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A presentation is made of the winning scheme and five other entries in an architectural competition for the design of an instructional research and communications center at Rensselaer Polytechnic Institute, Troy, New York. The graphic interpretations illustrate the facility features designed for the implementation of audiovisual devices and similar accoutrements of classroom instruction. (FS)

NEW BUILDING ON CAMPUS

SIX DESIGNS FOR A COLLEGE COMMUNICATIONS CENTER

A Report from Educational Facilities Laboratories

EDUCATIONAL FACILITIES LABORATORIES, INC.
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New Building On Campus

Television and tape recordings are fast becoming as much a part of the teacher's tool kit as books and blackboards. The instructional aids and media that began to come into their own after World War II—slides, films, overhead projection, television, audio and video recordings, and the rest—have by now found their way into classrooms at every educational level, and since the pressures that brought them show no signs of abating, there is every reason to believe they are there to stay.

Yet most classrooms do little to make them at home. Even new schools, ostensibly designed to take full advantage of the latest teaching methods, perpetuate the old classroom, with all its built-in deterrents to the effective use of audio-visual devices and similar instructional resources. Too often, "visual aids" still conjures up the twilit gloom of a room whose oilcloth-blinded windows let in too much light and too little air, and whose seating arrangement guarantees most students a clearer view of the silhouetted crew-cut in the row ahead than of the screen.

Makeshift surroundings or no, the new accoutrements of classroom instruction have proved successful enough to hint at the far greater educational potential that might be realized if they were used in spaces built to their specifications. But what are these specifications? What kinds of spaces and facilities are needed to provide a more hospitable setting for the new teaching tools and the new teaching methods they demand?

This report presents graphic interpretations by six architectural firms of the answers Rensselaer Polytechnic Institute proposed after a long and exhaustive inquiry into just these questions. As entries in the invitational competition through which Rensselaer selected the architect for the instructional research and communications center that will be the focal point of a new science complex, the designs are first of all imaginative solutions to a specific architectural problem, archetypal examples of a specialized building unknown a few years ago. But because the proposals grew directly out of Rensselaer's efforts to define the optimum physical environment for advanced instructional techniques, the spaces and facilities they weave together also embody general principles whose implications extend to the single classroom as well as the full-fledged communications center, the lower schools as well as the colleges.

The Mother of Invention

Fitting as it is for the products of technology to help produce technologists, Rensselaer had motives more compelling than a sense of propriety for its interest in improved instructional equipment and techniques. The urgent need for more and better-trained scientists and engineers; the flood of new information in science and technology; the blurring of long-standing boundaries between classic scientific disciplines and the consequent emergence of interdisciplinary programs—all add up to a ferment in engineering education.

The threat of obsolescence that hangs over so many time-honored pedagogical practices, prompting close and critical scrutiny of matter and method alike, is not, of course, confined to technical education. Nor are the other problems raised by the accelerating demand for more and better education. In its main contours at least, an outline of the task ahead would look much the same whether it were drafted by the smallest of our liberal arts colleges or the most sprawling of our universities. Rensselaer (a middle-sized but fast-growing polytechnic school) sums it up this way:

1) To teach more students—probably, thanks to the epidemic teacher shortage, with relatively fewer faculty members.

2) To teach them more effectively—in spite of the growing complexity of subject matter in many academic disciplines.

3) To build the new facilities needed to accomplish these goals.

4) To do all this while reducing the over-all cost of education.

Ways and Means

To Rensselaer, the most promising key to the eventual solution of these interlocking problems—and the best hope of coping with the most pressing in the meantime—seemed to be a concerted effort to increase the efficiency of the total educational process, largely by taking advantage of the full spectrum of audio-visual devices and other communications instruments.

In 1956, RPI launched Project REWARD, a program set up to encourage faculty members to experiment with new teaching methods, provide them with the necessary materials, and coach them on how to use their new assistants effectively. The REWARD office, which formed the nucleus of Rensselaer's present Office of Institutional Research, also coordinated and evaluated the results of the faculty's work. After four years the project had confirmed Rensselaer's hypothesis. Like similar studies elsewhere, it showed no real difference in student accomplishment between the results of teaching by television and other new methods, and the results of more conventional instruction. When appropriately revamped course material was presented with the help of audio-visual aids, improved demonstration apparatus, and the like, students in large classes absorbed as much information, as fast and as thoroughly, as students in standard-size classes taught by standard methods.

By proving that teachers using the new methods and materials could handle larger classes without letting academic standards slip, Project REWARD gave RPI a running start toward a practical answer to the question of how fewer teachers could teach more students more effectively, at lower cost. (Perhaps the best measure of the project's success is Rensselaer's record of holding the line on per-student costs while boosting faculty salaries some 30 per cent.)

But the project also focused attention on the related problem of backstopping the new teaching program with suitable facilities. For while the REWARD-shepherded experiments demonstrated the educational validity of the projected shift to larger classes and fuller exploitation of improved presentation methods, they also showed that the effectiveness of the shift would hinge on a corresponding move away from the conventional classroom.

New Spaces for Learning

To adequately house and support a teaching process so firmly rooted in the consistent, extensive use of mechanical teaching devices, Rensselaer would need a network of related facilities:

1) Bigger, better-equipped classrooms specifically designed to make the most of all the available instructional aids.

2) Studios for producing specialized teaching materials ranging from slides to video tapes.

3) A library of stored instructional materials for reference or review.

Confronted with a patent, if self-created, need for these missing resources, Rensselaer decided to supply them by adding an "auditorium-studio" unit (later called a "communitorium," and finally, "an instructional research and communications center") to the classroom, laboratory, and research buildings planned for the proposed science complex.

This called for a second look at the new educational techniques, though this time the emphasis was not on their efficacy, but on their architectural implications. How would their use affect the over-all design of the auditorium-studio facility; its physical, mechanical, and structural requirements; and the relationships between the included spaces? How could a high utilization rate and low instructional costs be built into the facility?

To find out, Rensselaer's School of Architecture, with the help of a grant from EFL, embarked on a study of the "Design of Auditorium-Studio Facilities for Engineering Education"—a project whose label shrank, to the less cumbersome "DASFEE," even as its scope broadened to encompass the wide range of facilities implied by the title of the final project report: "New Spaces for Learning—Designing College Facilities to Utilize Instructional Aids and Media."

In redrawing the project's boundaries, though, the DASFEE team stuck to its original premise that "the optimum use of the new instructional aids and media requires new concepts of space types and their design." The report which sums up their investigations amplifies this premise with general planning information, detailed criteria for the design of teaching spaces and production facilities, technical data on the aids and media, and a series of design studies showing how the principles expounded might be applied in practice.

The data developed through Project DASFEE is, of course, applicable wherever the teaching process leans heavily on technical aids. For Rensselaer, however, the project had two special results. First, the planning principles and design criteria laid the groundwork for the design of the new communications center by making it possible to detail the required teaching-production facilities down to the last square foot of storage space. And second, their newness suggested the desirability of mocking-up a full-scale "new space for learning" so that the design criteria could be tested and refined before being incorporated in the final plans for the communications center.

A few months after the results of Project DASFEE were published, RPI acquired a deconsecrated Roman Catholic chapel near the site selected for the communications center, and the School of Architecture began filling the empty shell with a 100-student classroom modeled after one of the prototypes developed by the DASFEE staff.

The experimental classroom was fully equipped and furnished to provide a laboratory where the performance of a prototype learning space could be evaluated under actual teaching conditions. However, its walls, floor, and ceiling were built in panels and put together so that the space itself can be modified almost at will. By shifting various panels, the researchers can change the shape of the room, the arrangement of seating and display surfaces, and the location of projection equipment and controls. Or they can vary the color scheme, the lighting and acoustics, and other environmental conditions that might affect the communication of subject matter.

From Pilot to Prototype

While the DASFEE findings were being built into the research classroom, Rensselaer was also preparing to see them built into its new communications center. The first move was selecting an architect to translate the building requirements into blueprints—an obvious step, but one RPI contrived to gain extra mileage from.

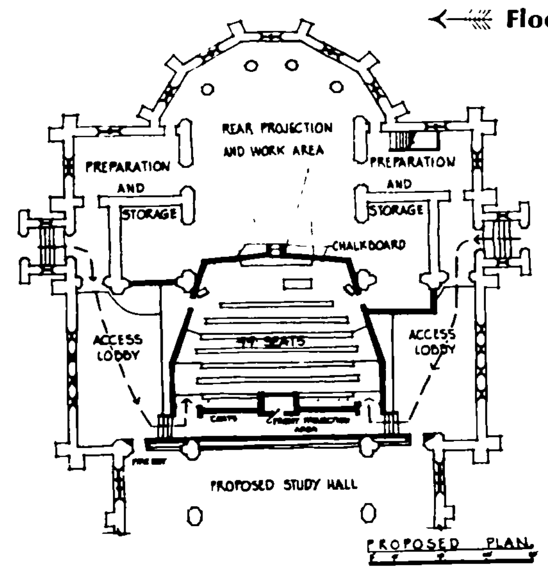
By holding an architectural competition and awarding the commission for the building to the firm submitting the winning design, Rensselaer multiplied its chances of acquiring a blue ribbon building by six—the number of competitors. But the central purpose of the competition was to stimulate interest in the instructional communications center as a new and much-needed addition to the inventory of college buildings.

Inviting some of the best architects in the country to explore the environmental conditions needed for advanced teaching techniques would do more, Rensselaer felt, than assure an exemplary solution to the specific design problems posed by its own communications center. It would also yield, as RPI Provost and Vice President Clayton Dohrenwend pointed out in requesting EFL support for the competition, five other "shining examples" to guide architects and administrators in planning similar facilities elsewhere.

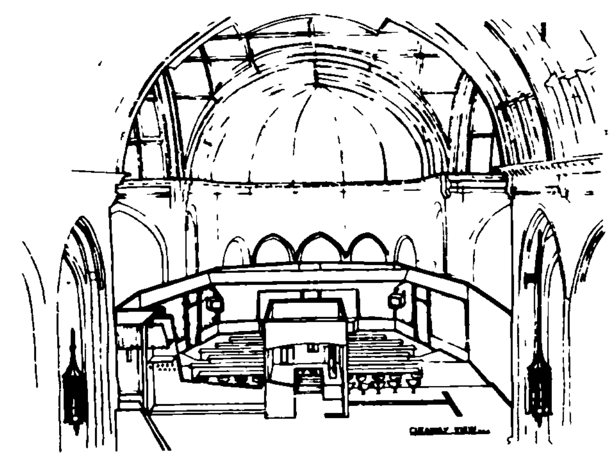
As if to prove the point, the detailed program of space requirements worked up by Professor Donald Mochon of Rensselaer's School of Architecture and by Michael M. Harris of Harrison and Abramovitz, who served as RPI's professional adviser on the competition, reflects the general planning principles evolved from Project DASFEE as well as Rensselaer's individual needs. For example, there is no really compelling theoretical reason for housing production facilities and teaching spaces in the same building, although the arrangement is certainly more convenient for the teachers and technical staff. A school endowed with a suitable range of teaching spaces—small, medium, and large—could modify existing classrooms to accommodate the various teaching devices, and build only the supporting production and preparation facilities from scratch.*

For Rensselaer, which has neither adequate production facilities nor large classrooms that would lend themselves to the necessary modifications, it was more logical to combine the required large-group teaching spaces with the production center. However, the new teaching methods will not

*In the foreseeable, if distant, future, this might well be the usual pattern: the development of economical color television could move all other devices out of the classroom and into the production center by making it possible for the instructor to tune in on slides, recordings, films, and so forth, televised from central studios.



← Floor plan of classroom



RPI research classroom

be confined to the new facilities. The communications center's support facilities will also serve conventional classrooms, which are rapidly being remodeled to permit the effective use of the various teaching devices. (This is in line with the DASFEE staff's conclusion that, for an institution like RPI, providing a variety of spaces, each equipped with the full range of aids and media, and moving students from one to another by careful scheduling is a more practical approach to the worthy but elusive goal of flexibility than shuffling equipment and furniture to change the function of a space, or using movable partitions to make large rooms out of small ones and vice versa.)

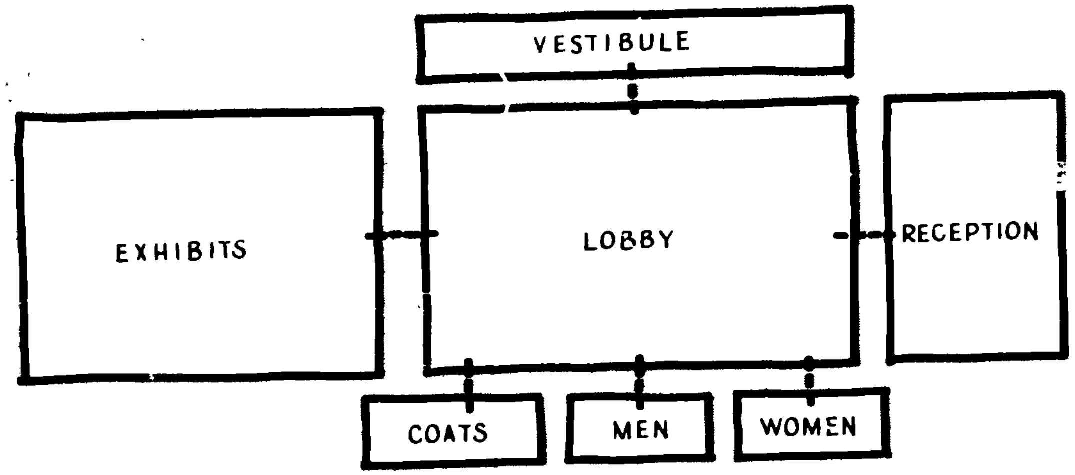
Blueprint for Planning

The specific space requirements spelled out in the competition program were broken down into the eight groups represented by the accompanying diagrams, which show schematically the relative sizes and relationships of the spaces within each functional area:

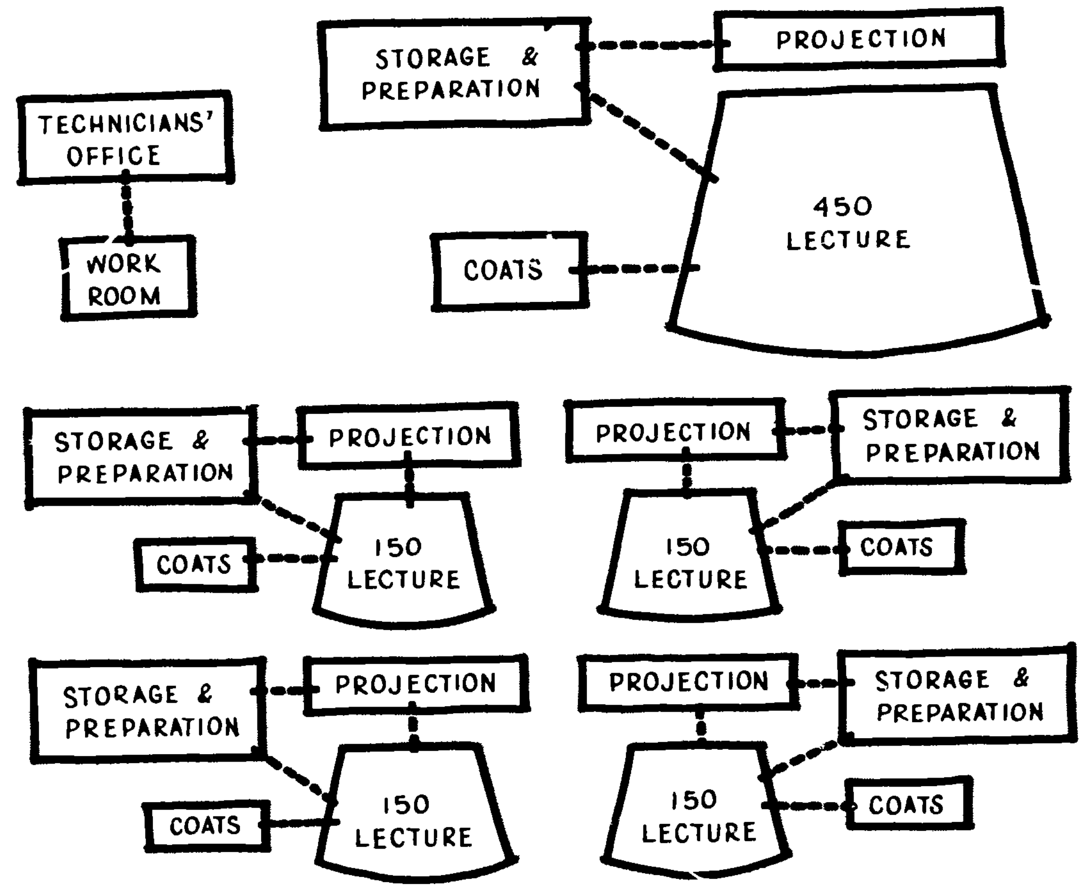
I. General Public Spaces—the main lobby and exhibition area.
II. Instructional Space—four 150-student lecture rooms and one 450-student lecture room, plus projection rooms and spaces for storing and preparing instructional materials.
III. Television Production—studios and support facilities for the origination and control of televised lectures and other broadcasts.
IV. Motion Picture Materials Production—studios and support facilities for making films.
V. Communications research.
VI. Administration—staff offices, and facilities for storing and distributing instructional materials and equipment.
VII. General Service Facilities—studios and support facilities for preparing artwork and photographic material used in classroom teaching and television and film production.
VIII. Maintenance Spaces.

In addition to the program of space requirements, the architects participating in the competition worked from the DASFEE report, which augmented the terse list of "what" with information on "how" and "why." In the case of the production and support facilities, whose requirements are more technical than architectural, the planning guide contents itself with

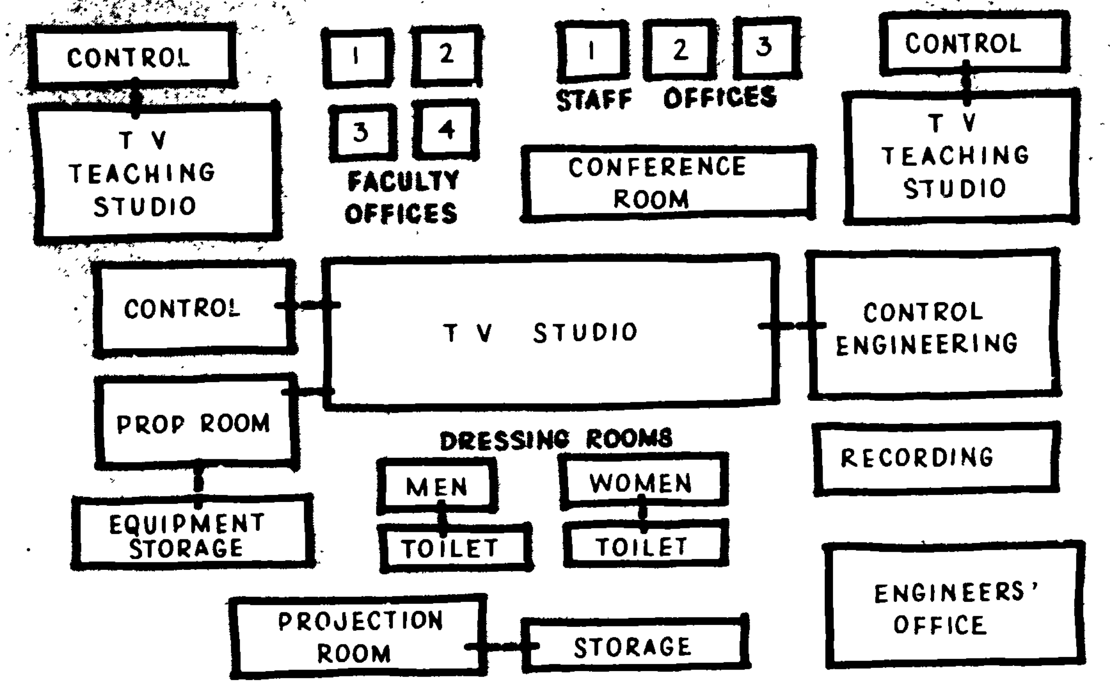
I. PUBLIC SPACE



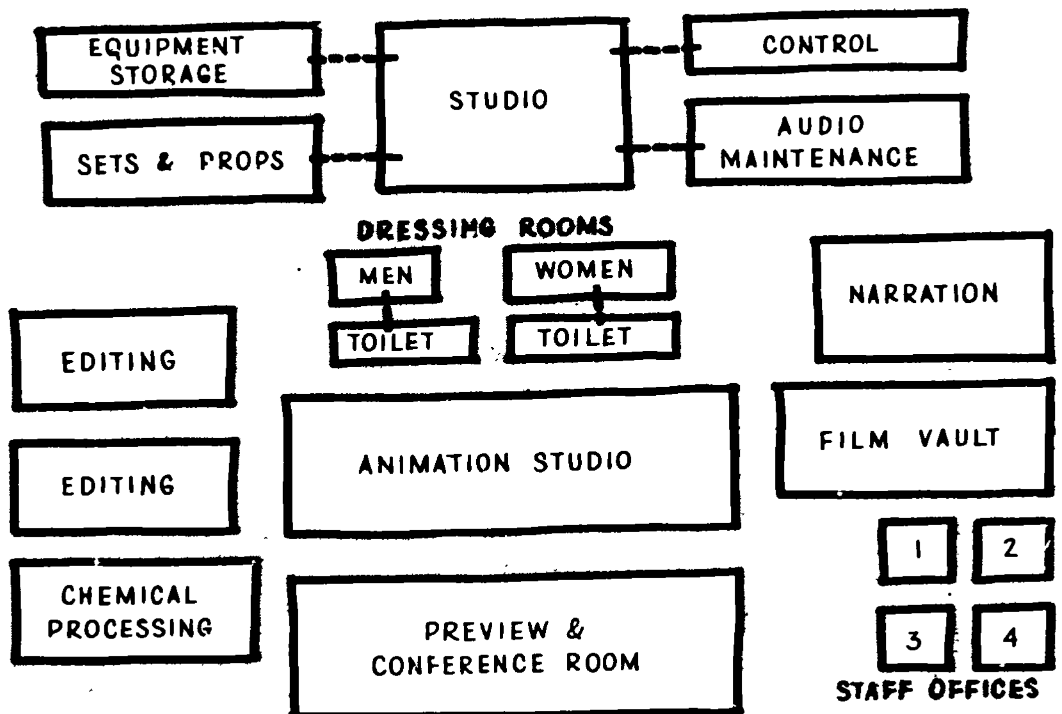
II. INSTRUCTIONAL SPACE



III. TELEVISION PRODUCTION



IV. MOTION PICTURE PRODUCTION



clarifying the functional aspects of the necessary spaces. However, it analyzes in some detail the planning considerations governing the design of the individual learning spaces, which are more in need of architectural ministrations.*

Practice Makes Perfect

"One of the professors who signed up for the experimental classroom insisted he just wanted to use the overhead projector—he didn't need all those other gadgets. But after a week or so, he was showing slides too. Then he decided closed-circuit television would be just the thing for some of his demonstrations. The next time we checked, he was using the whole works."

Alan Green, Assistant to the Dean of Rensselaer's School of Architecture and a key member of its research team, offers this evidence that the experimental classroom is teaching teachers as well as students. Using it prods most instructors into questioning whether the old ways of presenting material are necessarily the best after all, and from there into a hard look at the instructional process in general—and their own methods in particular. "Some of them," Green reports, "have thrown away lecture notes they'd been using for the last 20 years."

Inertia being a property of men and matter alike, the RPI faculty greeted the test facility with something less than wild enthusiasm. However, the soft-sell approach used in introducing it, combined with the promise of technical help over the humps of revising course outlines and preparing new material, gradually wore down the instructors' resistance to taking part in the studies. In its two years of operation, the research classroom has graduated a sizable reserve of veterans who use the new tools skillfully and enthusiastically, and the pool of volunteers for similar training is still growing.

Teacher training is a by-product of the work with the experimental classroom, but one that fits neatly into the educational pattern introduced by Project REWARD. Since Rensselaer is betting heavily that improved presentation methods, and facilities to match, will streamline the teaching process enough to help meet the demand for more, better, more economical education, it cannot afford to settle for an elaborate variation on the typical

*Copies of the DASFEE report and the competition program of space requirements are available from Educational Facilities Laboratories, Inc., 477 Madison Avenue, New York 22, New York.

audio-visual room where students are herded to watch the monthly film. If the bet is to pay off, the communications center must work full time.

That is why the classes scheduled into its lecture rooms will meet there every period during the semester, not just on special occasions. And it is why the courses selected will be those in which the new equipment is part of the instructional fabric, not just embroidery.

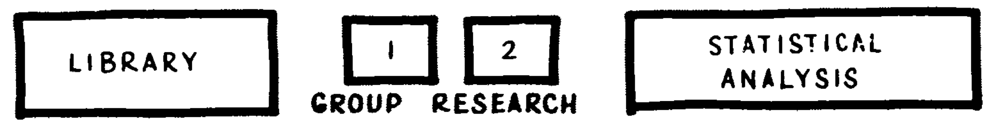
That there will be enough such courses to fill the communications center's large classrooms, and keep them filled, is in itself the most pertinent comment on the value of the faculty's practice sessions. (Rensselaer's experience with the experimental classroom, where courses ranging from history of architecture to physics to economics have been taught successfully, indicates that the effectiveness of the teaching tools depends on how well the teacher uses them, not on what he teaches.) However, the rehearsals conducted in the classroom will not only polish up the performances of the faculty cast and the supporting players on the production staff, they will also help refine the stage sets.

So far, the in-use studies have not revealed any fatal flaws in the design of the prototype learning space: on the whole, they support the planning principles followed in outlining the physical requirements for the communications center. But putting the prototype through its paces has suggested a few minor revisions in specific design recommendations, which will show up in the final detailing of the lecture rooms.

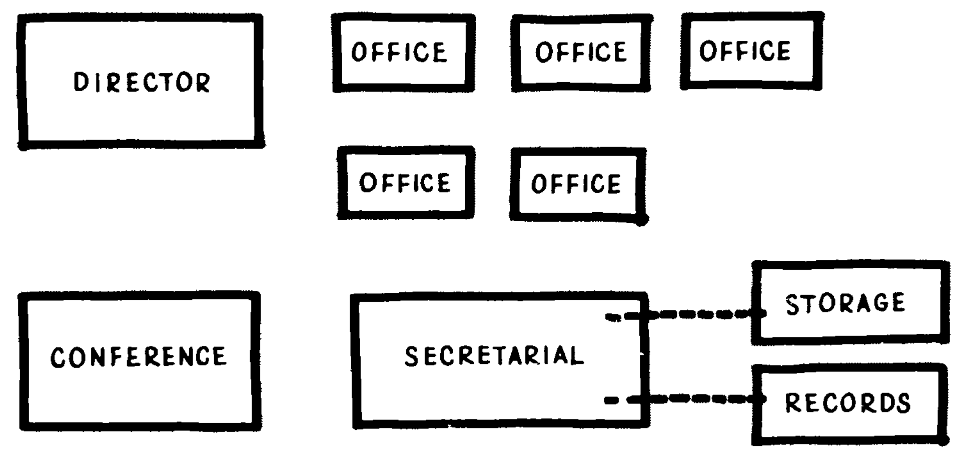
Item: The combination lighting system recommended in the DASFEE report—i.e., fluorescent fixtures for general background illumination, dimmer-controlled incandescent downlights for lighting the students' work surfaces—will be replaced with an all-fluorescent system controlled by a strongly directional grid and a series of separate circuits. Why? In the experimental classroom, the downlights cast disturbing overlapping shadows on the desk tops. Also, fluorescents are cheaper to install and operate, and add less heat to the air-conditioning load.

Item: Although continental seating with widely spaced rows of continuous tables and fixed pedestal chairs worked well, it wasted too much space. The alternate? Auditorium seating with fixed chairs whose movable tablet arms are large enough to provide as much writing surface as the continuous table top. The substitution will add an estimated 15 to 20 per cent to the seating capacity of the 450-student lecture room, 10 to 15 per cent to the

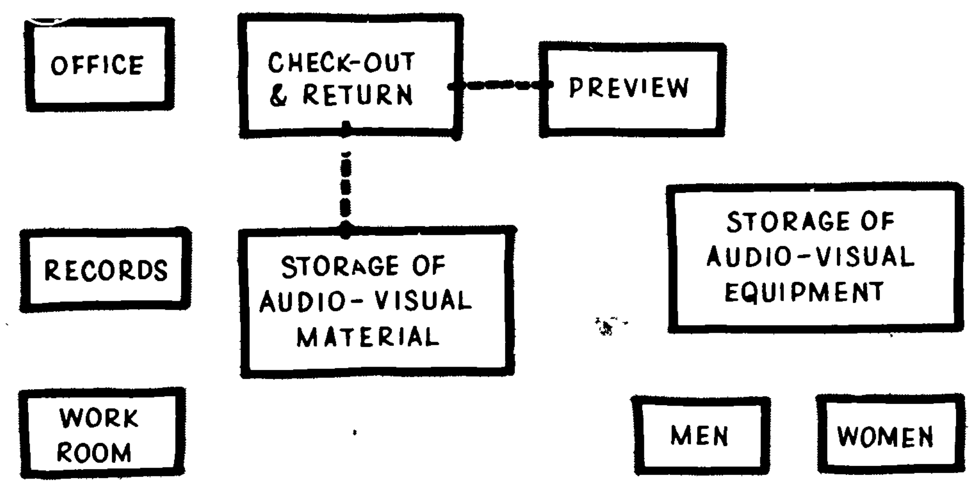
V. COMMUNICATIONS RESEARCH



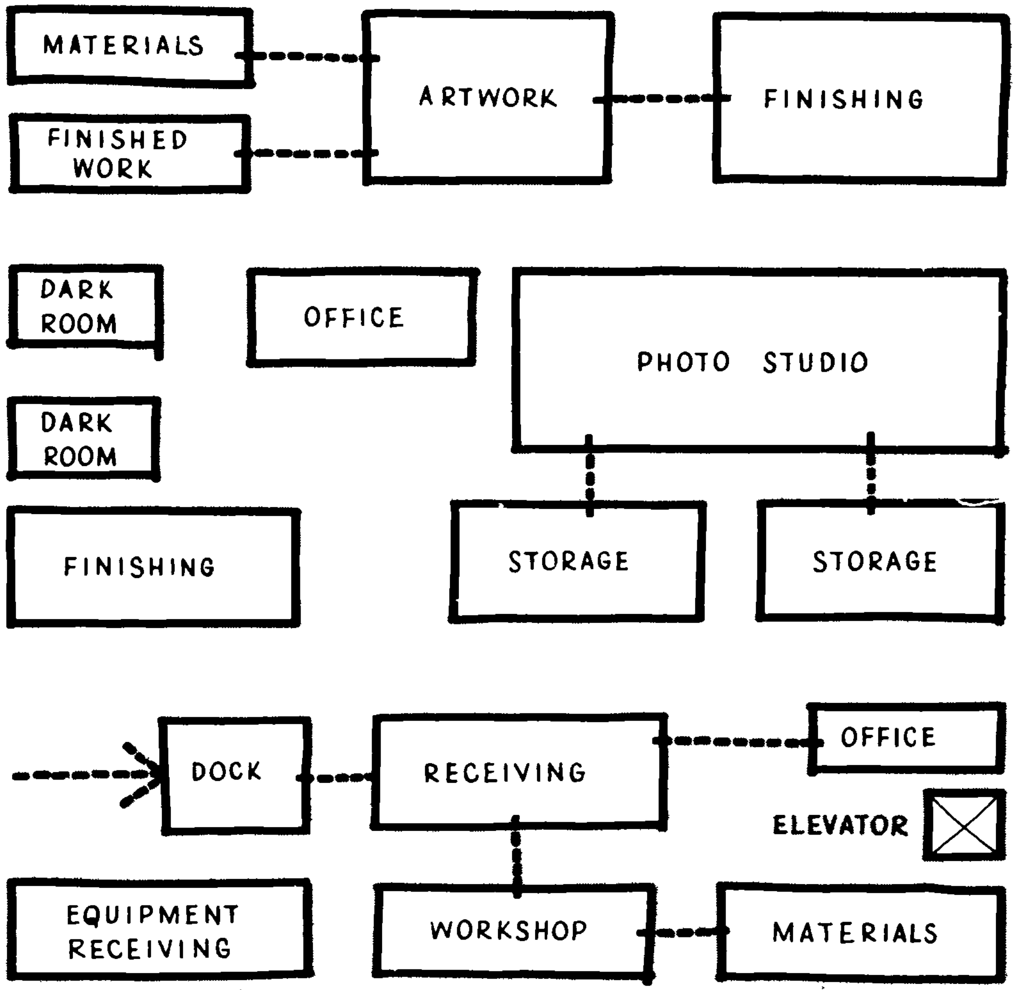
VI. ADMINISTRATION



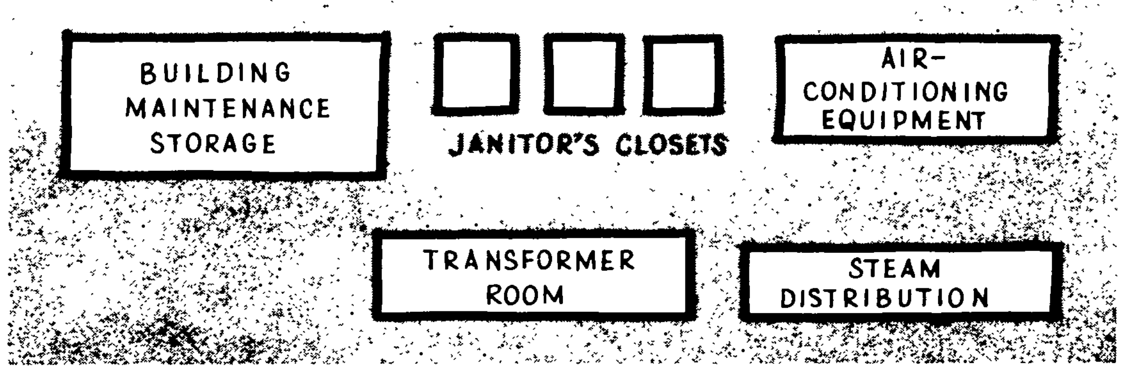
INSTRUCTIONAL MATERIALS DISTRIBUTION



VII. GENERAL SERVICE



VIII. MAINTENANCE



capacity of the smaller rooms, without any increase in the size of the spaces themselves.

Item: Anything chalkboard can do, overhead projection can do better, so chalkboard is out. Instead, a third screen will be added to the display surfaces, giving more flexibility in presenting material by permitting the simultaneous projection of three images instead of two.

A Better Mousetrap

These are small changes, but taken with the other results of Rensselaer's research and practical experiments, they add up to a warranty that the communications center will perform as it is meant to. By the time the building opens, the physical bugs will be ironed out—even to the elimination of unneeded chalkboard. The instructors will be thoroughly indoctrinated in the use of their new tools. The production personnel will have a solid backlog of experience with a variety of presentation materials and techniques. And the almost inevitable gap between the time the new facilities are introduced and the time they are fully exploited should be considerably shortened.

Professor Green maintains that the assets won for the communications center were largely a matter of luck: luck in getting into the problem at the beginning, when "no one really knew what these things were all about," and luck in being able to follow through on every phase of it—defining what was needed, setting up design criteria, and seeing how the resulting recommendations tested out in practice.

Most people would spell it "work," but in any case, Rensselaer is passing its luck along. Its research and experiments provide all of higher education with a framework for planning the new facility type represented by the communications center, and the entries in its competition show how the framework can be used to develop real spaces with real functions.

Already, a number of schools—notably the State University of New York, which has programed facilities similar to RPI's communications center into many of the new or expanding colleges in its statewide system—are taking advantage of Rensselaer's pre-tested planning recommendations. And the inquiries coming in from colleges and architectural firms all over the country are the world of higher education's proverbial response to the news that Rensselaer has made a better mousetrap. —MARGARET FARMER

Six Designs for a College Communications Center

The following portfolio presents the
winning scheme by Perkins & Will, and five other
entries in an architectural competition for
the design of an instructional research and communications center
at Rensselaer Polytechnic Institute, Troy, New York.

