FILM STUDIO

JOS

M. TECH. (ARCHITECTURE) THESIS

BY

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CERTIFICATION

I hereby certify that this original were titled: "Film Industry, Jos", is a work carried out by ADESOYE, OLUWAKEMI MOBOLANLE (90/1464) of the Department of Architecture, School of Environmental Technology, Federal University of Technology Minna, in partial fulfillment of the Masters of Technology Degree in Architecture.

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DEDICATION

This project is dedicated with honour, and love to my mother.
CHIEF MRS. COMFORT OLAYONU ADESOYE.

Whom I know is resting in the bosom of her saviour Jesus Christ.

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Jesus, to whom I will continue to owe everything.

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ABSTRACT

Film Industry can be defined as the heart and business of making films, also know as movies, motion pictures or cinema. A moving film, i.e. movies can be described as a series of images recorded on film or tape that appear to move when played through a film projector or video tape player.

Today, film is the most lucrative and popular of form of art and entertainment as well as a highly viable tool and communication medium.

Nigeria's film industry is growing, spurred on by the appreciation and demand by Nigerians for more and more Nigerian made films which are being supplied by a new breed of independent film makers.

Unfortunately there are very few standard film studios in the country thus resulting in compromises in overall Nigerian film quality. For this reason was the project "Film Studio" undertaken, to create a standard studio environment dedicated to the production of film from its inception, execution to final completion.

This thesis also focuses on special studies of studio design consideration which includes acoustics and noise control criteria which are crucial requirements of any film studio. It also explores the different working facilities essential for the project.

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CHAPTER ONE

1.0 INTRODUCTION

Motion-pictures or films, as they are known are considered an art form in today's world as well as one of the most popular forms of mass communication. Since its conception, film has captured more audiences than any other media tool ever existing.

Motion pictures were first conceived in 1895 by the lumiere brothers who discovered that photographic pictures taken in rapid succession on a celluloid substance while the subject is in motion, when projected on a screen forms a MOVING IMAGE.

Based on this revelation the world film industry took off, and grew in to a multi-billion empire that it is today.

Unfortunately it is not so in Nigeria where though film consciousness is rising fast, the Nigerian film industry is still struggling to find her feet though being pioneered by promising young independent film makers and producers unfortunately due to lack of sufficient standard studio facilities they tend to compromise on quality and thus produce films which though marketable are poorly made in comparison to foreign films standards.

For this reason, "the film studio" stands to be a centre for excellence in all things pertaining to film making in Nigeria in order to fulfil a need in the none too distant future for competitive film production on international levels.

The studio is located in Jos where there exists an already healthy atmosphere for film advancement due to the presence of a high number of film students, and of the headquarters of Nigerian film corporation both which will help springboard the establishment of "the film studio" and its contribution to the Nigerian film Industry as a whole.

1.1 MOTIVATION

With reference to films there are basically two types:-

1] The made for television film which is shot directly on tape and played on video cassette player and

2] Film shot by a movie camera on celluloid film that can be played on a projector for large cinema viewing.

Due to lack of standard studios in Nigeria, the art of celluloid film is a dying art contributing to the decline of cinema attendance and the boosting of low quality Nigerian film.

Therefore the motivation behind this project is to design a private standard studio facility that would boost the quality of Nigerian film and encourage film makers to return to celluloid so as to enable the excellent production of films up to international standards and in the large run enhance the quality of future Nigerian film production.

Other motivation factors responsible for the undertaking of the 'film studio' project are:

1] The Nigerian film industry is quickly becoming a fast paced business due to an ever growing demand market and appreciation for Nigerian films.

2] A new generation of Nigerian Film makers have arisen whom wish to challenge foreign standards by competing on their level.

3] There exist only few properly equipped film studios in Nigeria and even fever efficient equipment for post and pre production of film. There are also a growing number of media trained graduates of Nigeria Polytechnic and Film Institutes who lack opportunities to develop their skills which can be channelled into the film studio.

1.2 AIMS AND OBJECTIVES

AIMS

The Aims of this film studio project are:

1] To carry out a study on the procedures of film making, film personnel and operational space with a view to designing an ideal film studio to aid in improving film quality in Nigeria.

2] To design acoustically treated film studios ideal for film shooting with provision for highest standard film equipment.

3] to design a film industry environment with the mandate of producing a minimum of thirty films per year.

4] To design a film environment with adequate facilities beneficial to the skill of film students.

5] To offer diverse career opportunities for film graduates.

6] To encourage Nigerian participation in the competitive international film market.

OBJECTIVES

The objectives is set to evolve consideration in design towards better noise control. This involves the studies of the methods employed in controlling noise and acoustic requirements with respect to film studio

1.3 RESEARCH METHODOLOGY

In carrying out this study, various methods of obtaining research information or data were employed. This involved:-

i] **Literature Review:** This involves the extensive use of libraries for the purpose of finding out information about this area of study in order to have a sound theoretical base.

ii] **Case Studies**: This involves knowing the extent of work carried out in this area of study. Determining the architectural design problems encountered and correcting them in this study 2 levels of case studies are employed. The first, is the local level where cases found within the country are selected and analysed.

The second level is the international level, where cases found outside the country were selected and analysed though not visited but received from various architectural journals.

iii] **Interviews:** This involves asking questions from members of staff of existing film studios who have knowledge of the film industry working processes.

Some of the questions asked during the interview includes:-

a] The organizational set up of a studio
b] The choice of location of the studio
c] Suitability of the site
d] Provisions made in controlling noise in the studio.

iv] **Personal Observations:** This is the form of familiarization with the nature and general characteristics of the study.

1.4 LIMITATIONS

The major constraint or limitation in this field of study is the non acquisition of accurate or detail drawings of the cases documented.

1.5 SCOPE OF WORK AND STUDY

The film studio project covers facilities ideal for both celluloid filming as well as for television filing. Therefore the scope of work includes a broadcast television studio as one of the facilities within the planned framework.

The thesis also covers the control of noise and studio acoustics, dealing basically with the identification of noise source for studio environment and the methods of controlling them architecturally. However the scope does not cover the aspect of mathematical calculations and solutions in the noise and acoustic study.

1.6 HISTORICAL DEVELOPMENT

1.6.1 THE INVENTION OF MOVING PICTURES

Since earliest times, people have been interested in portraying things in motion. during the late 1800's developments in science helped stimulate a series of inventions that led to projected moving pictures on celluloid film. These inventions laid the foundation for a new industry and a new art form the first successful photographs of motion were made in 1877 and 1878 by Eadweard Muybridge, a British photographer who took a series of photographs of a running horse.

Muybridges feat influenced inventors in several countries to work toward developing devices to record and represent moving images. These inventors included Thomas Armat, Thomas Alva Edison, C. Francis Jenkins and Woodville Latham in the United States; William Friese Greene and Robert W. Paul in Great Britain, and the brothers Louis Jean and Auguste Lumiere and Etiennes Jules Marey in France. through their efforts, several different types of cine-cameras and projectors appeared in the mid - 1890's.

In 1893 the first commercial moving picture machine called the 'Kinetoscope' was displayed by Edison, it consisted of a cabinet showing unenlarged 35 millimeter black and white films running for 90 seconds which the viewer watched through peepholes as the film moved on spools. These were later replaced by projection machines that drew greatly enlarged pictures on a screen. These new machines allowed many people to view a single film at the same time.

The Lumiere brothers held a public screening of projected moving pictures on Dec. 28, 1895, in a cafe in Paris. Edison, adapting a projector developed by Armat, presented the first public exhibition of projected moving pictures in the united states on April 23, 1896, in a New York city music hall.

1.6.2 EARLY MOVING PICTURES

Film screening soon became a popular entertainment and were shown by projectionists anywhere from small shops to large music halls. The most popular subjects included re-creations of current news events and dramatized folk tales. The first buildings designed as cinemas, for the screening of films, opened in the late 1890's.

1.6.3 SILENT-ERA

Films then were made without recorded synchronized sound. However exhibitors sometimes accompanied the images with music or lectures, or off screen live actors to provide dialogue.

Later, printed titles were inserted within the films the titles gave dialogue, description of action or commentary Edison's company dominated the early years of film making through its control of patents of film making equipment.

1.6.4 MOVIES TALKIES

During the 1920's engineers in the United States and Germany were working to develop a technology that could add synchronous recorded sound to films. By the mid 1920's a few systems were ready for demonstration. The first sound film to create a sensation was the Jazz singer (1927) where a popular American entertainer gang and spoke in synchronous sound using a system in which the sound from a mechanically recorded disc was mechanically synchronized with the film strip this was soon replaced in 1929 by a method that used electronic sound to record sound directly on the film strip.

The coming of sound marked a turning point in the history of the cinema, films went through an awkward period of adjustment and introduce greater changes in film personnel such as directors, dialogue writers and stage performers.

The arrival of sound also gave new emphasis to the role of language in cinema. Many countries strengthened their film industries out of national pride in their language and culture. Some countries restricted the importation of American films, in order to encourage their domestic film industry.

1.7 THE WORLD PERSPECTIVE OF THE FILM INDUSTRY

INTRODUCTION

Presently over 50 countries of the world are regularly producing feature length entertainment films, in all about over 4000 films in a year from which the rest of the world depends for supply. As of 1975 fight countries in Africa had produced their first feature films.

Today film production, distribution and exhibition are usually run by private commercial enterprises especially with the gradual breakdown of communism on areas of the former Soviet Union, and Eastern Europe.

The 2 largest film producing countries of the world as from 1975 were assign.

1. INDIA
2. JAPAN.

In 1965,Japan produced nearly 900 films and was by far the largest producer ever of feature films.

As of 1981 the Number of file produced a year by worlds major country were.

COUNTRY	**NO OF FILMS PER YEAR**
JAPAN	900
PEOPLES REPUBLIC OF CHINA	400
ITALY	200
USSR	280
FRANCE	250
GERMANY	150
GREECE	150
SPAIN	150
TURKEY	150
CENTRAL AMERICAN	150
MEXICO	150
UNITED KINGDOM	90
EGYPT	60
BRAZIL	50
CZECHOSLOVAKIA	30
ARGENTINA	20

During the silent ear of films before sound, the leading film producing countries of Europe which were Germany and the Soviet Union were displaced by Great Britain and France, by producing successful sound movies.

The rise of dictatorships in Germany and the Soviet Union hampered film making in those countries thus causing many film makers to flee and settle in the United States or to be more specific Hollywood. The centre of American's film industry.

1.7.1 FILM INDUSTRY IN AMERICA

In the early years of film making, in the United states movies were made in several major U. S. Cities. But as the industry developed, film makers began working more and more in Southern Californian. They were drawn by a climate suitable for year round outdoor film shooting and by the availability of varied scenery.

By the time world war I broke out in Europe in 1914, a number of companies had established studios in and around the Hollywood district of Los Angeles. After the war ended in 1918, American movies became dominant world-wide and the name Hollywood came to stand for the values and styles of American films.

Hollywood was in effect an entertainment factory producing over 500 feature films each year like any factory with a goal to produce a large number of products of consistent, dependable quality. Also like any factory, its organising principle was the division of labour separate department for writers, performers, technicians, film cutters, publicity men etc. each of which contributed its piece to the finished whole. A film was not an individual artistic and commercial enterprises but one part of a whole year's output.

FACTS ABOUT HOLLYWOOD BY 1940

NO OF FILM PRODUCERS	159
NO OF ACTORS	1,753
ACTRESSES	28.6%
ACTORS	71.4%
NO OF FILM DIRECTORS	232
NO OF SCRIPT WRITERS	650

However through Hollywood is still known as the film factory capital of the United states Several independent film makers have arisen in the 90's and made successful movies in the other capital cities were there are an increasing is number of studios established.

1.7.2 FILM INDUSTRY IN INDIA

India has one of the largest film industries in the world approved by the censor's board amounted to 433 (with 83 in colour) in 1970, and 1960.

These were in various languages like Hind, Telegu, Tamil, Malayalam, Kannada, Bengal, Marath and others like Gujarati, Assamese, Tulu, Punjabi, English, Bhojpuri, Maithili, Chattosgarhi, Sundhi, Oriya and Konkani.

Madras and Bombay are the country's largest production centres with Calcutta in third place. Together, they have some 250 producing companies and over 60 studios, mostly under private commercial ownership.

1.7.3 THE FILM INDUSTRY IN JAPAN

Japan has been one of the world's leading feature-film producers. Production rose from 549 feature titles in 1960 to 893 in 1965 and has gradually declined to 390 in 1972. About half of these are made by 5 major producing companies and the remainder by independent producers. Some 1450 short films, including 856 documentaries, 541 instructional and 57 entertainment, were produced in 1972. There are about 190 companies producing educational and industrial documentaries.

Of the 283 feature films imported in 1972, 138 came from the USA, 33 from FRANCE, 31 from the UK, 30 from ITALY, 27 from the FEDERAL REPUBLIC OF GERMANY, 9 from USSR, 6 from SWEDEN and 9 from other countries.

Annual cinema attendance which totalled 1014 million in 1960, had declined to little more than a sixth of that figure in 1972. Over the same period, the number of cinema (7200 in 1960) dropped by more than 60%. About 60% of all

cinemas show Japanese films and 24% imported films, while the remainder present both Japanese and foreign film.

1.7.4 THE FILM INDUSTRY IN CHINA

The Ministry of Culture's Film Administration Bureau has two main divisions - one concerned with film production and processing, and the other with distribution and exhibition - both of which are represented at provincial and municipal levels.

Production in 1964, from the 7 major and numerous smaller studios totalled 480 feature films, 3000 newsreels, 1400 Scientific films and over 200 Cartoons, many of which are shown on the television. No figures are available for years later than 1964, but it is reported that film production has since been greatly reduced.

The largest audiences are reached by mobile projection teams that travel from village to village in every administrative area of the country. In 1964, there were 12,000 such teams, in addition to 4000 films clubs and over 2000 fixed cinemas.

1.7.5 THE FILM INDUSTRY IN THE UNITED KINGDOM

The British Film Industry's facilities include 16 main studios and 10 major processing laboratories. Direct government encouragement to the industry consists of:

a] a regulation requiring that 30% of first feature films shown are British made.

b] a levy on cinema admission which goes towards British production costs.

c] aid from the National Film Finance Corporation for the production of export films.

In addition the British Film Institute, founded in 1933, receives an annual government grant which is meant:

"to encourage the development of the art of the film, to promote its use as a record of contemporary life and manners and to foster public appreciation and study of it from these points of view"(1)

These objectives were extended in 1961 to foster study and appreciation of films for television and television programmes generally and to encourage the best use of television.

The Institute's activities, fall broadly into three main divisions:

i] A National film Archive which is maintained to acquire and preserve important films.

ii] An educational department which provides lectures and other services to Societies, Schools and Colleges running film courses.

iii] In London, the institute assists the maintenance of cinemas devoted to showing films of high quality.

Unfortunately in British, American made features films continue to draw the largest cinema audience and thus tend to dominate British cinema culture.

In 1972 full length feature films registered with the Board of trade, which through its film's branch, is responsible for the commercial and industrial aspects of the film industry in British.

Film societies are found throughout the country about 600 of these with 120,000 being grouped in the British Federation of Film societies. Such societies along with schools and other institutions draw on the resources of film libraries like those of the British Film Institute, the central office of information.

1.7.6 FILM INDUSTRY IN NIGERIA

It is necessary to have a brief historical perspective to understand the late development of the Film in Nigeria and the apathy of Successive Nigeria Governments, both colonial and indigenous, to the cinema as an avenue for cultural identity.

Early Nigerian Films were mainly documentaries. Feature Films were rarely produced. The real first attempt was FREEDOM (a non-Nigerian enterprise) produced for the Moral Rearmament in 1957. Its cast was mainly African and the location, Nigeria. The script was written by Ezekiel Mpalele, a South African, then teaching in the University of Ibadan.

