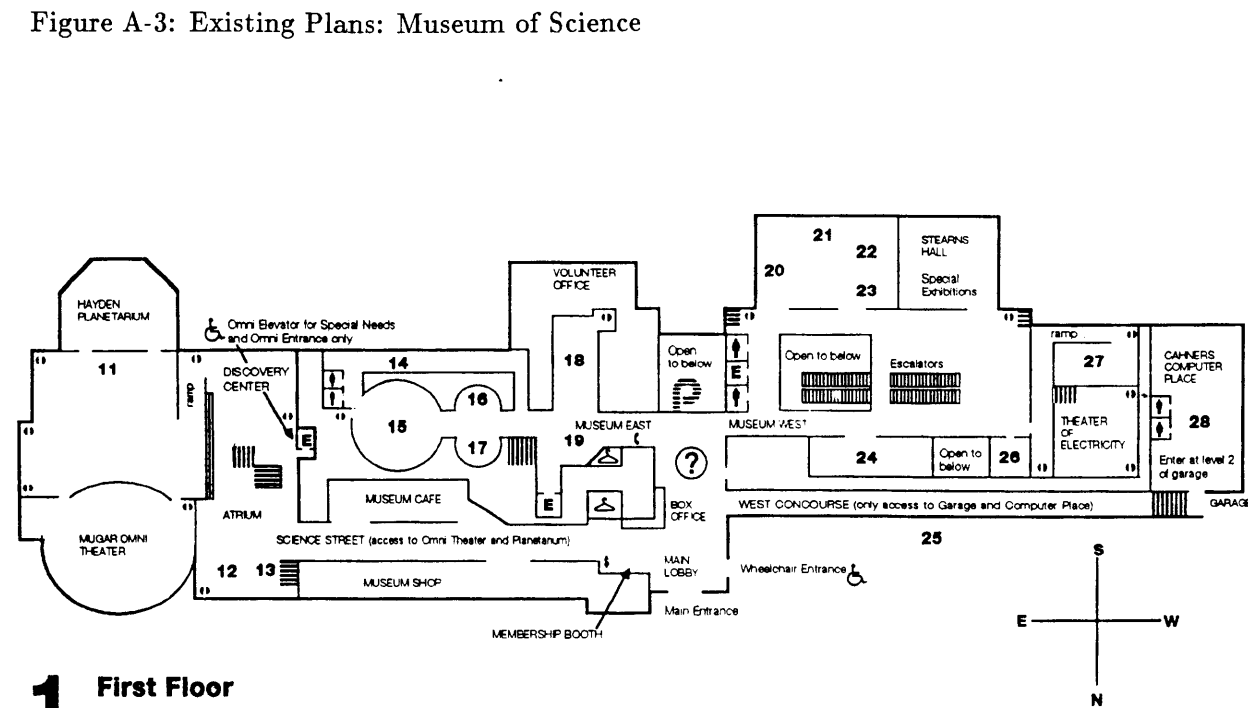
The Sports Museum is a non-profit, educational museum showcasing the incomparable amateur and professional sports heritage of New England. The mission of The Sports Museum is to educate, to entertain, and to reinforce the universal values and lessons of sports in a creative and exciting atmosphere.

Figure A-2: Existing Program: Sports Museum of New England

	Square Feet	% of Total
Parking		
Retail	2,000	11.1
Visitor Services	250	1.4
Exhibition	9,000	50.0
Education	1,200	6.7
Administrative & Mech./Storage/Other	5,550	30.8
<b>Total</b>	<b>18,000</b>	<b>100.0</b>