THE COMPETITORS

Perkins & Will, Chicago, Illinois
The Architects Collaborative, Cambridge, Massachusetts
O'Neil Ford & Associates, San Antonio, Texas
Hellmuth, Obata & Kassabaum, St. Louis, Missouri
Kump Associates, Palo Alto, California
Richard W. Snibbe, Architect, New York, New York

THE ARCHITECTURAL ADVISER

Michael M. Harris, Associate Partner, Harrison & Abramovitz, New York, New York

THE JURY

Chairman: George A. Dudley
Dean of the School of Architecture, Rensselaer Polytechnic Institute

John O. Amstuz
First Deputy Commissioner, Department of Commerce, State of New York;
Life Trustee of Rensselaer Polytechnic Institute

Thomas F. Creighton, F.A.I.A.
Editorial Director, *Progressive Architecture*

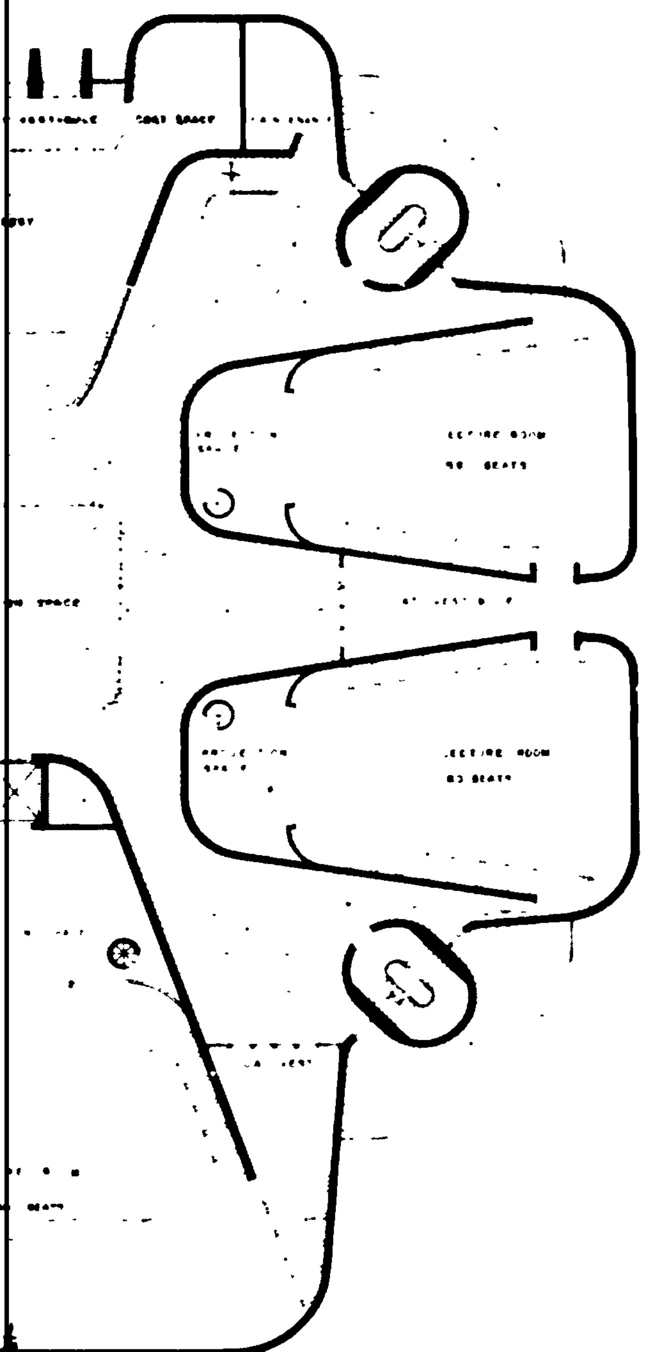
George D. Stoddard
Chancellor of New York University

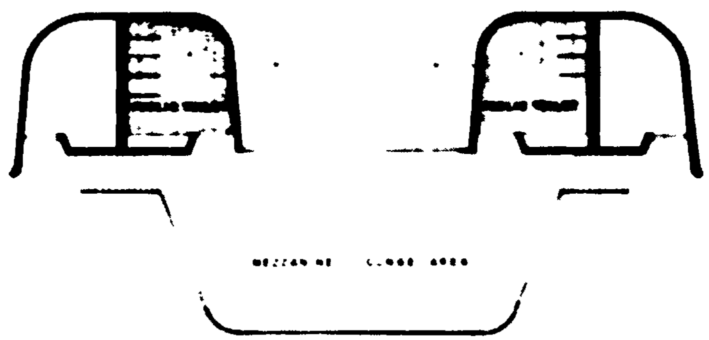
Edward D. Stone, F.A.I.A.

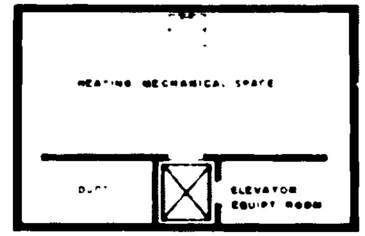
THE WINNING DESIGN

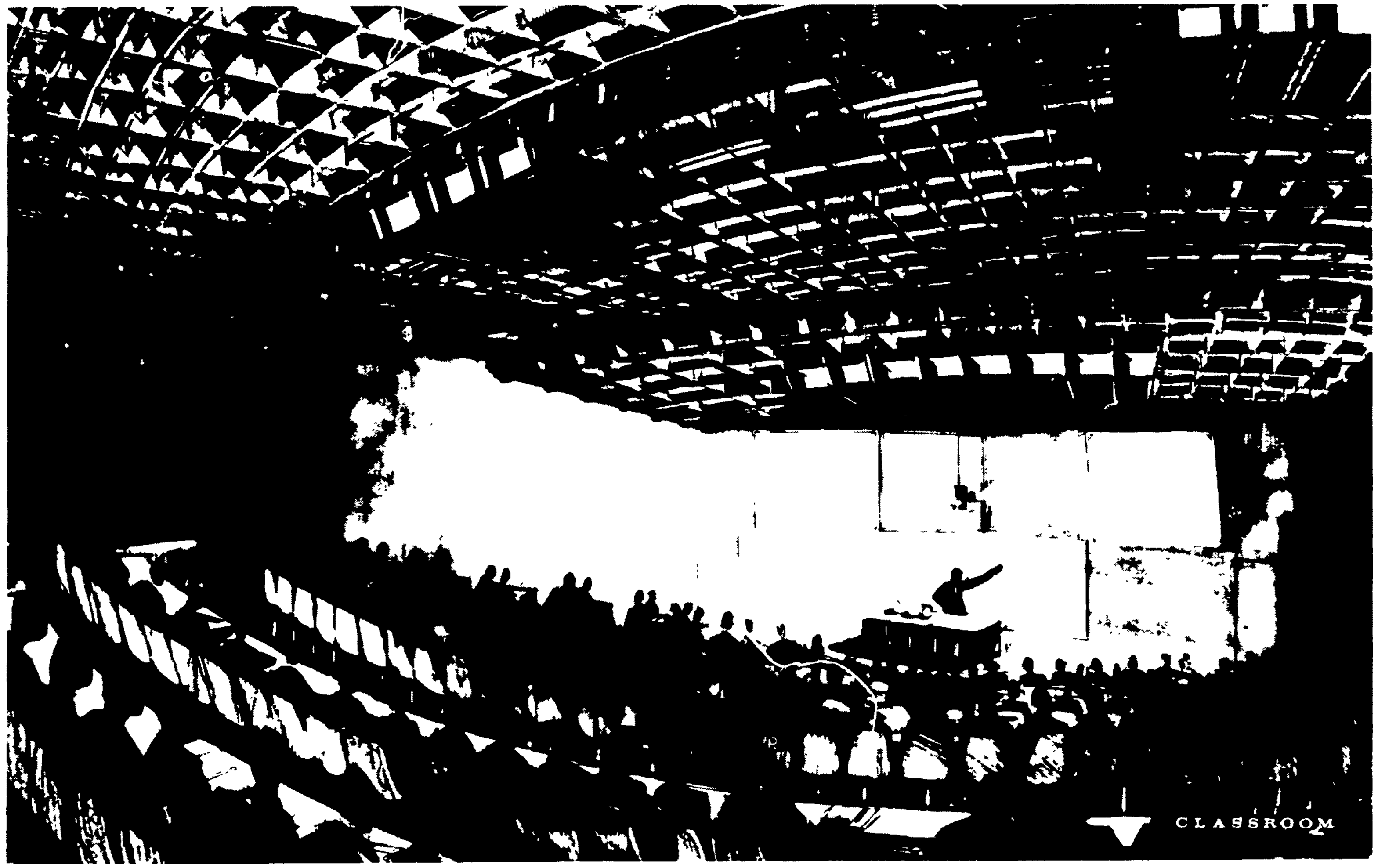
Perkins & Will

CHICAGO, ILLINOIS

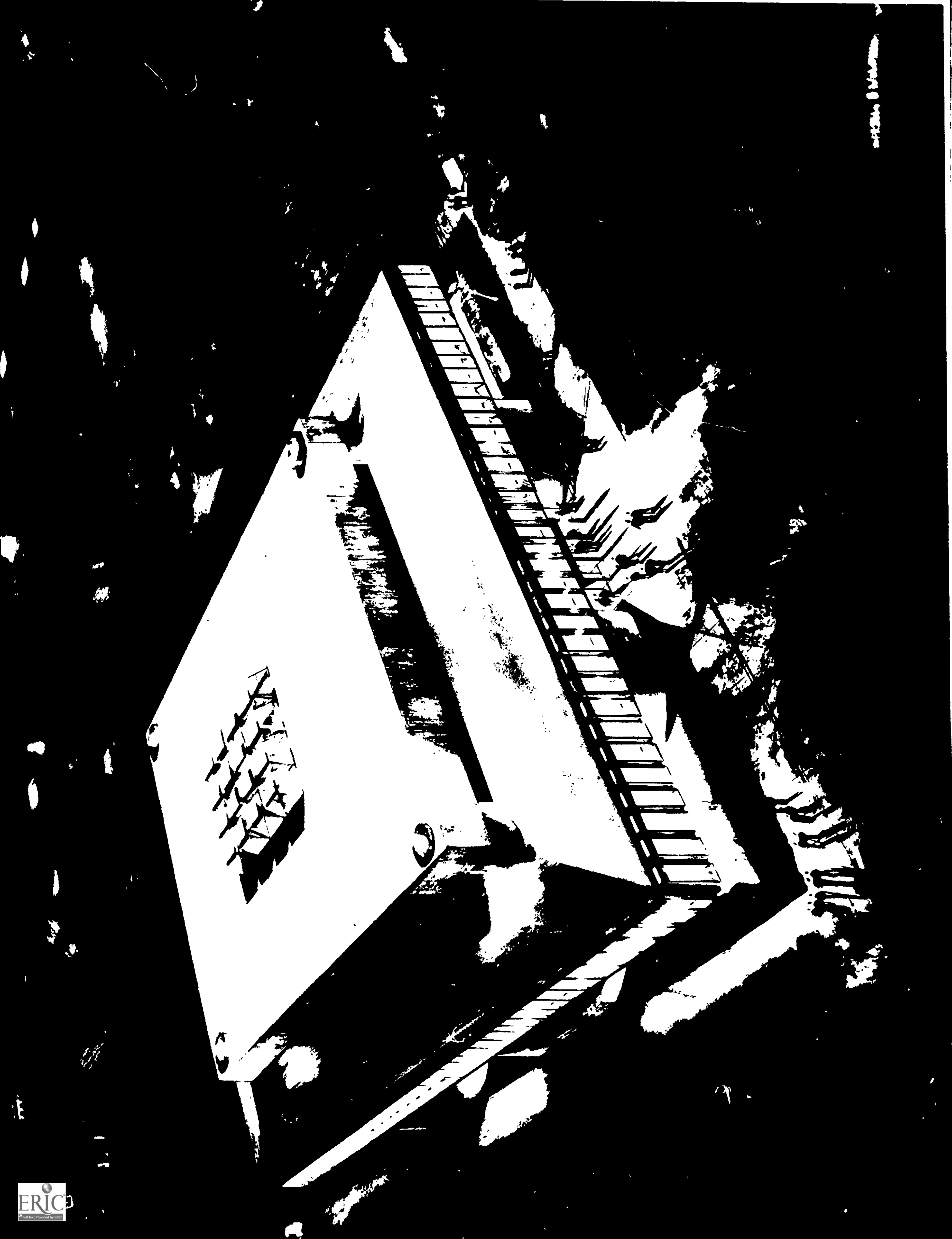


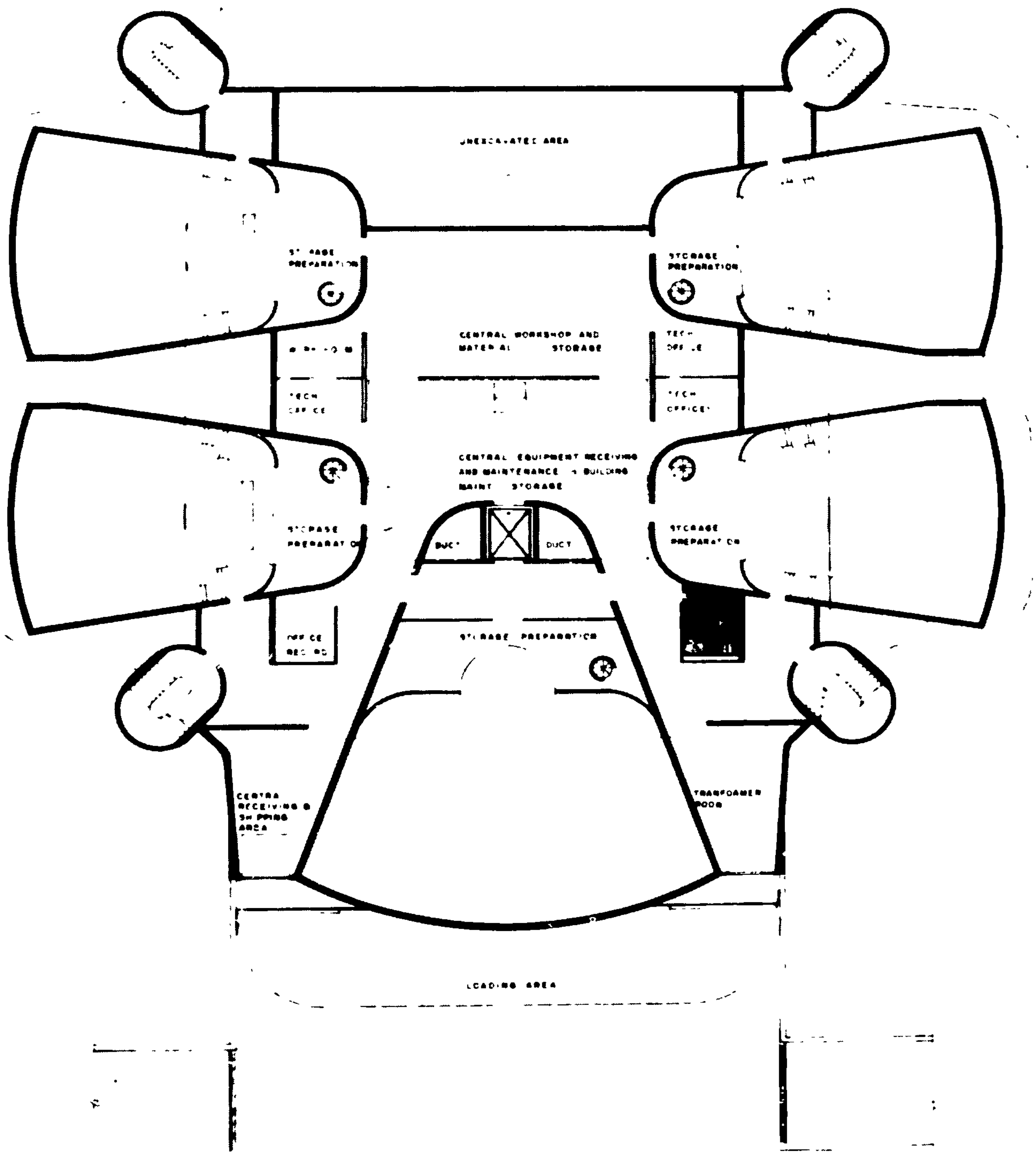


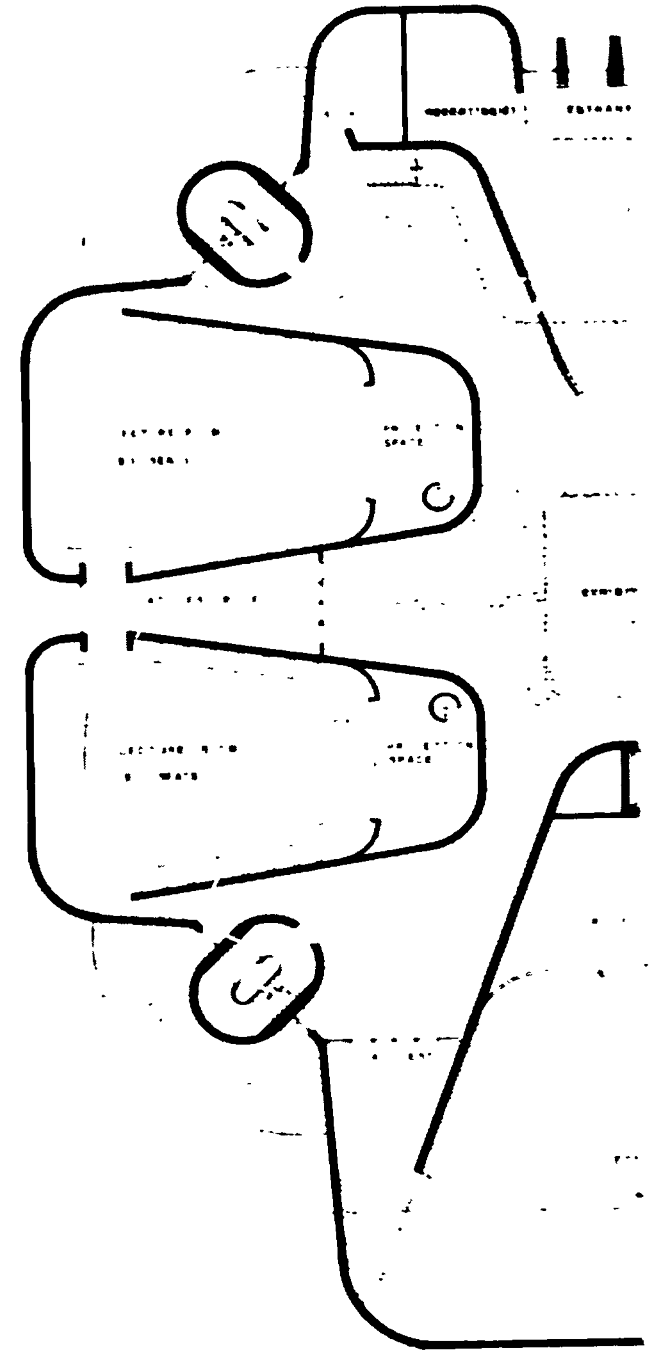


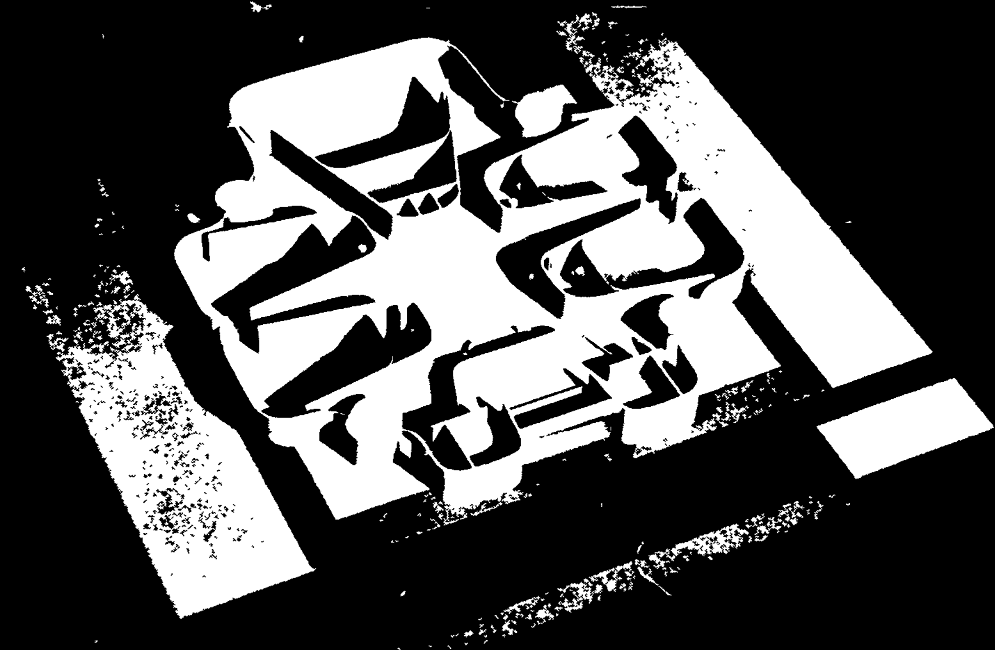


CLASSROOM

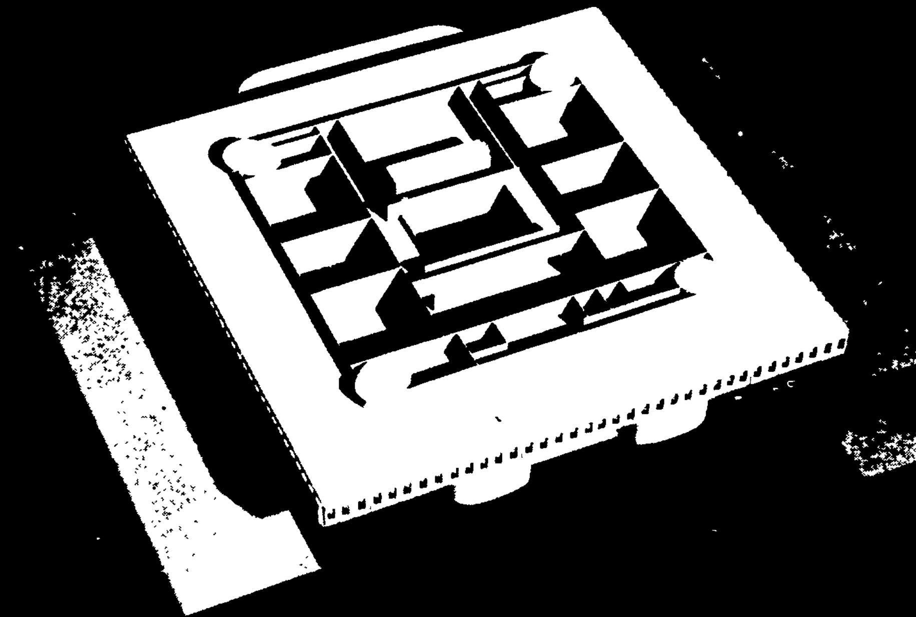



STORAGE PREPARATION
CENTRAL WORKSHOP AND MATERIAL STORAGE
TECH OFFICE
CENTRAL EQUIPMENT RECEIVING
DUCT
DUCT
STORAGE PREPARATION
LOADING AREA