In 1962, during the reign of Chief T.O.S. Benson as Federal Minister of Information, the late West Indian Actor, Edric O' Connor, directed a mini-feature (30 minutes duration), titled BOUND FOR LAGOS for the Ministry of Information. The film shows social and economic progress in Nigeria with emphasis on the country's means of transportation and communication.

It was not until the 70s that any commercial activities started in local feature film production. KONGI'S HARVEST (1970) was among the significant film made by private film makers. This is a film version of the play, written by world famous Nigerian playwright, WOLE SOYINKA who also wrote the filmscript. The film which was Nigerians to be over 90% of the actors was produced by Francis Oladele, directed by a black American - OSSIE DAVIS, and released by CALPENNY FILMS of Nigeria KONGI'S HARVEST is a satirical commentary on the First Republic of Independent Nigeria.

THE SON OF AFRICA and GOLDEN WOMEN (1971) were produced by FED FILMS LTD., followed by THINGS FALL APART, which briefly went under, the title of "BULLFROG IN THE SUN". It was also produced by FRANCIS OLADELE for CALPENNY-NIGERIA FILMS LTD.

The next was Dr. OLA BALOGUN'S ALPHA, (another Nigerian director) which broke new grounds as an Anglophone's initiative receiving the support enjoyed by Francophone film-makers and therefore with a good chance of

distribution in French and English speaking areas. (1) AJANI-OGUN, AMADI AND MUZIKNAN were also directed by Dr. OLA BALOGUN and produced by AFROCULT FOUNDATION LTD.

As of the early 80s, well into the 90's Nigeria has been experiencing a rapid boom in video cassette films sales and a drastic decline in cinema attendance with the preference of people to watch films within the safety of their homes.

All these changes are as a result of he technological advancement made in the manufacture of video recorders which easily record sound and visual directly on tape thus saving costs and providing a faster and easier alternative to the use of celluloid film that takes a longer and more expensive process.

It is as a result of this that a variety of Nigerian films have flooded the Nigerian film market with film titles such as 'GLAMOUR GIRLS', 'ATROCITIES', THE GREAT MISTAKE and many others financed, filmed and distributed (not exhibited) by private film production companies.

Though these films have proven very popular, hence their success in Nigeria, very few measure up to international standards due to the limitations of a video camera which tend to influence the film.

Also, many Nigerian films tend to be mostly dreamers orientated with the video camera being nothing more or less than a passive spectator. Few film makers have mastered the techniques of film direction and photography because it is virtually impossible to do so with only a video camera.

However, most of the Nigeria audience do not mind they are simply delighted with the film plot that range from melodrama, to a moral tale of reflections of gruesome occultic or religious occurrences.

Though are a cliché are still the most popular film subjects. The secret of their success being the thrill of Nigerians seeing themselves acting out culture and beliefs which they can easily identify with.

1.8 THE STRUCTURE OF THE NIGERIAN FILM INDUSTRY

The structure of the Nigerian film industry has evolved from three era's in Nigerian film history during the pre-independence, post independence and post indigenisation decree periods. They are:

1] The colonial film unit (CFU) period 1903-1960
2] The independent/indigenisation decree period: 1960-1982; and
3] The NFC period: 1982-199?

1.8.1 THE COLONIAL FILM UNIT PERIOD: 1903-1960

The structural evolution of the industry at this stage had 2 priorities:

i] The production and distribution of the documentary

ii] The production and distribution of the feature film.

All these activities were clearly dominated by the colonial government who financed them by channelling production capital resources through the central office of information, London, the British Council, the Colonial Film Unit and the Crown Film Unit who produced documentaries for about/the colony.

The regional government acquired these films through the colonial government, and in return made them available to commercial companies and government agencies, religious bodies, commercial exhibitors, schools, clubs, etc. for exhibition to the audience.

In effect, both he colonial government and the regional government functioned as distributors, they owned mobile cinema vans which played an invaluable role in the exhibition circuit. These vans were used to reach the audience in those towns where there was no electricity. All the films shown then were documentaries and exempt from censorship.

The control of the colonial government's control over documentary films was direct although their control over feature films were indirect. This indirect control was expressed in part through avenue which films and film-making equipment had to be imported into the colony. It is significant that there is nothing in any of the surviving documents to indicate any form of restriction over such importation. The other means by which the government exercised its indirect control of the feature film was by outright censorship. All feature films meant for public screening in the colony were censored.

To this end, a Board of Film Censors was established in Nigeria 1933. In an excellently researched paper, 'Goal-oriented Film censorship Policy for Nigeria: Lesson from the colonial Era', based on primary archival records, which was written went to great lengths to show that "the key problem of colonial film censorship in British-Nigeria was the absence of officially prescribed censorship criteria which was a deliberate plot to further only the interests of the privileged colonial and anti nationalists.

This dominant feeling went into the making of most of the 280 documentaries and other feature films released by the Colonial Film Unit (CFU) which as a result did not include Nigerians in any significant way in the production. Meaning, from scripting and directing, through shooting to editing and sounding, Africans figured only in significantly minor roles... production policies were formulated over and above the heads of Africans for whom and with whom the films were made (Ekwuazi, 1987:7).

The production process played out the marginalisation which colonialism scripted for the colonized.

The figure below easily illustrates the film industry during the colonial film unit, pre-independence era.

a. The diplomatic representative of any common wealth of foreign country.

b. The Federal Government and Regional (State) Government.

c. The United Nations Organisation or an organ of that organisation; and

d. Any educational, scientific/cultural body or society, including any broadcasting or television organisation.

The major producer in the list is the Federal Government. With funds from the Federal/State Ministry of Information , the Federal Film Unit/State Film Unit made films on behalf of the Federal/State government. The Unit directly screened those films or in the alternative, distributed them through agents in then town or villages. Perhaps as the throwback to its CFU antecedents, the Unit specialized in documentaries. Howbeit, it made a few features: son of Africa (1971): co-produced with Lebanese (Cartel) Golden Woman (1971), My good Friend (1975), count Down at Kusini (1977), and Shehu Umar (1977).

The independence operated through an entirely different circus
it in that their films had to be censored by the government. Through the Department of Customers and the ministry of Trade, both of which monitored and controlled the importation of films and cinematographic equipment, the government was able to wield another form of indirect control over the independents.

The distribution-exhibition network was dominated by foreign
films especially, the American action films, the Western, the Indian and the Karate film.

Of particular interest at this stage is the evolution of the
industry is the emergence of indigenous (independent) producer. Calpenny Films Nigeria Limited blazed the trial with Nigeria's first independent feature, Kongi's arrest in 1970. It followed this, a year later with "Bullfrog in the Sun". Afrocult Nigeria Limited came out with Nigeria's first Igbo film "Amadi", in 1975, and the first Yoruba film "Ajani Ogun" in 1976. The first hausa film "Shehu Umar", was turned out by Federal Films in 1977, In fact, between 1962 when Federal Film's short feature, Bound for Lagos was made; to 1982 when Ogunde's "Aropin Nigeria" appeared, some 30 Nigerian feature films were released by independent producers.

The distribution-exhibition problems encountered by "Kongis Harvest led to the structural fluidility which has become a characteristics of the industry. Denied any entry into the Lebanese dominated distribution-exhibition network, Afrocult had to resort, as it were, to hawking its films around - thus setting the trend for Nigeria producers to be their own distributors and exhibitors.

Relative to the CFU era, censorship critical at this stage were clearly defined, if equally ineluctated. By the cinematograph (Film censorship) Relationships (1984), enacted under the cinematograph Act (1963), to obtain the censor's seal of approval, a film should not:-

a. Undermine national security

b. Induce or reinforce corruption of private and public morality.

c. Encourage illegal or criminal acts.

d. Expose people of African decent to ridicule and contempt and should not encourage racial, religious or ethnic discrimination and conflict.

e. Encourage racial, religious or ethnic discrimination and conflict.

There was a basic problem with censorship at this stage and it had to do with the translation of these criteria into practice. It was, on the whole, a throw back to the colonial era. For a Board the could outrightly approve `Mandingo' (which exploits virtually all the negative stereotype of the negro) for exhibition but, contrarily, approve `Bullfrog in the Sun. (An adaptation of Achebe's Things Fall and No Longer at Ease).

Subject to major alterations/executions was definitely very colonial in orientation.

1.8.3 THE NIGERIAN FILM CORPORATION PERIOD: SINCE 1982 TO 199?

The extant structure of the Nigerian film industry that has evolved since 1982 - is different from the earlier structure in two broad respects:-

a. The emergence of an entirely new discrete unit, that is, the Nigerian film corporation (NFC); and

b. The emergence of a censorbroad, extraordinary inscope and powers.

The Decree (No 61) establishing the corporation was promulgated in 1970 through the corporation did not come into being till the enabling Act of 1982.

The Statutory functions of the corporation are:

a. The production of films for domestic consumption and for exportation.

b. The establishment and maintenance of facilities for film production.

c. The encouragement of the productions by the Nigerian of films through financial and other forms of assistance.

d. The encouragement of the development of cinematograph theatres by Nigerians by way of financial and other forms of assistance.

e. The acquisition and distribution of films.

f. The establishment and maintenance of national film archives.

g. The provision of facilities for training and advancing the skills of persons employed in the Nigerian film industry generally and the conduct of research into matter pertaining to film production and the film industry as a whole; and the pursuit of such activities as many may be necessary of expedient for the full discharge of all or any of the functions assigned to it under Decree No.61 (1979).

The Nigerian Film Corporation, to which has been seeded all the commercial functions of the Federal Film unit is, in addition to other things, a producer, distributor, and all rolled into one.

As a producer (of documentary films) it distributes its films through agents directly but such films have to pass through censorship.

The scope of its statutory functions makes the NFC the apex institution for the development of the film industry. Within the first decade of its existence, the NFC has tremendously impacted on the industry, for the corporation has since its inaugurated a BI-annual film festival; it has also established a National Film Archives, a colour film procession laboratory and a sound Dubbing Studio - both of which have been adjudged the best on the west coast. Besides, the corporation has also midwifed the birth of a comprehensive National film policy (1994) - objectives of which are:-

a. To establish a virile self-sustaining, profit-oriented film industry.

b. To serve as vital instrument for international image building.

c. To protect our rich cultural heritage and our national aspirations in the process of industrialization and integration.

d. To serve as a tool for national cohesion.

e. To serve as a vehicle for public enlightenment, education, entertainment and mobilization.

f. To encourage the production and exportation film; and

g. To mobilise and motivate the people by propagating ideals which promote national pride, solidarity and consciousness.

The policy aims at the mobilization of all the structures in the industry.

CHAPTER TWO

2.0 BACKGROUND INFORMATION

INTRODUCTION

Of all the media Mass Communication, the motion picture has perhaps the most universal appeal and impact. Properly convince and execute, a film can rise above the limitations of languages and culture barriers by the power of it's visual images, its use of music and sound, effects, and can succeed in conveying much the same message to audience of heterogeneous background.

The ubiquity presents of film and cultures the world over, and the dominance of low film-makers and distributors, have almost guaranteed that what people know about other places is learnt, at the cinema through film.

The film has become the most potent weapon by which the identity and character of a nation (her image, culture, peculiar sound as the most powerful method of communication because of its ability to combine sound and vision and create psychological identification between the audience and the screen Character.

As a veritable for furthering progress and natural development through it's ability to persuade, convince, convert and reshape opinion, it is widely acclaimed as a medium for enlightenment and education. The film will assist us in the struggle to free Nigeria and Africa mentally, physically and economically from shackles of foreign domination through the establishment of a Virile Film Industry.

Apart from the popularisation, renaissance and preservation in Celluloid form at least, of Nigeria culture in Africa and abroad, making film in Nigeria will create job opportunities for film makers and also create auxiliary industries as:

i. It will sell newspapers and magazines which will write about actors and actresses and films.

ii. It will sell manufactured goods at home and abroad,

iii. It will create increased import and export trade and make money at home and abroad.

Through Nigeria has trained film Technicians she has to send her filmed materials to foreign laboratories at some loss in foreign exchange because facilities for the development and processing of films are virtually non-existent.

Inspite of its repute characteristics however, film is the least development of the mass media in Nigeria. It has been neglected by all the governing of Nigeria, paradoxically it was probably more deliberately exploited by the colonial administrations than by any other government. the ECONOMIC, TECHNICAL and SOCIAL INFRASTRUCTURAL which support the growth of the film Industry to a point of becoming self-sustaining have so far not emerge in any significant from in Nigeria.

In this thesis our examination of the reasons behind this curious state of affairs has been while suggestion of ways for eliminating the neglect of the Film medium as well as a proposal for the strategies for the creation of a dynamic and virile FILM INDUSTRY compatible with Nigeria's economic and cultural condition s have made.

Above all a specific translation of the suggested move has been into a physical reality by the proposal of an ARCHITECTURAL POSSIBILITY OF THE NIGERIA FILM INDUSTRY.

2.1 THE PHILOSOPHY AND THE CONTENT OF THE MOTION PICTURE (THE FILM)

All art, whether painting, music, poetry, drama or film, has at the base same motive, which may be said to be the creation of works in the presence of which observer or listener will experience either pleasure or pain as the mood of the work demands. (1) A remarkable effective medium in covering drama and especially in the location of emotions, motions pictures consist of the projection of luminous moving ages on to a screen.

The art of the motion picture is exceedingly complex, requiring contributions from all of the other arts as well as countless skills. Nonetheless, probably no other art proliferated as much in the 20th Century nor any other equal it in popularity or influence.

2.1.1. QUALITY OF THE FILM IMAGE

The primary unit of expression in film is **THE IMAGE,** or the single short. The attribution of magical properties to images has a long history, this association is well documented among primitive people, and it is even reflected in the term magic lantern as a Synonym for the film projector. Any image taken out of the everyday world and projected onto a screen to some extent appears to b economically transmitted.

ESSENTIAL CHARACTERISTICS OF MOTION PICTURES

In it short history, the art of motion picture has frequently undergone charges in it seemed fundamental, such as that resulting from the introduction of sound. It existed today in styles that differ significantly from the country and in forms as diverse as the documentary created by on e man with a hand held camera and the multi-million-dollar topic", (2) involving hundreds performance and technicians. Despite's its diversity, however, an essential unchanging nature can be discern in most of its manifestation.

A number of factors immediately comes to mind in connection with the motion picture experience. for one thing, there is something mildly hypnotic about the illusion of movement that hold attention and may be even lower critic resistance. also, the accuracy of the motion picture image is compelling because it is made by non-human, scientific process. And, the MOTION PICTURE gives what has been called a strong sense of being present; the image always appears to be in the present tense. there is also the concrete nature of films; it appears to show actual people and things.

No less important than any of the above are the condition under which the motion picture ideally is seen, where everything helps to dominate the spectator. He is taken from his everyday environment, partially isolated from others, and prevents comparison of the image on the screen with the objects or people around him. For a while, he lives in the world the of motion picture unfold before him.

The philosophy and content of the **MOTION PICTURES** can be divided into those characteristics that:-

i. pertain primarily to the motion picture image.

ii. pertain to motion pictures as unique medium for work of arts.

iii, derive from experience of viewing motion picture.

i. INTENSITY, INTIMACY, UBIQUITY

Once critic singled out the qualities of intensity, intimacy and ubiquity as the salient characteristics of the motion picture image. Its intensity derives from it's power to hold the complete attention of the spectator on whatever bit of reality is being shown. Outside the theatre, a person's attention is usually dispersed in the endless reality around him except for sporadic moments of concentration on which he selects for closer scrutiny.

In the cinema, he is compelled to look at something that not always appear immediately apparent. This quality of intensity becomes most noticeable when the camera remains fixed on something for a longer time that seems warranted, and the spectator gradually becomes acutely conscious of his volition over his own attention.