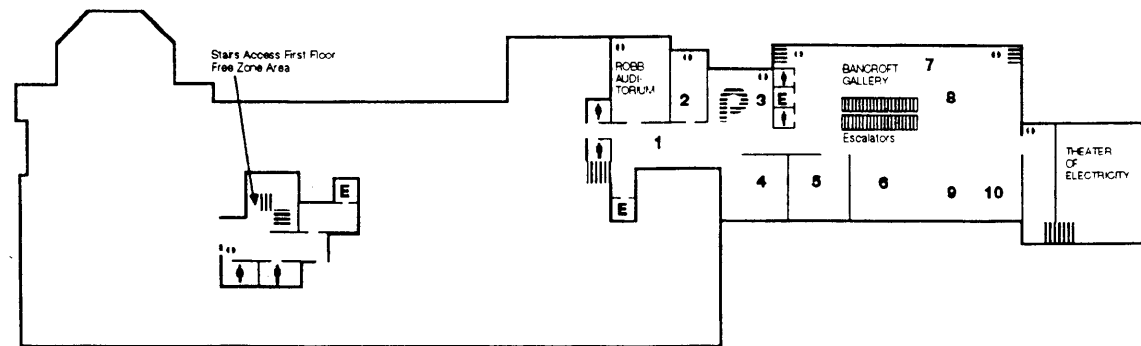
Figure A-3: Existing Plans: Museum of Science



**1 First Floor**

Select Exhibits:

- |   |                                    |                              |  |
|---|------------------------------------|------------------------------|--|
| 11 Space Shuttle                                    | 15 Bird Biology                    | 20 Water Exhibits            | 25 Interesting Rocks from Interesting Places |
| 12 Archimedes Excogitation (audiokinetic sculpture) | 16 Egg Hatchery                    | 21 Wave Tank                 | 26 not open to public at this time           |
| 13 Soundstar  | 17 Live Animal Demonstration Stage | 22 Visible Music             | 27 Brain Exhibit                             |
| 14 not open to public at this time                  | 18 New England Habitats            | 23 Water Demonstration Stage | 28 Computer Discovery Space                  |
|   | 19 Earth Globe                     | 24 Mathematics               |  |

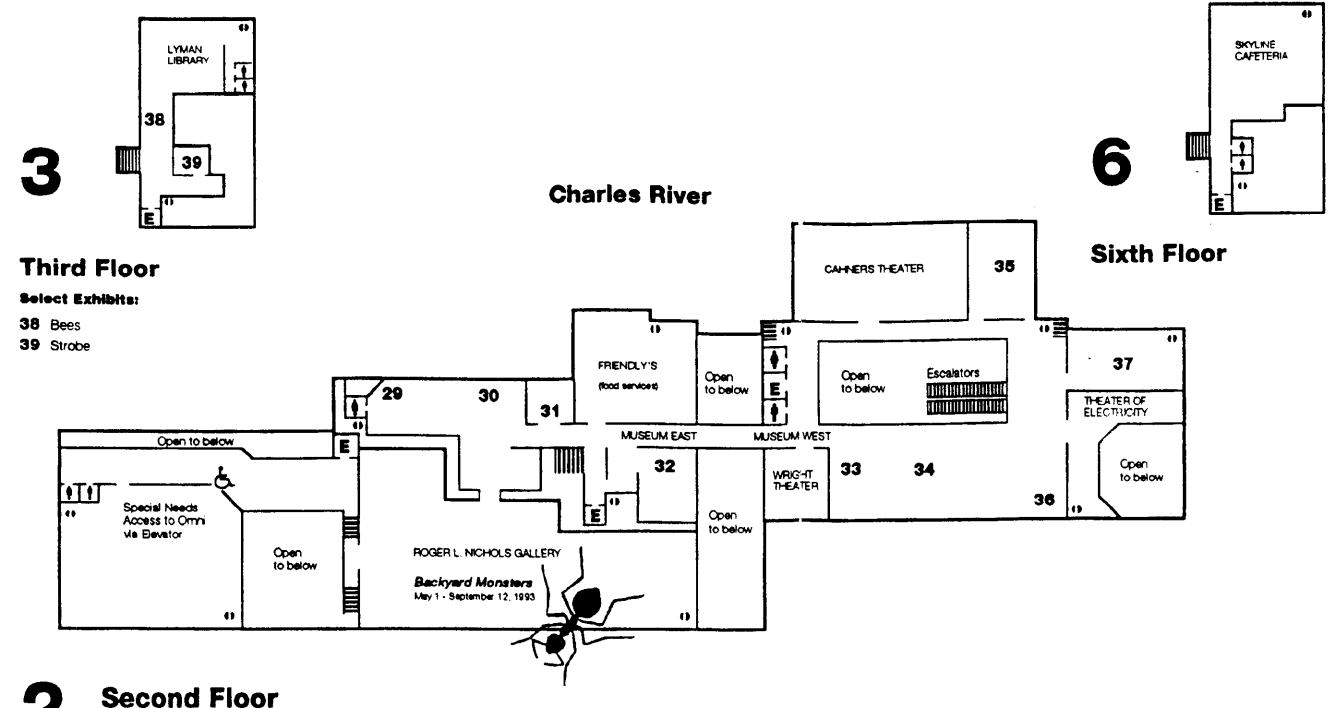
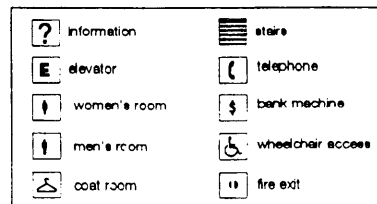