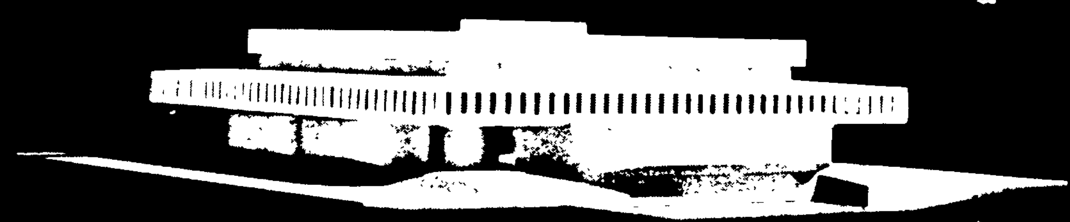




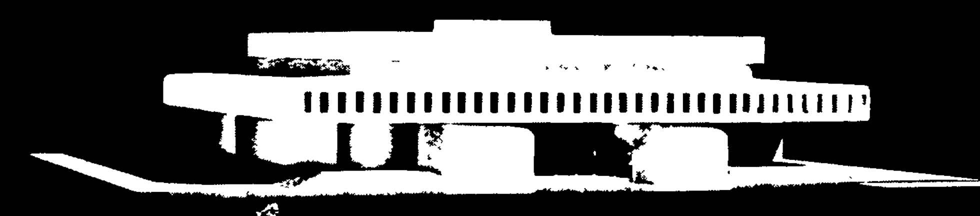
VIEW INSTRUCTIONAL SPACES



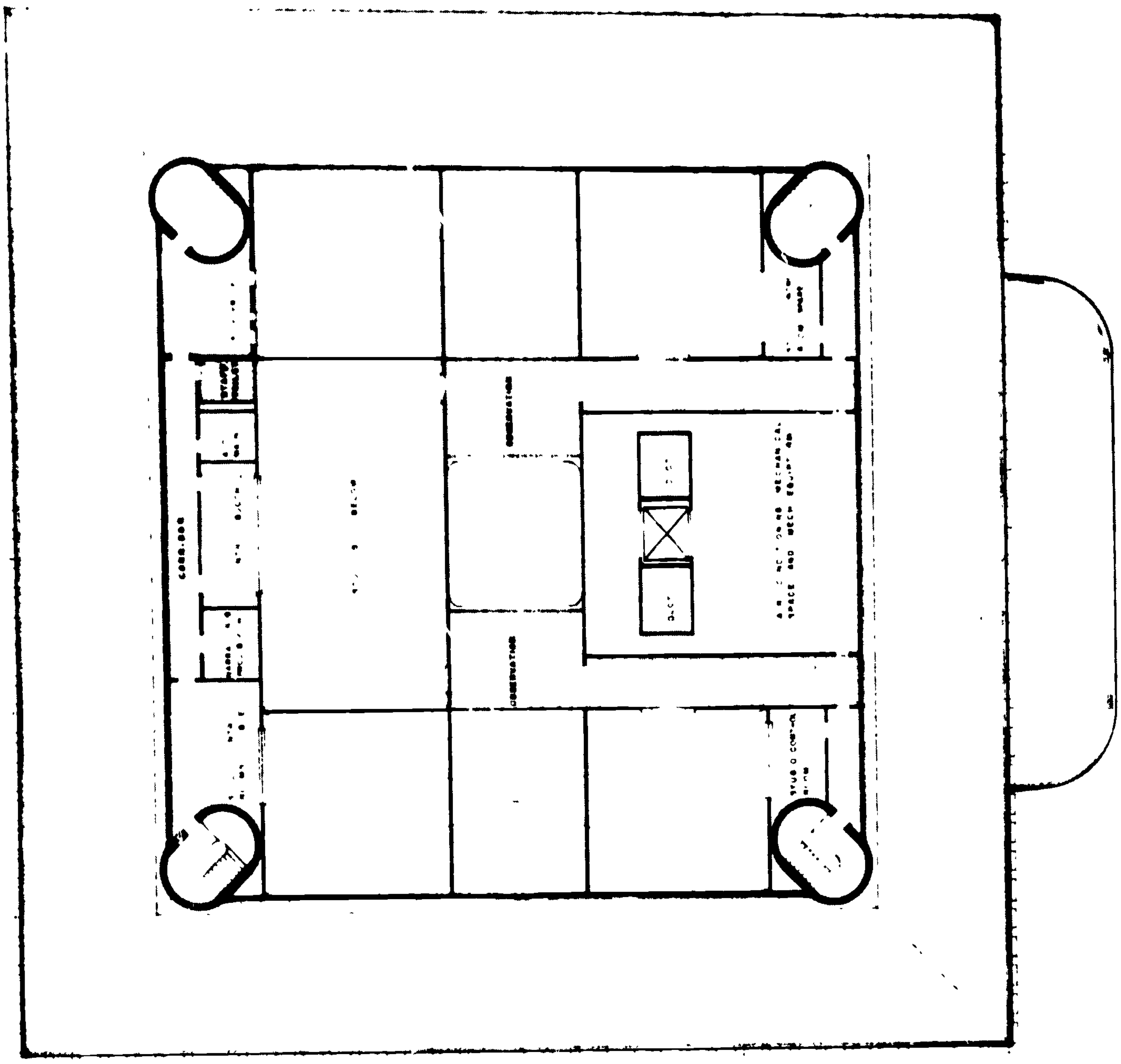
VIEW PRODUCTION SPACES

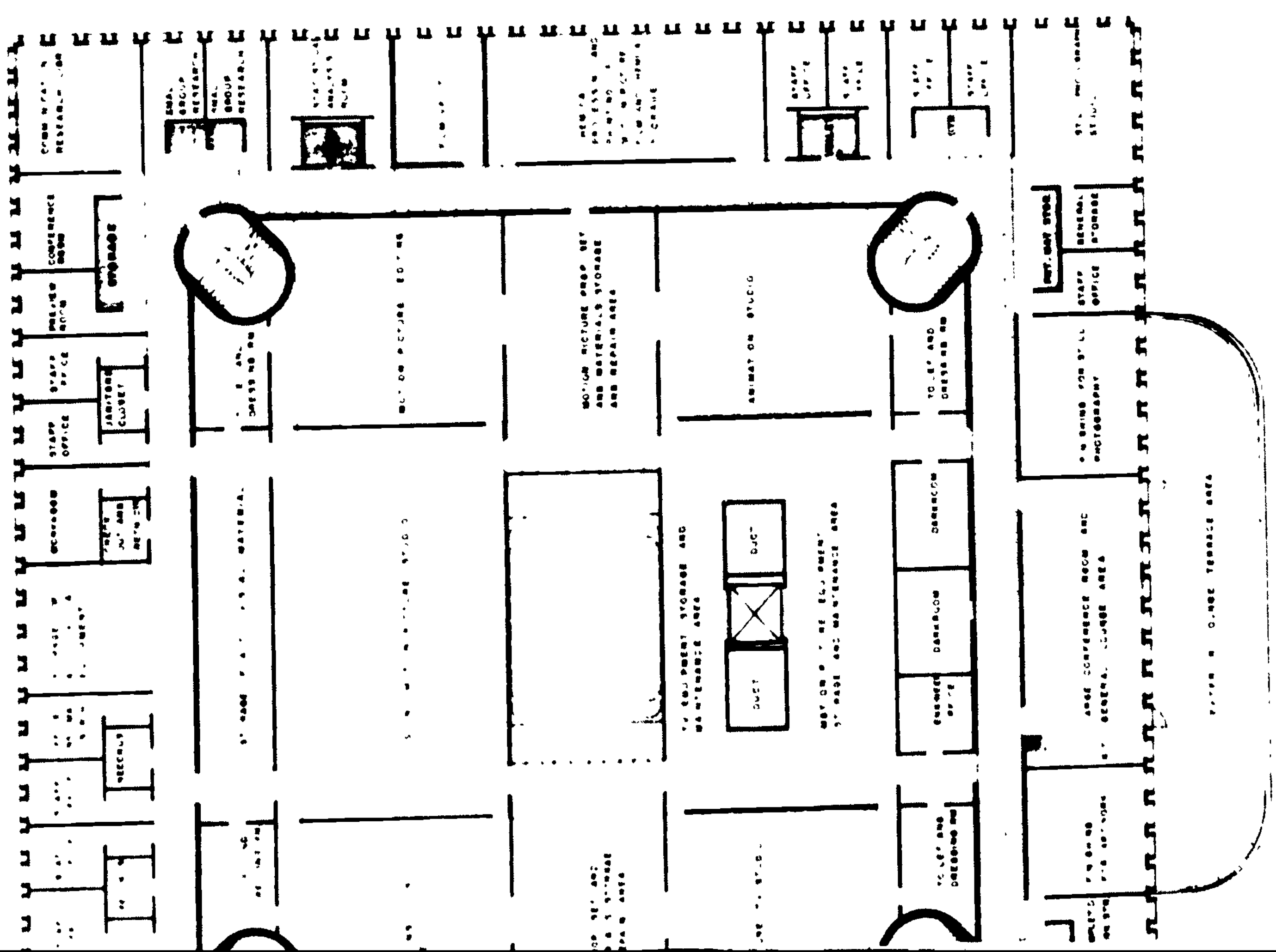


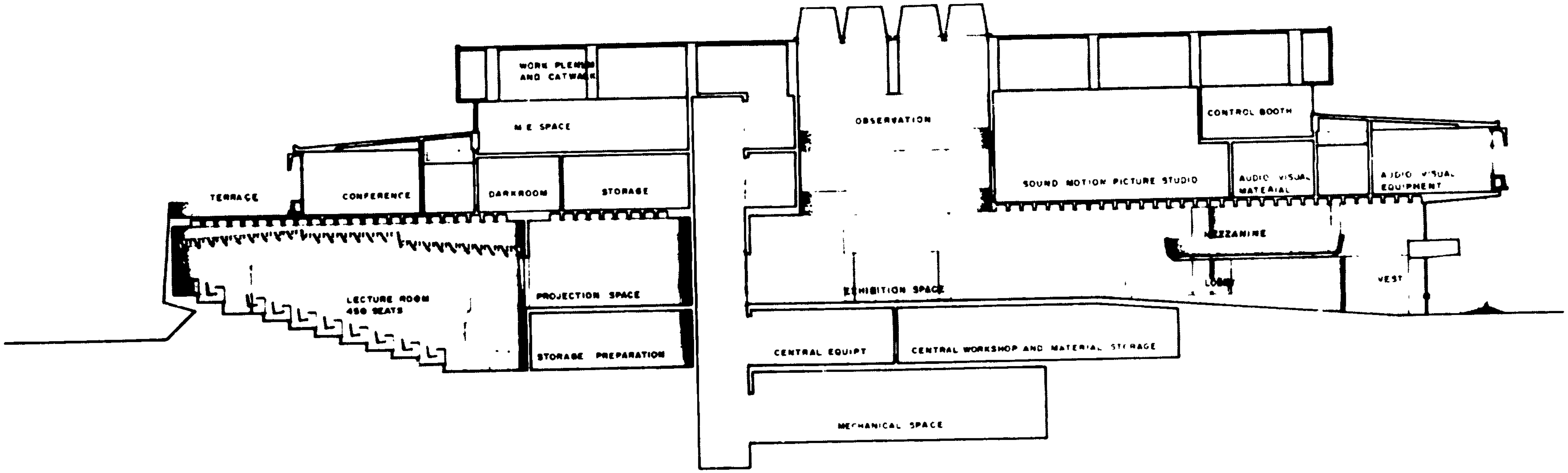
VIEW LOOKING NORTH

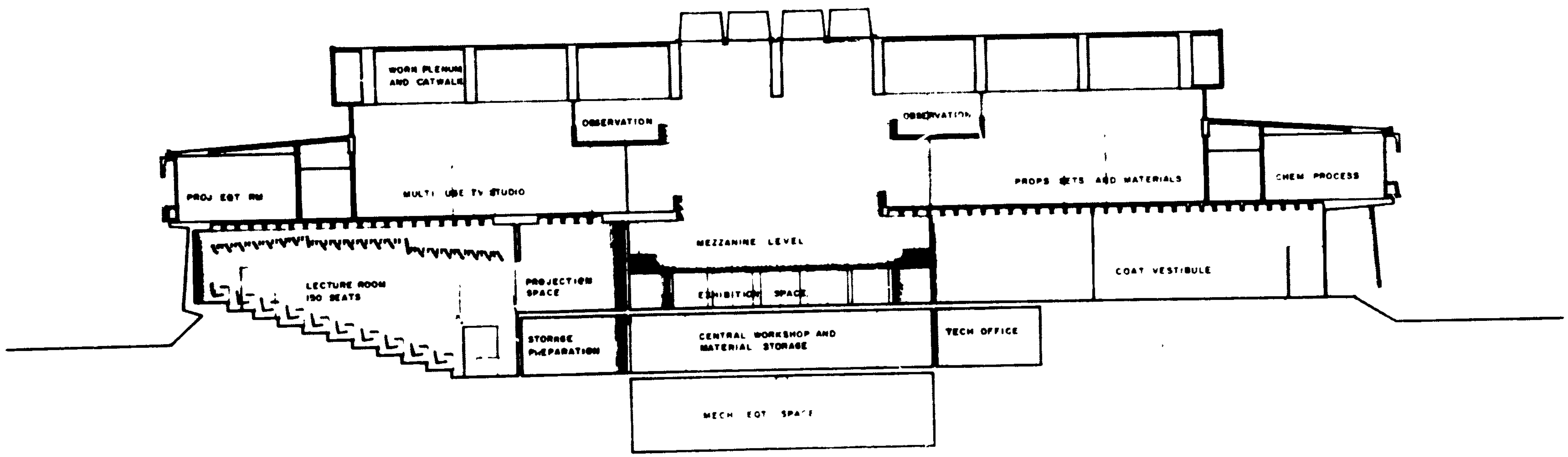


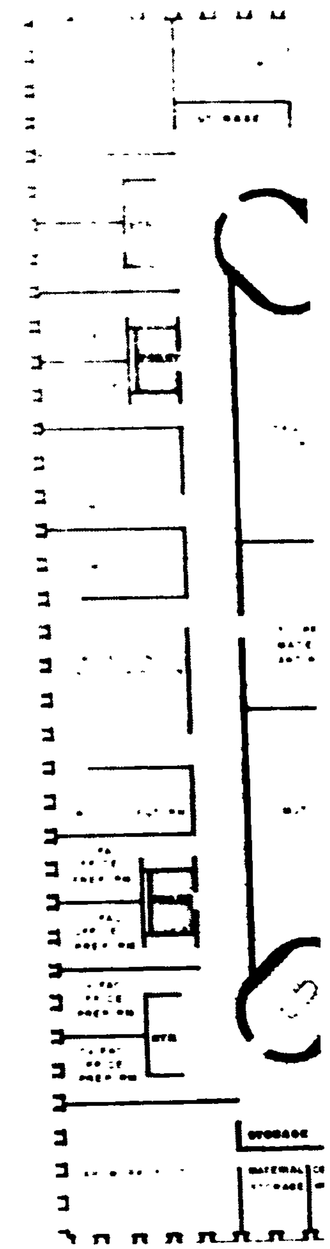
VIEW LOOKING SOUTH

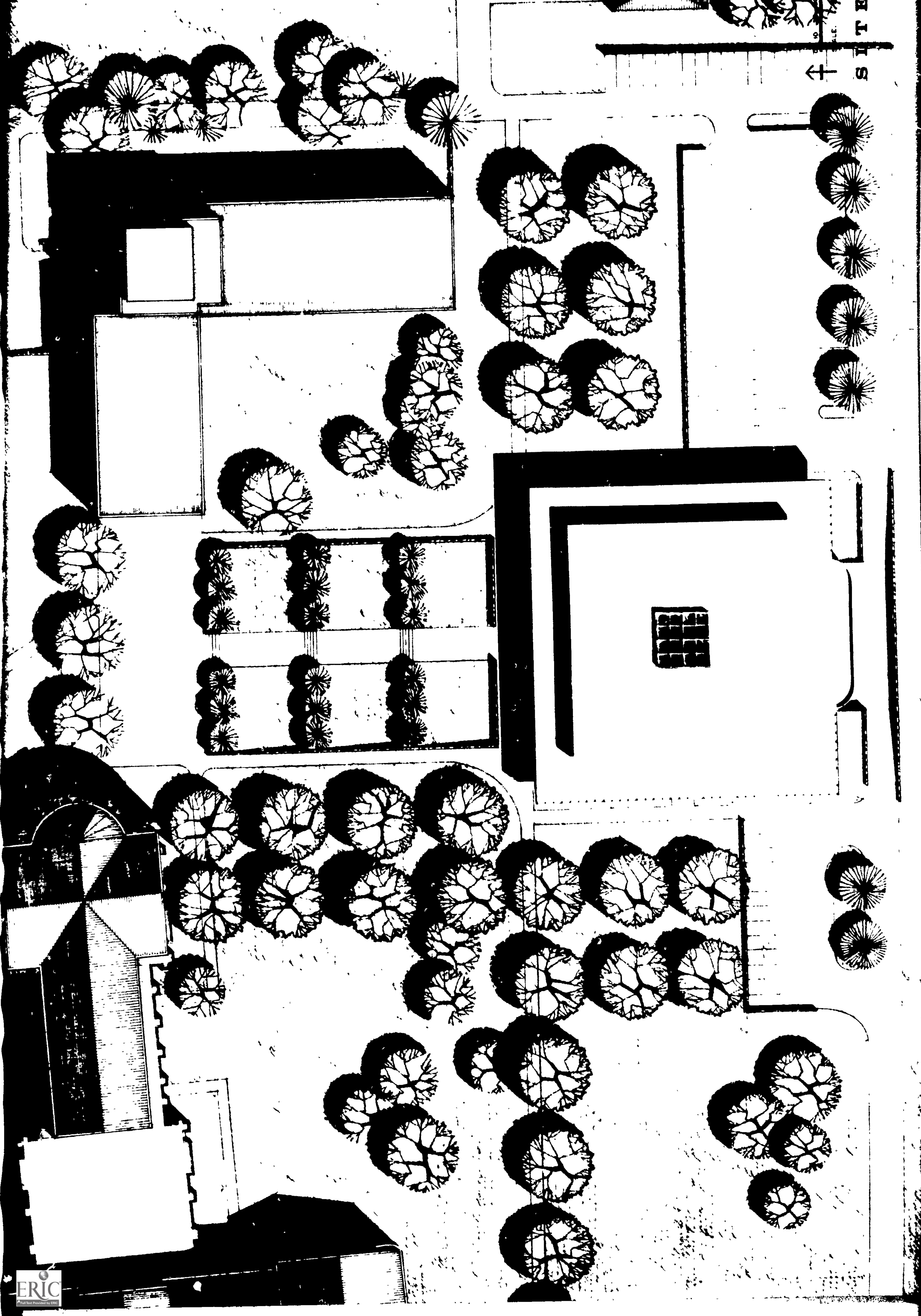





WORK PLENUM AND CATWALK
M E SPACE
TERRACE
CONFERENCE
DARKROOM
STORAGE
LECTURE ROOM 450 SEATS
PROJECTION SPACE
STORAGE PREPARATION
OBSERVATION
EXHIBITION SPACE
CENTRAL EQUIPT
CENTRAL WORKSHOP AND MATERIAL STORAGE
MECHANICAL SPACE
CONTROL BOOTH
SOUND MOTION PICTURE STUDIO
AUDIO VISUAL MATERIAL
AUDIO VISUAL EQUIPMENT
MEZZANINE
LOBBY
VEST

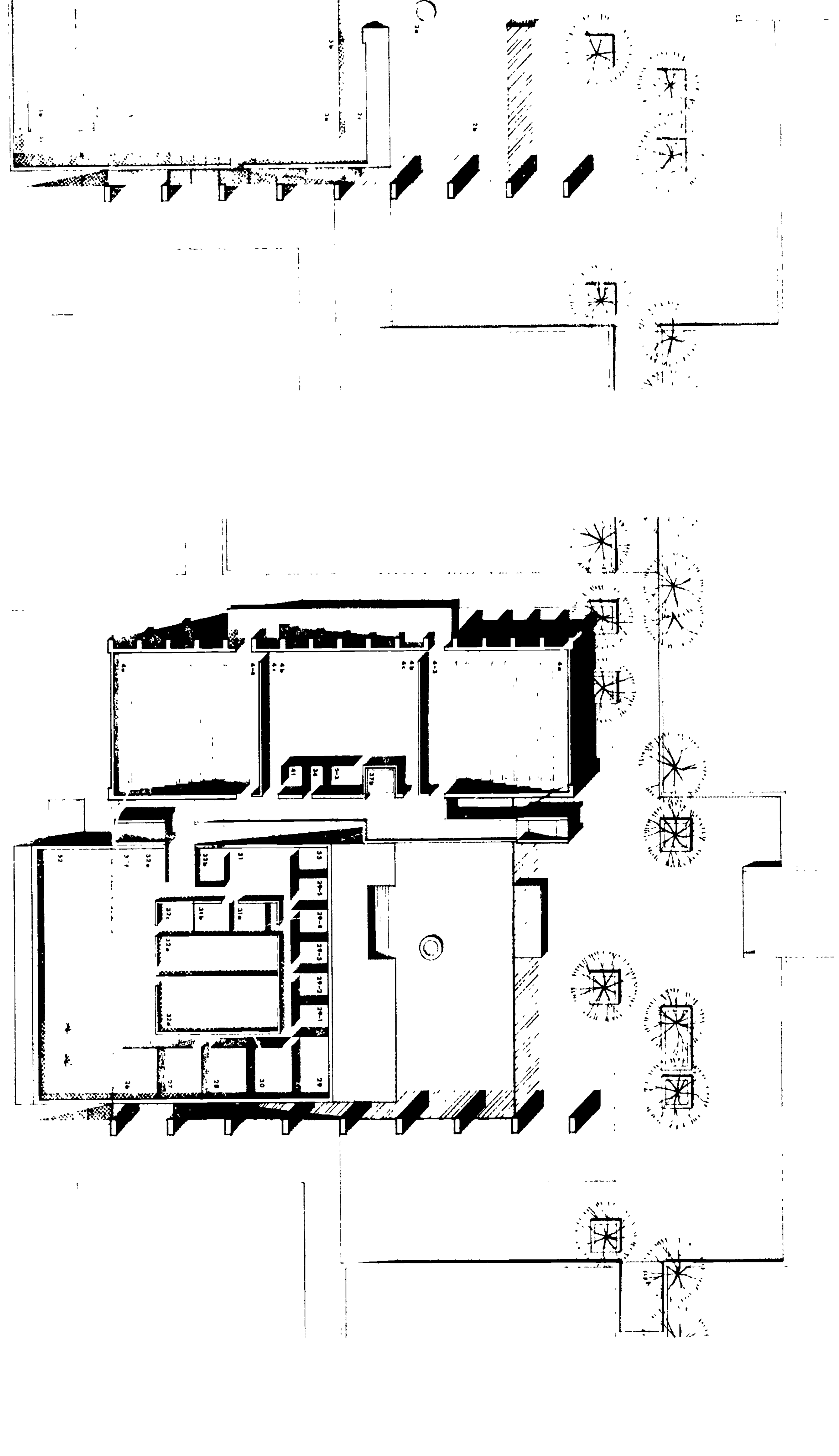

WORK PLENUM AND CATWALK
OBSERVATION
OBSERVATION
PROJ EQT RM
MULTI USE TV STUDIO
PROPS SETS AND MATERIALS
CHEM PROCESS
MEZZANINE LEVEL
LECTURE ROOM 150 SEATS
PROJECTION SPACE
EXHIBITION SPACE
COAT VESTIBULE
STORAGE PREPARATION
CENTRAL WORKSHOP AND MATERIAL STORAGE
TECH OFFICE
MECH EQT SPACE

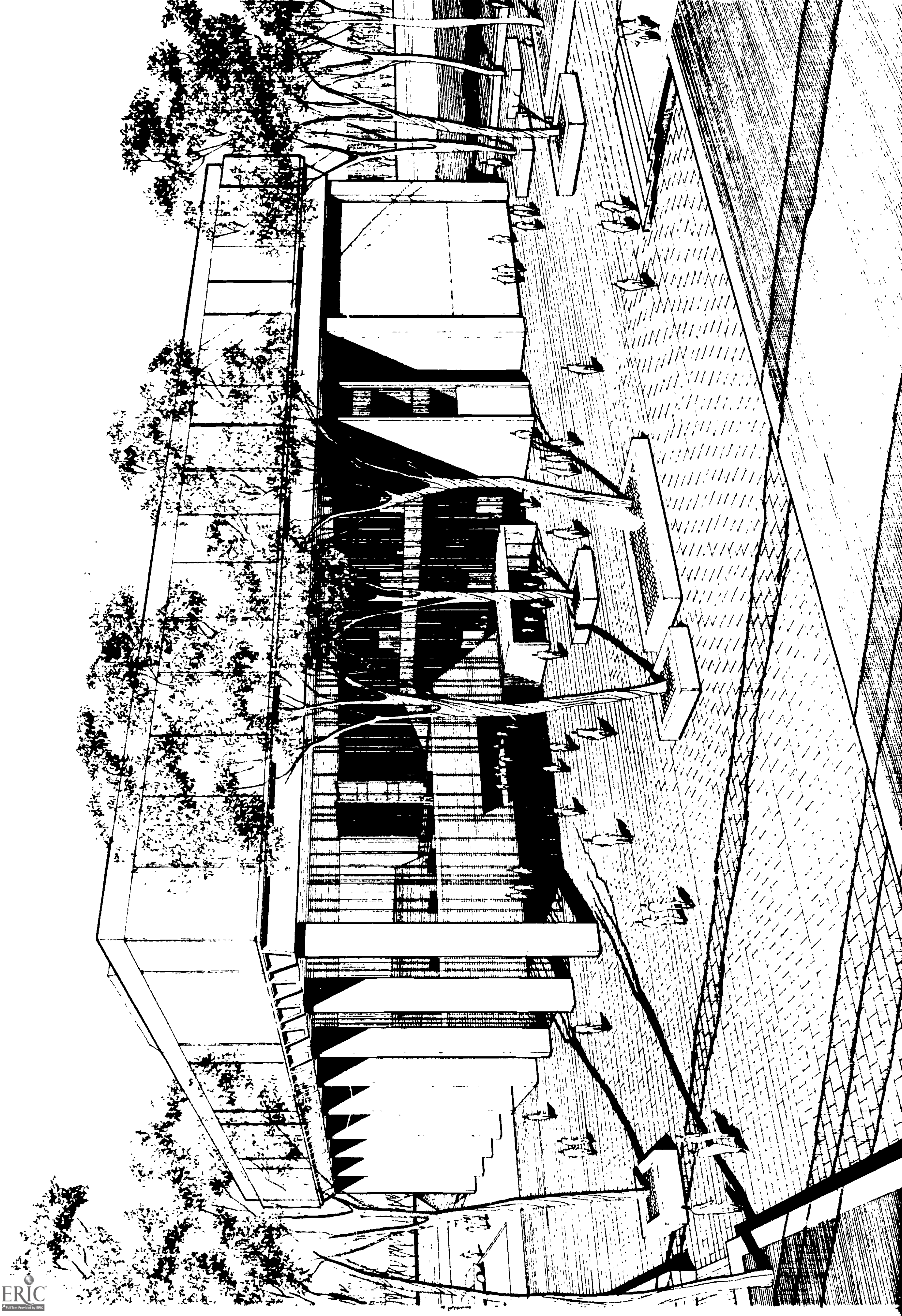




The Architects Collaborative

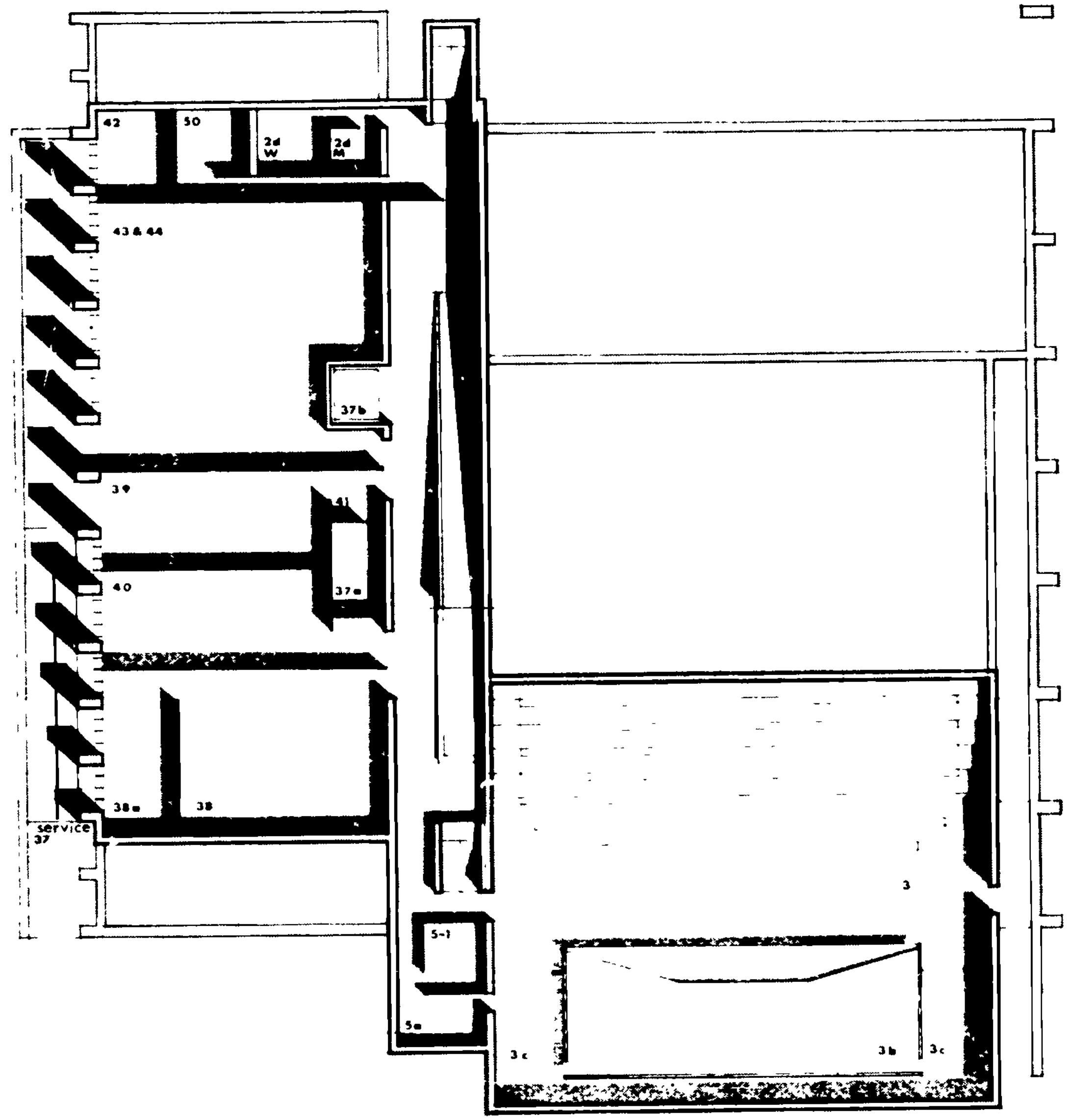
CAMBRIDGE, MASSACHUSETTS

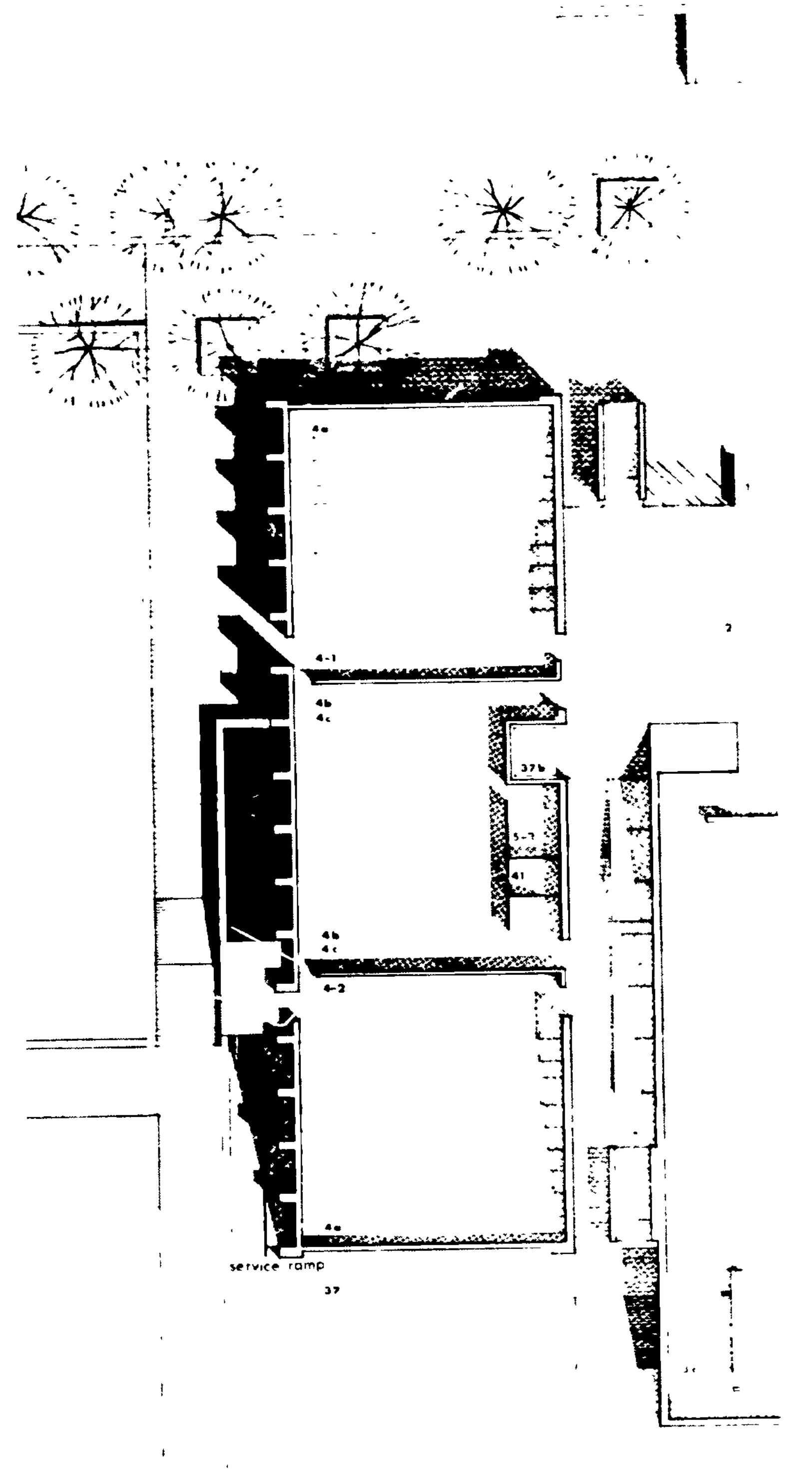


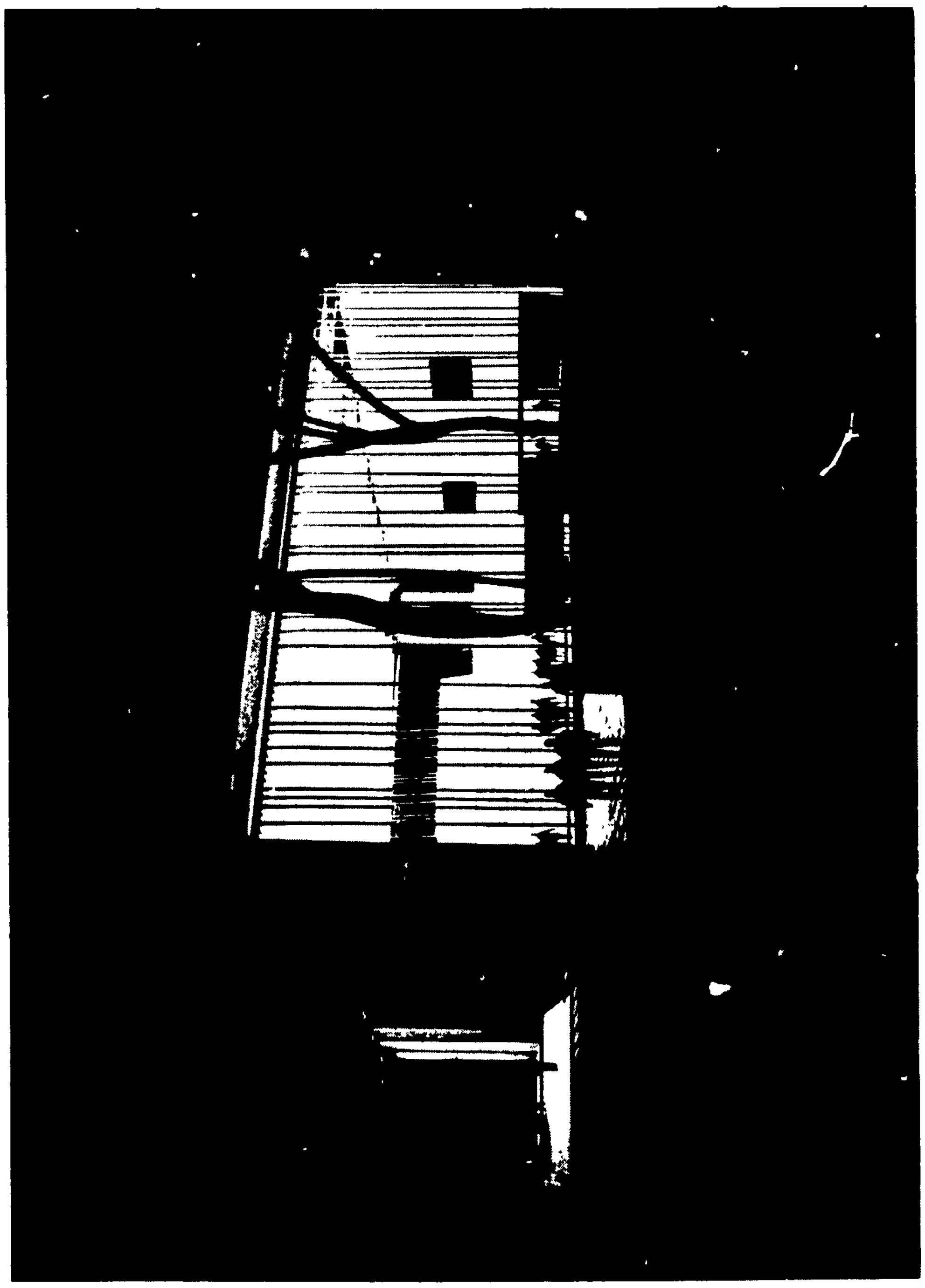


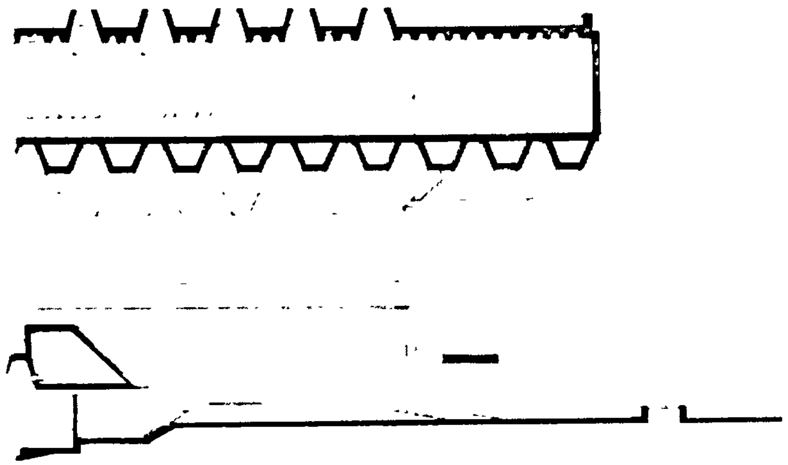
LEGEND

General Public Spaces
1 Entrance vestibule
2 Lobby / exhibition space
Instructional Space
3 450-student lecture room / storage-preparation / projection
4 Four 150-student lecture rooms / storage-preparation / projection
5 Technicians' office
Television Production
3 TV studios / control rooms
9 Control engineering
10-15 Materials & equipment storage / staff facilities
Motion Picture Production
16 Sound motion picture studio
17 Animation studio
18-25 Film editing & processing / materials & equipment storage / staff facilities
Communications Research
26-28 Library / observation & analysis rooms
Administration
29-31 Staff facilities
32-33 Instructional materials distribution & storage
General Service Facilities
35 Artwork preparation & processing
36 Still photography preparation & processing
37-39 Receiving & shipping / workshop / maintenance
Maintenance Spaces
40-41 Building maintenance
42-44 Mechanical space