The Intimacy of the film image is related to the camera's ability to see things in greater detail than the eye can. This ability is demonstrated in long distance shots through a telephoto lens as well as in close - ups.

The impression of ubiquity - being everywhere at once - is achieved in part by the camera's apparent freedom to move from place or approach or withdraw instantaneously. No less important to this illusion of ubiquity is the effect achieved by editing, which

allows countless images representing a long, elaborate action s, to be presented in a comparatively short film.

ii. **PARTICULARITY**

One of the other equally important characteristics of the film image that can be singled out is its **PARTICULARITY**. The language of words lends itself to generalisation and abstraction. In themselves, words such as man or house in general; and more abstract terms such as love or dishonesty have even less precise association with specific things.

Motion pictures on the other hand, only show particular man or a particular house. In this way a film image may be less ambiguous than the language of words but also evocative, less likely to be enriched by imagination, association or recollection.

Despite it's particular however the motion picture image may also be ambiguous in that it shows but does not explain. It does not in itself tell what is means, and people instinctively search for meanings in images. This is why commentary is so important in a documentary film. It is also why the juxtapositions montage are so effective - the spectator compulsively searches for the reason behind that particular sequences of images.

iii. **NEUTRALITY**

Another characteristics of the **FILM IMAGE** is it's **NEUTRALITY**. The world a person sees around him is strongly influenced by his emotions and his interests; the camera, however, reproduces everything in front of it, without feeling. An important part

of any artistic training is to cultivate a neutrality of vision, the ability to see everything fresh; the camera possesses this faculty naturally.

When a film appears to be charged with emotion, it is usually because the director has carefully manipulated images to give this illusion. In everyday life, the eyes follow the mind; in the cinema the mind follows the eyes.

2.1.2 CHARACTERISTICS OF THE MEDIUM

Four characteristics may be stressed as factors that differentiate the motion picture medium, either in degree or in kind, from other media for works of art.

i. LUMINOSITY
ii. REALISM
iii. MOVEMENT
iv. MONTAGE

i. LUMINOSITY

The intense brightens of the picture projected by powerful light unto the screen in itself transforms the most mundane element of reality. The appeal of a luminous picture is attested by efforts of advertisers to achieve luminous effects in posters and displays and in the popularity of viewing still photographs as transparencies rather than as ordinary prints. The luminosity of the motion picture image also results in a considerable range of tone, between the brightest highlight and the deepest black. Both in black and white and in colour films, the most delicate gradations of image are therefore possible.

ii. **REALISM**

Another essential characteristic of the film image is that it gives an impression of reality. Whether in a drama enacted expressly for the camera, or in a documentary film of an event at which the camera just happened to be present, this feeling or realism deriving from motion picture photography accounts for much of the force of motion pictures. Animated films, which lack this element of photographic realism, tend to be take less seriously by adults.

The attempt of the motion picture to reproduce three-dimensional reality on screen presents the same problems and opportunities that are encountered in still photography and in painting. Like still photography, cinematography tends to exaggerate perspective, so that effects of great depth with dramatic contrasts between foreground and background are possible.

iii. **MOVEMENT**

As a feature of the motion picture, movement is so obvious that it's central importance is sometimes forgotten. As has been noted above the motion picture has much in common which the graphic arts. The added dimension of movement transforms it, allowing it to untold a narrative or a drama in time, in a way no other graphic art can.

Both in the film making and in film appreciation movement must constantly be borne in mind; composition in the motion picture is kinetic rather than static. It is not a simple colour but the cumulative effect that matters, not a single situation but developing plot.

The composition within any frame, or exposure of a motion picture is less important than the relationship of that frame to those that precede and follow it.

2.1.3 TYPES AND VARIETIES OF MOTION PICTURES

Motion pictures today are produced in many styles on a variety of subjects and in several widths. Until the advent of Cinema in 1952, 35mm conveniently described the standard film width for theatrical exhibition, 16mm film dominated the non-theatrical field, and 8mm was favoured by amateurs. This distinction is no longer altogether valid. Various wide-screen processes, such as Todd-AO and Ultra Panavision use 65mm and 70mm strips of celluloid.

The situation is further complicated by the growing practice of reprinting these films in 35mm cinema scope for subsequent engagements. Similarly, improved projection equipment has enabled 16mm film to be introduced into the theatrical field, for example, cinema houses occasionally book an experimental 16mm short film. With the recent addition of sound tracks to low-cost 8mm film, this previously substandard forms suddenly making important strides in the educational market. Width is becoming more a matter of choice whereas length and content now provide more meaningful criteria for categorising motion pictures.

With this two main groupings of films could be made:

i. FEATURE LENGTH FILMS

ii. SHORT FILMS

i. FEATURE LENGTH FILMS

A feature-length film, by convention is a film that runs for one hour or more. Today, a feature runs a bare minimum of eighty minutes, and the average one is just two hours. However, the Industry's "Specials" may run for three or four hours.

Most feature-length films are **FICTIONAL** and are made for purely entertainment purposes. In the category are **DRAMS, MELODRAMAS, ROMANCES,** combination of these.

Feature-length entertainment films are performed by professional actors and are frequently based on well known novels or plays, for procedures today prefer the comparative safety of working with protested materials. The number of "originals" written specifically for the screen has drastically decline.

ii. THE DOCUMENTARY FILM

This was originally a purely informational type of film. It has however become tinged with entertainment element and has been prepared for theatrical feature release. Documentaries rarely use actors (except perhaps as off screen narrators), and they never use studio set, authenticity is their greatest virtue. During the world war II, when the public as particularly eager for information many significant documentary feature films came to the screen. They were government sponsored and answered a specific need at a specific time.

iii. ANIMATED CARTOON AND PUPPET FEATURES

The Russians inaugurated the puppet feature film in 1934. (1) It is usually a clever blending of live action and stop-motion puppetry. This technique has been pursued with considerable ingenuity since world war II by Jiri Trnka in Czechoslovakia, and by George Pal in the United States. American puppet work is generally incorporated into live-action films, often science-fiction stories, in which the three-dimensional figures assume fantastic shapes.

SHORT SUBJECTS

At one time every major studio has own active shorts department hurriedly turning out on-an-two-reel comedies, travelogues, novelties, sport reel, and news reel affiliation. Mountain cost, however, have made these short subjects a luxury that the industry can no longer afford. The incessant lengthening of feature films has absorbed most of the available screen time, thus eliminating the need for short films.

Newsreels are no longer in great demand in the Cinema theatre. Television news reports and specials have replaced thus once-popular form of the film.

a. THE CARTOON FILMS

The term 'cartoon' is used to described films made from drawing, cartoon techniques is widely used for instructional, educational and propaganda purposes as well as the humorous film. Although the origin of the cartoon film, about 1900, is commonly attributed to George Melies, actually R.W. Paul appears to be entitled to equal credit.

In making a cartoon film a series of key drawings is first expanded, from each an "animator" produces a series of drawings of the characters, representing various phases of the action. The animation is completed "in-between" preparing a drawing for each frame of film. These drawings are traced upon sheets of thin celluloid known as "cells" and for a coloured cartoon are painted on the reverse side. Other artists make drawings of the backgrounds. These drawings are registered by means of pages fitting into holes. The cartoon "gallows" has similar pegs on which are replace first the background drawing, next a cell (perhaps of a motor car), then a cell representing the body of a character and yet another cell for one particular position of his arm. By this means a single drawing may serve another drawing of the body of a whole sequence; another drawing may sever another drawing of the body of a character many serve for number of frames, movements of the limbs of features being affected simply by changing the upper cell.

In cartoon gallows, a set of drawing is registered, a frame of films is exposed and then is registered, a poetry some small movement, and the next frame of films in exposed and so on.

A development of cartoon animation is model animation which simple object or puppets are animated by frame-by-frame exposure. Sound may be recorded before or after the picture is of an elaborated chart which indicates the individual frame of film corresponding to each beat of music or each syllabus of television films; movement of lips in synchronism with the dialogue is effected electronically.

2.1.4 CLASSIFICATION OF FILMS

Films are usually classified as follows:

U Films	----	"UNIVERSAL" Suitable for all.
P. G.	----	Suitable for all, but with parental guidance required in the case of smaller children.
12.	----	Films suitable for any child below the age of 12.
16.	----	films unsuitable for those below the age of 16.
18.	----	Films unsuitable for those below the age of 18.
R.	----	Adult

2.2 ELEMENTS OF FILM PRODUCTION

INTRODUCTION

It is preponderantly necessary for the Architect to have an idea of how a film is made right from the inception of a theme to the end of the production of the film ready for the screen. It is through this knowledge that an efficient design functional and aesthetically pleasing can be evolved.

In the present section of this report, a well comprehensive description of film production procedures will be made. This will consequently lead to the categorisation of function s with the aim of delving into space requirement allocations. It is as from there that I shall deal with the architecture of the film studios.

The initiation of a picture and the overall Financial responsibility for it lie usually with the producer. As the impresario of the film industry, he will guide a film through from beginning to end either personally or by delegation of authority. The actual creative process of making the picture is the responsibility of three main groups represented by the director the Scriptwriter (who may be a professional Screenwriter providing original material, a novelist, or a playwright), and the actors (stars, featured players, small - part actors and crown). In order to carry through the technical processes involved, this team is backed by the four technical branches of film production, i.e. design (including art direction, set construction, costume design, make-up, hairdressing, property work and set decoration), photography (including special effects), Sound (including floor recording, effects, post - Synchronisation, recording and music); and editing (including assembly cutting, track-laying, laboratory reliasion, and post-production processes.)

INITIAL PLANNING OF A MOVIE

The degree of success achieved by a motion picture is directly proportionate to the thoroughness of planning that precedes the actual production. An inadequately planned movie almost invariably cost more than a comparable film that was well prepared.

DEFINING THE OBJECTIVE

There are two major requirements for the objective of an in-plant movie:

a. The objectives should be stated in terms of the desired charge that is to take place in the attitude of the audience as a result of viewing the film.

b. The objective should b e measurable; after the film showing it should be possible to determine whether the desired charge has occurred.

TREATMENT

The treatment (or Synopsis, as it is usually called by producers of entertainment films) is a brief statement of the content of a film and is written to explain what movie makers plan to do and how they plan to do it. The introduction contain s in formation about the film to be used (35mm, 16mm, super 8, 8mm colour or black - and - white), the anticipated length, whether sound will be used (and if so, what kind), and any plan for distribution. The body of the treatment tells the story or outline of the film and indicates how the message will be treated in terms of motion picture techniques.

THE SHOOTING SCRIPT

Ideally, a shooting script is a technical Script which interprets a **TREATMENT** in terms of shots, sequence, camera distance and angles, effects, dislodge or commentary (if required and perhaps in dictates of individual shot length. It deals with these matters in such detail as the director of the film may think necessary, and is followed fairly strictly when actually shooting - with, again as in the case of a treatment, the possibility of variation should show some better idea or some opportunity which is pertinent to the

theme present itself during production. For an adequate knowledge of the Film Language, the reader is advised to turn to the APPENDIX for definition of terms.

WORKING UP A SHOOTING SCRIPT

Handling a Cine Camera effectively demands some basic knowledge of planning techniques, and a similar knowledge is necessary for preparing a shooting script - indeed, the script is fundamentally the handling of a camera on paper, and handling it in such a way that it tells the story of the film in terms of motion pictures.

In addition to bare techniques the task of preparation calls for exercise of the imagination shots and sequence have to be visualise, to be conjured up in the minds eye, roughly as they will eventually appear, edited and in final form on the screen.

This Visualisation is not easy at first, but can quickly become so more a simple treatment is reduced to a shooting script and the shooting script is converted into shot footage.

The following notes will assist in translating a treatment into terms of shooting script shot films.

THE SCRIPT BREAKDOWN

In a film of any size or complexity, the shooting will reveal that there are a number of shots which can be grouped for making together - say in one set or on one location, and/or perhaps because of the limited availability of one particular artists or property.

As a simple example, if a film calls at the opening for some shots in side a house, followed by shots on the bank of a stream, and ending by a return to the house, it is obvious that all the interior shots can be taken together, even though they are not to be screened in successive sequences.

To facilitate such out-of- order shooting the shooting script is analysed, the result being a script-break-down. This is nothing more than an indication of which shots can be taken together while a set is standing or the unit is a certain location, or an artist or special property is a available.

The very simple example given above will have an equally simple breakdown e.g.

SHOTS 1 - 15)
) INTERIOR
31 - 47)
16 - 30) BANK OF STREAM

The breakdown thus serves as a sort of index to the shooting script to save time when actually filming and to ensure that no essential shot shall b e missed.

THE SEQUENCE

Just as a book is divided into chapters, any sequence may be defined as a succession of shots which while following the theme of a film, can almost stand alone as continuos action. It is often opened an d closed by a fade in and a fade out, or it may be proceeded by a title and ended by the title of a following sequence, or it may be dissolved into a following sequence by means of a mix.

Whether fades and dissolved are possible or not depends upon the construction of the lens apertures and the in corporation or not of the backmind on the camera. Fades and mixes can be produced chemically be processing laboratories on 16mm stock (such fades and mixes being known as 'optical'), and they can b e produced during actual shooting so long as the camera has a continuos variable diaphragm (which can be closed gradually over a given number of frames), or if a fade wedge is made.

BASIC SHOTS

Within any sequence there are a number of shots, varied from one to the other by camera distance an d camera angle. The shots are, broadly:

A. LONG SHOT:

A comprehensive shot taken at a comparatively long camera/subject distance and giving an impression of a scene as a whole.

B. MEDIUM SHOT (or Mid - Shot)

A shot taken at a shorter camera/subject distance, say to isolate some object within scene but to show that object as a whole.

C. CLOSE UP

A shot taken at a short camera/subject distance, showing, say, part of the object isolated in the previous type of shot.

D. BIG CLOSE UP

A shot at a very short camera/subject distance to throw visual emphasis on some quite limited area of an object, for example, the features only of an artist who is expressing emotion, or some small object like a telephone which a hand is seen to pick up.

2.2.2 THE FILM PRODUCTION TEAM

The production unit is the technical group responsible for converting a script into a length of uncut film. It is the tool by which the image is impressed. It manipulates the medium to record a small section of the visual and audible world, and also adapts this small section of the world to the peculiarities of the medium. Both these tasks are delicate and complex.

Before the unit goes on location shooting, it is often wise to send a representative on ahead, charged with making arrangements, selecting places for shooting, estimating the difficulties of recording sound insuring adequate power supplies for lighting, and in general providing for work to start immediately the unit arrives.

Sometimes the Script writer does those things, sometimes it is the director himself, sometime the unit manager.

Usually the cost of such an advanced trip is money well spent. The size of a location will depend upon the budget of the film whether a union or a nomination crew is chosen, and the type of film which is being made.

The nucleus of any unit will consist of the following:

A PRODUCER
A DIRECTOR
A FIRST CAMERAMAN
A SECOND CAMERAMAN
A UNIT MANAGER

If much lighting is to be done, one or more **ELECTRICIANS** will also be needed, while sound recording will require a **MIXER, A RECORDIST** and a **MIKEMAN.**

A slightly more elaborate unit will add a second **CAMERA ASSISTANT, A SCRIPT GIRL** and perhaps a **STILL CAMERAMAN.**

The Electricians may be put in charge of a gaffer and the props of a grip. Thus without exceeding the limits of a modest scale or production, a location unit may expand from a basic 4 persons to 8 or even 12. While a unit in a studio will be able to dispense with unit manager, it will usually add an a **ASSISTANT DIRECTOR.**

It must not be supposed that it is impossible top achieve professional results with smaller units. The Solitary - Director cameraman with his 16mm or ultra light 35 mm equipment is still a figure to be reckoned with.

But shooting under complex conditions, and achieving the standards of quality expected today calls for a high degree of elaboration, as following analysis of the functions and physical equipment of a production unit will show.