**B Basement**

Select Exhibits:

- |                         |   |                  |
|-------------------------|---|------------------|
| 1 Anthropology Exhibits | 4 Peabody Gallery: Human Body Discovery Space | 7 Transportation |
| 2 Colby Trophy Room     | 5 Test Tube: Exhibit Prototype                | 8 Steam Engine   |
| 3 Insects               | 6 3D  | 9 Earth Science  |
|                         |   | 10 Dinosaurs     |

**Key**



**3 Third Floor**

Select Exhibits:

- 38 Bees
- 39 Strobe

**2 Second Floor**

Select Exhibits:

- |                                       |                          |  |                                      |
|---------------------------------------|--------------------------|--|--------------------------------------|
| 29 Scanning Electron Microscope       | 31 Animal Sculpture Room | 34 Forces and Energy Exhibit                     | 36 Physical Science Stage            |
| 30 The Observatory: Seeing the Unseen | 32 Birth Exhibit         | 35 Design Around Us Gallery: Tropical Rainforest | 37 SunLab: Greenhouse, Solar Exhibit |
|                                       | 33 Robotics              |  |                                      |

Figure A-4: Existing Program: Museum of Science

	Square Feet	% of Total
Parking	322,000	43.3
Food & Retail	24,000	3.2
Administrative	44,000	6.0
Visitor Services	10,000	1.3
Exhibition	150,000	20.2
Education	42,000	5.6
Workshops/Labs	26,000	3.5
Circulation	23,000	3.1
Mechanical/Storage	103,000	13.8
<b>Total</b>	<b>744,000</b>	<b>100.0</b>

# Bibliography

- [1] Wolfgang Decker. *Sports and Games of Ancient Egypt*. Yale University Press, New Haven, London, 1992.
- [2] Doug Gelbert. *Sports Halls of Fame*. McFarland, Jefferson, North Carolina, 1992.
- [3] Prestel-Verlag Munchen. *100 Jahre deutsche Austrabung in Olympia*.
- [4] Richard Schaap. *An Illustrated History of The Olympics*. Alfred A. Knopf, New York, 1963.
- [5] Maria Tompropoulos. *A Concise Guide to Olympia*. C. Cacoulides, Athens, 1960.

## PAGES

This is the end of this page  
In life, the book that we make  
At this chapter's closing,  
We go on to another phase.

This is the end of this page  
Its some kind of journey that we've made  
The life we've known,  
The footnote to another day.

And its just now setting in on us.  
And its just now setting in on us.

This is the moment that we've faved  
A tender moment in our age  
We've staid the course,  
We've made it to the gate.

And there's a lifetime to save  
The special memories of this wave  
Right now the story,  
Is but a speck on an empty page.

And its just now setting in on us.  
And its just now setting in on us.

*CVM'94*