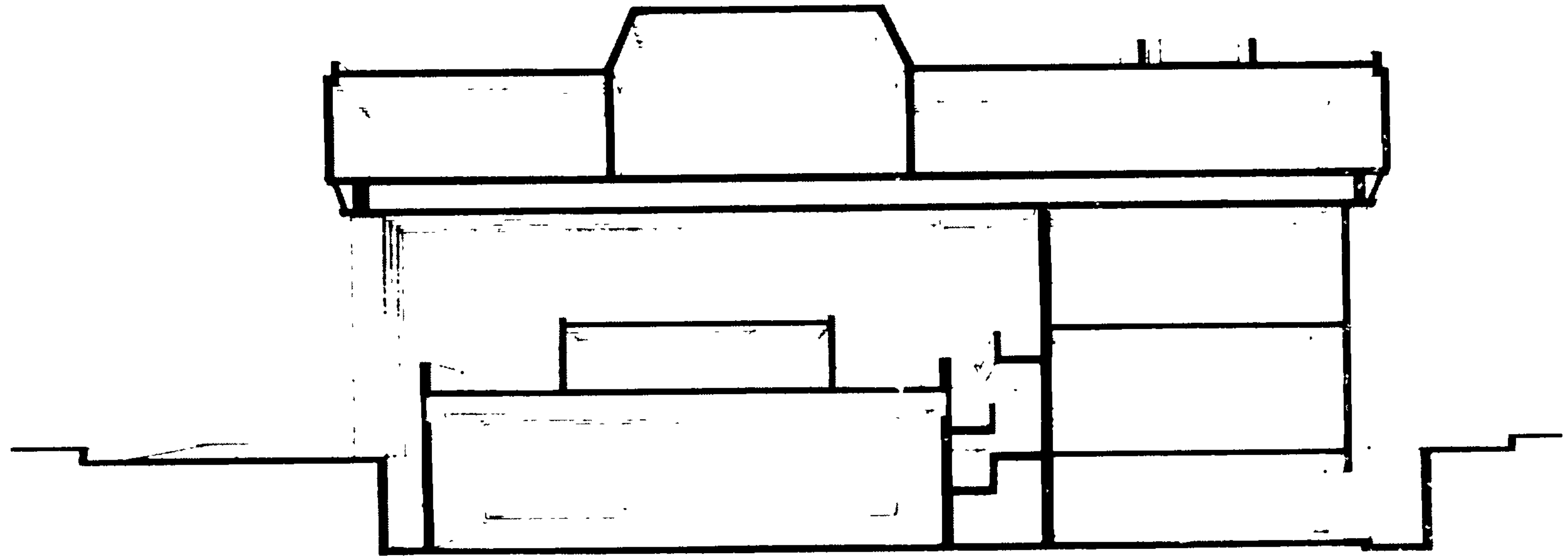




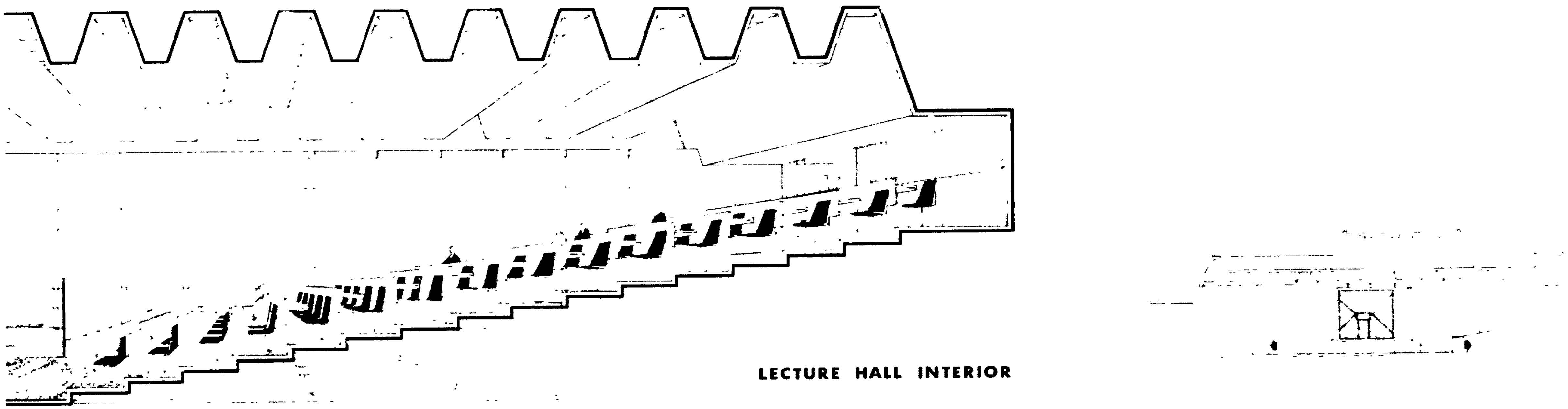




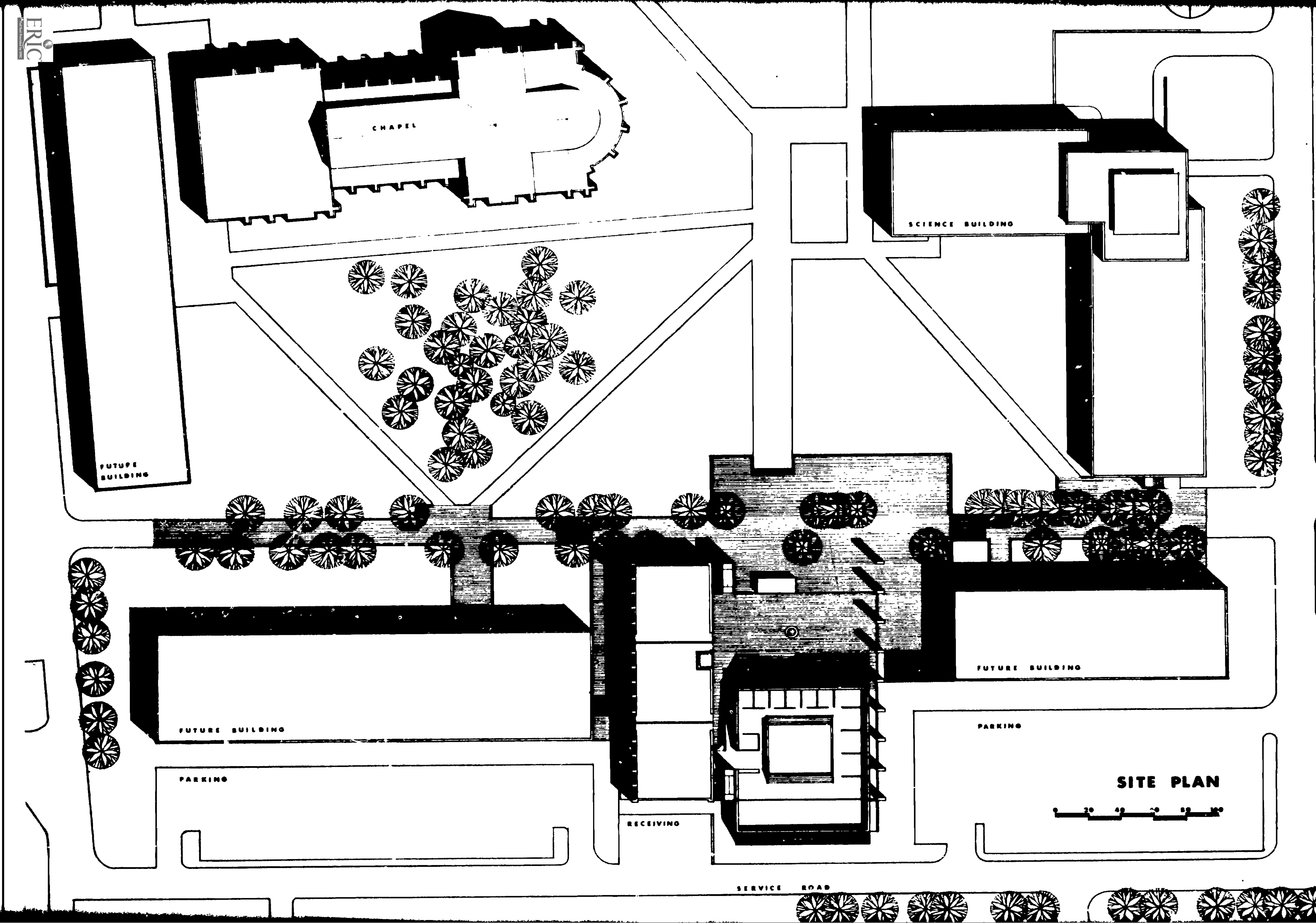
LONGITUDINAL SECTION



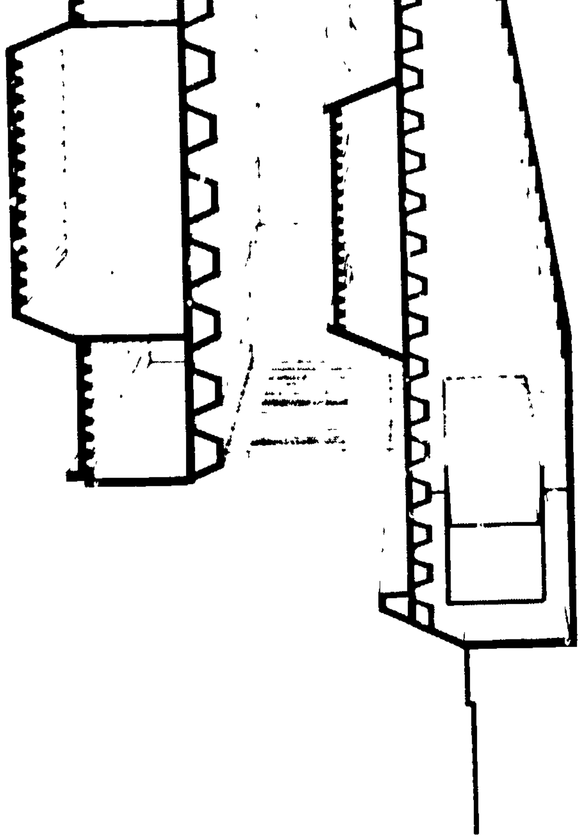
CROSS SECTION

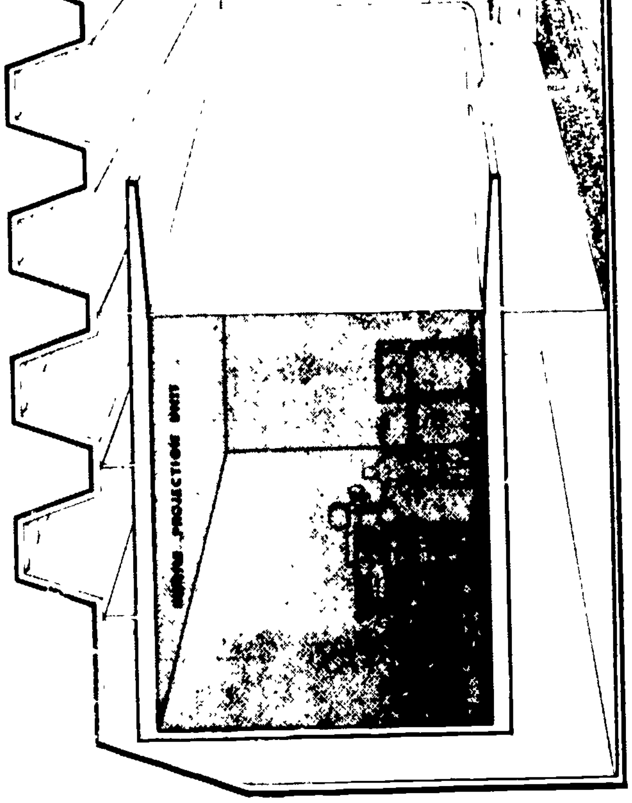


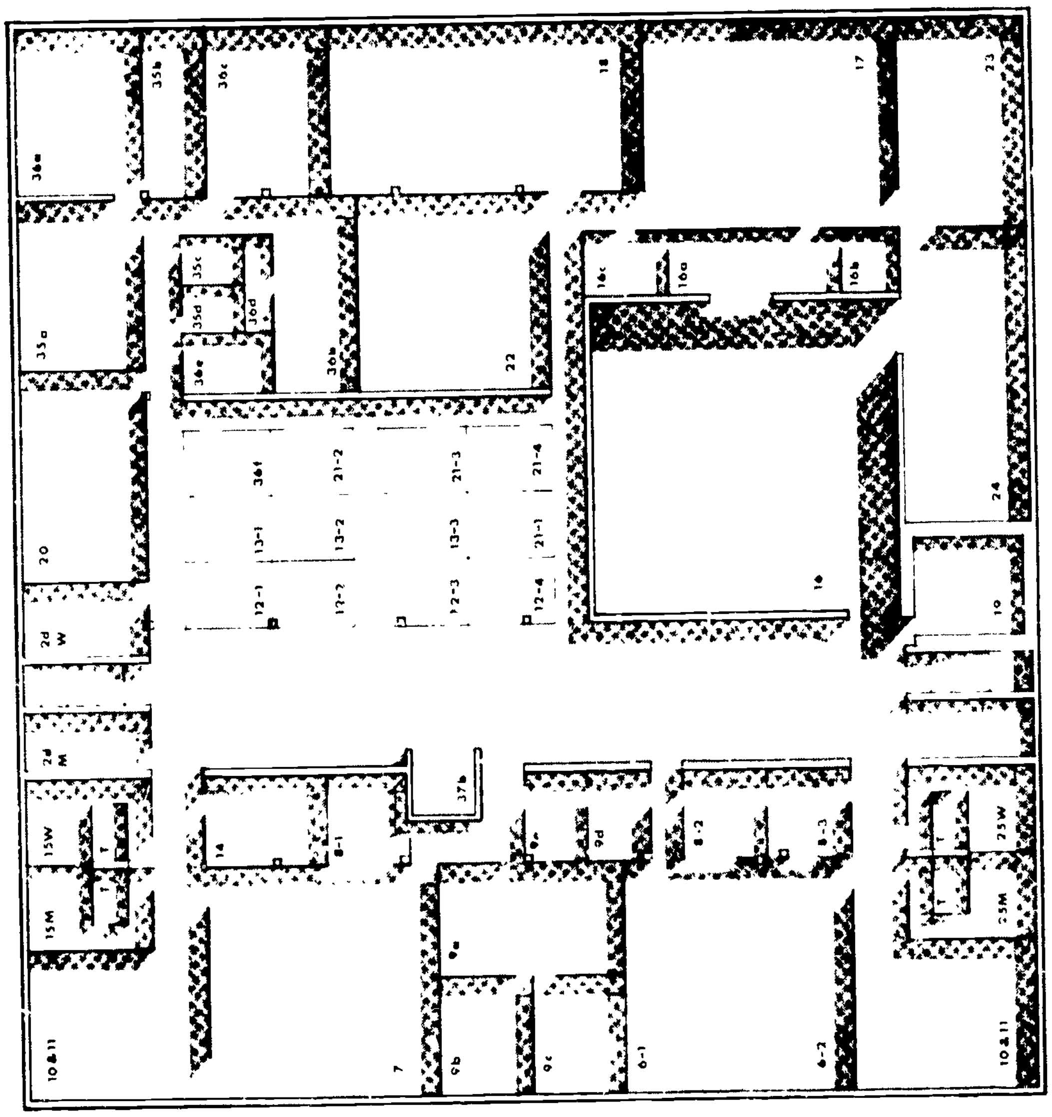
LECTURE HALL INTERIOR



CHAPEL
SCIENCE BUILDING
FUTURE BUILDING
FUTURE BUILDING
FUTURE BUILDING
PARKING
PARKING
RECEIVING
SERVICE ROAD
SITE PLAN
0 20 40 60 80 100

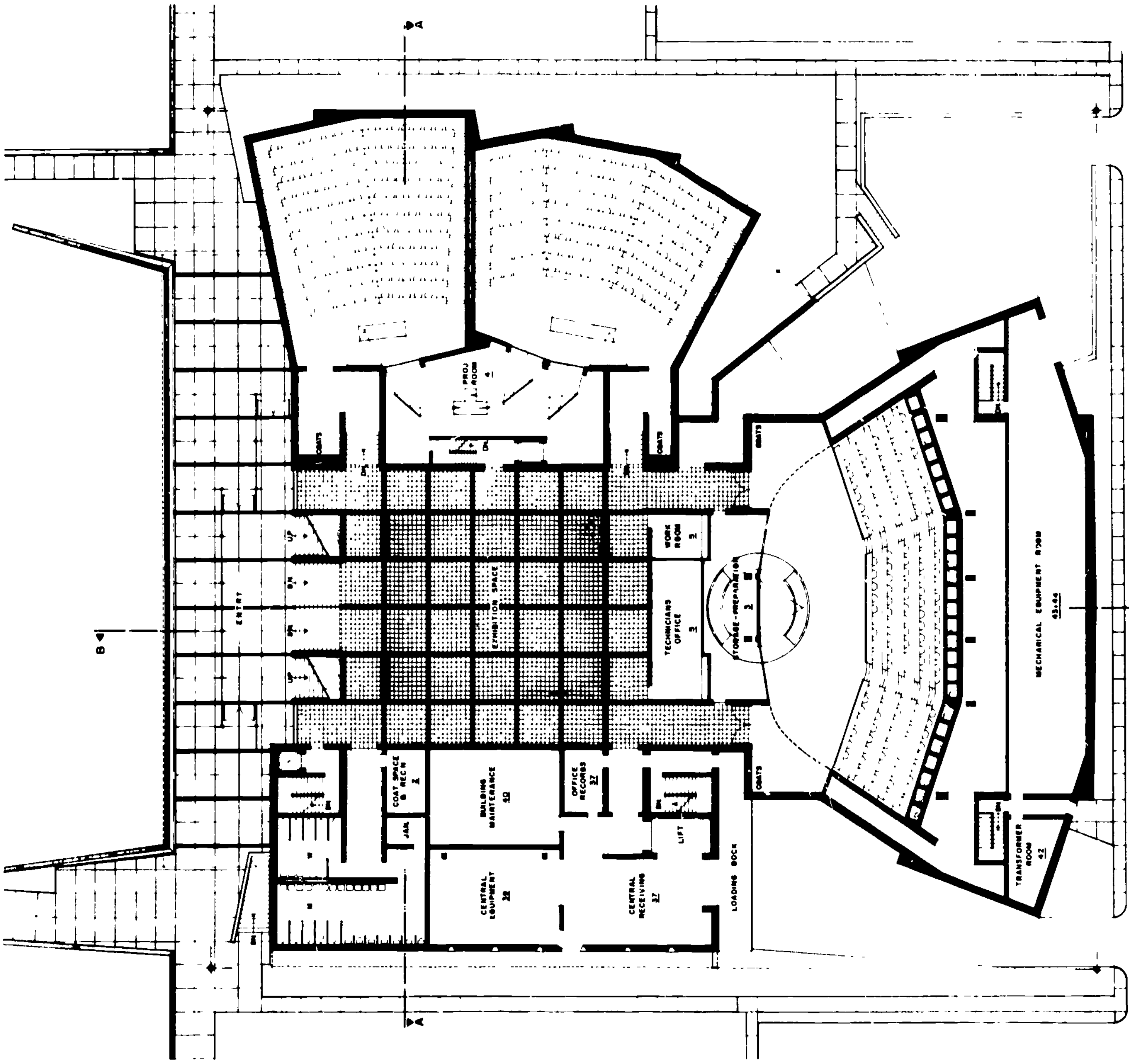




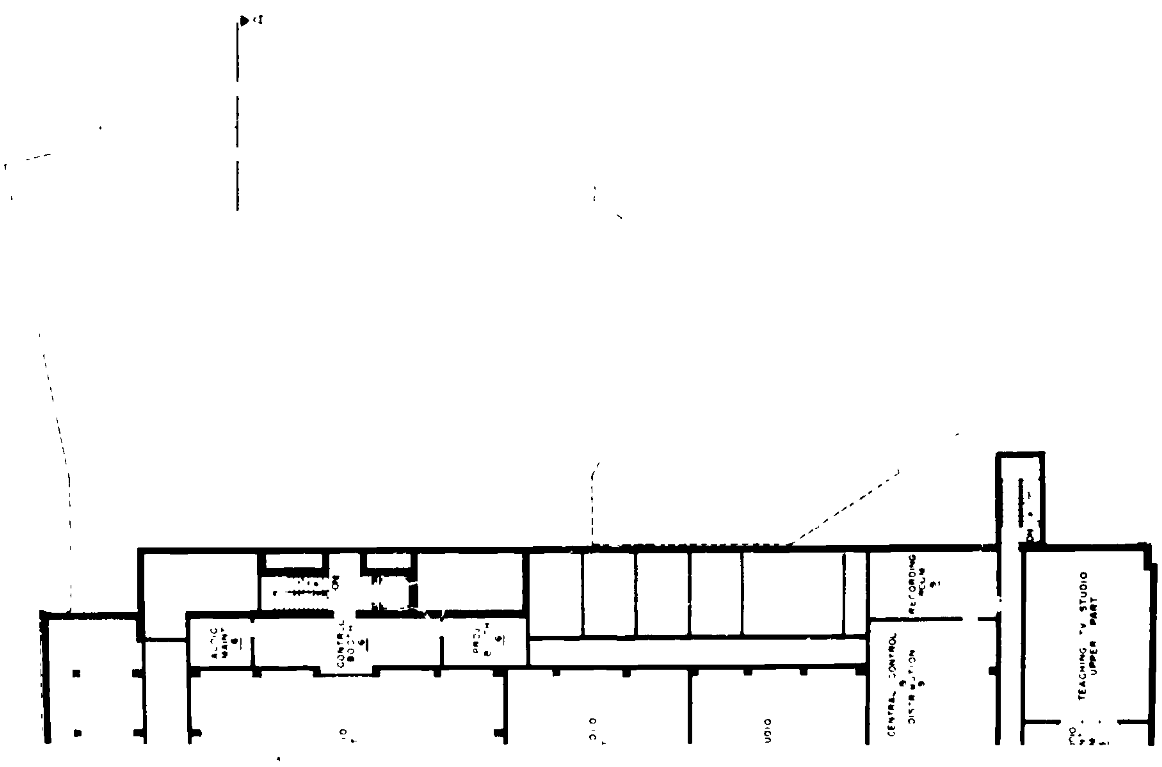


O'Neil Ford & Associates

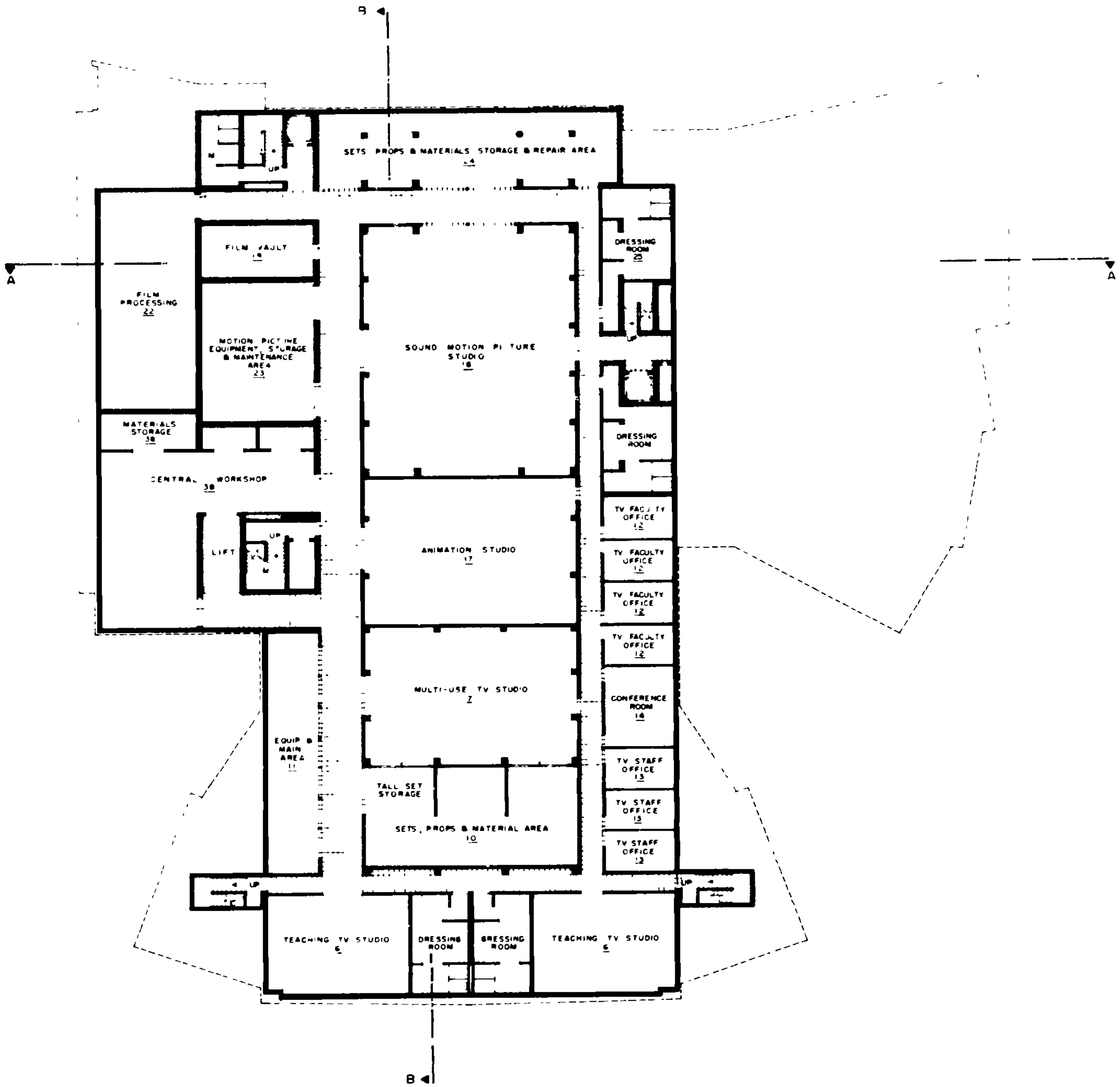
SAN ANTONIO, TEXAS



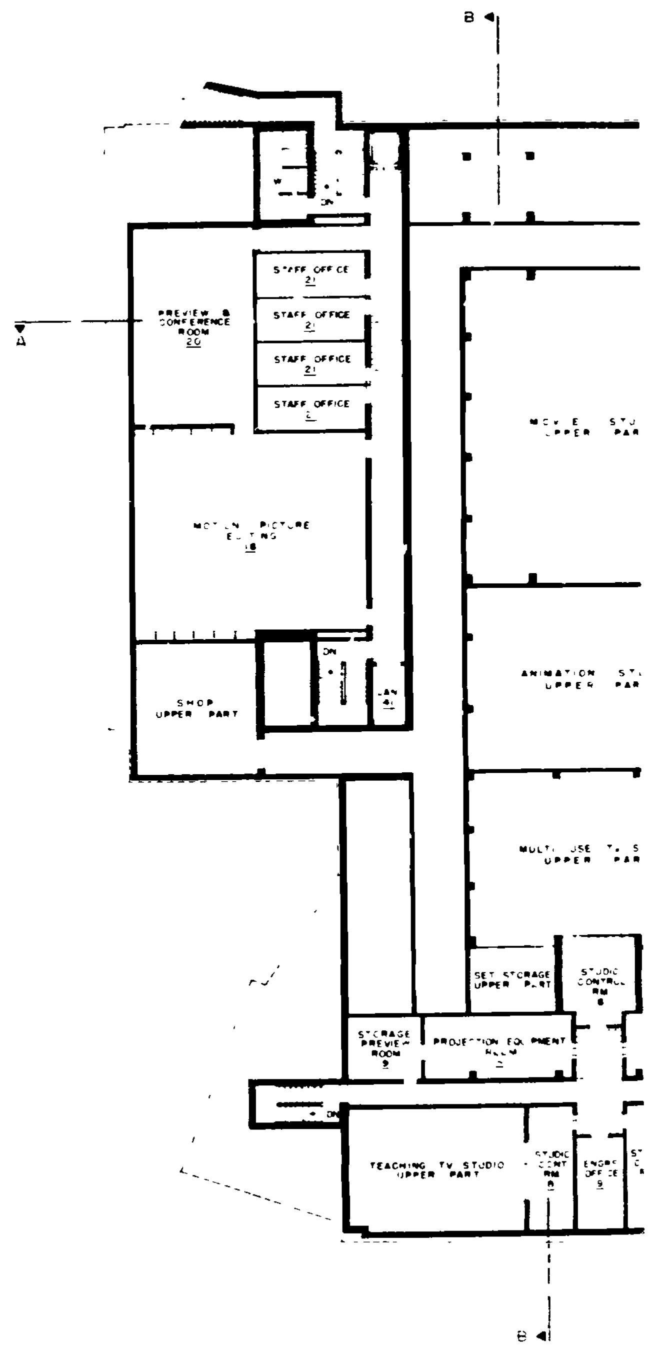
ENTRY
EXHIBITION SPACE
PROJ ROOM
TECHNICIANS OFFICE
WORK ROOM
STORAGE-PREPARATION
COAT SPACE & RECPN
JAN
BUILDING MAINTENANCE
OFFICE RECORDS
LIFT
CENTRAL EQUIPMENT
CENTRAL RECEIVING
LOADING DOCK
MECHANICAL EQUIPMENT ROOM
TRANSFORMER ROOM
COATS



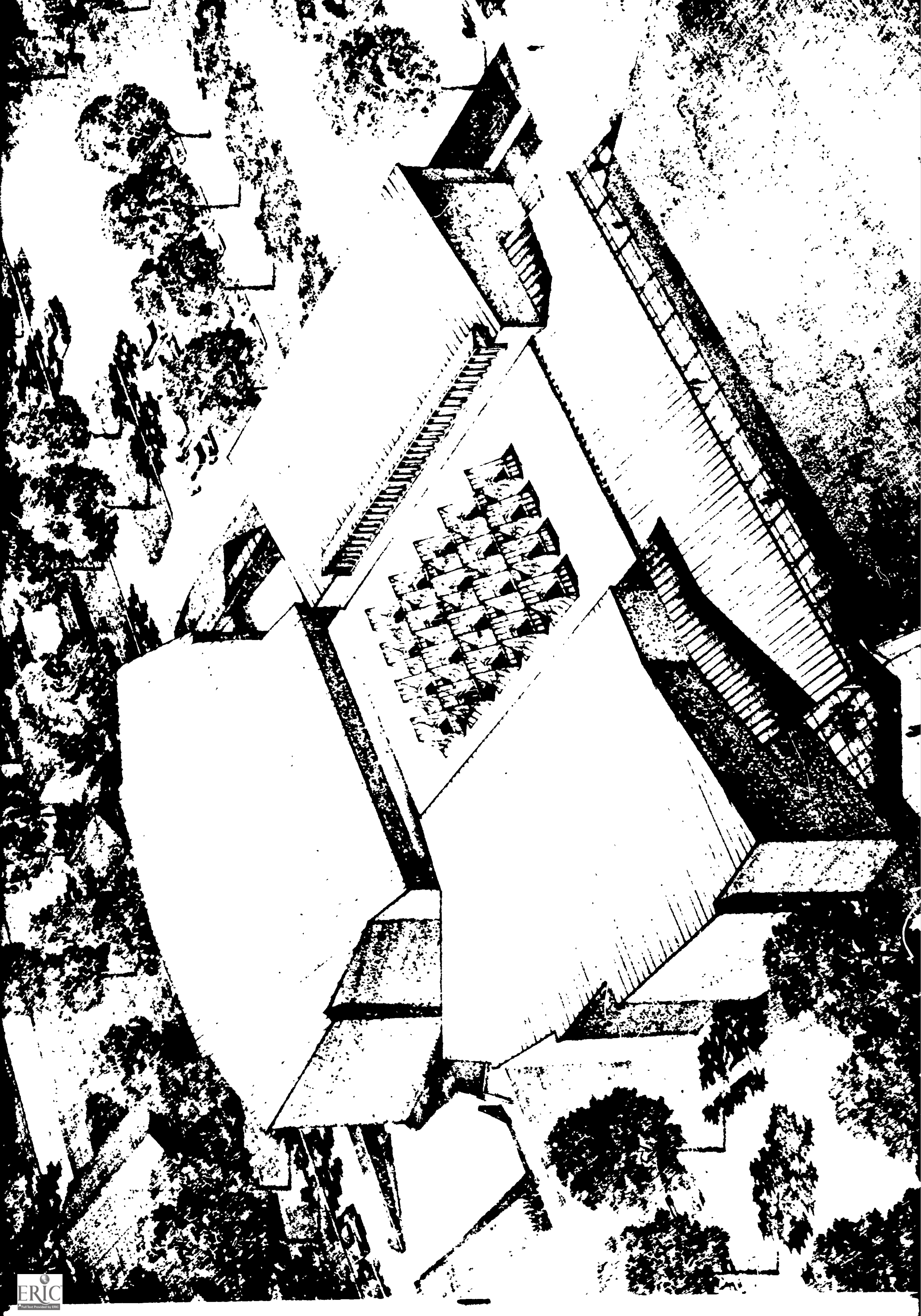
TEACHING TV STUDIO UPPER PART

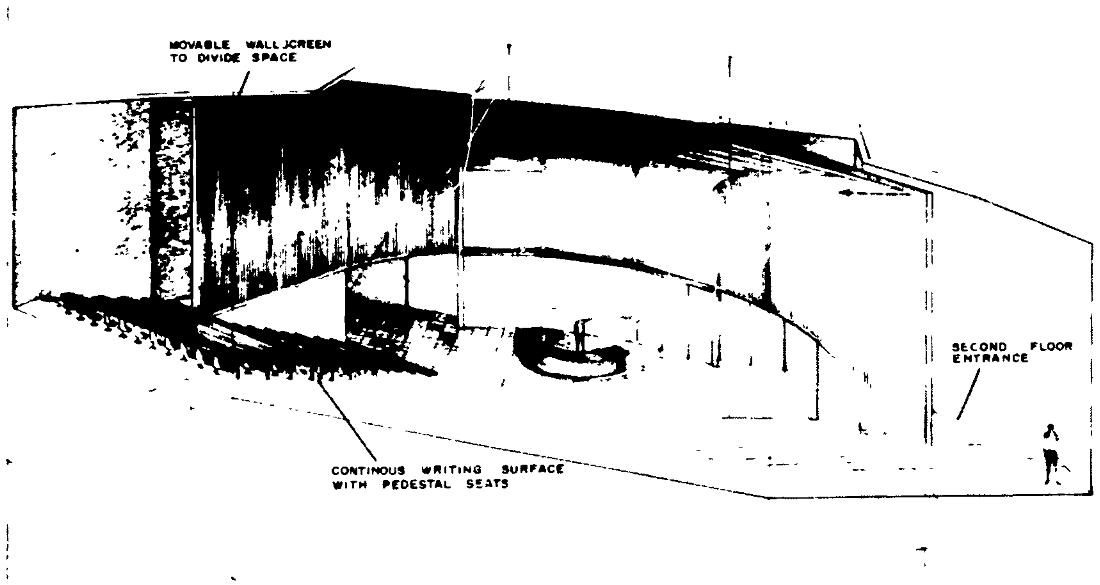


SETS, PROPS & MATERIALS STORAGE & REPAIR AREA
FILM VAULT
FILM PROCESSING
MOTION PICTURE EQUIPMENT STORAGE & MAINTENANCE AREA
23
MATERIALS STORAGE
CENTRAL WORKSHOP
LIFT
UP
SOUND MOTION PICTURE STUDIO
ANIMATION STUDIO
17
MULTI-USE TV STUDIO
7
TALL SET STORAGE
SETS, PROPS & MATERIAL AREA
10
EQUIP & MAIN AREA
DRESSING ROOM
TV FACULTY OFFICE
CONFERENCE ROOM
TV STAFF OFFICE
TEACHING TV STUDIO
A
B

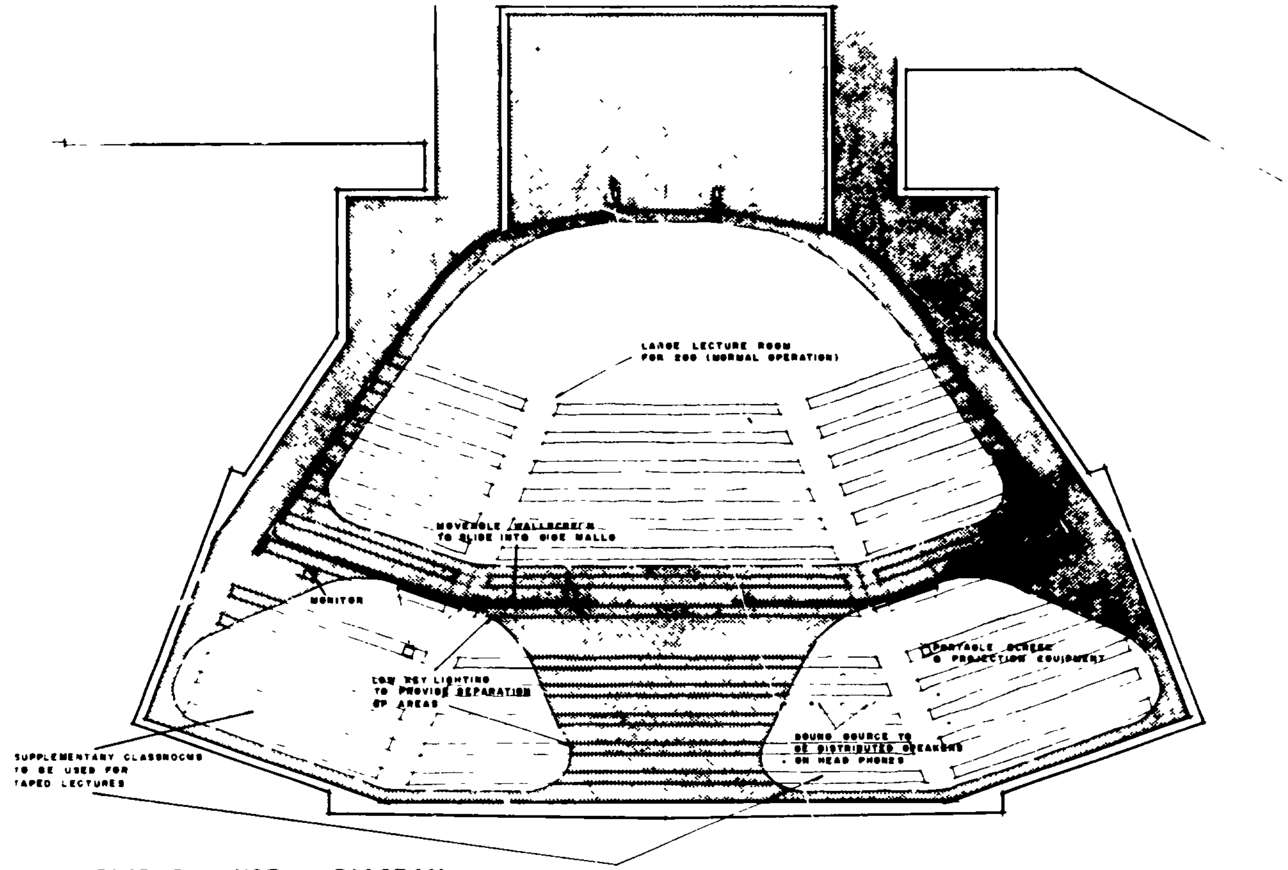


PREVIEW & CONFERENCE ROOM
STAFF OFFICE
STAFF OFFICE
STAFF OFFICE
STAFF OFFICE
SHOP UPPER PART
STORAGE PREVIEW ROOM
PROJECTION EQUIPMENT ROOM
SET STORAGE UPPER PART
TEACHING TV STUDIO UPPER PART
DN
A
B