FILM PRODUCER

This is the person who exercises general control over production, acting as link between the financial investors and the director who actually makes the film. He may not always have first directing and editing experience. He will probably supervise, several films at the same time.

THE DIRECTOR

Once the producer has agreed on the shooting script. It is the sole responsibility of the director to realise it in material terms, that is, to get it unto he film. No matter how brilliantly the writer has Visualise his ideas, the director will find that some of them cannot be carried out as the script prescribes and so must be present in some other way. And on the other hand, the physical materials, - sets, locations, the actors themselves - will often suggest to the director's mind all sorts of improvement on the script.

He is the technician who directs the actual shooting of the films, supervises the actors and cameramen and tells them what to do. Occasionally the director may write his own script or do his own editing in which case the film may bear a more distinctly individualistic mark, but this is by no means a general practice

In documentary film production, the producer is more closely concerned with actual production and in all cases has had previous experience as director and editor. The director too normally takes a far greater part in the work of scripting, editing and recordings.

The skilful director will take advantage of these opportunities, while never losing sight of the over-all line of the script. He is the final responsibility for each setting, for the pace and action of the scene which takes place in it, and for the dovetailing of each scene into those which are to precede and follow it.

In consultation with the cameraman he must decide on each camera position and must rehearse the action before it until it is perfect.

THE CAMERA AND ITS CREW

A standard movie camera requires many adjustment before and during its operation. It is usually set on a tripod.

The Cameraman in the studio can control lighting effects at will. Even out of doors, lighting can be influenced by the choice of angle in relation to the sun and by the use of reflectors to redirect sunlight and brighten areas which would otherwise fall into deep shadow.

Since a 35mm camera and tripod may weigh as much as 68 kilogram, appreciable effort will be needed to move it from one set up to another. A quite normal succession of shots may call for the camera to be mounted on its tripod for one shot, moved down to the ground on a high hat for the next, and set on a dolly for the third. To make these changes

rapidly is work for two people, delays here hold up the whole unit. 16mm equipment has the advantage of much greater portability, but all the other settings and adjustment mentioned require just as much manpower on the smaller type of camera, for they hinge on the complexity and professionalism of the shots to be taken.

It is for these reasons that it is regular practice to use a FIRST CAMERAMAN (in studio production often called DIRECTOR OF PHOTOGRAPHY), who consults with the director on the type of shot required to translate the script into film, plans the dolling, panning, or boom movements, and above all decides how the hot is to be lighted.

THE SECOND CAMERAMAN (or camera Operator) actually makes the initial settings on the camera and controls it during the shot. He is helped by the **FIRST ASSISTANT CAMERAMAN,** who is usually entrusted with following focus, and if necessary, by a second assistant. Sometimes a **FILM LOADER** is used to load magazines with exposed film and unload exposed film into cans.

GRIPS AND GAFFERS

Obviously, a camera unit of such size and complexity will require very efficient auxiliary services if it is to be shoot enough film each day to justify its high operating cost.

If the unit is shooting with props, as it usually will be, whether on location or in the studio it will need the service of a grip, whose business it is to have on hand all the props that are needed, and to make those last minutes adjustments and alterations which are discovered when the camera is ready to turn.

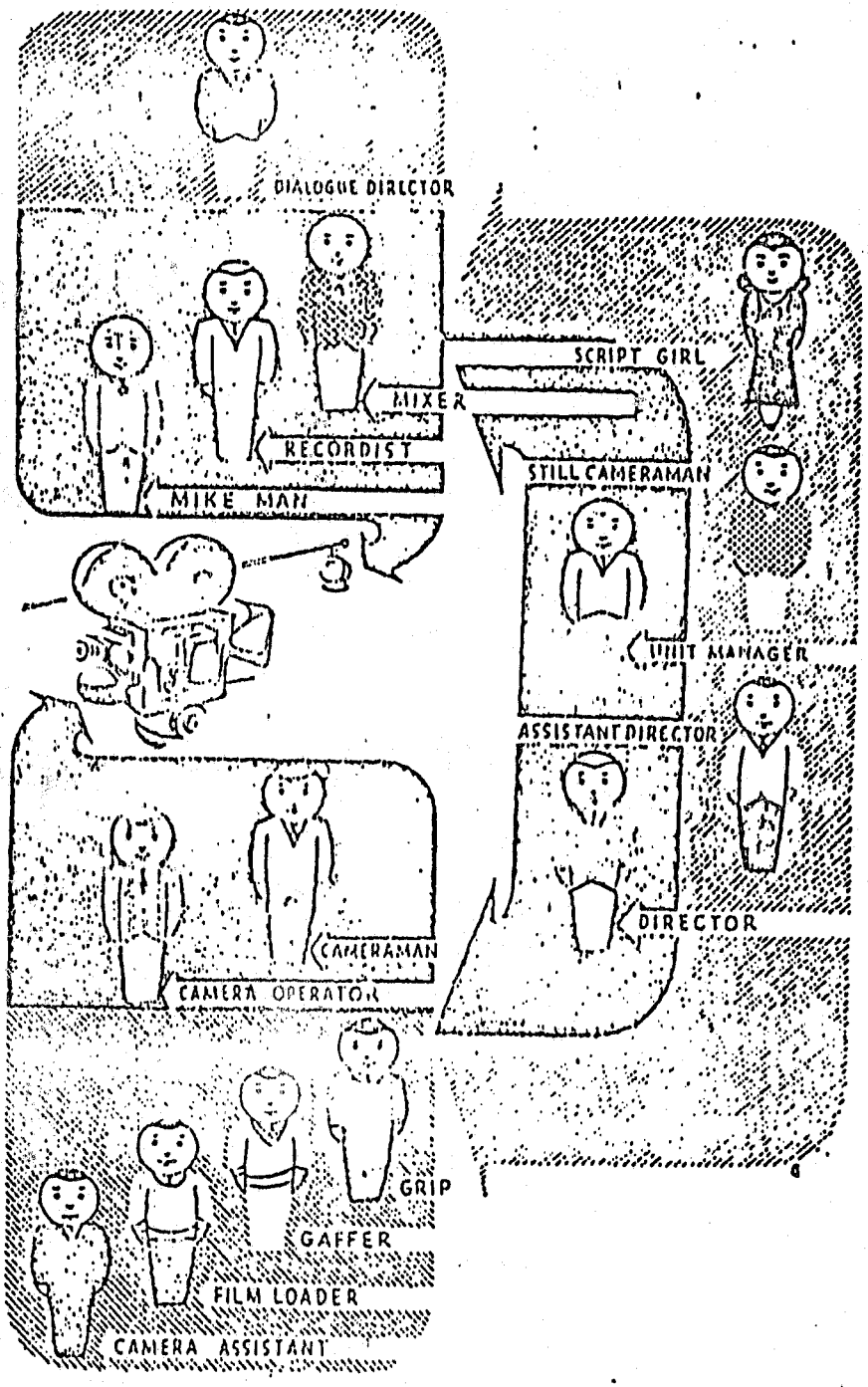
In the studio, the carrying out of the cameraman 's lighting plan is in the hands of a gaffer and his staff of electricians. The gaffer does not usually handle the lights himself, but he is a past master in the art of placing lights and using gobos and barn doors and the various diffusers by which light can be soften, directed and redistributed.

THE SOUND CAMERA AND ITS CREW

Sound recording adds a further complication to location work, for the small unit must economise on staff here as elsewhere, and usually afford a man for each separate job.

THE MIXER, who is in charge of the Sound crew, will often not find the acoustics to his liking if he is recording in an enclosed space which has not been specially designed for the purpose. He must therefore determine how to deaden (or, less often, liven) this space by artificial means; and from long experience, he will be able to apply the properties of ready - to handy materials - plywood, sheets, rugs, blankets, etc. - to improve the acoustics of the scene.

But the mixers task is not merely the negative one of removing imperfections. He has the responsibility of producing a recording in which the wanted sounds are as clear and prominent, and the unwanted sounds as inaudible, as his skill can make them. He must be adept at controlling wind noises out of doors and diagnosing a multitude of resource and reverberation which will interfere with the good quality of his recording.



Basic and supplementary units for location shooting. Basic unit: Black area. Supplementary unit: Shaded area.

The mixer usually works with headphones at a moveable console or tea wagon on the set; but he may occasionally monitor with a loudspeaker from the sound track which carries equipment to a location, and which in certain studios is used in place of fixed equipment. The task of recording sound on film is entrusted to the recordest, who has charge of the sound camera and its associated multiplicity of amplifiers, compressors, fitters, etc., each with many adjustments and a routine of highly experts maintenance.

The microphone is in charge of the **MIKEMAN** who has the skilful and delicate task for keeping it always in the position from which pick up the dialogue of the person speaking most clearly and usually most loudly. This he accomplish with the aid of a sound boom, a kind of elaborate fishing rod on the end of which the mike is mounted. A multiplicity of controls enables him to run the microphone in and out, twist it around and alter its angle, so that he can follow dialogue as it passes from character to character, often as they are moving about the set.

THE SCRIPT GIRL (ALSO CALLED CONTINUITY GIRL)

This is the person on a set or on location for keeping a record of all scenes and takes which are shot," recording technical notes on them, and putting all this information in a form useful to the cutter.

Many charges in the script may be made during production, it is the script girl's job to keep track of them, and to prompt the director in matters of completeness and continuity. If she has been successful, when the film comes to be laid out in the cutting room for assembly. there will be no vital connective shots missing, no directions of movement

confused and tangled, no charges in the character of some conspicuous object like a man's tie in scenes which were shot days apart but which are now to be welded into immediately relationship.

2.2.2 THE FILM PRODUCTION TEAM

INTRODUCTION:

In principle, a film camera is like a still camera except that it takes many pictures each second. The film is made of light sensitive chemicals called emulsion coated on a flexible plastic strip called a 'base'

Any camera can use either black or white or colour film. film length is expressed infect or metres, but the standard width are given in millimetres.

Unexposed films is loaded into the supply chamber for a light proof 'magazine', which can be rapidly mounted and removed from the camera body.

After the film has been exposed, it passes into the magazines take up chamber. It is then unloaded in the dark and sent to a film laboratory for processing.

2.2.3 HOW FILMS WORK

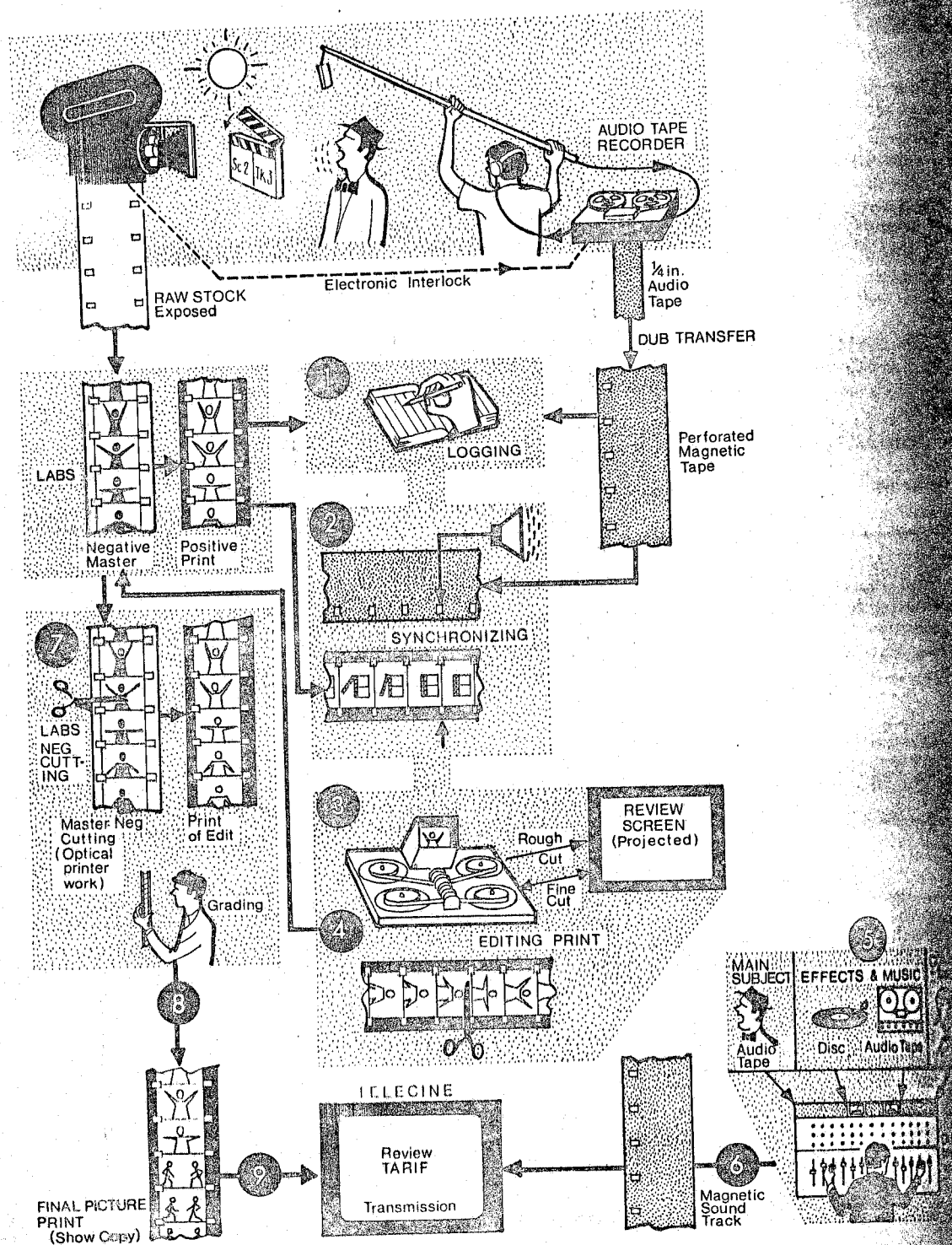
As we watch a film, we are actually attaching many thousands of still pictures called frames. Each new frame shows an image slightly different from the image in the preceding frame. When a single image is flashed upon a screen, the human eye

continues to see it for one tenth of a second after the screen has gone black. Because of this phenomenon, called 'persistence of vision', what we see is a continues flow of action when fact are viewing a series of images flashed in rapid succession.

The Camera lens focused an image consisting of light rays, upon a single frame of unexposed film. The image borders are precisely detained by a rectangle opening called the "A picture".

After the frame has been exposed, a revolving shuttle closes, temporarily shielding the aperture from further light. A metal tooth. called a "claw" automatically engages the (sprocket holes) on the side of the film. the claw quickly moves the expose frame down, putting a fresh frame interposition while a registered pin holds the unexposed frame in exact position, the shutter revolves and a burst of light exposes the new frame.

The film's stop start movement is called "intermitter motion and this cycle takes place 24 times a second when the shooting of the film is finished either in the exterior r in the studios, it is unloaded from its magazines and placed in light - tight cans - as far as the door of the laboratory ready for the necessary processing. During the night, it is developed and printed, and in the morning the print is screened for the producer, director, editor, and cameraman. Thereafter the print goes to the cutting Room, where it is worker on for a period at least as long required to shoot the picture.


AUDIO TAPE RECORDER
Electronic Interlock
RAW STOCK Exposed
¼ in. Audio Tape
DUB TRANSFER
Perforated Magnetic Tape
LOGGING
LABS
Negative Master
Positive Print
SYNCHRONIZING
LABS NEG CUTT-ING
Master Neg Cutting (Optical printer work)
Print of Edit
REVIEW SCREEN (Projected)
Rough Cut
Fine Cut
Grading
EDITING PRINT
MAIN SUBJECT
EFFECTS & MUSIC
Audio Tape
Disc
Audio Tape
TELECINE
Review TARIF
Transmission
Magnetic Sound Track
FINAL PICTURE PRINT (Show Copy)

2.3 FILM PROCESSING

2.3.1 THE FILM PROCESSING LABORATORY

This is an established organisation and equipped to provide services such as processing motion picture film, produce pre-release duplicating interrogatives, master positives, duplicate negatives, and work prints, as well as completed release prints for distribution.