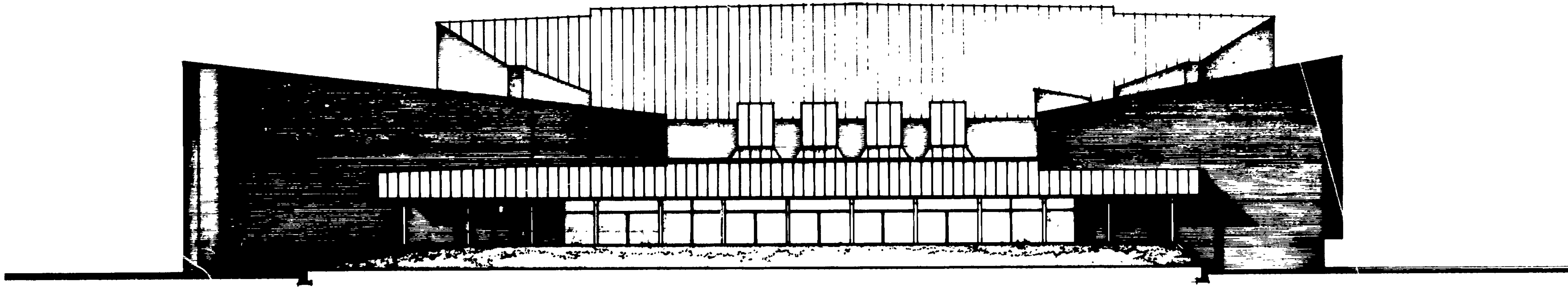


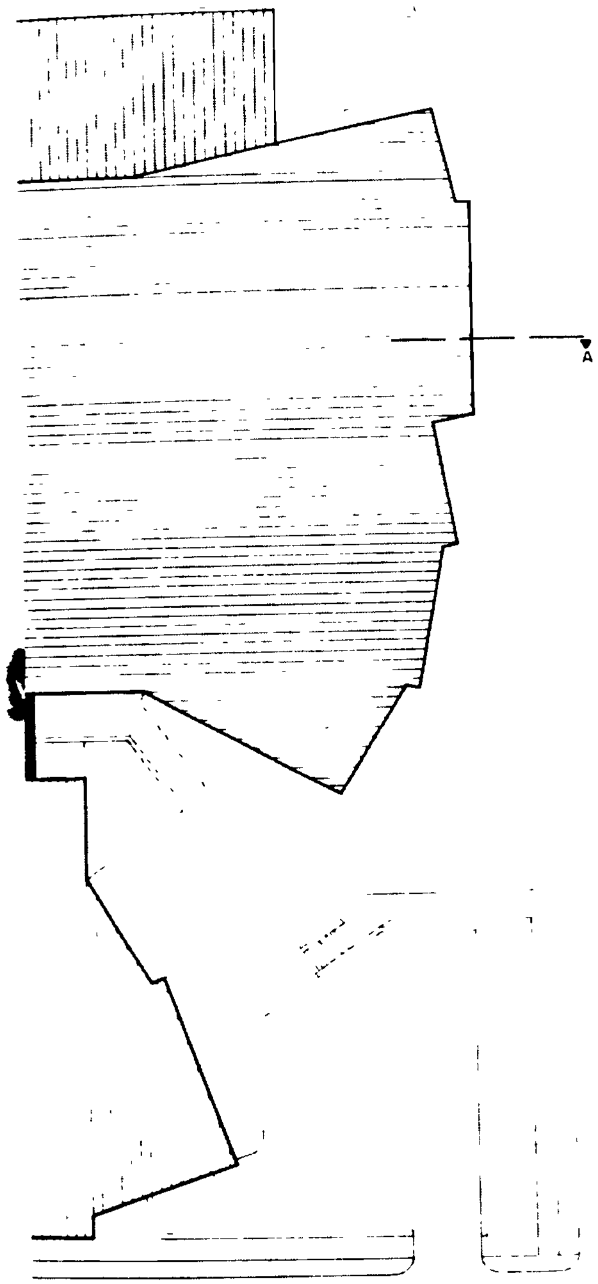


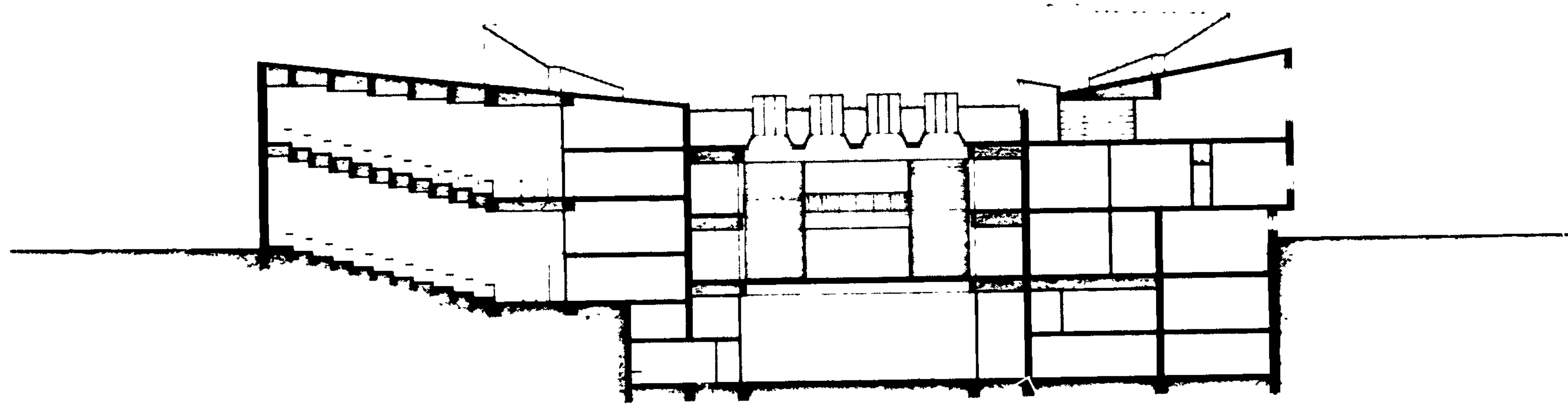
INTERIOR PERSPECTIVE



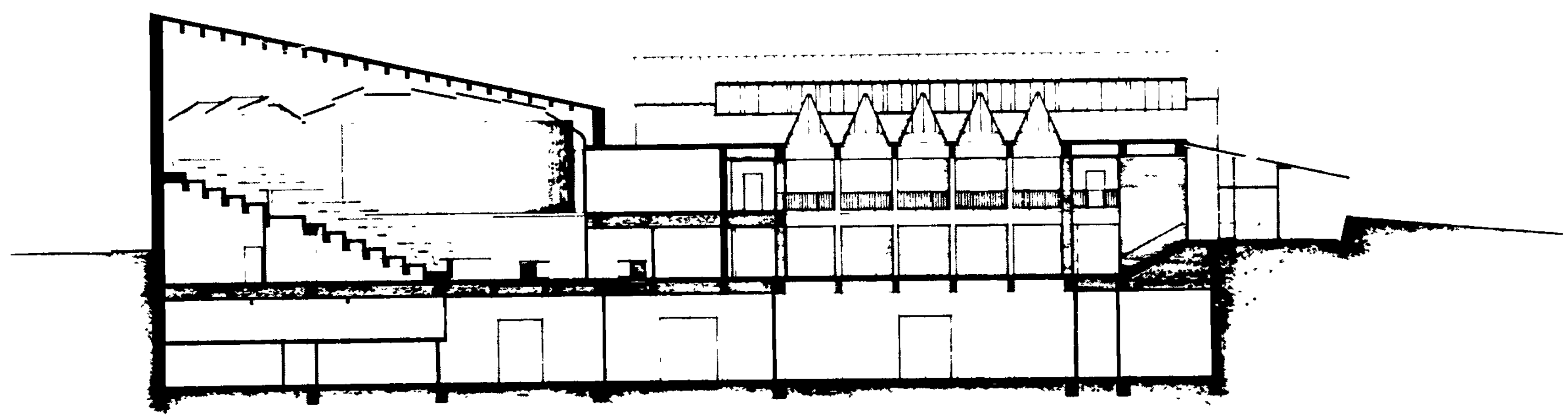
FLEXIBLE USE DIAGRAM



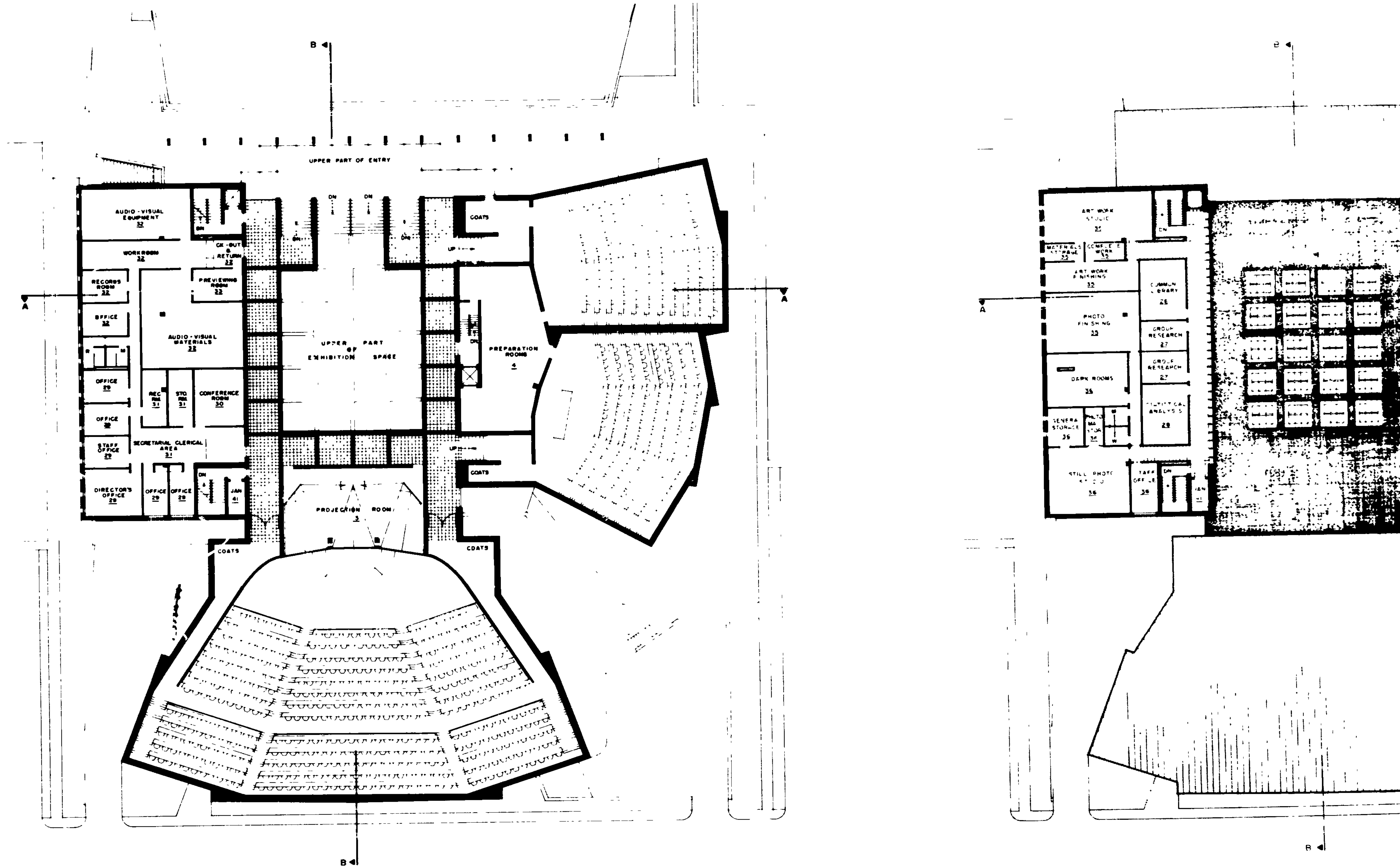


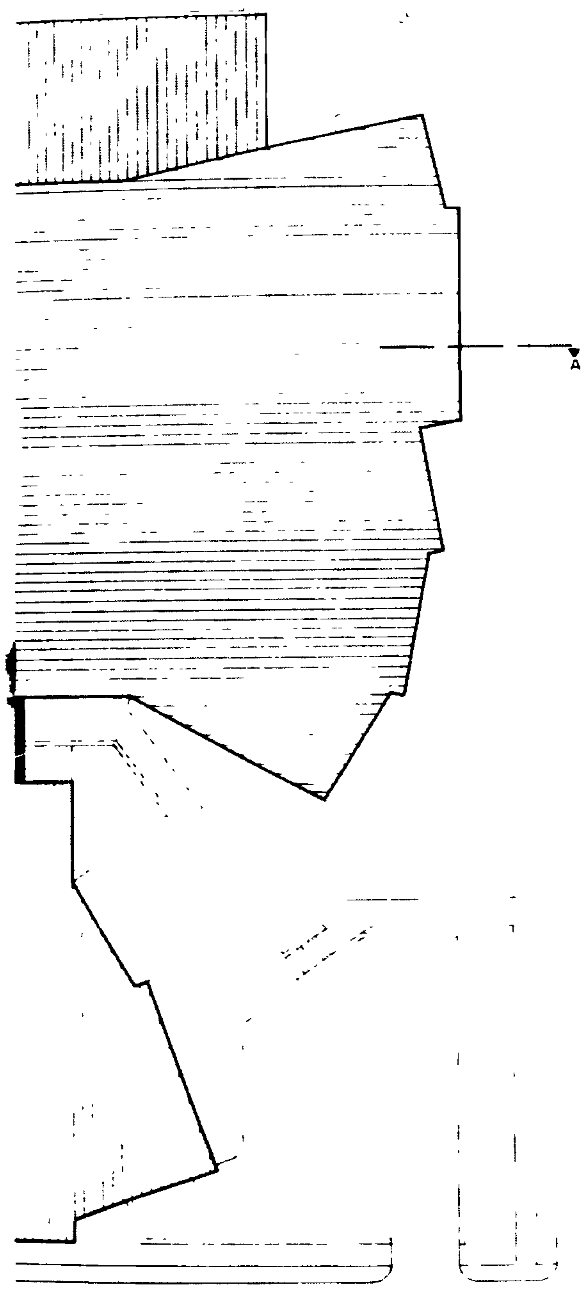


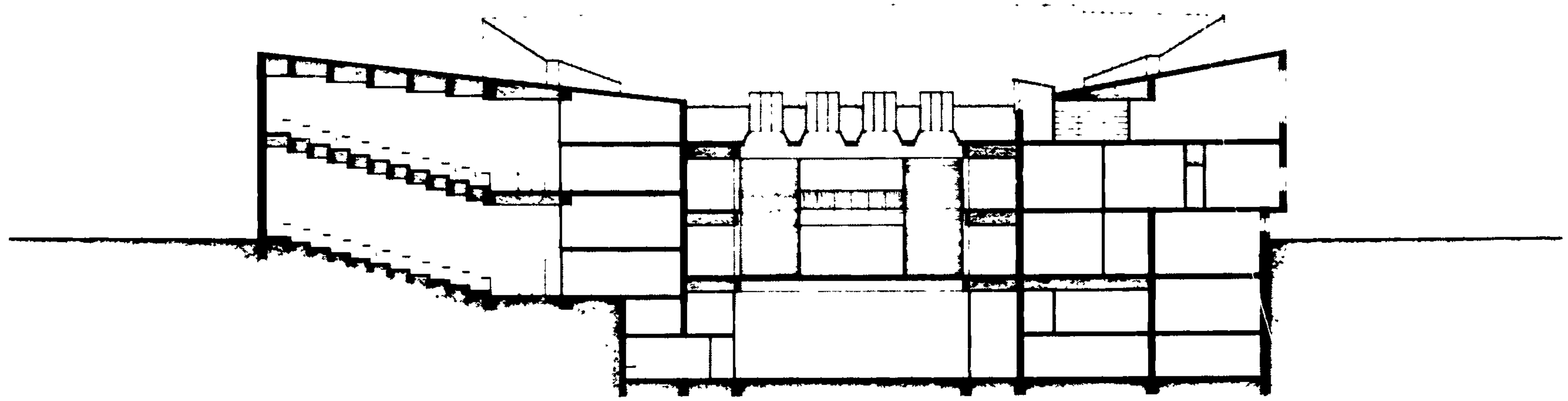
A - A



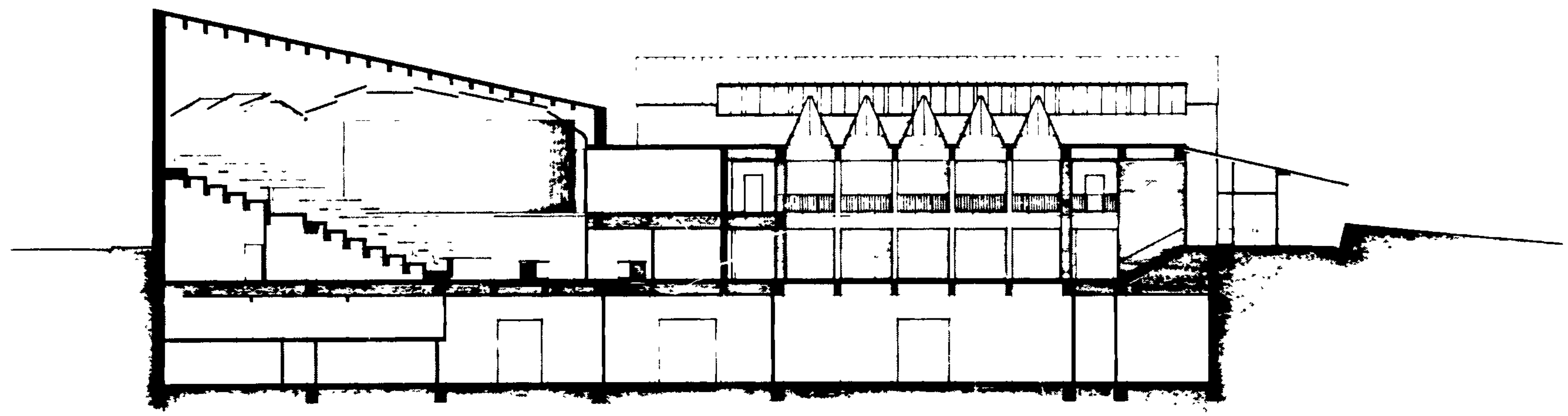
B - B


UPPER PART OF ENTRY
AUDIO-VISUAL EQUIPMENT 32
WORKROOM 32
RECORDS ROOM 32
OFFICE 32
CK-OUT & RETURN 32
PREVIEWING ROOM 32
AUDIO-VISUAL MATERIALS 32
REC RM 31
STO RM 31
CONFERENCE ROOM 30
OFFICE 29
OFFICE 29
STAFF OFFICE 29
SECRETARIAL CLERICAL AREA 31
DIRECTOR'S OFFICE 28
OFFICE 29
OFFICE 28
JAN 41
UPPER PART OF EXHIBITION SPACE
PROJECTION ROOM 3
PREPARATION ROOMS 4
COATS
COATS
COATS
COATS
DN
UP
B
A
ART WORK STUDIO 32
MATERIALS STORAGE 33
COMPLETE WORK 33
ART WORK FINISHING 33
PHOTO FINISHING 33
DARK ROOMS 35
GENERAL STORAGE 35
STILL PHOTO STUDIO 36
COMMON LIBRARY 25
GROUP RESEARCH 27
GROUP RESEARCH 27
STATISTICAL ANALYSIS 28
STAFF OFFICE 39

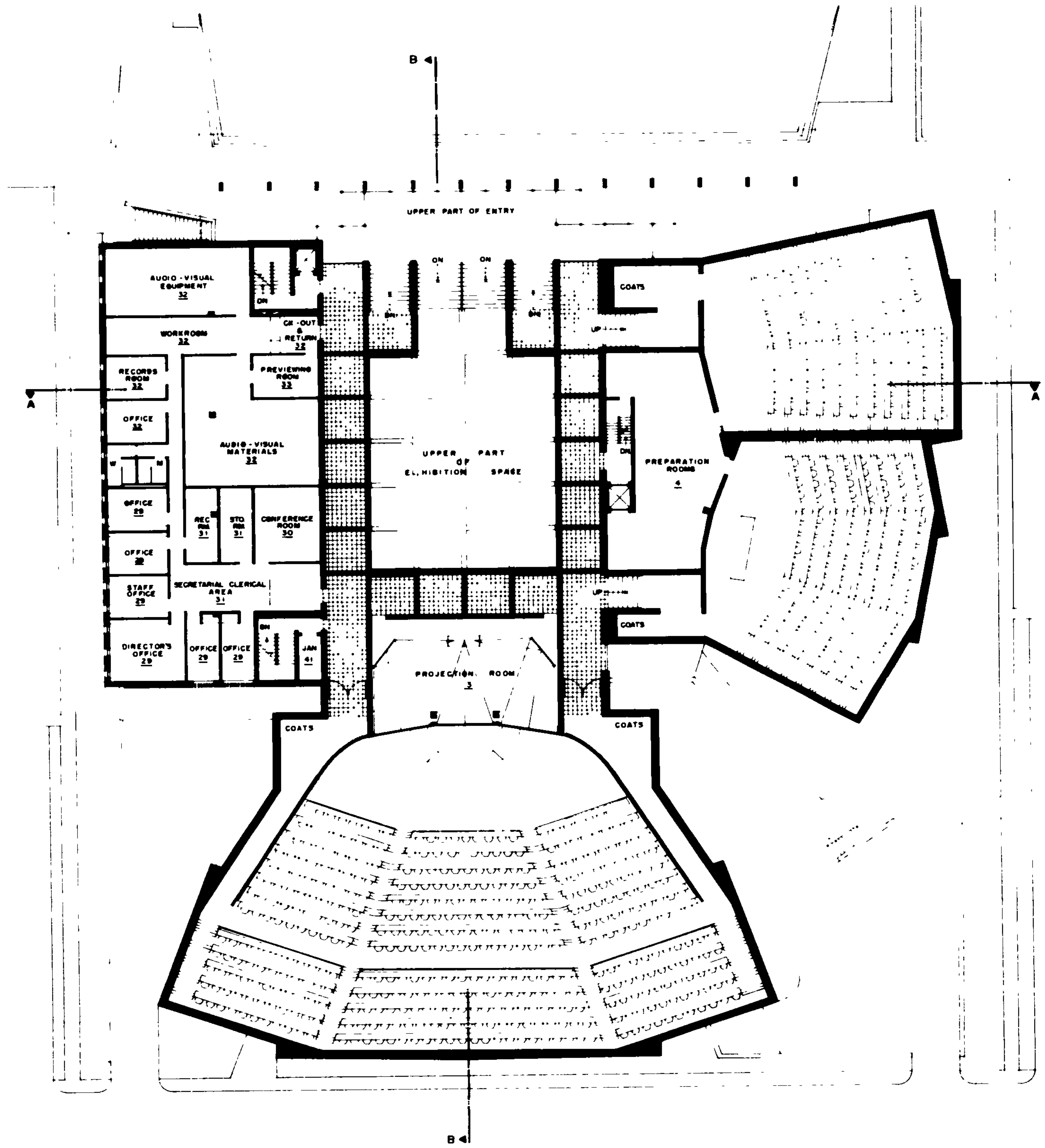


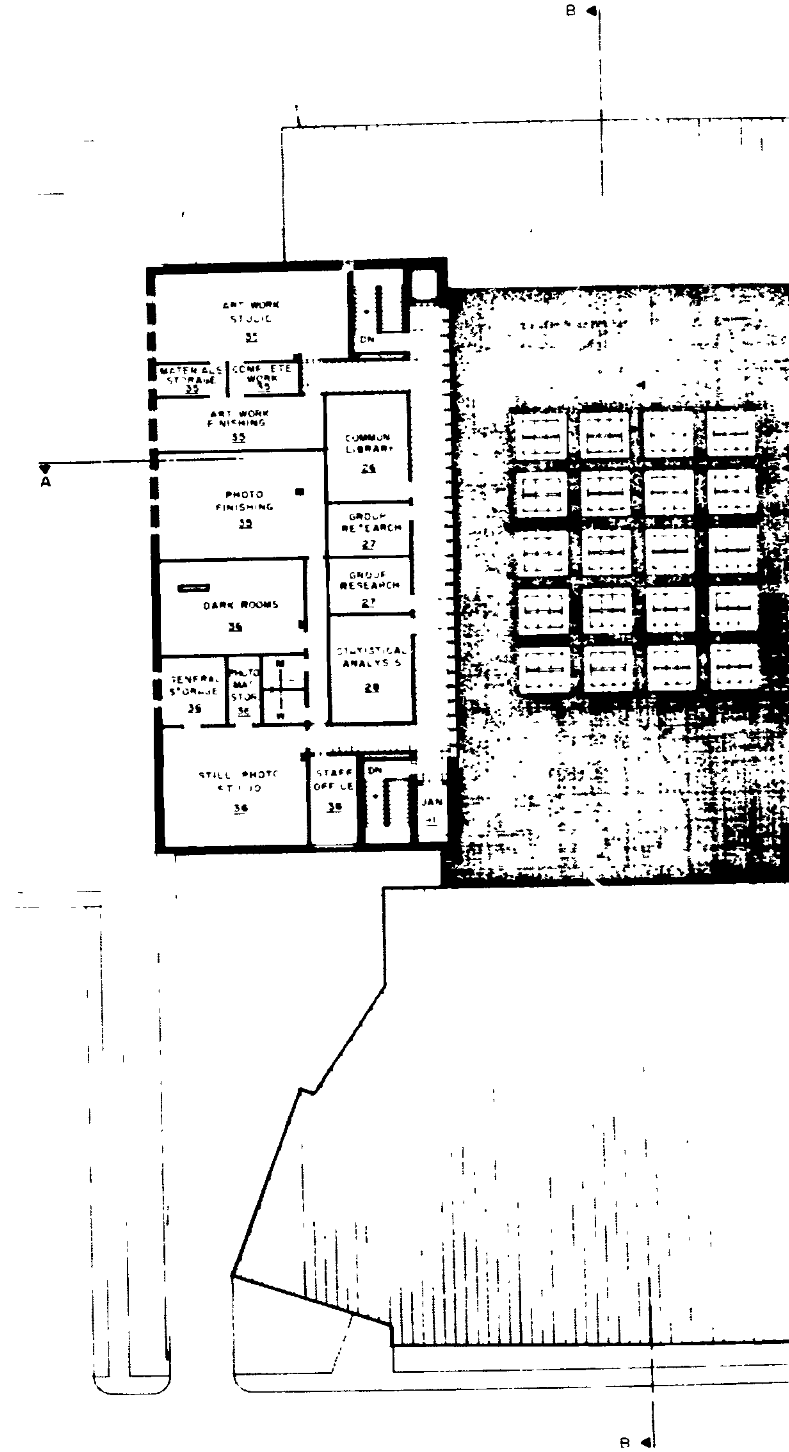


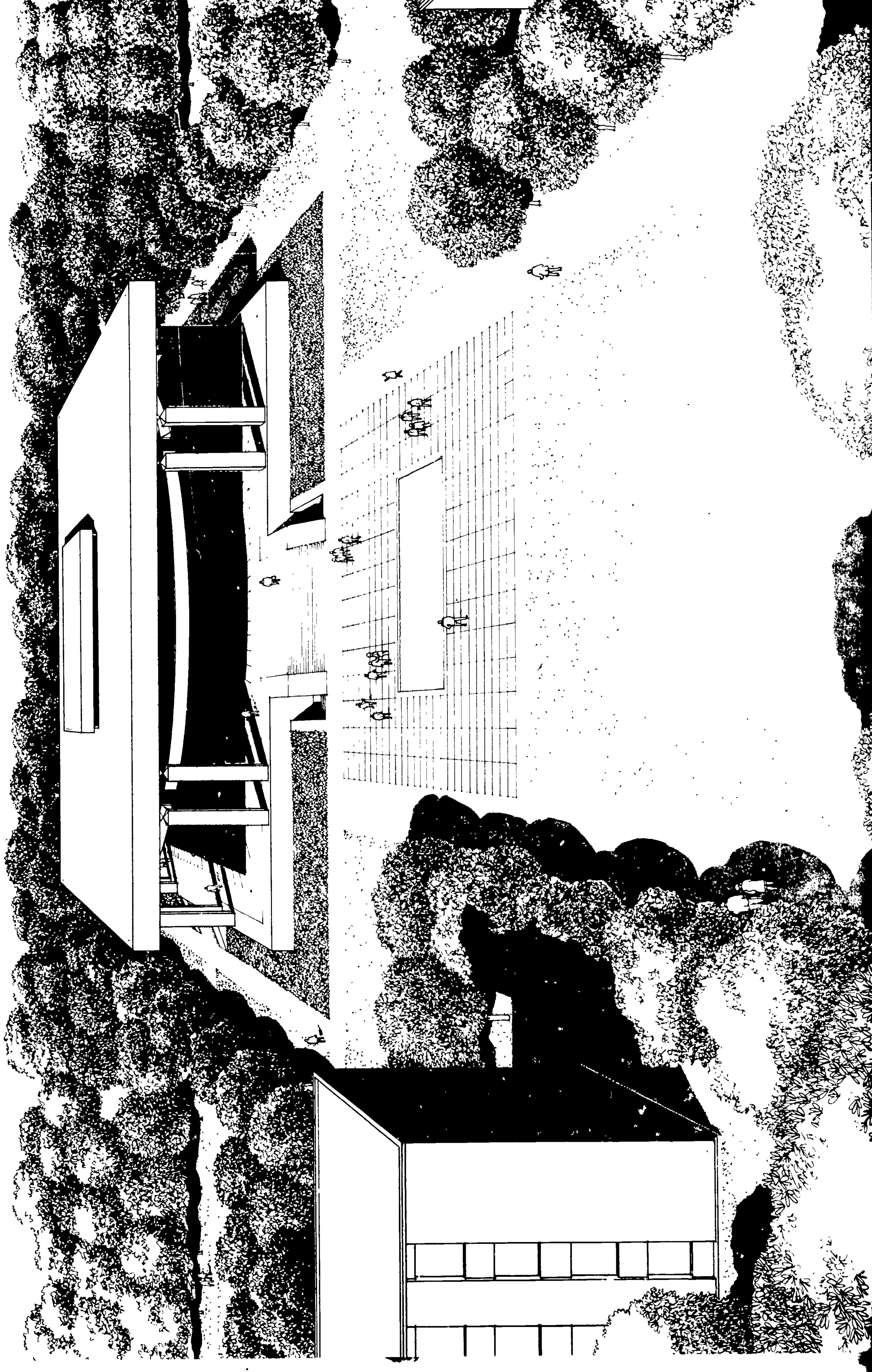
A – A

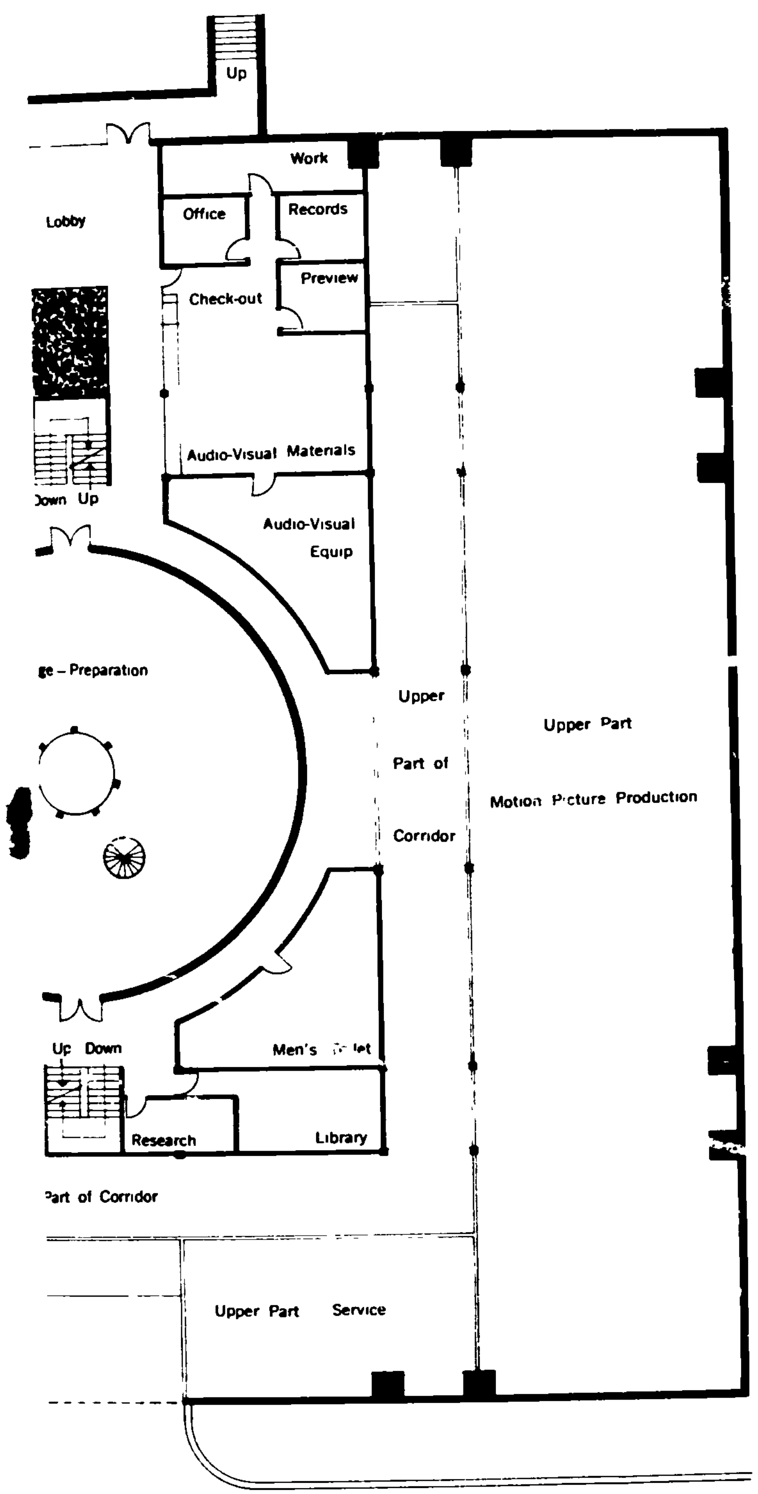


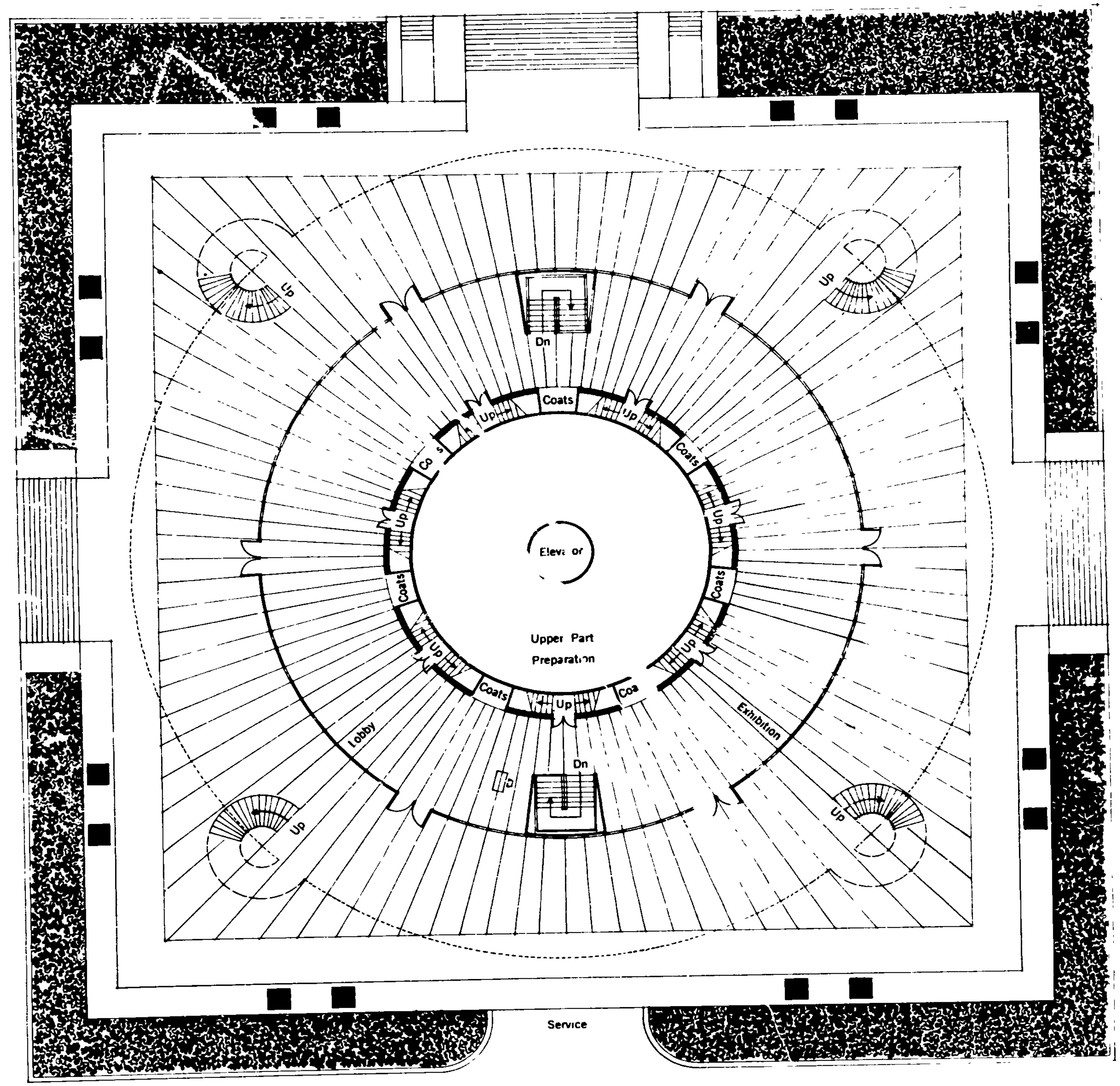
B -- B

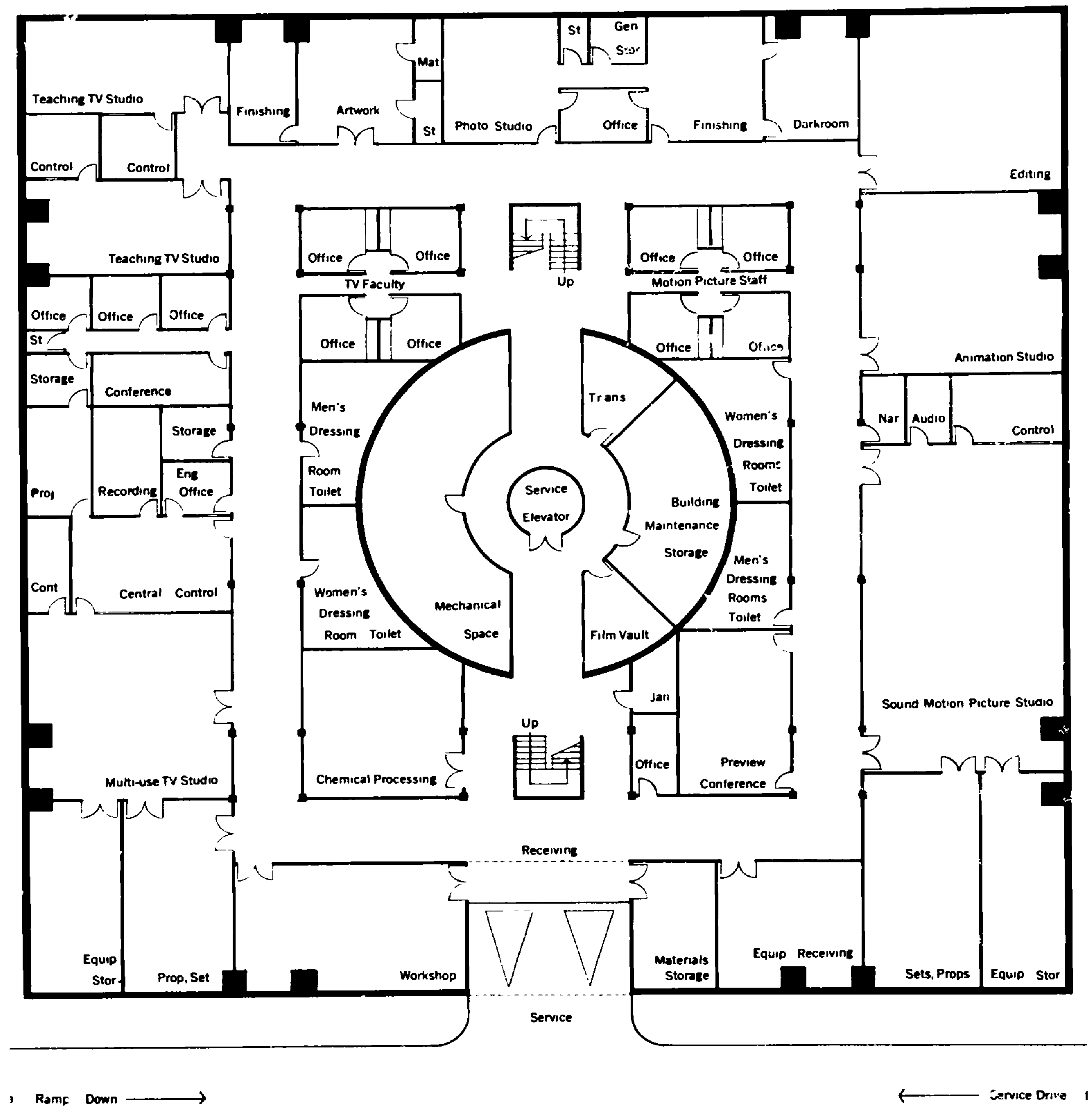

UPPER PART OF ENTRY
AUDIO-VISUAL EQUIPMENT
WORKROOM
CK-OUT & RETURN
RECORDS ROOM
PREVIEWING ROOM
OFFICE
AUDIO-VISUAL MATERIALS
CONFERENCE ROOM 30
SECRETARIAL CLERICAL AREA
STAFF OFFICE
DIRECTOR'S OFFICE
JAN
UPPER PART OF EXHIBITION SPACE
PREPARATION ROOMS 4
PROJECTION ROOM 3
COATS


ART WORK STUDIO
MATERIALS STORAGE
COMPLETE WORK
ART WORK FINISHING
PHOTO FINISHING
DARK ROOMS
GENERAL STORAGE
STILL PHOTO STUDIO
STAFF OFFICE
COMMON LIBRARY 26
GROUP RESEARCH 27
STATISTICAL ANALYSIS 28
JAN

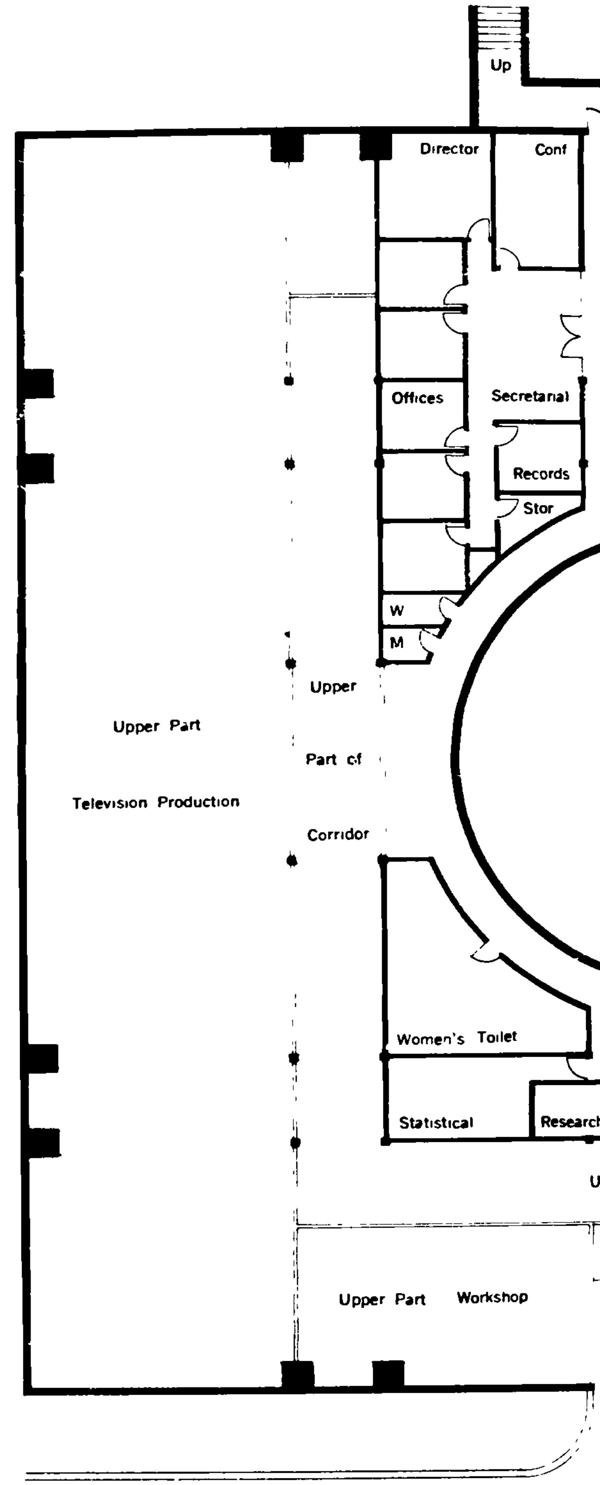



Up
Work
Office
Records
Lobby
Preview
Check-out
Audio-Visual Materials
Down Up
Audio-Visual
Equip
ge – Preparation
Upper
Part of
Corridor
Upper Part
Motion Picture Production
Up Down
Men's
Research
Library
Part of Corridor
Upper Part Service

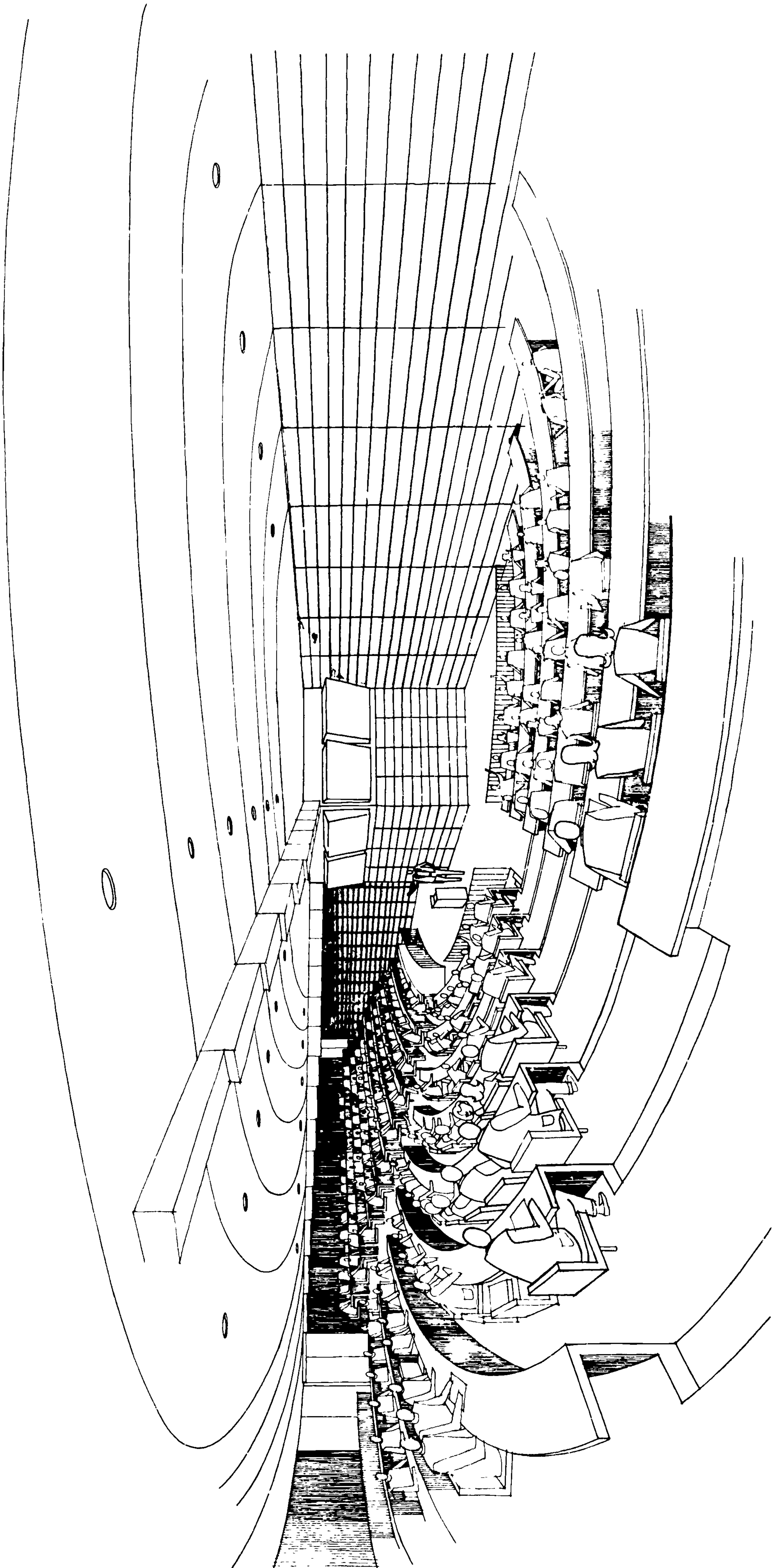

Up
Up
Dn
Coats
Up
Up
Coats
Up
Elevator
Coats
Coats
Upper Part
Preparation
Up
Coats
Up
Coa
Lobby
Exhibition
Dn
Up
Up
Service

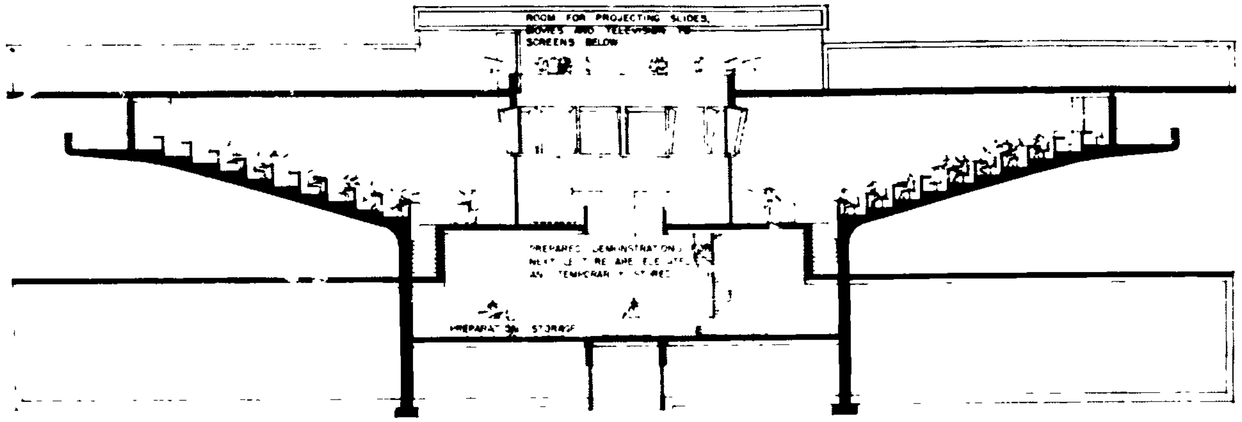


Teaching TV Studio
Control
Control
Teaching TV Studio
Office
Office
Office
St
Storage
Conference
Storage
Eng Office
Recording
Proj
Cont
Central Control
Multi-use TV Studio
Equip Stor
Prop, Set
Workshop
Finishing
Artwork
Mat
St
Photo Studio
St
Gen Stor
Office
Finishing
Darkroom
Editing
Animation Studio
Nar
Audio
Control
Sound Motion Picture Studio
Sets, Props
Equip Stor
Equip Receiving
Materials Storage
Office
Office
TV Faculty
Office
Office
Men's Dressing Room Toilet
Women's Dressing Room Toilet
Mechanical Space
Service Elevator
Up
Up
Office
Office
Motion Picture Staff
Office
Trans
Women's Dressing Rooms Toilet
Building Maintenance Storage
Men's Dressing Rooms Toilet
Film Vault
Jan
Office
Preview Conference
Chemical Processing
Receiving
Service
Ramp Down
Service Drive

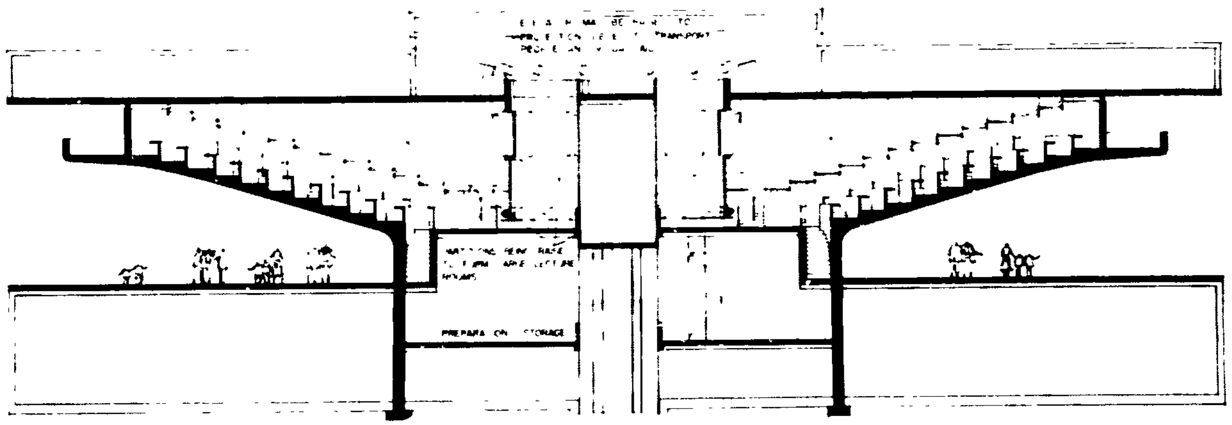


Up
Director
Conf
Offices
Secretarial
Records
Stor
W
M
Upper Part
Television Production
Upper
Part of
Corridor
Women's Toilet
Statistical
Research
Upper Part
Workshop

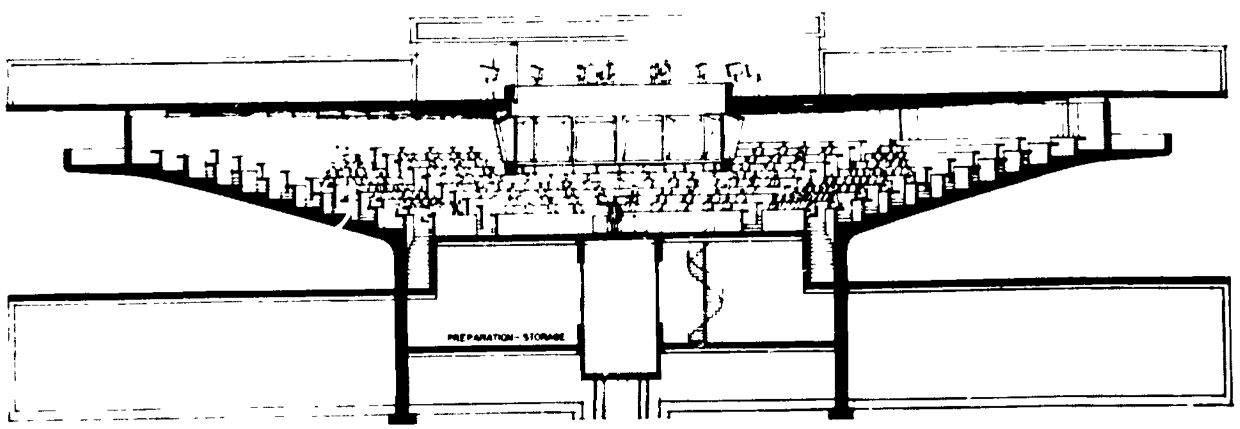




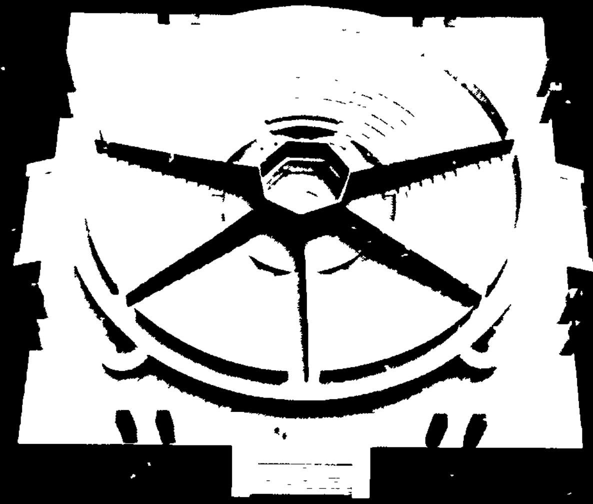
SPACE ARRANGED FOR SMALL LECTURE ROOMS

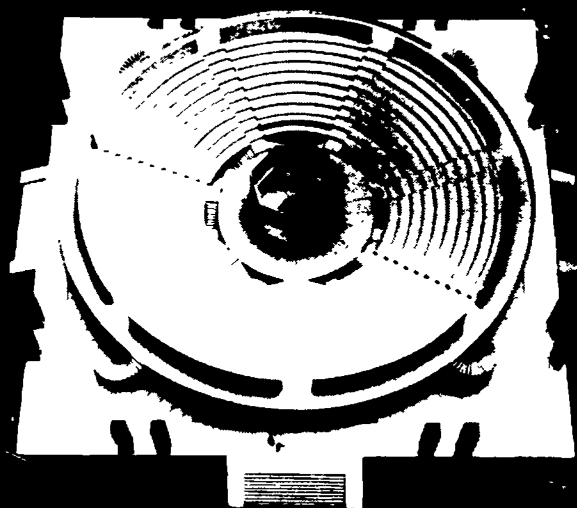


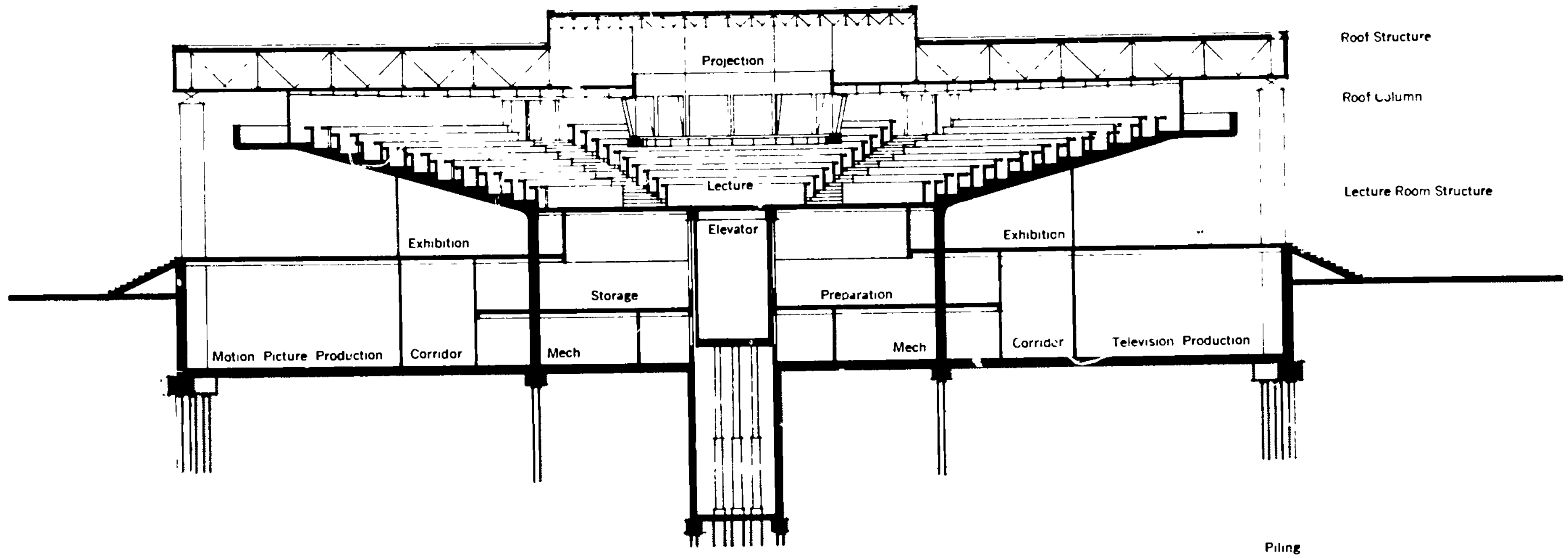
SPACE BEING ALTERED TO PROVIDE LARGER LECTURE ROOMS
THIS CHANGE MAY OCCUR BETWEEN LECTURES