The following is a list of some of the principal services offered by commercial motion picture (film) laboratories:

a. **PROCESSING**

Developing colour or black - and - white camera film. (special overnight, pick up and delivery, or weekend service is available in some places by pre-arrangement)

b. **FURNISHING ADVICE**

- to help technical or even aesthetic problems.

c. **PRINTING AND DUPLICATING**

- from camera films for work prints or release prints.

Most laboratories will print or duplicate the camera film after it is processed. They may also hold the original in their vault and forward the print to the photographer for use as a

work print. The original is then protected from damage in handling until it is needed for final conforming.

d. **BLACK-AND-WHITE PRINTING**

- from a colour original to produce a work print or a release print.

e. **EDGE NUMBERING**

- of originals and work prints to facilitate editing.

f. **EDITING**

- Cutting splicing and assembling as directed by the producer.

g. **CONFORMING**

- Matching the original camera film to the work print. as edited by the producer.

h. **OPTICAL EFFECTS**

This is the alteration of a motion picture scene commonly introduced in duplication including "fades" dissolves", and wipes", as well as many more spectacular effects.

i. **TITLING**

This is the process of inserting the name or designation of a film into 'frames',. This is done as a purpose of conveying information about the film, with its story to the viewer. This also includes Design of artwork, lettering and photography.

j. **ANIMATION**

This is the technique of synthesising apparent mobility of inanimate objects or drawing through the medium of cinematography. The term is also used for the sequence of drawings made to create the movement and for the movement itself when seen on the screen. This includes Design and production of artwork and photography.

k. **STOCK LIBRARY**

- This provides footage of standard scenes and events for use in the producers film; i.e. plane in flight, ship at sea, mob scene, sports event, street scene, monuments, parts, out-of-season weather scenes etc.

l. **SPECIAL PHOTOGRAPH**

- Requiring facilities or equipment not available to the cameraman.

In all the production processes thus for described, and the many other required before the picture is complete, film passes and repossess through the laboratory - or the lab as it is

colloquially but universally called in the Film Industry. There are however other functions which give the laboratory a special character.

The figure below shows in summary form how these functions are organised. The laboratory superintendent has charge of a number of semi-independent departments. The office routes and enroutes the many orders that come in, and works closely with the Accounting Department.

A CLEANING DEPARTMENT prepares the negatives and other materials for processing - a generic term which covers all laboratory operations.

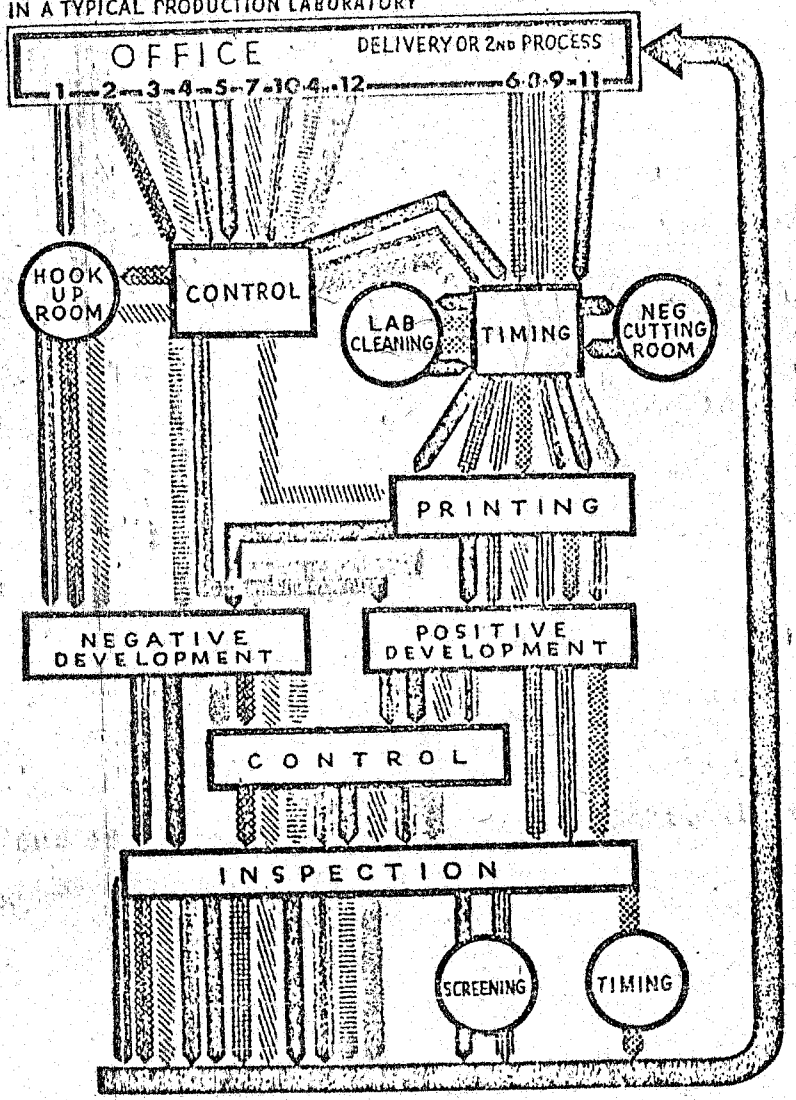
A CONTROL DEPARTMENT supervises the many chemical and physical processes within the laboratory, and tests the variable characteristics of the processed film.

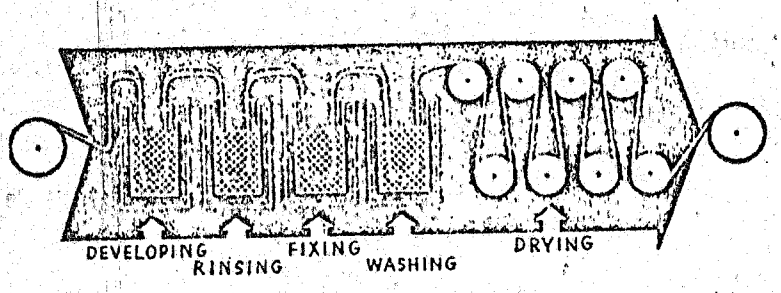
A TIMING DEPARTMENT is required to even up to produce a smooth and well balanced print.

PRINTING concerns itself with the high-speed transference of an image from one piece of film to another, which next requires development.

CHEMICAL MIXING looks after the supply of the solutions which are pumped to and from the developing machines. These are grouped together into two further departments, one concerned with 35mm film, the other with 16mm. When the film comes off the

35 MM. B&W PROCESSING ROUTES
IN A TYPICAL PRODUCTION LABORATORY





Processing sequence in a continuous developing machine.

developing machine, it must be inspected to see that no mistakes have been made, no unsuspected damage caused.

DEVELOPMENT is at the centre of the process; flanked on both sides by control. Positive (print(development is preceded by timing and printing. All finished material is inspected. Everything that requires a second laboratory process must return to the office and be fed once again through the whole system.

The Technical functions carried on in a laboratory are fairly complex. Dealing with the chemistry and physics of film, they have much less contact with the world of ordinary experience than direction or camera work or even cutting. Unless the underlying principles of processing are well understood, a visit to a laboratory will seem rather like a list to the catamounts - a strange world of darkness and mysterious happenings.

2.3-2 **THE PROCESS OF FILM DEVELOPMENT**

All the laboratory processors stem from the very simple operating carried out by any amateur who develops and prints his own film. The simplest kind of apparatus which the amateurs uses, is a series of shallow trays in which solutions are placed. The first is drawn backward and forward through the tray, while the solution is agitated as much as possible so that fresh developer is constantly brought into contact with the surface of the film. This must be done in total darkness or in a faint light of a colour to which the negative is comparatively insensitive - usually red or green. The next step is to rinse the negative in water in order to remove all trace of developer and so stop the development process.

At this stage, the latent image on the film produced by the original exposure in the camera has been made visible by development. But if it were to be exposed to light, it would rapidly vanish.

2.3.3 THE CHEMISTRY OF DEVELOPMENT PROCESS

Light-sensitive emulsions consist basically of a silver halide ( ). Suspended gelatine silver Halides are compounds containing metallic silver combined with one of the halogens - bromine, iodine, chlorine, fluorine - and have a peculiar characteristic which is the basis of photographic chemistry.

When light strikes them, it produces a change which is visually quite undetectable. But there are certain other chemicals called developing agents, which have not effect on the silver-halide emulsion if it has not been exposed to light, but which, if the emulsion has been exposed, reduce it to pure metallic silver. If, therefore a surface coated with light-sensitive emulsion is exposed to a scene containing varying highlights and shadows, and invisible image of it (called the latent image(will be formed on the emulsion. When developing agents are allowed to flow over the emulsion they will discriminate between the exposed and exposed parts, attacking the former and reducing to silver, but leaving the latter untouched. If we now look at the film under a faint light, we shall see an image on it, formed in silver. But if the bright light were turned on, it would immediately expose the hitherto unexposed areas of silver halide, enabling the developer to attack them and reduce them to silver. this is equivalent to making the image disappear, for now consist of undifferentiated silver all over. An overall exposure of this kind is called FOGGING.

FIXING

In order that the image may be exposed to bright light without danger of its suddenly Vanishing away, it is necessary to fix it. In the developing agent there is a chemical which will single out the exposed silver halide and attack if, reducing it to silver.

Now we want a chemical which will attack only unexposed silver halide and wash it away. This chemical is called Sodium thiosulphate, commonly known as HYPO. By immersing the developed films in a solution of hypo, we clear away all the unexposed silver halide, leaving an image consisting of nothing but silver suspended in gelatine.

The HYPO now contains a quantity of silver. If in a large scale laboratory, the used hypo is thrown away much money in lost. Hence a process called SILVER RECOVERY, which electrolytically plates or chemically precipitates the silver in the hypo, it often applied to the circulating system. The pure silver thus recovered is sold, and at the current price, the proceeds will usually pay for all the chemicals used in the laboratory.

If the hypo were to be left in the emulsion, it would gradually bleach out the image. Consequently the film must next be thoroughly washed in running water, and then must be dried, either by hanging in a room at ordinary temperature or preferably by passing a current of warm, dry air across it. The negative is now ready for printing.

Thus, in brief, the exposed film has to be developed, rinsed, fixed, washed, and dried Basically the developing process is quite simple, involving only the reduction of silver bromide or iodide to metallic silver to form the opaque image; the bromine and iodine which are released immediately combine with other elements presents to form soluble salts which wash away.

The developing agent is a reducing agent, and a reducing agent is simply a substance which is able to convert a metallic salt such as silver bromide to the free metal, which is itself oxidised to form another compound.

THE DEVELOPING SOLUTION

The developing agent is by far the most important element in a developing solution. But to provide the conditions necessary to make it work properly other substances are needed and the complete developer contain

i one or more developing agents

ii. a preservative

iii. an alkali

iv. a buffering agent

v. a restrained.

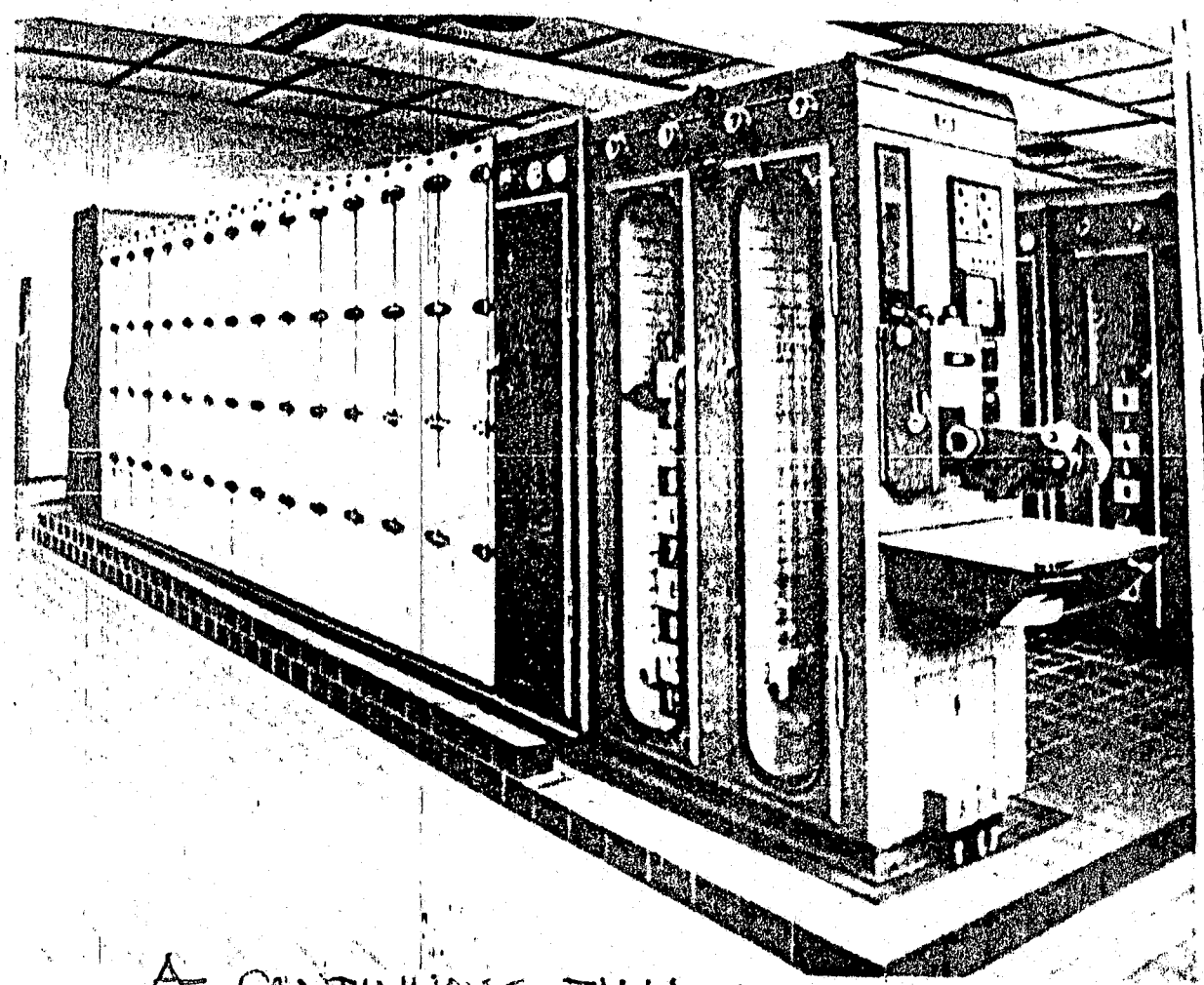
To these may be added auxiliary constituents such as:

a. antifogging agents

b. wetting agents

c. repressors.

The statement which lays down the relative volume of the chemicals, and usually advises on the order in which they are to be mixed, is called a FORMULA, i.e. A DEVELOPING FORMULA. The different components which go to make up such a formula act separately and so can be considered on by one. Bt this is only a first stage of approximation, for complex cross-reactions also take place. Even today, in spite of



A CONTINUOUS FILM PROCESSING MACHINE

lengthy and brilliant researches in photographic chemistry, there are still gaps in our knowledge.

2.3.4 THE CONTINUOUS DEVELOPING MACHINE

The process of development are the same whether film has been exposed in the simplest Kodak or the most complicated movie camera. But the developing machinery designed around each of these processes is altogether different, for it is suited to physical convenience and to the accuracy of control desired.

Plate - or cut-film camera expose each picture separately; roll-film cameras usually take eight to sixteen pictures on a roll. Leica type cameras take about 36 pictures. But in a 300 metres of 35mm movie film, there are 16,000 pictures, and this presents complicated new mechanical problems to the designer of processing equipment, as developing machinery is usually called.

Tray development is quite out of the question. Tanks in which the film is wound statistically on large racks or spools become very cumbersome if long lengths have to be developed. They were used in the early days, under the title of rack-and-tank development, but are now obsolete.

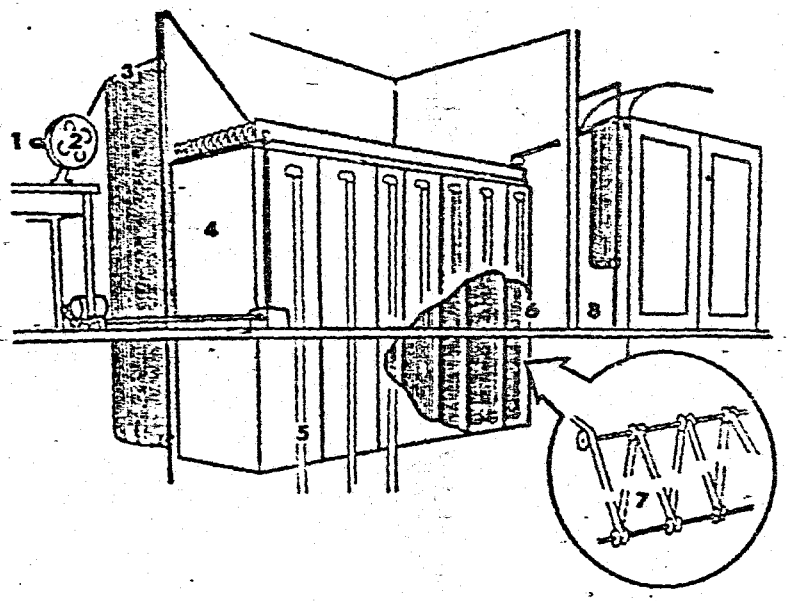
The answer to the problem is the CONTINUOUS DEVELOPING MACHINE, which is undersal except in the smallest laboratories. This type of machine can take many forms, but in all of them the film is driven continuously through the different solutions. In some designs the film runs up and down vertically between pairs of horizontal spindles, and

each strand of film is surrounded by a narrow tube through which the solution is passed. This ensures constant movement of the solution past the film. Carrying this step further, machine, have been designed in which the film does not pass through tanks or tubes, but is sprayed with solution from a series of fine jets. The difference, in fact, is very like the difference between a bath and a shower. In a bath by far the greater part of the water never touches the body at all, while the water close to it may actually become saturated with dirt. In a shower each drop of water comes in contact with the skin and carries away a small quota of dirt.

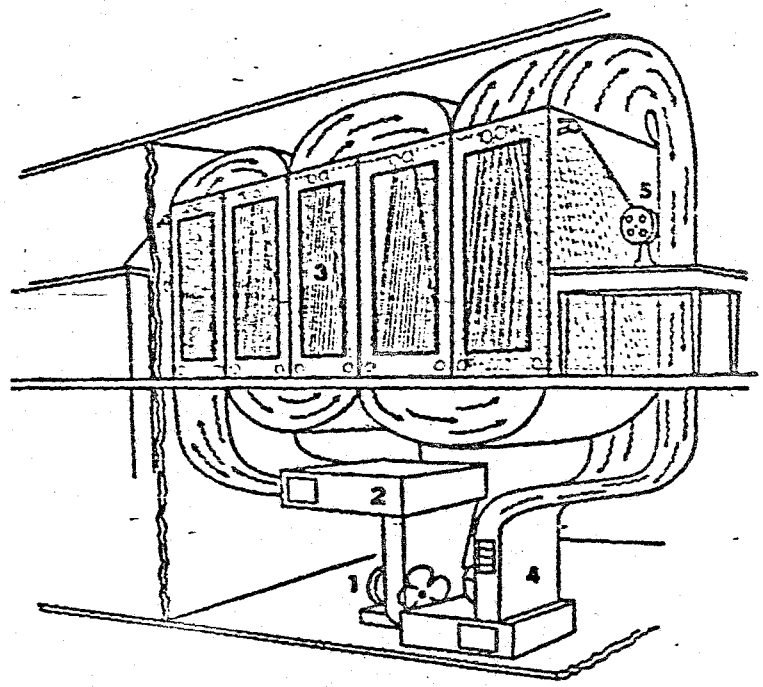
In the same way, in a spray developing machine, each drop of developer contributes its quota to developing the image before passing back to the main supply.

Most developing machines are not of such advanced design, and merely consist of a large number of strands of film passing up and down in tanks and full of developing solution. These strands of film are wound round spools and sprocket (or rollers in sprocketless machines) on horizontal spindles at top and bottom of the tanks, something like strands of wool in a skein. The structure which carries each pair of spindles is called a rack, and there may be two, three, or more racks in each tank.

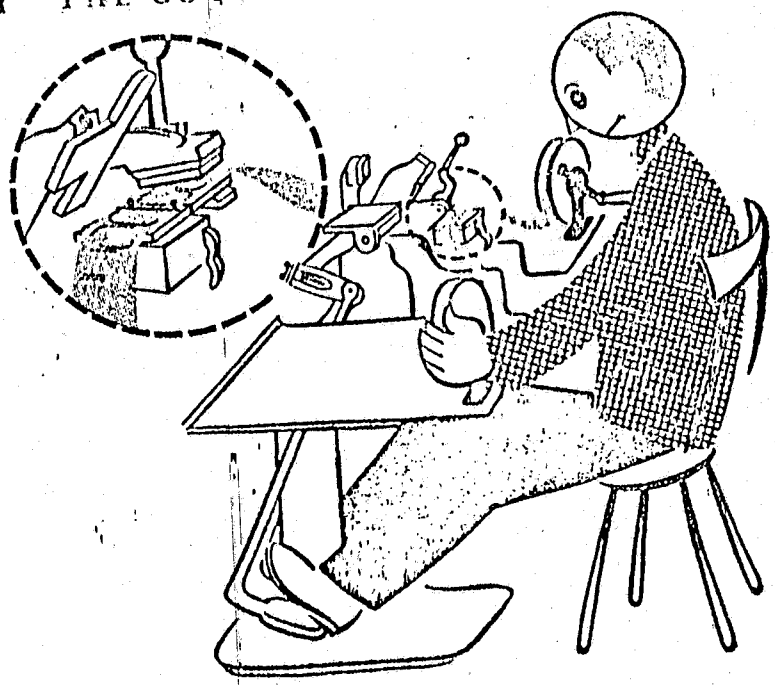
In order to increase the agitation or tabulation of developing solutions near the film, a submerged spray is often placed in the developer tanks and fed with solution under pressure. In fact, the whole volume of solution in the developing tanks is being constantly circulated. At a rate of 1.5 litres per second or more, it is pumped to circulating tanks and thence back again to the developing machines. The object of this is



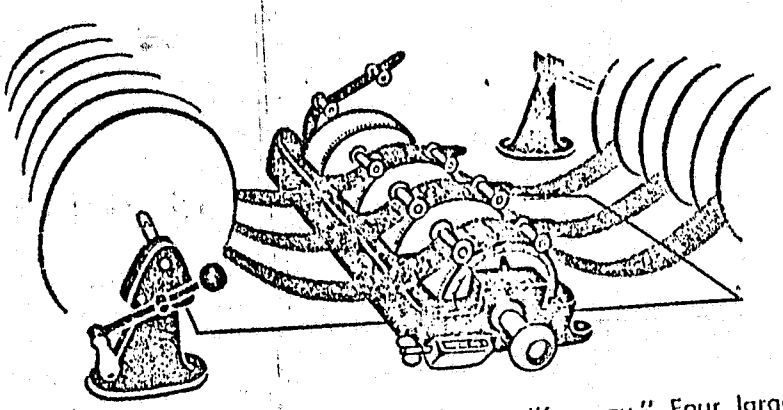
A continuous developing machine: wet end. At this end of the machine the film is developed, either in darkness or very subdued light. A table (1) holds the exposed but undeveloped reels of film which the operator receives through a light-trap from the room where they are unloaded from magazines. The reel is then mounted as shown at (2) and passes onto an elevator (3), the lower spindle of which is able to ride upward freely, so that film can continue to feed into the tanks (4), even when (2) remains stationary for a minute or so, as it must do when a new reel is being spliced on. The processing tanks are fed with fresh solution from pipes at the bottom on the far side (not shown), and the overflow is returned through the circulating system by other pipes (5). At 6 is shown a cutaway section of the tanks, wherein the film racks are threaded as shown at 7, where the individual spools are shown with exaggerated separation for clearness. After washing, excess moisture is removed from the film by a squeegee, and it then passes through a light trap into the dry end of the machine. At 8 is seen an additional [illegible] comes into use if there is a break in the drying cabinet, thus preventing loss of film through total stoppage and [illegible]ent.



. A continuous developing machine: dry end. The dry end of the machine serves no other purpose than to dry the film under precisely controlled conditions of temperature and humidity. A blower (1) forces air into a chamber (2) where banks of heating elements raise it to the correct temperature for the drying cabinets or dryboxes (3). Note that the air first enters the cabinet where it will pick up the most moisture. After passing through the last cabinet, the moist air returns for recirculation through a dehumidifier (4) where it is deprived of its excess moisture. The dried film winds up on a reel (5). (The mechanism shown in these figures is greatly simplified.)



The machine splicer. Foot treadles raise and lower the upper blades which clamp the sections of film to be joined in exact relationship to one another.



The four-way synchronizer, or "fourway." Four large sprockets fixed to a common spindle hold the film tracks in precise relationship while they are wound to and fro by the rewinds at either end. A footage counter counts the feet in either direction, and marks on the nearest sprocket count the frames from a start mark which is often described as "zero-zero" (0–00).

to replenish the solution, thus making good the loss of developer sustained in developing the film.

The replenisher is fed from a bleed tank into the main circulating tank. When new solutions are needed, they are made up in mixing tanks, from which they are pumped into the circulating tanks to start their travel round the circulating system.

When film passes out of the developer into the rinsing tank, or out of the wash into the drying cabinets, it is usually sprayed with compressed air from very fine nozzles to remove droplets of liquid and prevent them from being carried over into the next section of the machine.

To keep the film from fogging, the tanks so far mentioned must either be self-enclosed or contained in a dark or dimly lighted room which is therefore called 'the Dar end or wet' end of the machine. The film image having by now been fixed, the film can pass into the drying cabinets or dry boxes which are known as the dry end of the machine, this section of the machine can be brightly lighted, it is sometimes called the light end:

In the drying cabinets the film continues to pass up and down in long skeins, but it is now subjected to a current of warm dry air. The air must not, however, be too hot (lest it cause reticulation or breaking up of the emulsion) or too dry (or the base will curl unduly and become brittle). Finally, the film is wound upon a reel and is ready for use.

Thus, in an over-all view, exposed film comes off a spool or reel at the Dar end by the machine, is driven continuous through a series of tanks and cabinets, and finally wound up on a spool at the far end.

Developing machines vary greatly in capacity. Small negative machines may develop 6 metres per minute or 360 metres in an hour - large positive machines 60 metres per minute or 3,600 metres an hour. This is more than twice as fast as film runs in a projector. The speed can be adjusted within wide limits, as a rule, to develop different kinds of stock to different degrees of contrast. This is because the faster the film is run, the shorter the length of time it stays in the developer. The slower it is run, the longer it stays in the developer. The relation between the developing time and contrast is one of the basics of laboratory control.

2.4 THE FILM PRINTING PROCESS

Printing consists essentially of the transference of a photographic image from one piece of film to another. There are four types of printer in common use. this number being arrived at by combining two sets of two principles.

Printers may be either continuous or step: that is, the printing and printed films may either move along at uniform speed, or may be advanced intermittently a frame at a time, as in a camera. Again printers may be either contact or optical type: that is, the printing and printed films may either be in contact with one another while printing takes place, or they may be separated by an optical system which transfers the image from the printing to

the printed film, with or without modification. Four types of printer result from these combinations:

a. the continuous - contact
b. the continuous - optical
c. the step - contact
d. the step - optical

a] THE CONTACT PRINTER

This is the method of printing in which the raw stock is held in intimate contact with the film bearing the image to be copied.

b] THE CONTINUOUS PRINTER

This is a printer in which the printing and printed (i.e. modulating and modulated). Strips of film are moved continuously along.

c] THE OPTICAL PRINTER

This is a printer in which the printing image is transferred to the film to be printed via an optical system. Optical printers are used in the production of optical effects because they allow modification of the original image.

2.4.3 THE DESIGN OF FILM CUTTING ROOM

The cutting room is the editor's workshop. All handling, editing, filming and storage of the positive film in production takes place here. The actual size of the room or rooms in use the number of staff required to handle a film are largely determined by the size of the production itself. Adequate cutting number facilities must be provided so that all material can be sensibly tabulated and not allowed to accumulate in an atmosphere of confusion.

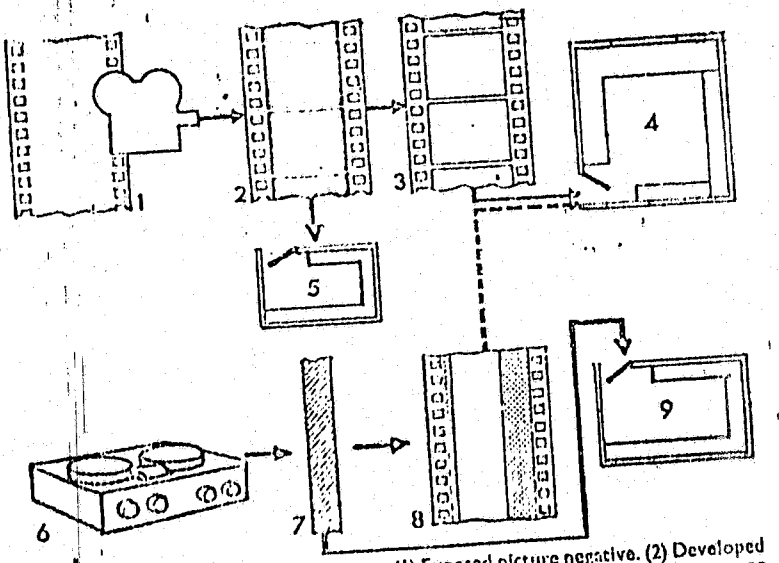
2.4.4. BASIC REQUIREMENTS

Several simple mechanical actions form the basis of film handling in the cutting room, however unelaborated it may be. For these task, the cutting room is fitted out with certain items of equipment - everyday tools of the editor.

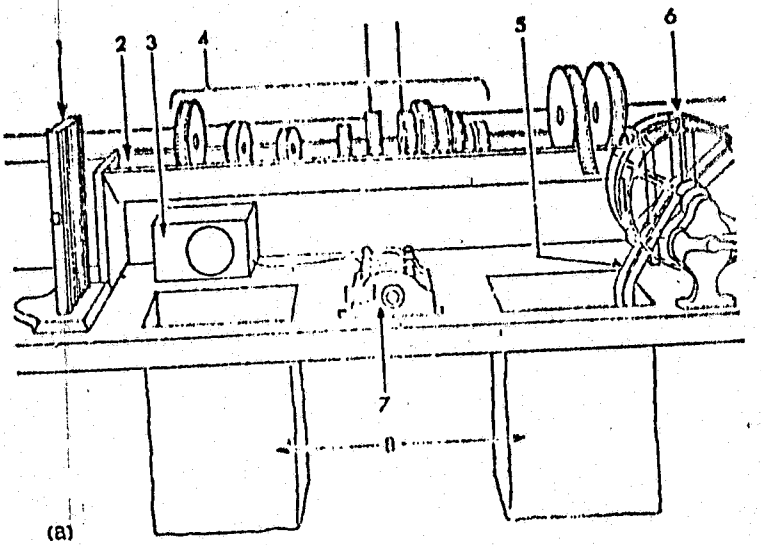
The most practical way of handling any material of great length is by winding from one spool on to another. At all stages of editing the film must be wound back and forth many times during the day. Benches are therefore equipped with winding and rewinding mechanism.