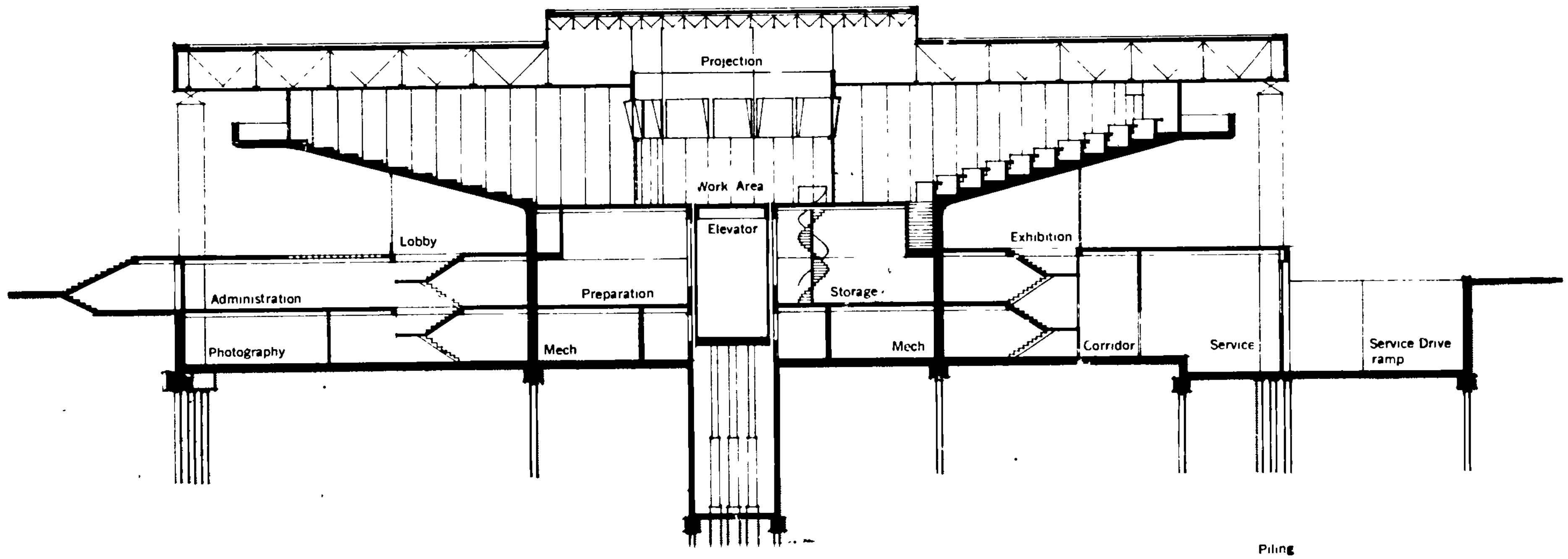
SPACE ARRANGED FOR LARGE LECTURE ROOMS



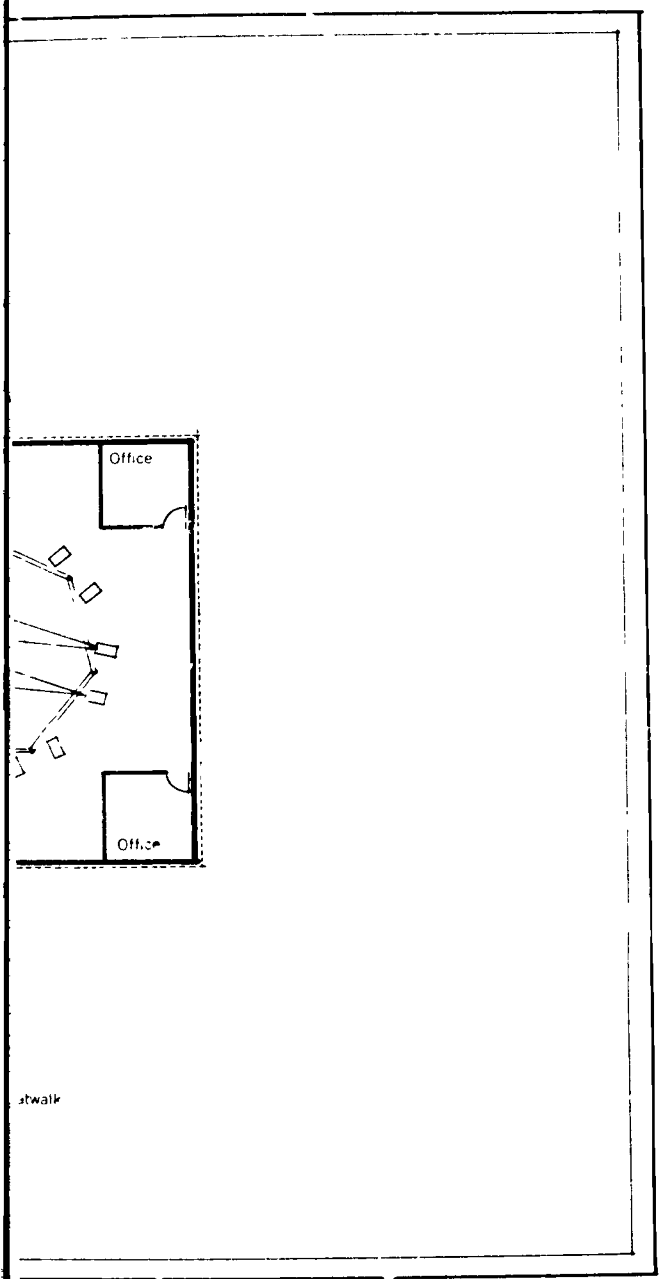


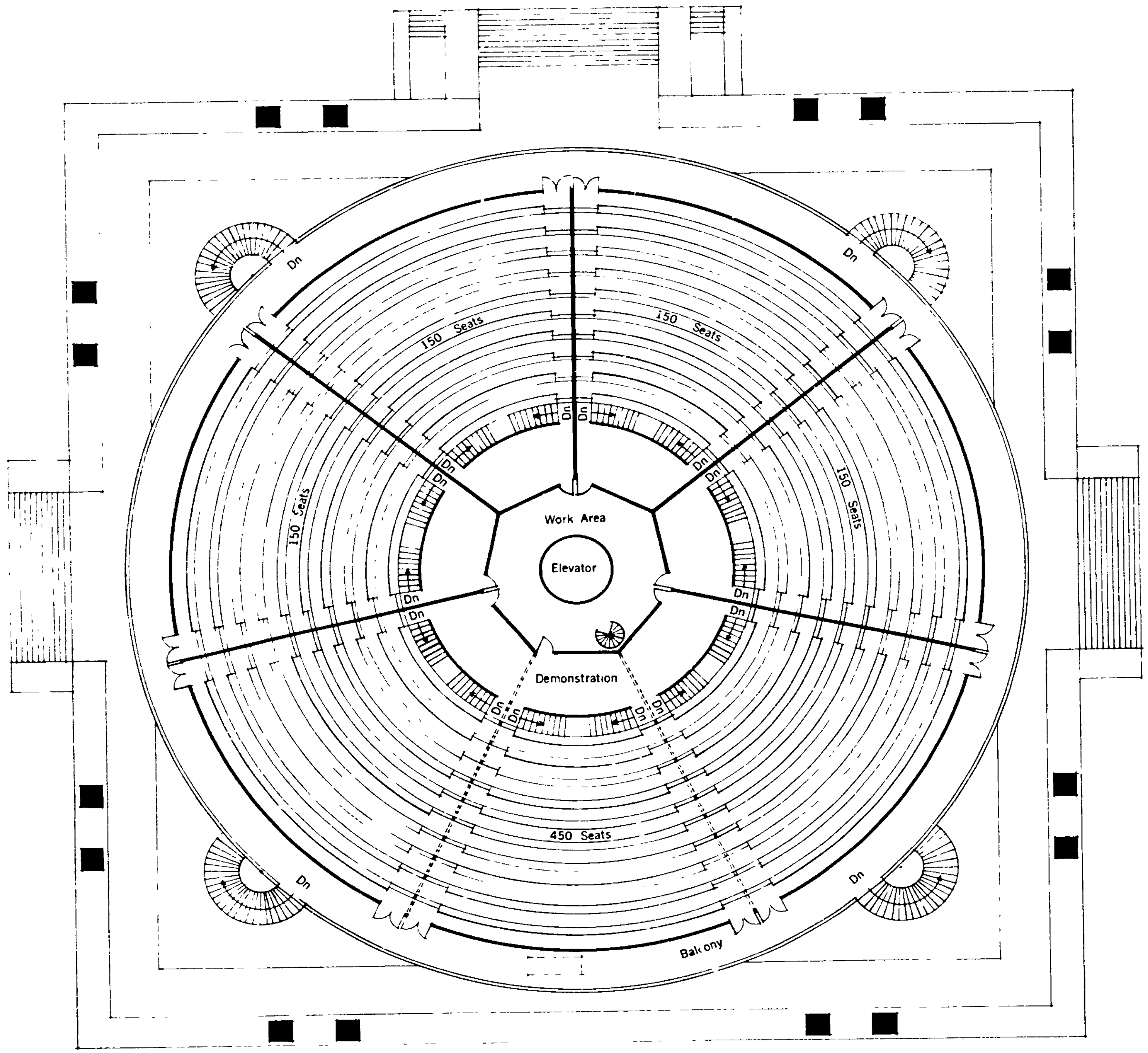


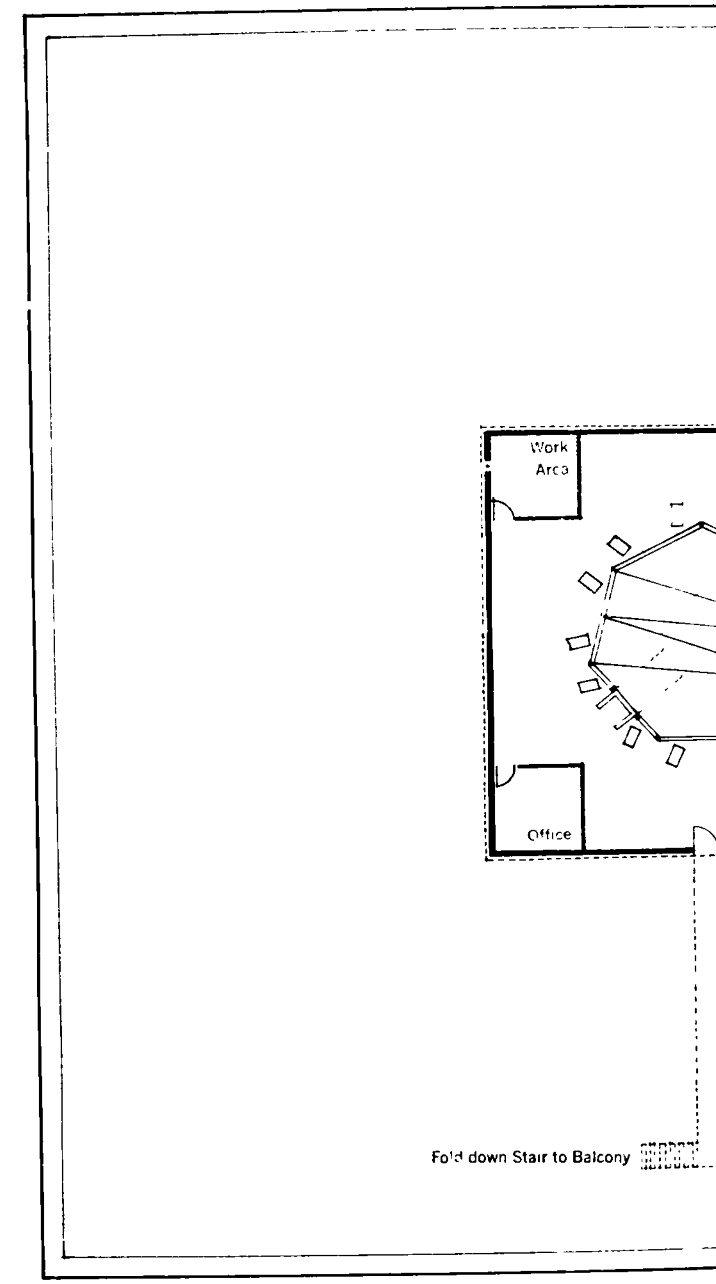
Section A A

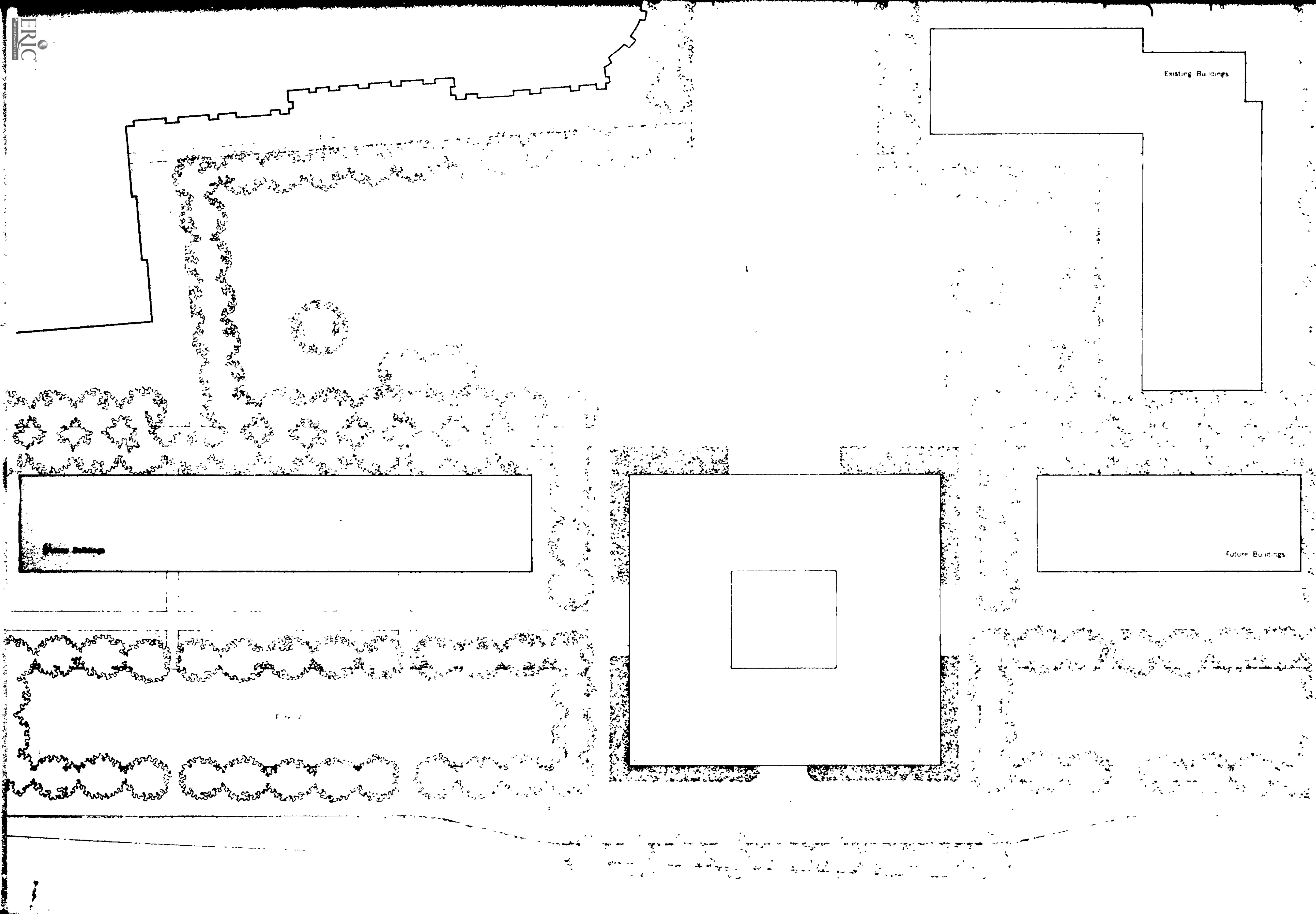


Section B-B

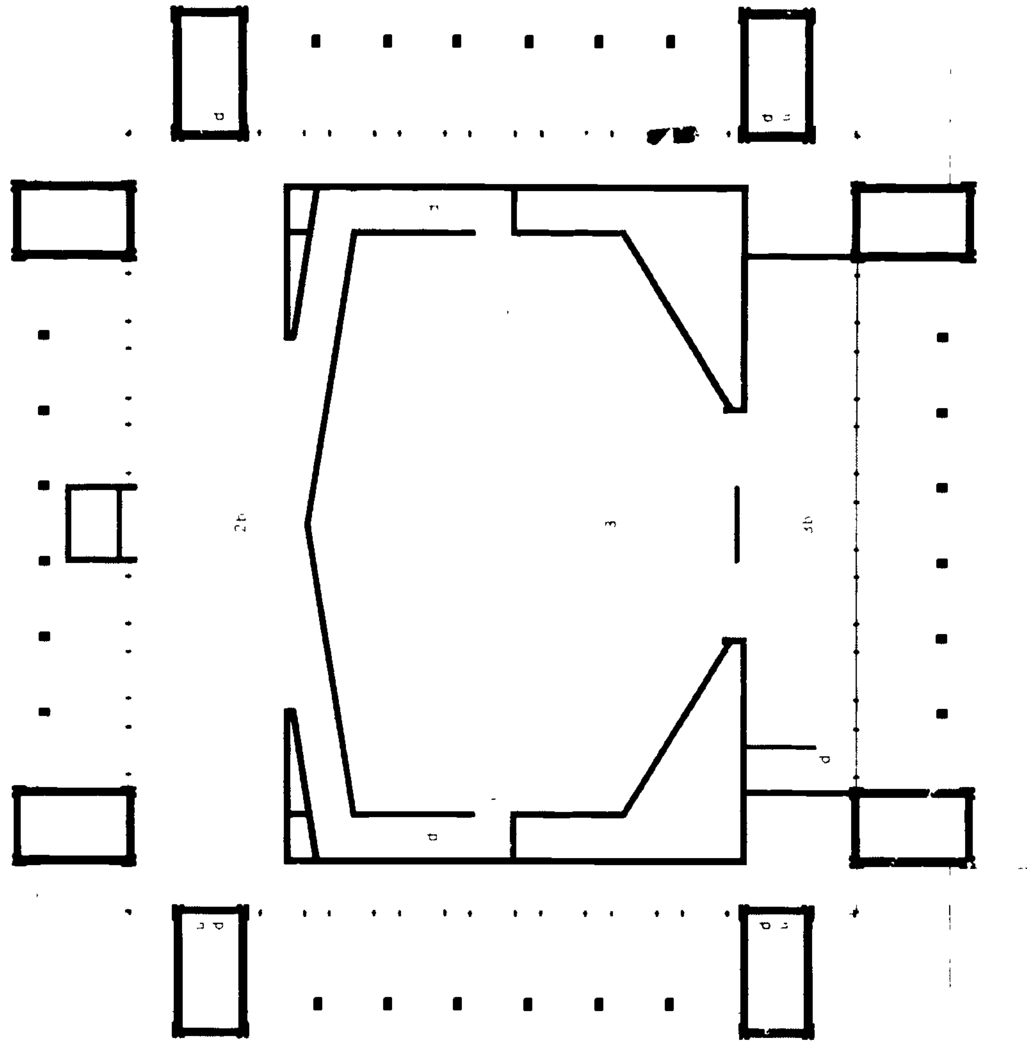


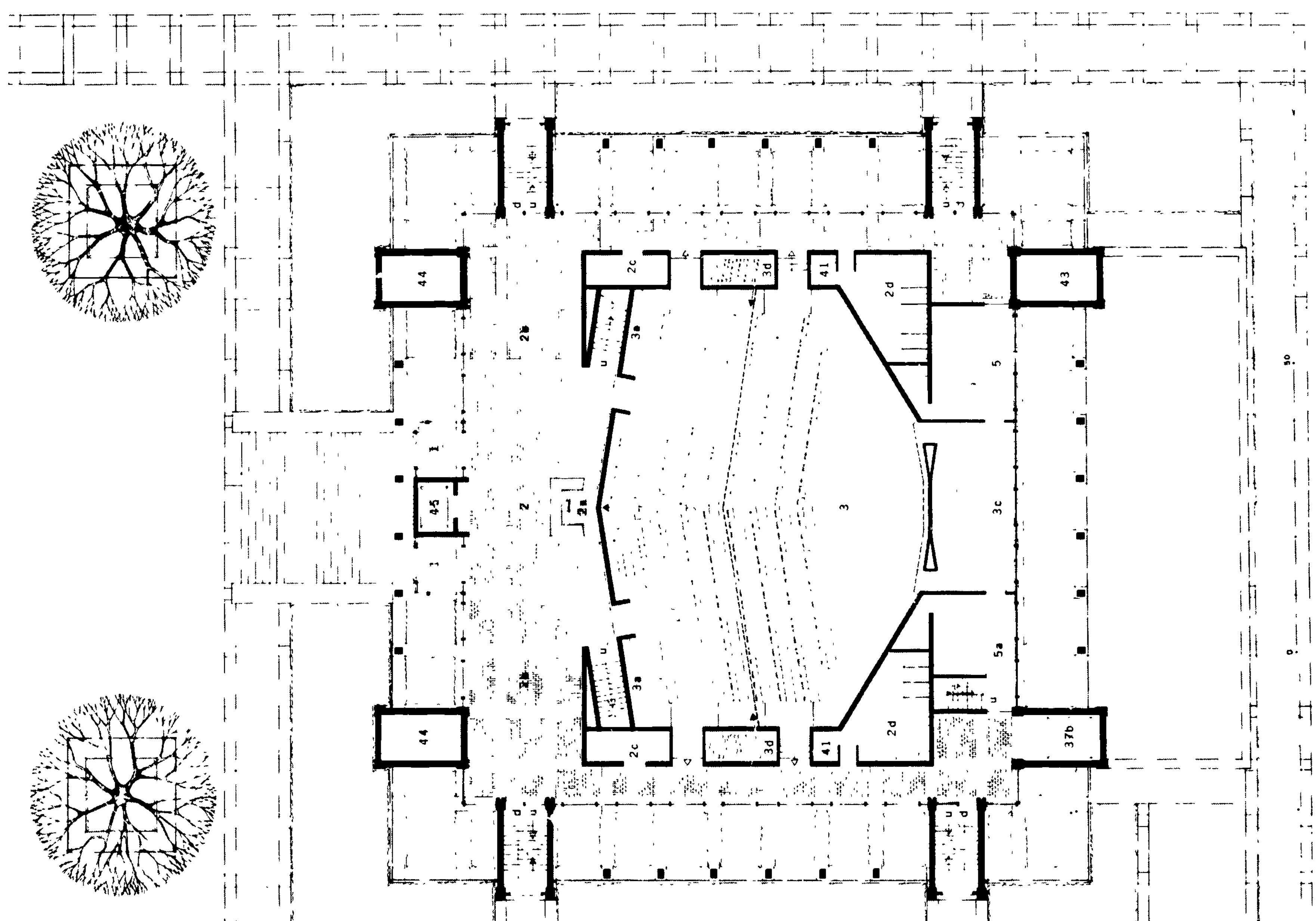

150 Seats
150 Seats
150 Seats
450 Seats
Work Area
Elevator
Demonstration
Dn
Balcony

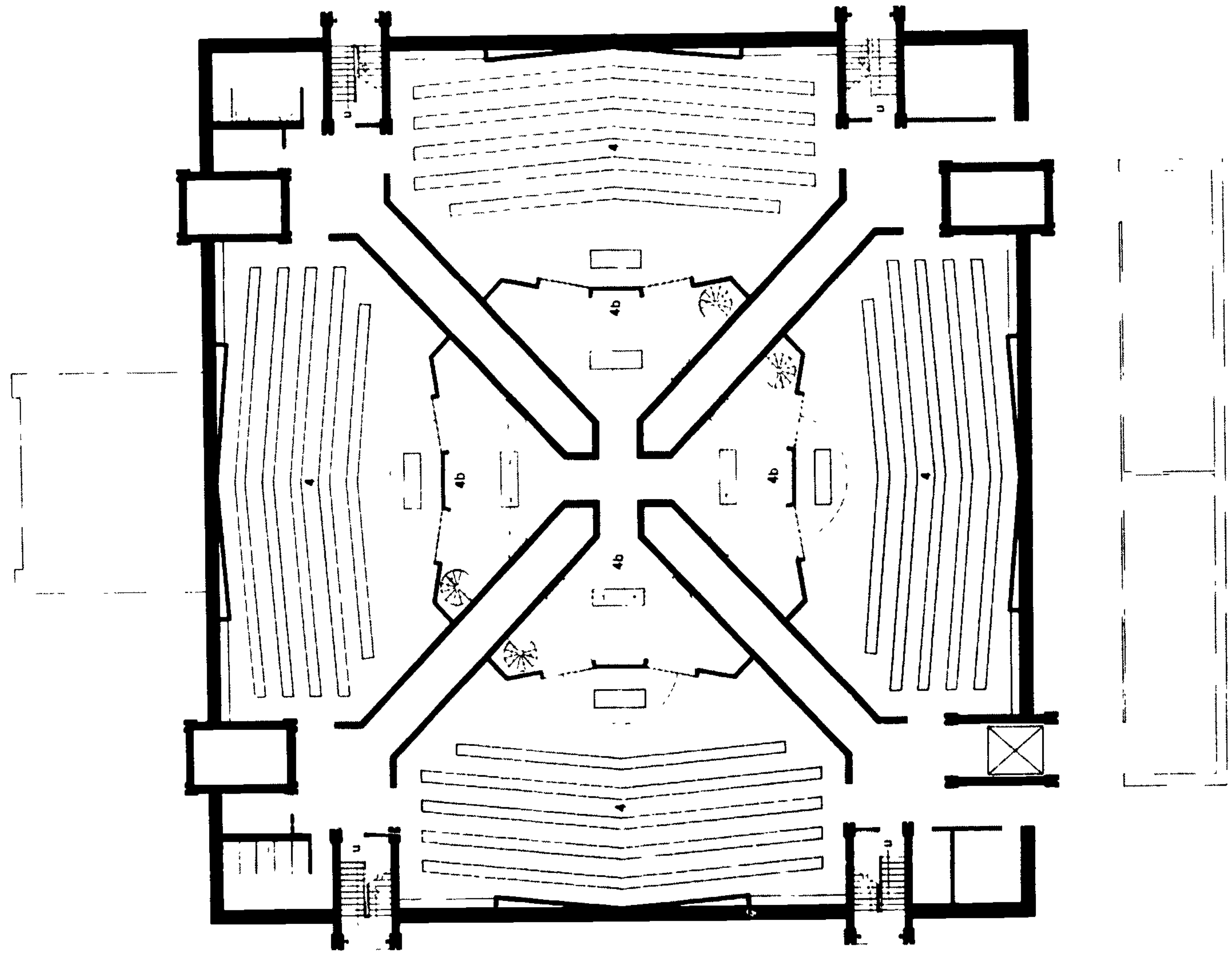

Work Area
Office
Fold down Stair to Balcony

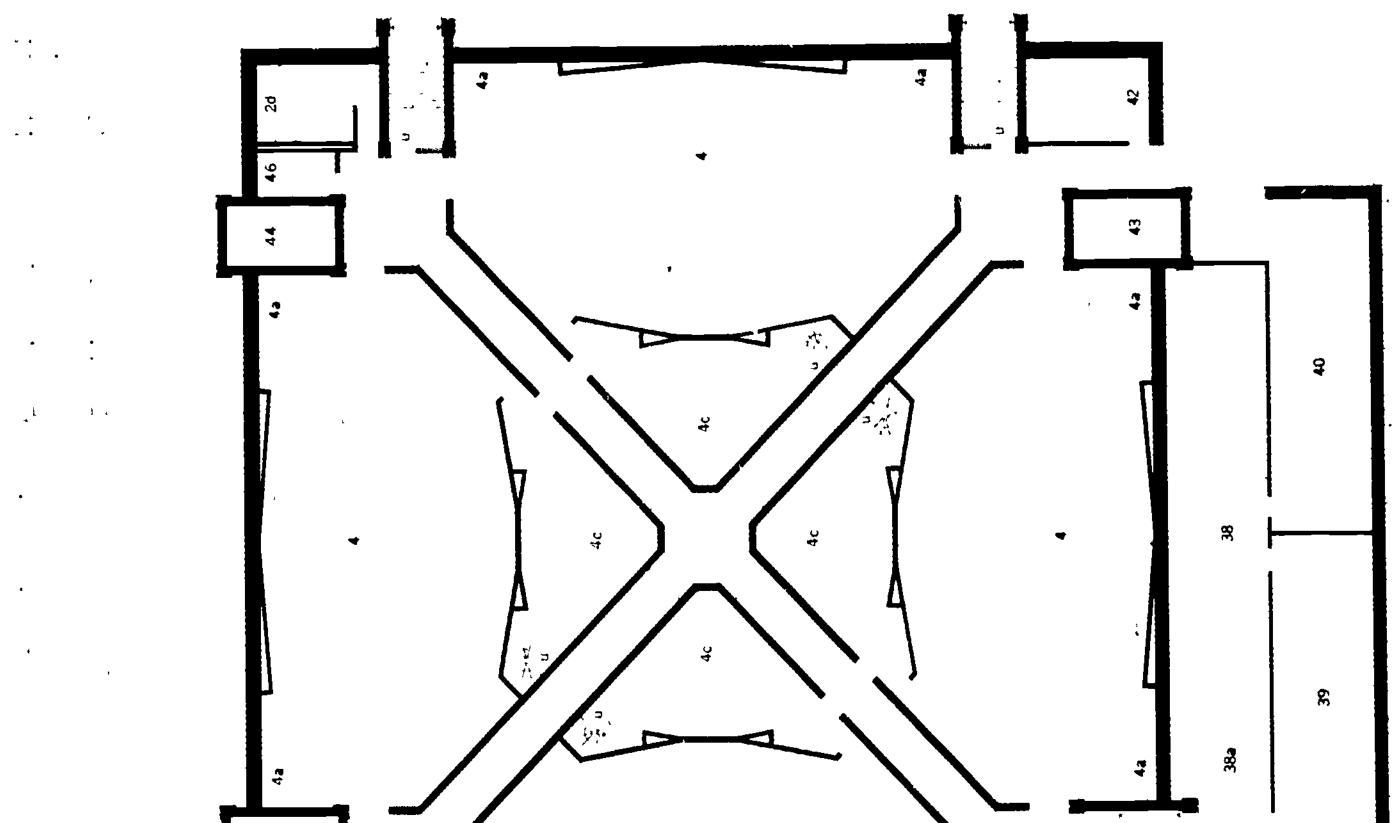

Existing Buildings
Future Buildings

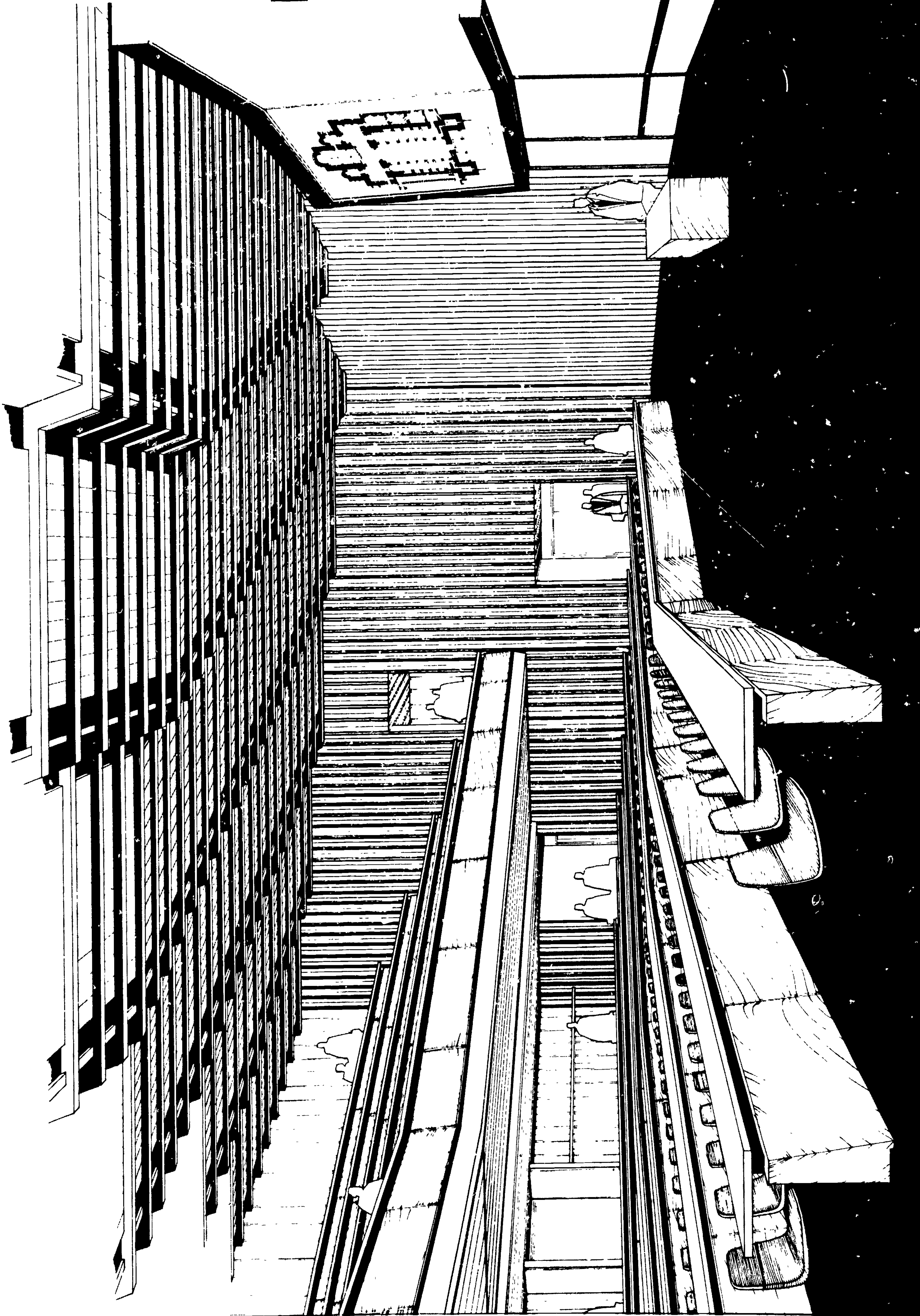
Kump Associates
PALO ALTO, CALIFORNIA

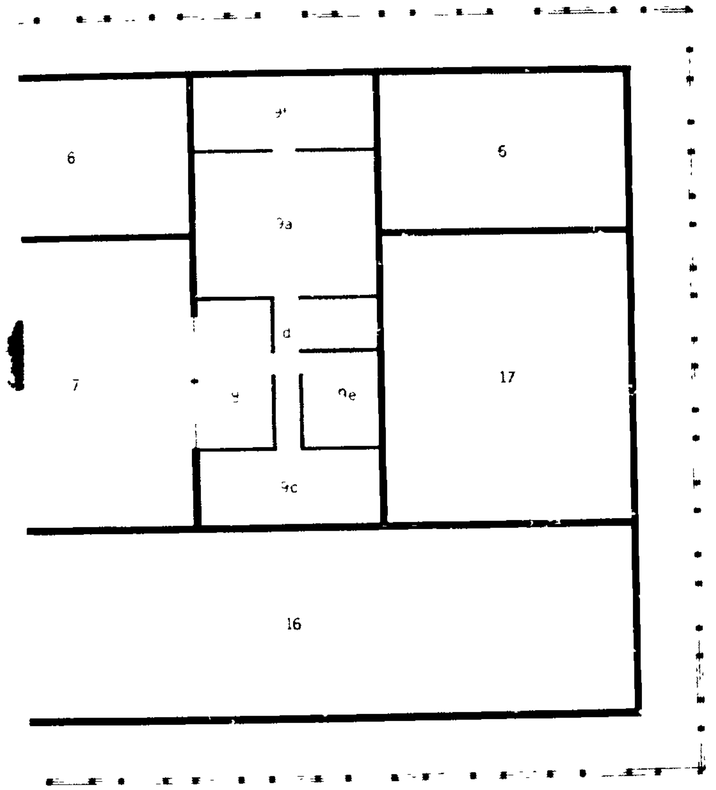




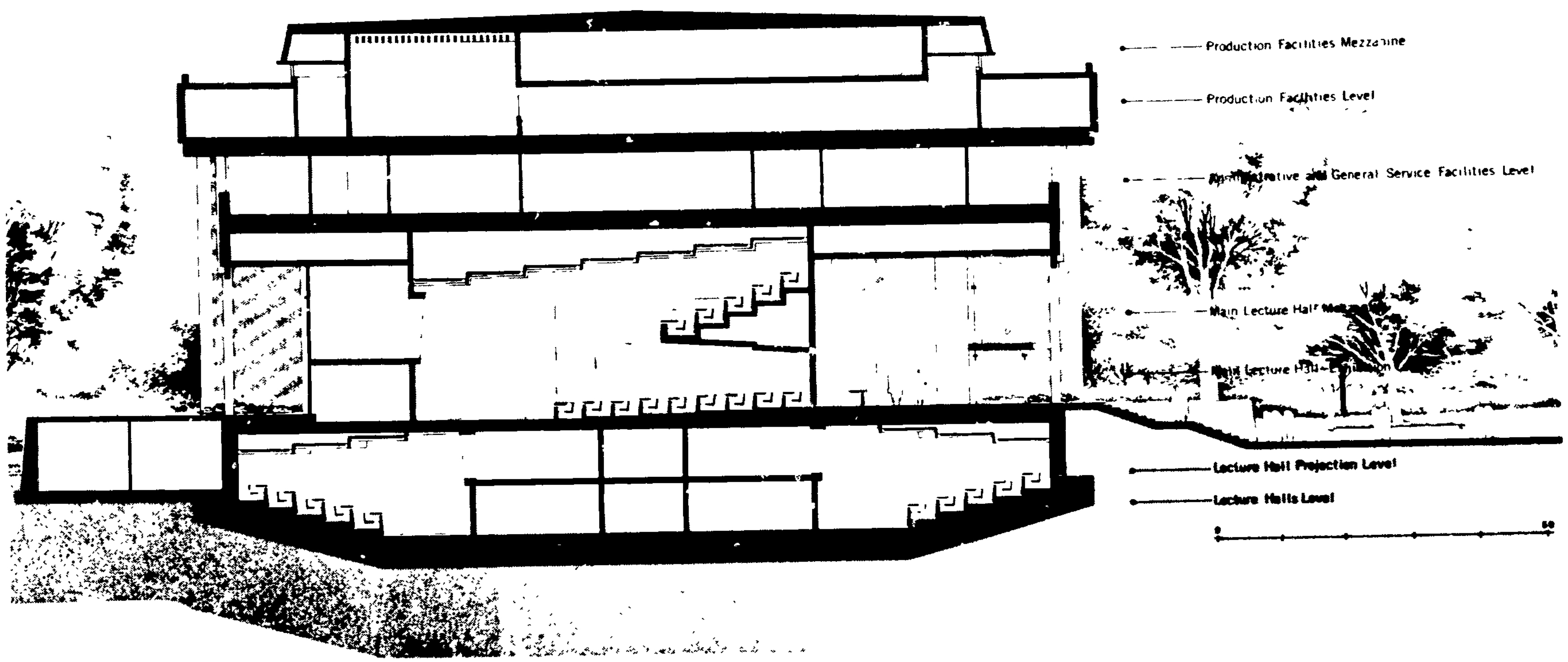

4
4b


2d
46
44
4a
4
4c
42
43
40
38
39
38a
37
37b
41
37a

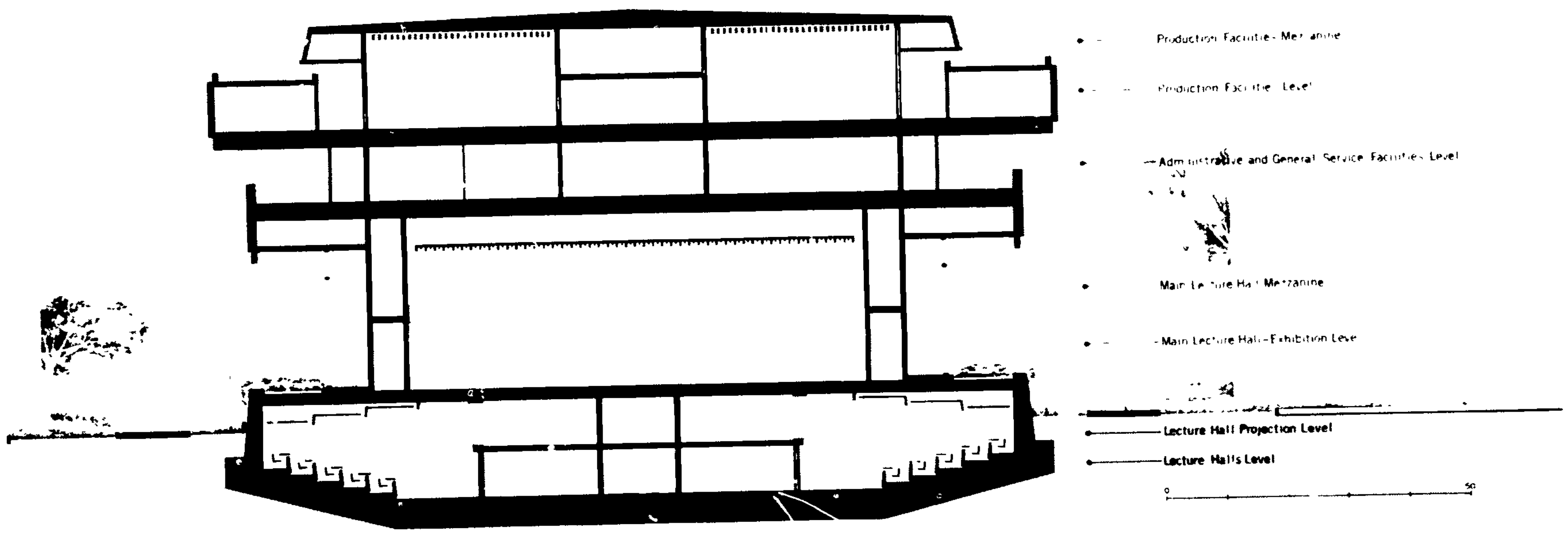




6
9f
6
9a
d
7
9
9e
17
9c
16



Production Facilities Mezzanine
Production Facilities Level
General Service Facilities Level
Main Lecture Hall
Lecture Hall Projection Level
Lecture Halls Level
0
50



Administrative and General Service Facilities Level
Main Lecture Hall Mezzanine
Lecture Hall Projection Level
Lecture Halls Level
0
50

LEGEND

General Public Spaces
1 Entrance vestibule
2 Lobby / exhibition space

Instructional Space
3 450-student lecture room / storage-preparation / projection
4 Four 150-student lecture rooms / storage-preparation / projection
5 Technicians' office

Television Production
6-8 TV studios / control rooms
9 Control engineering
10-15 Materials & equipment storage / staff facilities

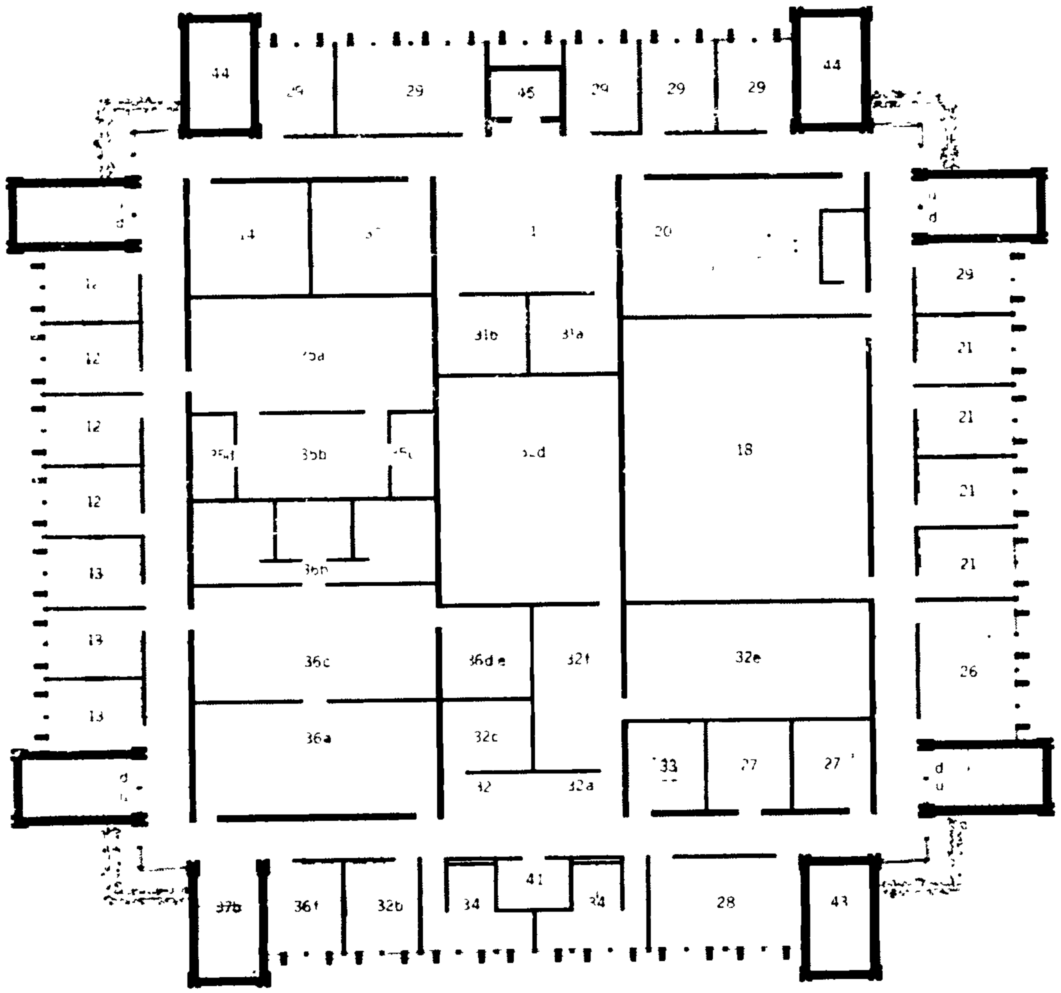
Motion Picture Production
16 Sound motion picture studio
17 Animation studio
18-25 Film editing & processing / materials & equipment storage / staff facilities

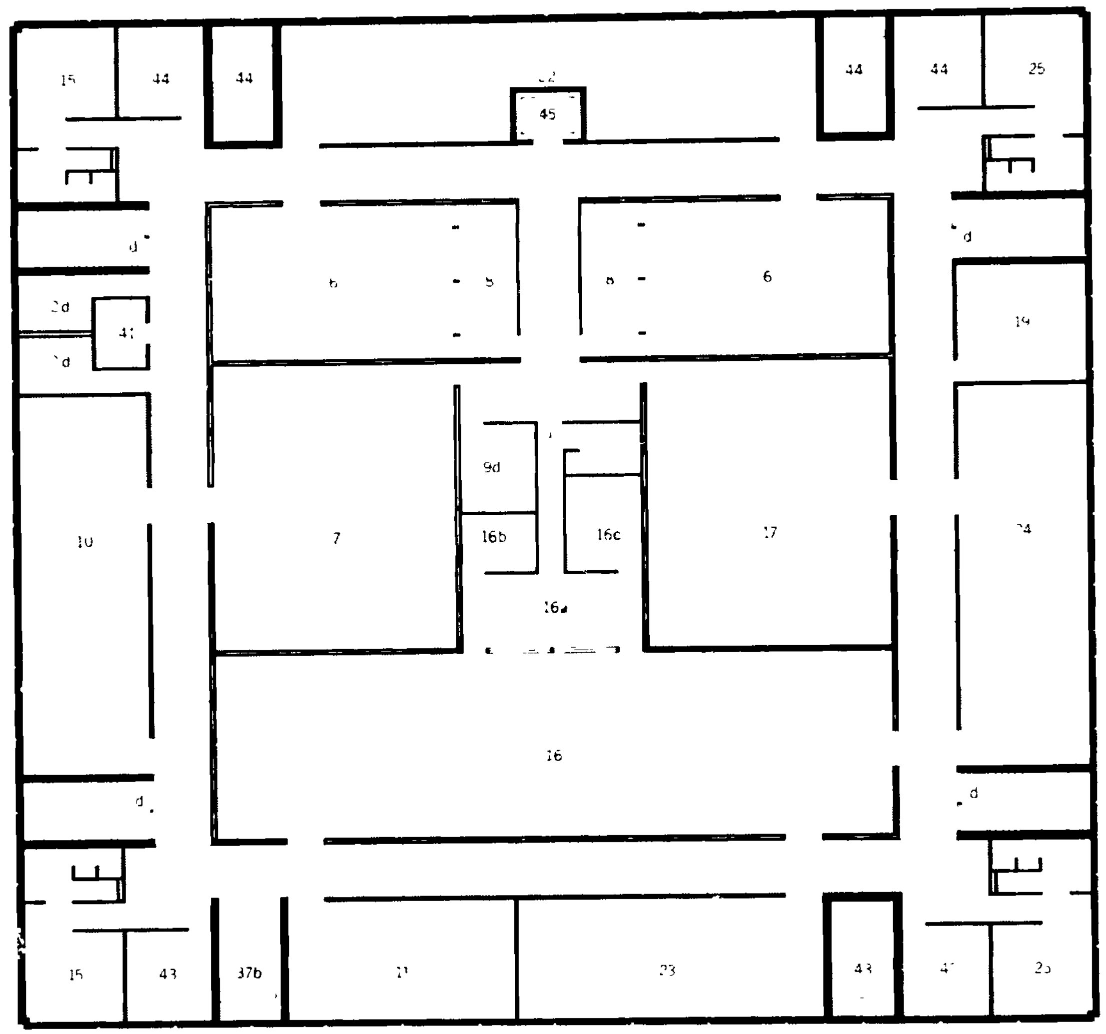
Communications Research
26-28 Library / observation & analysis rooms