Even the simplest film sequence requires the handling of separate picture and sound film rolls. As they must be synchronised with each other, side by side, there must be some means of maintaining synchronisation of both rolls of films as they are wound. For this, there is a film synchroniser.

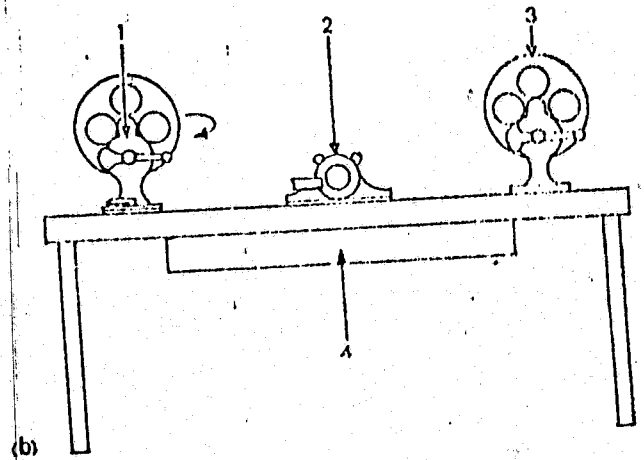
The editor has to examine all the film in his room, viewing and reviewing, as he decides the pictorial shape of each sequence. He must have some means of quickly and easily



Original shooting, sequence of operations. (1) Exposed picture negative. (2) Developed negative. (3) Positive work print, delivered to (4) Cutting room. (5) Negative storage vault at film laboratory. (6) ¼ in. magnetic recording machine, producing (7) ¼-in. magnetic master. (8) Editor's cutting sound transfer. (9) Sound master storage vault.



(a)



(b)

Cutting bench layout. (a) European style. (1) Film horse. (2) Film rack. (3) Amplifier/speaker for synchronizer sound heads. (4) Broken down film to be cut, picture and sound wound together. (5) Picture and sound leaders. (6) Take-up spools. (7) Film synchronizer. (8) Film bags. (b) American style. (1) Winder, capable of being swivelled. (2) Film synchronizer. (3) Winder. (4) Under-lighting.

DUST FREE CONDITIONS

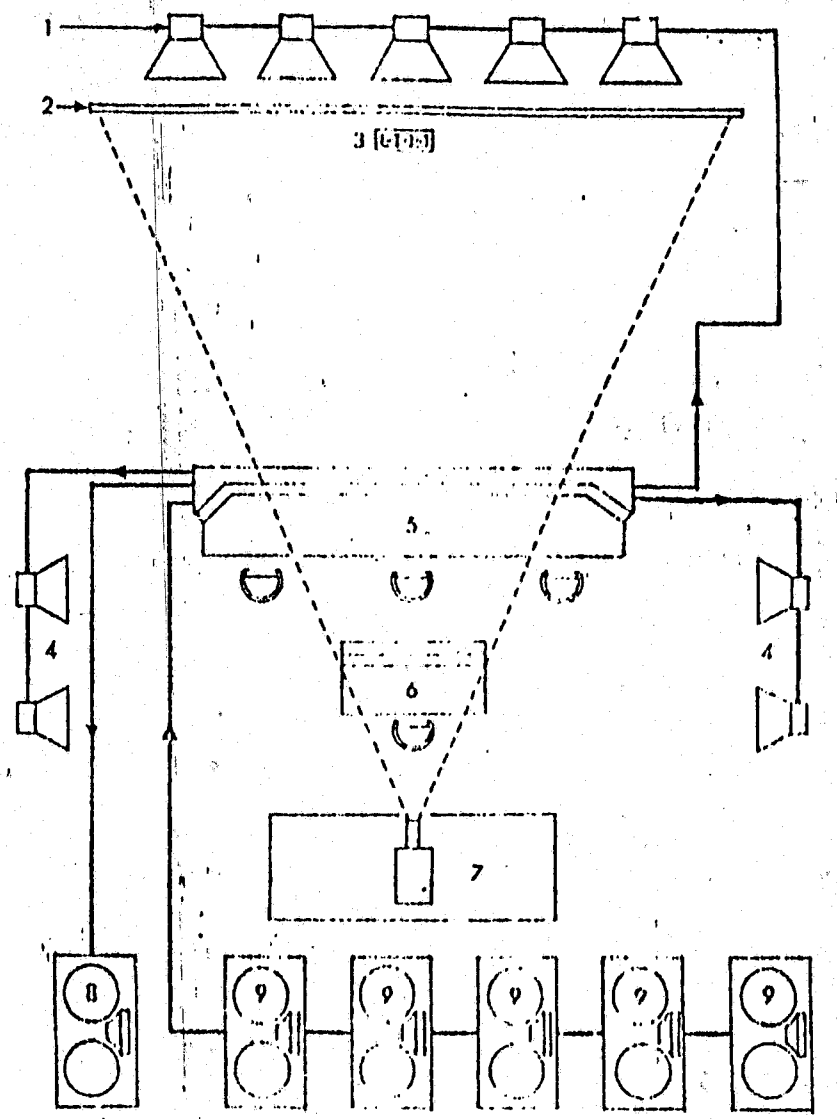
All floor and bench surfaces should be made of a material which is neither rough no dirt-accumulating. Film being wound across the surface of a bench is bound to come into contact with it occasionally and the smoother and cleaner the better. The film is certain to meet the floor, too, once a while. No matter how careful one is when handling large quantities these are occasions when it seems to come alive and fly out of one's grasp: sometimes bins become overfill and spill their contents on to the floor. So a moth clean floor will cause less damage. Static electricity builds up surprisingly in film when it is being wound and handled, and can attract dust wherever it may be.

2.5 SOUND DEPARTMENT

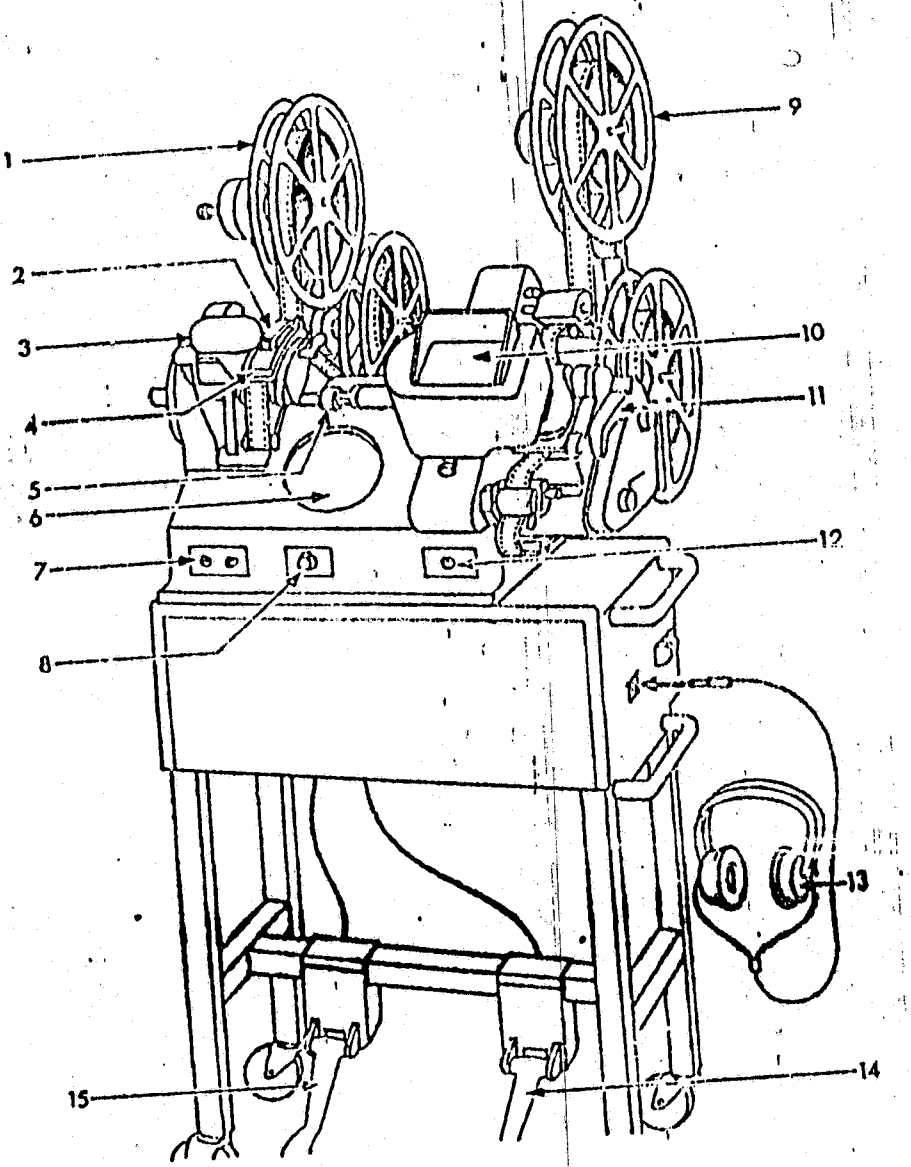
The aim of the sound department is to produce a single strip master dubbed sound track, correctly balanced each red of picture. This is then combined with the cut picture negative at the laboratory to produce exhibition prints.

By a series of "pre-mixes", many dialogue, effects, and music tracks are gradually grouped together. Thus, the final result can be mixed from a relatively small number of pre-grouped sound components.

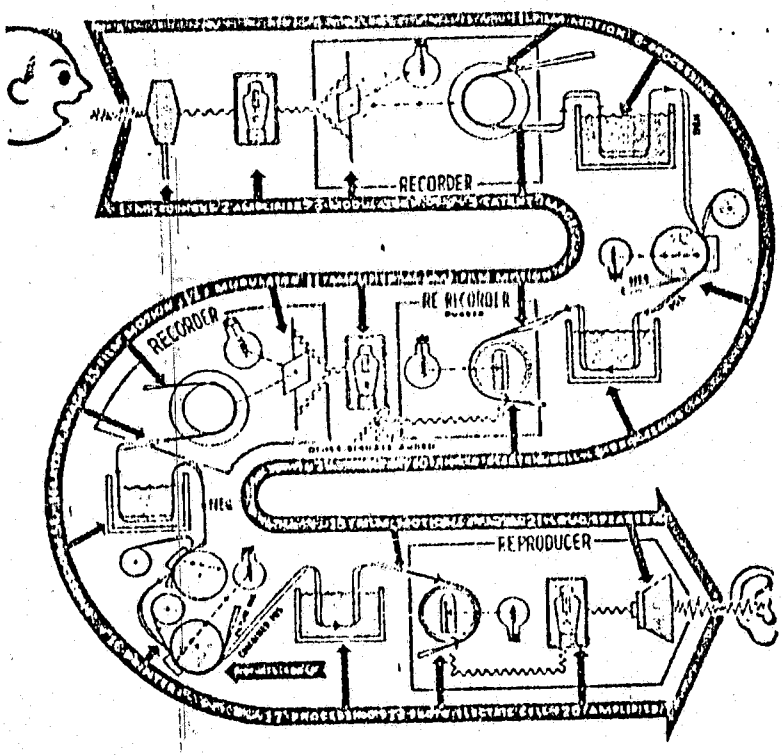
The sound engineers work in a projection room equipped to project the picture on to a screen while many synchronous sound reels are simultaneously running on sound reproducers. To achieve the correct balance of overall sound they have individual volume and tone controls for each sound reel. These are arranged on a special console. Each sound machine sends out the individual signals contained in the assembled sound



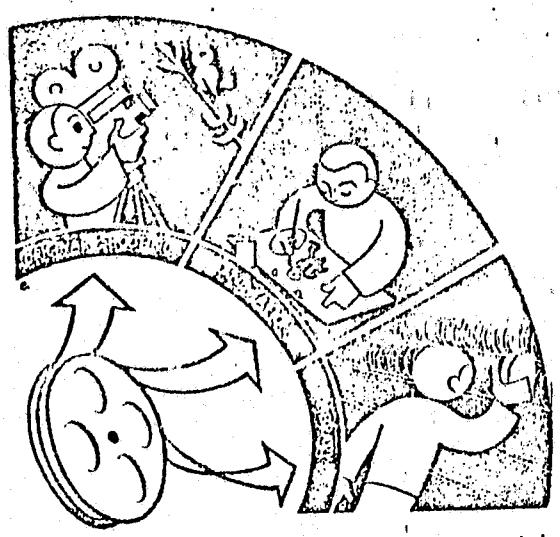
Multiple track re-recording theatre set up for 6 track system. (1) The five main channels for the behind-screen area. (2) Projection screen. (3) Footage indicator. (4) Surround speakers. (5) The main three-position mixing console. (6) The second, single-position console from which travelling sounds will be "panned". (7) The film projector. (8) The master magnetic recording machine. (9) A series of re-recording machines, synchronously reproducing the working sound tracks.



Basic operating parts of the Moviola. (1) Sound take-up. (2) Magnetic reproducing head. (3) Photographic sound reproducer. (4) Sound gate. (5) Coupling bar for synchronous picture and sound viewing. (6) Speaker. (7) Constant speed motor switches. (8) Amplifier/volume switch. (9) Picture take-up. (10) Viewing screen. (11) Hand-brake. (12) Variable speed motor switch. (13) Optional head-phone outlet. (14) Variable speed foot switch. (15) Constant speed foot switch.



. The recording, re-recording and reproduction of sound on film by the optical method, from the speaker's voice to the listener's ear.



. The three sources of film material.

2.5.2 SOUND RECORDING AND PRODUCTION TECHNIQUE

The art of sound recording for motion pictures has developed dramatically, Apart from a continuos improvement in sound quality two particular development have markedly affected the technology and practices.

The first was the discovery that there was no need to record the sound on the same film and in the same camera as the picture. On many occasions several pictures are taken from different points of view of the same scene which has only one sound record. Or several sound records may be taken. It is far more flexible for subsequent handling (starting with the developing, which can be specialised) to take the sound recording or recordings in a separate box under the care of a specialist.

2.5.3 CHOICE OF MICROPHONES

Conditions that may dictate the choice of a particular microphone include the presence of minor echoes from objects in the set or reproduction of speech in a small room, as distinct from that in a large hall. Painstaking adjustment are made by careful attention to the choice of microphones, by:

i. the arrangement of walls and furniture on the set

ii. the exact positioning of the actors.

For recording a conversation, the preferred microphone is sensitive in a particular direction to reduce extraneous noise. It is moved toward each actor in turn. The boom used to hold the microphone in these cases resembles that used for small lights. Microphones can also be mounted on a variety of other stands. If necessary, a chest microphone that is known under clothing may be used.

When several microphones are used on the set their outputs are often mixed and reproduced on a single film or tape. The mixing is done at a small console, and the operator must use a high degree of skill. Sometimes this is done in the later editing or dubbing processes.

2.5.4. **MUSIC EDITING**

Film music can be divided into two main group; each with its particular function. The pure musical sequence and the featured visual music section of any scene perform an obvious function. But scored music for background use is rather a different problems. Not only must it be written with great thought and skill but also the areas of the film which are to be enhanced with such music must be chosen with care. Just as the sound editor assemblies his sound effects to create an almost musical effects in some sequence, so the music composer creates the instrumental background, to become at times an additional sound effect it self. Often, it is an augmented effect blending with a dialogue scene so that one is almost unaware of its musical presence yet, adding the shooting phase of a production that the composer enters into the creative team. Although most studios still maintain a music department with a permanent staff of conductors, composers, and arrangers, a composer is frequently brought in from outside of a particular film.