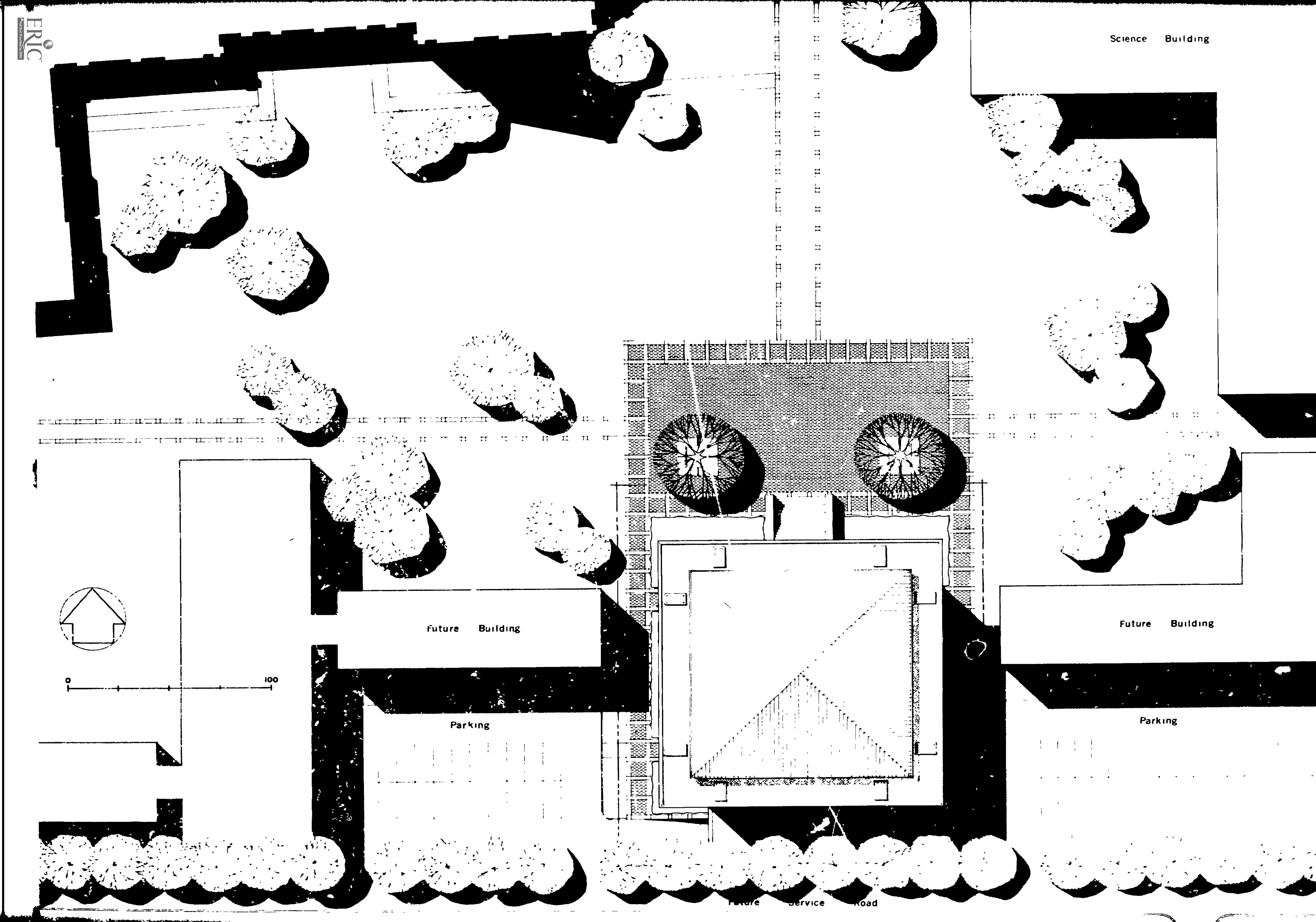
Administration
29-31 Staff facilities
32-33 Instructional materials distribution & storage

General Service Facilities
35 Artwork preparation & processing
36 Still photography preparation & processing
37-39 Receiving & shipping / workshop / maintenance

Maintenance Spaces
40-41 Building maintenance
42-44 Mechanical space

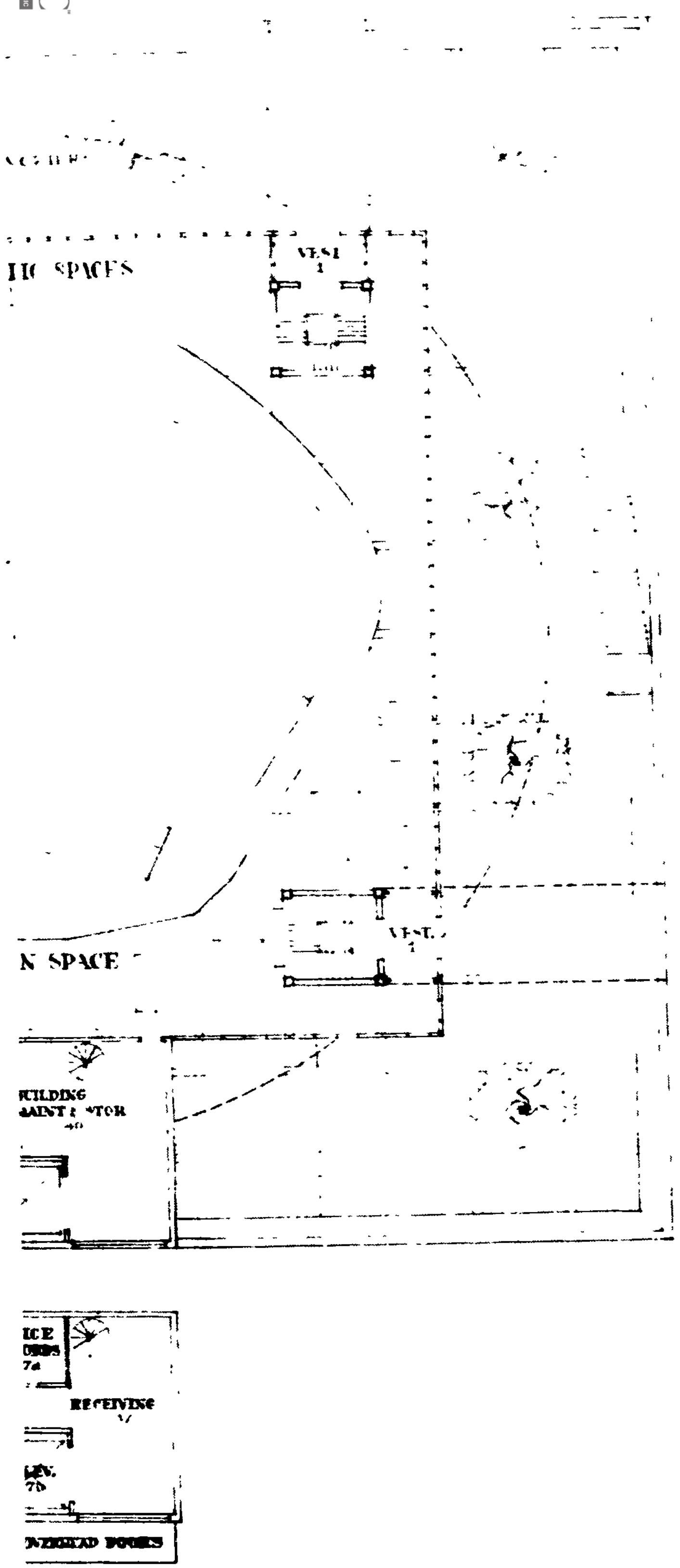




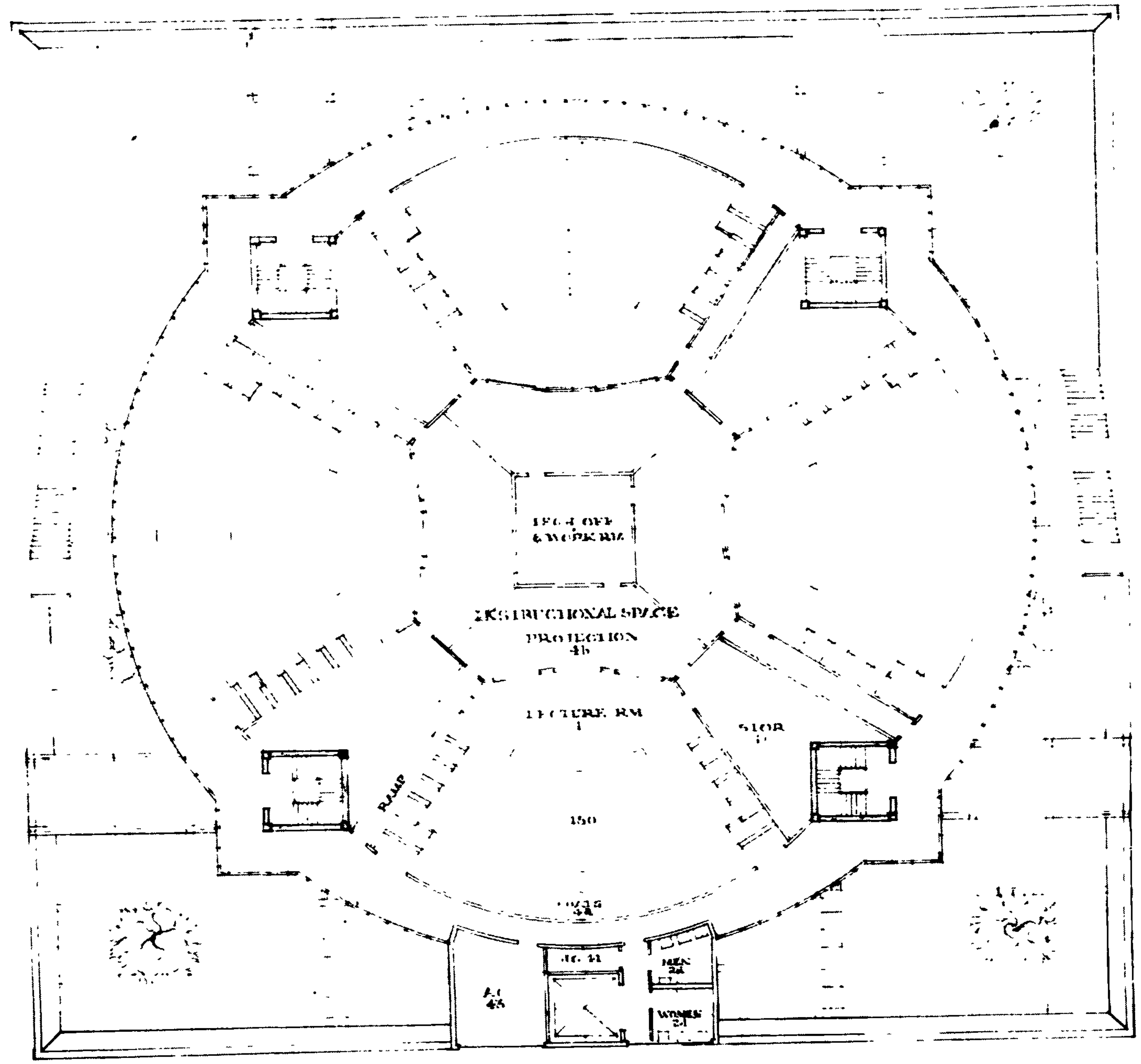

Science Building
Future Building
Future Building
0
100
Parking
Parking

Richard W. Snibbe, Architect

NEW YORK, NEW YORK

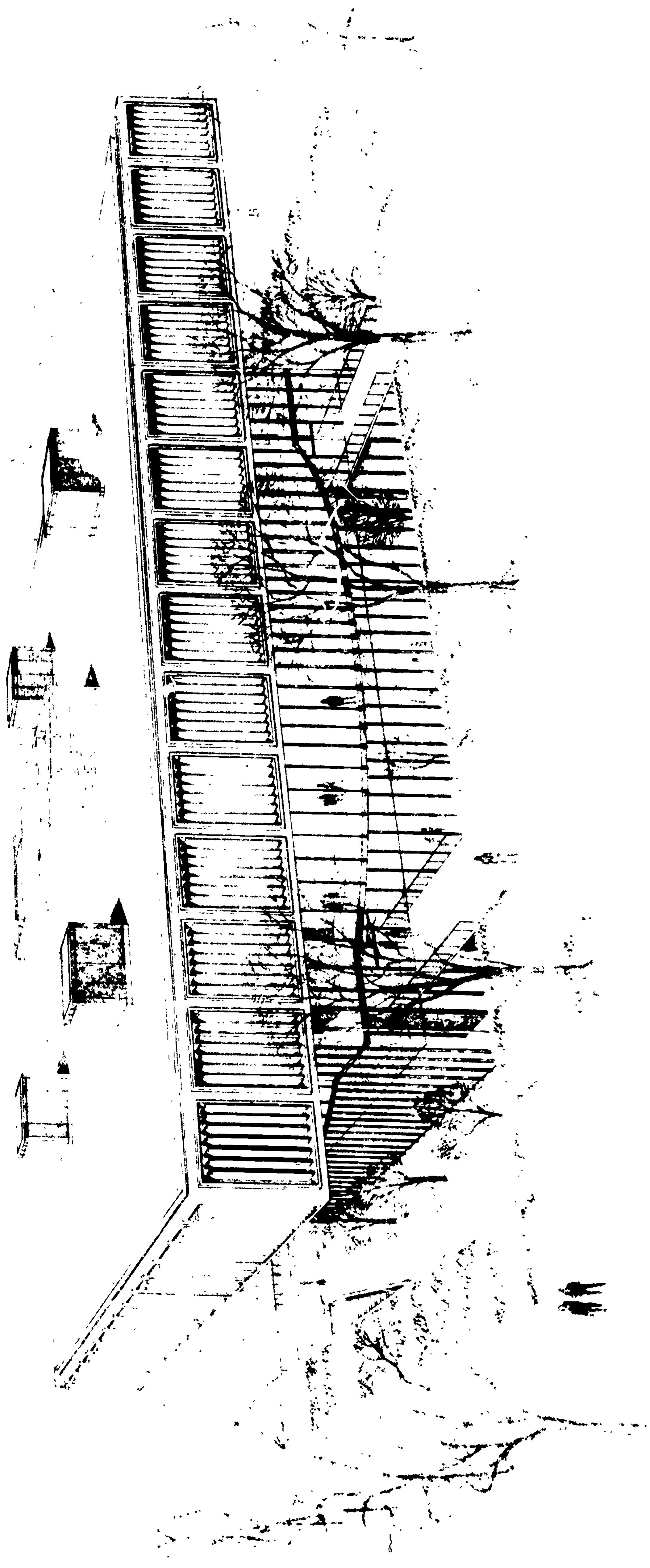


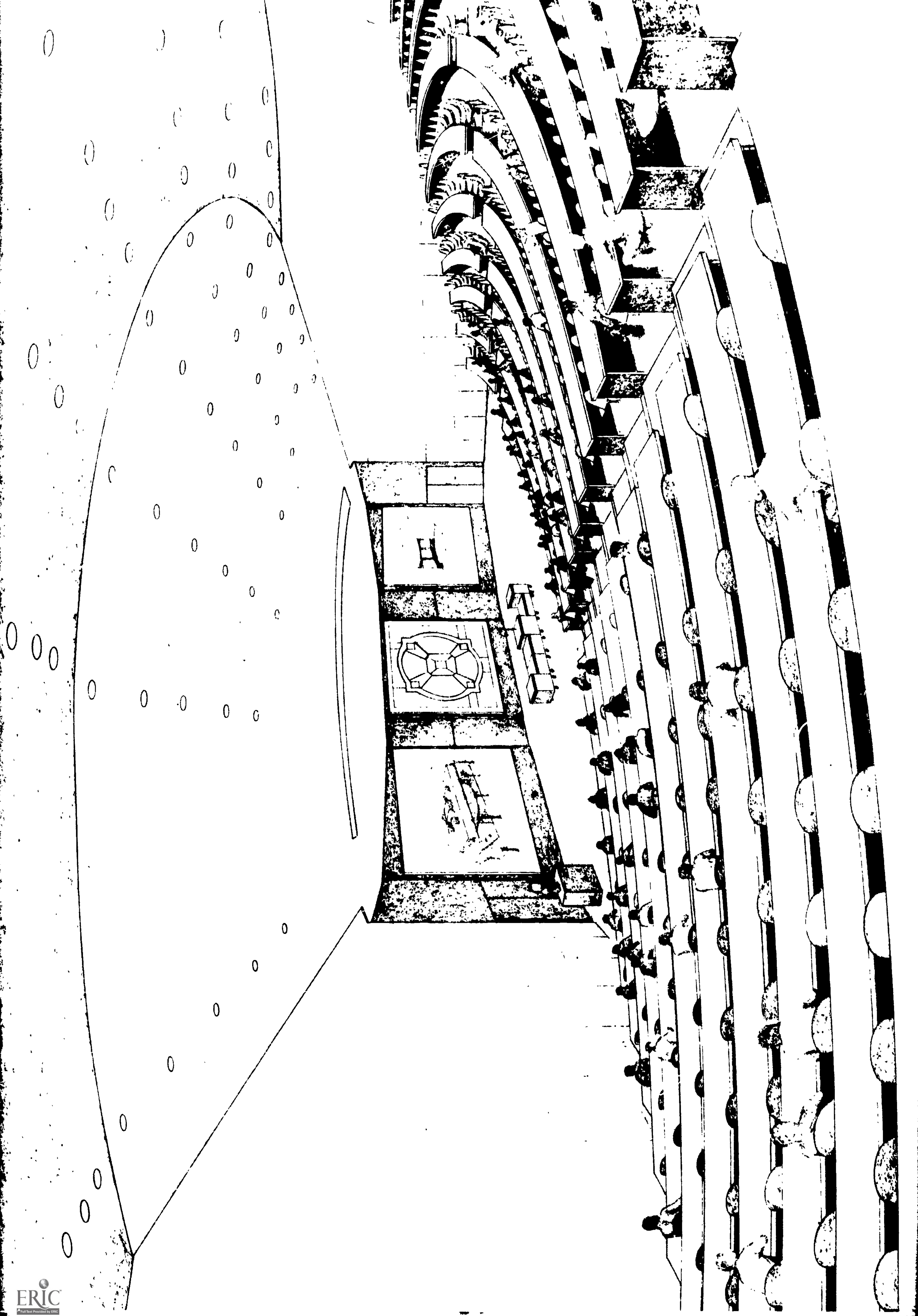
VEST
IIC SPACES
VEST
N SPACE
RECEIVING

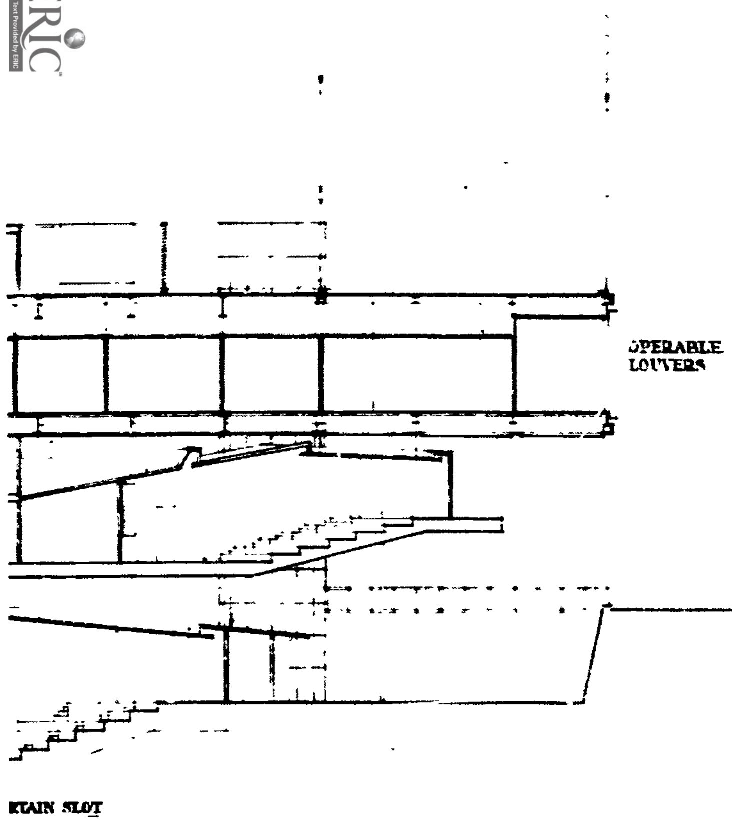


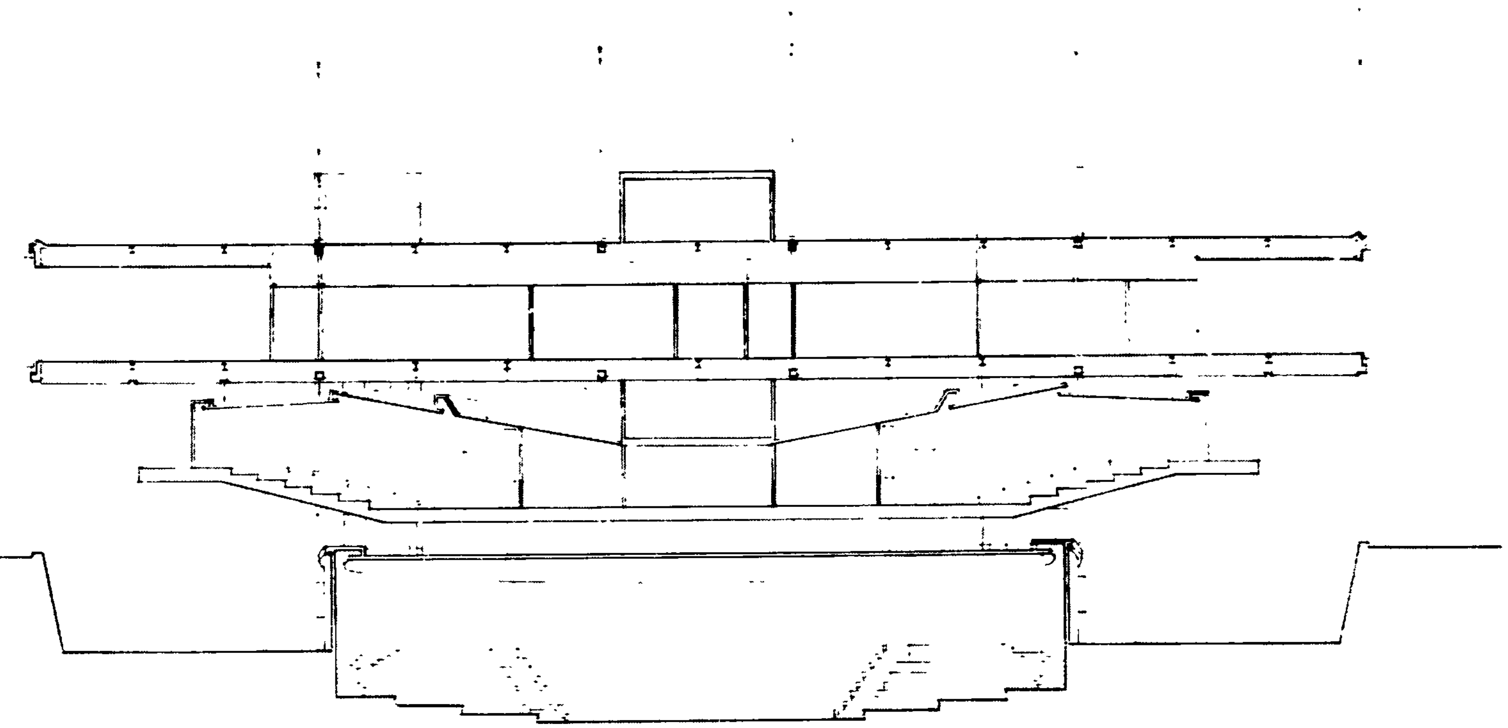
TECH OFF & WORK RM
INSTRUCTIONAL SPACE
PROJECTION
LECTURE RM
STOR
150
RAMP
MEN
WOMEN

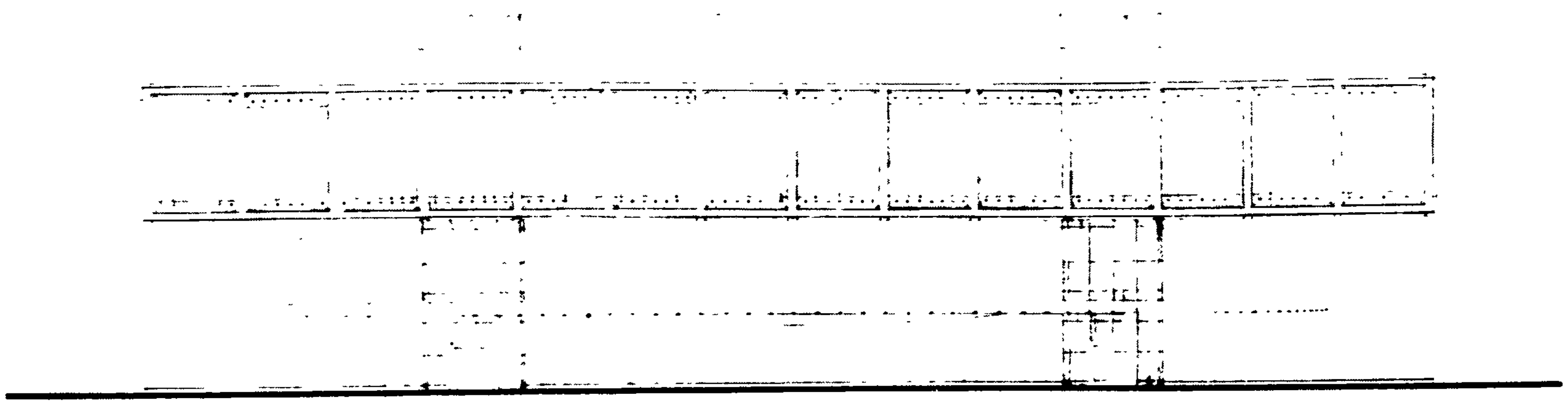
D

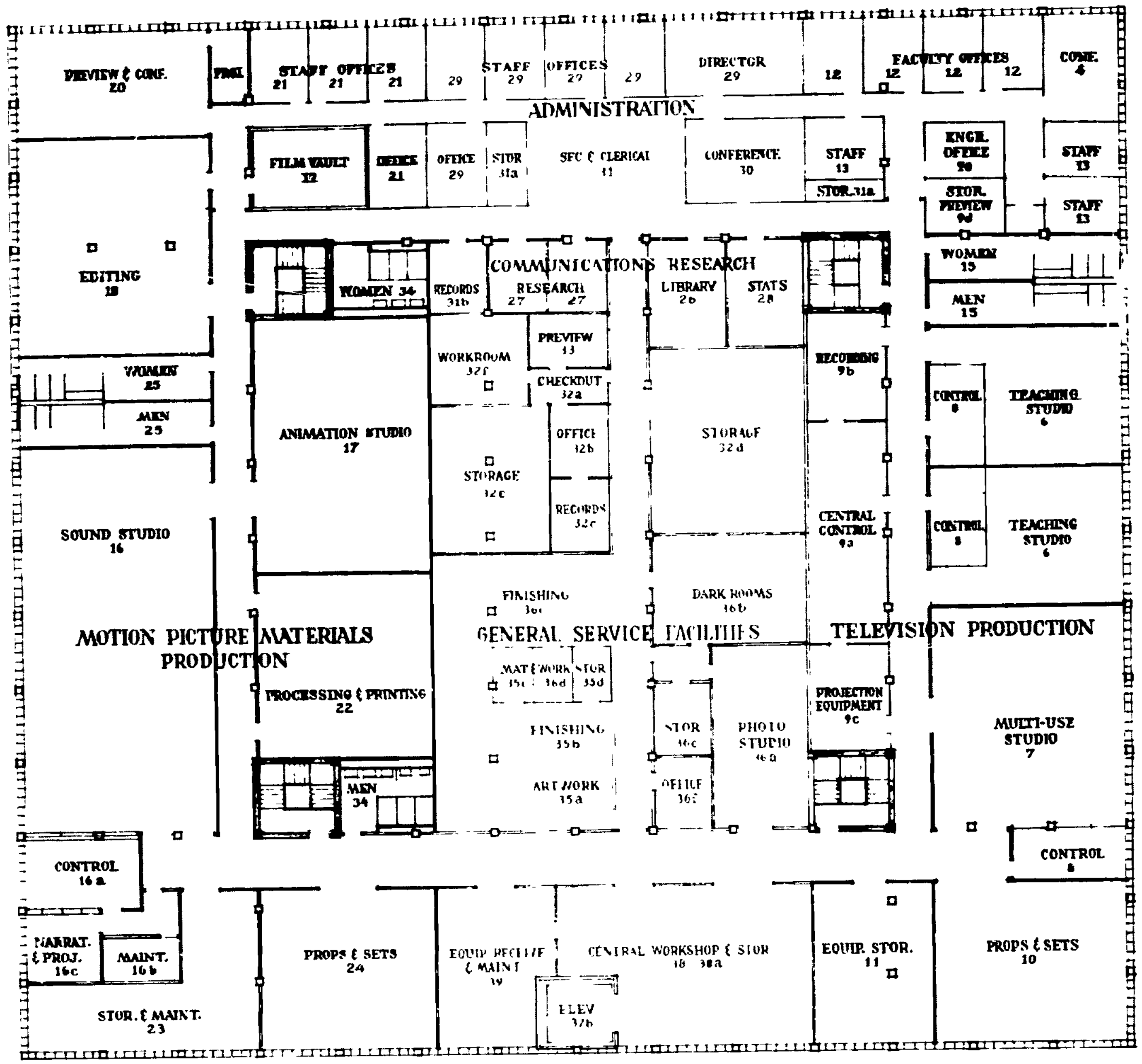




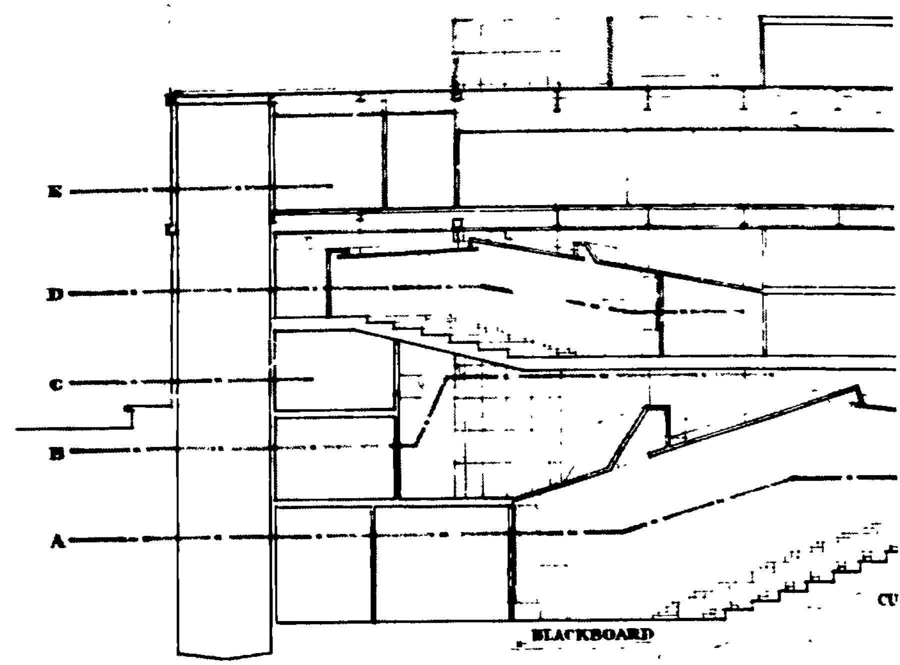

OPERABLE
LOUVERS
RTAIN SLOT

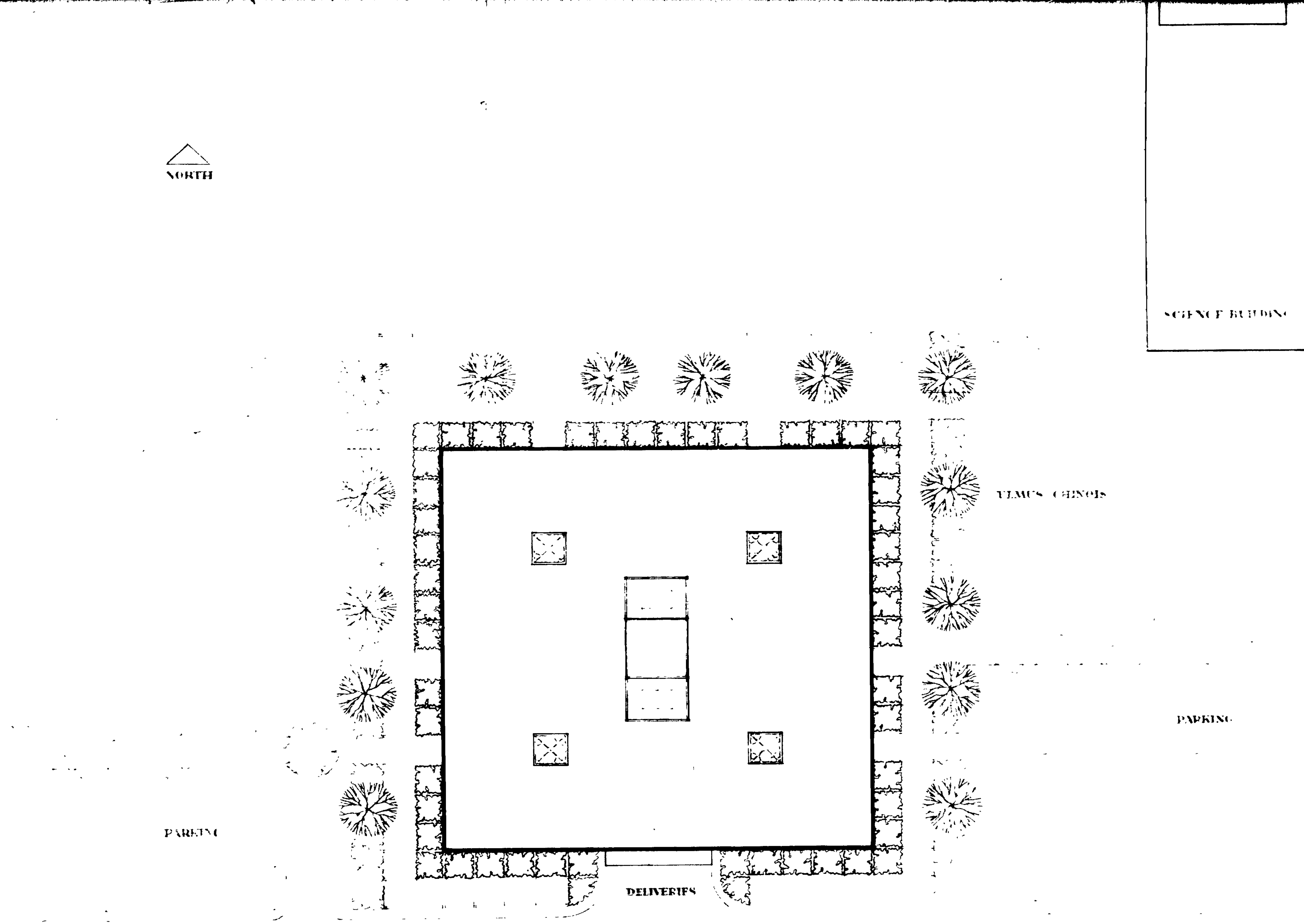





PREVIEW & CONF. 20
STAFF OFFICES 21 21 21
29
STAFF 29
OFFICES 29
29
DIRECTOR 29
12
FACULTY OFFICES 12 12 12
CONF. 4
ADMINISTRATION
EDITING 18
FILM VAULT 32
OFFICE 21
OFFICE 29
STOR 31a
SEC & CLERICAL 11
CONFERENCE 30
STAFF 13
STOR. 31a
ENGR. OFFICE 90
STOR. PREVIEW 9d
STAFF 13
STAFF 13
WOMEN 25
MEN 25
WOMEN 34
RECORDS 31b
COMMUNICATIONS RESEARCH
RESEARCH 27 27
LIBRARY 26
STATS 28
WOMEN 15
MEN 15
ANIMATION STUDIO 17
WORKROOM 32f
PREVIEW 13
CHECKOUT 32a
STORAGE 32d
RECORDING 9b
CONTROL 8
TEACHING STUDIO 6
STORAGE 32e
OFFICE 32b
RECORDS 32c
SOUND STUDIO 16
CENTRAL CONTROL 9a
CONTROL 8
TEACHING STUDIO 6
FINISHING 36c
DARK ROOMS 36b
MOTION PICTURE MATERIALS PRODUCTION
GENERAL SERVICE FACILITIES
TELEVISION PRODUCTION
MAT & WORK 35c
36d
STOR 35d
PROCESSING & PRINTING 22
PROJECTION EQUIPMENT 9c
MULTI-USE STUDIO 7
FINISHING 35b
STOR 36c
PHOTO STUDIO 36a
ART WORK 35a
OFFICE 36?
MEN 34
CONTROL 16a
CONTROL 8
NARRAT. & PROJ. 16c
MAINT. 16b
STOR. & MAINT. 23
PROPS & SETS 24
EQUIP RECEIVE & MAINT 19
CENTRAL WORKSHOP & STOR 18 38a
ELEV 37b
EQUIP. STOR. 11
PROPS & SETS 10

E


E
D
C
B
A
BLACKBOARD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SCIENCE BUILDING
ULMUS CHINOIS
PARKING
PARKING
DELIVERIES

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