2.5.5 **MUSIC COMPOSER**

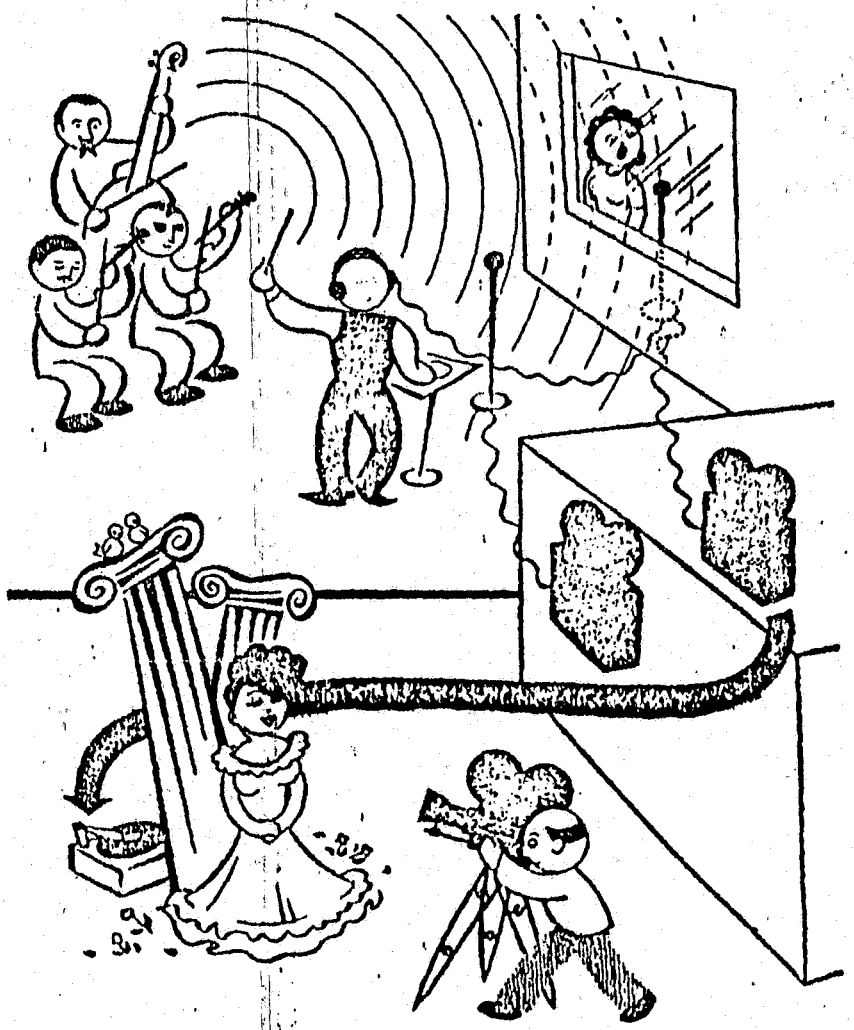
His first job is to capture the "feel" of the film under way by reading the script, looking at the rough cut, and consulting the producer and director on their ideas of how, where and what music should go into the picture.

Most directors, aware of the emotional colouring and emphasis that can be added to a scene by the score, will use music to establish the mood of a scene. Ideally, the development of musical themes and ideas takes place while the film is still in its shooting phase so that once the camera work has been completed, the composer is left to concentrate on the more mechanical aspects of it to fit. He works with the rough cut studying scenes and timing it to fit. He works with the rough cut studying the tempo of each scene, nothing where the dislodge falls, and where any other significant sound might be obscured by a flourish of the trumpets or a blast from the tympani. Beyond this be knows no limitations.

2.5.6 **THE RECORDING SESSION**

At the recording session the conductor, wearing earphones, stands facing his orchestra and a screen placed high above their heads. when the sequence to be scored flashes on the screen, punch marks on the sound track indicate precisely where the music is to begin. As the orchestra plays, the conductor attempts to synchronise the music and the action to make the two to complement each other. Through his earphones he hears not only the dialogue and sound effect, for the scene on the screen but also a "click track" that acts as a metronome to establish his tempo.

He listens for the balance between the words, the natural sounds and the music, alert to any blurring that might obscure the sense of a scene. Often the composer is also present at these sessions ready on the advice of the conductor to hastily extend a phrase or eliminate a few bars and thus enhance the overall effect.



[redacted]. The technique of prescoring and playback with singer and orchestra. The conductor, tapped into the singer's recording line, is able to hear her voice through headphones, while she hears the orchestra by controlled acoustic leakage into the voice recording studio. Voice and orchestra are separately recorded, and additional discs or magnetic records of the voice part are played back on the studio floor to enable the actress (who may be beautiful but dumb) to synchronize her lip movements while appearing to sing. All equipment shown here must operate synchronously. (Many variations of this basic technique are in use in the studios.)

Music - and all other elements of sound as well, including the dialogue is recorded on separate strips, or tracks of film. throughout the shooting, wherever the director looks at this rushes, the picture is shown to him on one matching \, while the sound is played on another projector, interlocked to the first.

In this way the cutting can proceed freely, without being chained to the sound track. Often a scene may be altered so drastically during the editing that the dialogue must be re-recorded. Or it may develop that a scene which photographed well proves to have a faulty track. Or a sequence taken on location may have been shot "wild" without its proper synchronised sound. For all of these reasons, the post - recording session has become an accepted practice once the shooting is over. specifically it is a time to correct and complete the recording of any faulty sound tracks for the picture will be brought together and "mixed" with each other.

Post - recording is generally done in small acoustically treated room where every sort of sound quality can be achieved synthetically. by adjusting panels and altering the textures of wall surfaces, the recordist can produce the closed - in sound of a satiny boudoir", the booming reverberations of a railway station, or a clear, live, outdoor sound. For this session, the shots are broken down into loops that can be run continuously over and over again without pause, through the projector.

The actors, standing before a microphone, watch the film repeatedly until they can synchronise their words to the mooching lips in the picture. The sound take is made and the resulting track added to the mounting reels of sound that will be brought together in

the final recording or mixing session. (This process, incidentally, is identical with that used to "dub" foreign films into other languages - with the sole exception that in foreign films the entire picture must be dubbed, the actors must try to fit the language used to the original lip movements.

2.5.7 **THE MIXING SESSION**

The mixing session - which can last for several days generally takes place in a studio about the size of a large room with a small screen at one rod, a large desk covered with dials and knobs at the other. Near the screen is an illuminated meter, very much like an oversized mileage counter in automobile; it keeps track of the footage as it races through the projector. at least three men sit at the desk, the chief recordist and its assistants each with several sound channels that he can control by twisting the knobs before him. For here is where all the many separate tracks - at least a dozen, and in elaborate stereophonic productions, upwards to thirty - that will up the final composite sound track are combined together, balanced against one another, synchronised to the visuals and mixed.

2.5.8 **SOUND MIXER**

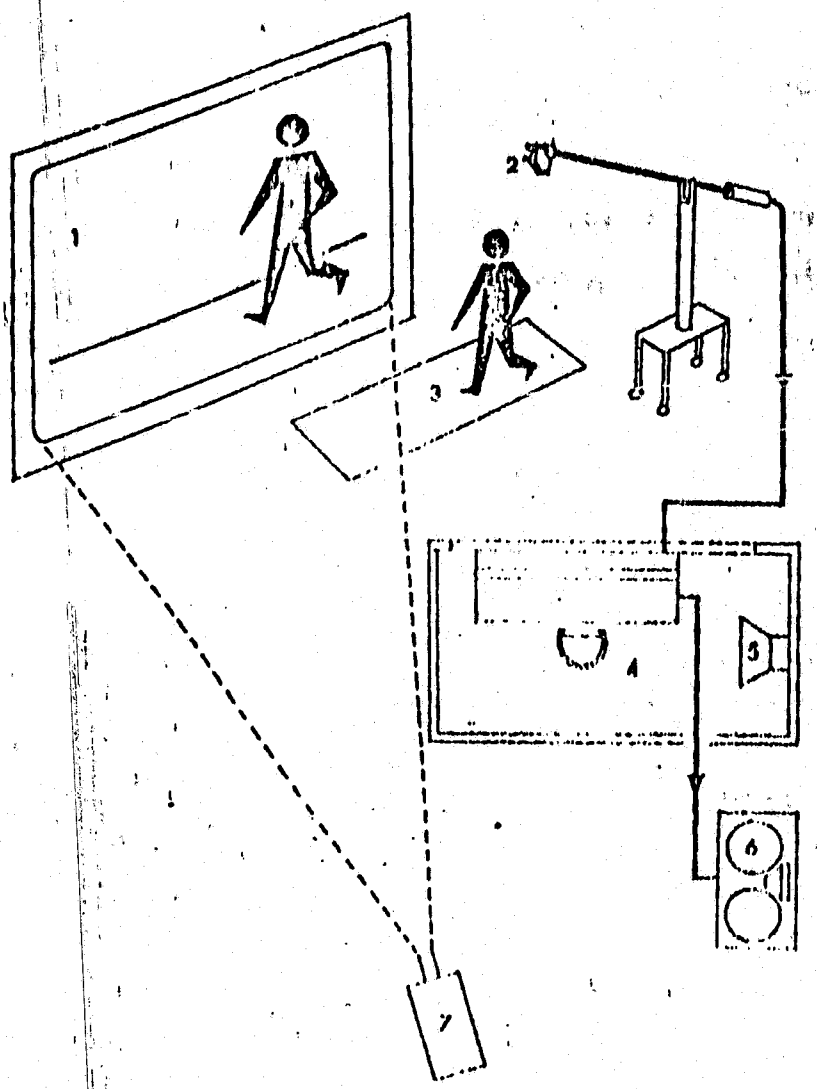
This is the processing, mixing and balancing many sound tracks into one final sound track. It also used to describe the post - synchronising of original and foreign language dialogue. In some countries, dubbing specifically refers to such post - synchronising and in this case the final sound track mixing is called re-recording which is an electrical process of transferring sound records from one or more films or discs.

Dubbing is a term generally used to indicate a sound track that was added during an editing stage rather than recorded at the same time as the picture. It can include:

a. the addition of incidental background noise to add to the realism of a scene.

b. provision for the substitution of a voice recording made under more favourable conditions than those prevailing during picture taking and can be made before or after the picture is taken.

In pictures that present signing or operate quality, for example, the singing may be accompanied by facial expression that are not attractive in close - up (which in an opera would not be noticeable to an audience) such scenes can be pre - recorded or post - recorded due care being taken to assure exact synchronism between the sounds and the lip movements. In musical productions in general, a better recording of the music can be obtained in a separate session in a sound studio than on the picture set, with the result that filming is made with only a taken orchestra. Some times an addition dubbed in can be only a commentary on the picture recording are merged in an extra editing session of the production film.



Post-synchronizing footsteps in the effects theatre. (1) Screen. (2) Recording microphone. (3) Various surfaces, as required. (4) Sound recordist in monitor room. (5) Monitor speaker. (6) Recording machine, carrying a virgin loop of magnetic film. (7) Projector, running the picture loop.

2.6 SPECIAL EFFECTS

The term SPECIAL EFFECTS include more ambitious simulations. A background can be painted on a backdrop as in the live theatre. some times a large glass sheet is used; the actors and the immediately surroundings are photographed with built-up scenery, but the more distant objects are pointed on the glass with the junction merged into a feature of the locale.

It may even be desired to compress the perspective with a condensed background by falsifying the perspective with exaggerated building and street angles that merge with fore ground. In this techniques the camera point cannot be charged as it would reveal the false perspective at the merger.

A large proportion of scenes accepted by audience as genuine, such as country scenes, aeroplanes or motor - car crashes, parts or large sets, even apparently simple scenes such as close-ups of character in a dance as well as more obvious fakes such as earthquakes and ghost effects, are actually the work of the special effect department.

2.6.1 USE OF MODELS FOR SPECIAL EFFECTS

A practice that is not really a special effect but can be noted is noted is the use of full - scale models of heavy stone, brick, or other materials made in cast plastic foam. some remarkably convincing structures, inexpensive add light to handle can be built up in this way. Scale models often require charges in the time scale and a great deal of care about perspective. a disaster at sea for example. or an automobile plunging of a cliff can be simulated with scale models and a speeding up of the frame - taking speed.

2.6.2 **EFFECT PROPS**

Many props are required in the recording studio to recreate suitable sounds. Bottles, glasses, cutlery, doors telephone typewriter, water tank etc. are only a few examples quite a formidable list of items the sound editor must get together. Some synchronising sound studios are designed purely for effects shooting. Strips of permanently laid flooring of various types such as wood, concrete, gravel and sand are an important feature. Various door mountings, bevels, etc. are among the various items always available.

CHAPTER THREE

3.0 FINAL FILM RESPONSIBILITIES

3.0 PREPARATION FOR PICTURE NEGATIVE CUTTING

3.1 THE IRREPLACEABLE NEGATIVE

The work print of a film contains materials from three different sources:

a. Cameras shoot part of the footage in the studio and on location.

b. The library supplies some from its files;

c. Some comes from the filming of inanimate objects like maps and title cards or the re-photographing of other shots with special modifications such as fades and dissolves.

The work - print is a positive, which has been used most often for all editing processes. It is like the succession of snapshots in a photograph album - pleasant to look at, but valueless if a great number of copies have to be made. The whole essence of film lies in its power of being multiplied almost indefinitely. Until a feature picture has been duplicated hundreds of times for running in thousands of theatres before millions of people, it has little chance of returning its original cost, which may amount to two or

more million dollars. Hence, like the amateur who puts his negative away in an envelope ready for reprinting, the professional must have his own negative amounting to many hundred of thousands of metres accurately and safely filed away in the film library.

When the work print has been finally approved by the editor and producer of the film, it goes to the NEGATIVE CUTTER, whose duty it is to pick out the negatives (or reversal originals) for every shot in the film, and cut them to match exactly with the shots in the work print.

Before negative cutting, the cutter usually makes a shot list which number the shots in the film form beginning to end and list the edge numbers, a description of shots, the source, and the footage.

The purpose of the shot list is to enable all material from the same shot to be grouped together and to make sure that nothing has been forgotten.

Armed with the shot list, and the negative (or reversal original) of the film gathered together and broken down into numbered rolls of conveniently size, the negative cuter is able to start work.

With a properly work print, edge numbered negative which is broken down, labelled and arranged in order, and a good shot list, the negative cutter should be able to cut and splice a reel of negative (or reversal original) in form three to four hours depending on the number of shots. The tools required are the same as for positive sound cutting - a

synchroniser, a pair of double rewinds, scissors, and cardboard or celluloid patches. If the negative is spiced as it is cut, the patches will not be needed.

What has been said so far about the mechanics of negative cutting gives little feeling of its peculiar flavour, which results from the irreplaceable of all original material. This original film is the film maker's most valuable possession. It is the delicacy of the negative - cutting process that gives it the peculiar flavour I have spoken of. A kind of ritual surrounding it.

3.1.1 **PRESERVATION OF THE NEGATIVE (or REVERSAL ORIGINAL)**

The preservation of the negative (and reversal original) requires thoughtful planning and scrupulous care. Among the many important points to be observed, the following are outstanding:

a. Original should be confined to two places only:
the library and the negative - cutting department (as a section of the laboratory). In the library the original should always be kept in cans, and stored if possible at a constant temperature and humidity.

b. Handling of the originals should be confined to the negative - cutting rooms (and the associated laboratory), which must be designed for a minimum ingress of dust. Air conditioning is almost essential; but if unprocurable, the windows should be covered with extremely fine (100 gauge) metal screens.

Members of other production and laboratory departments should be excluded as far as is practicable, to avoid the continual coming and going which brings in dust on the soles of the feet and disturbs concentration work.

The negative cutting rooms should be painted white with washable paint, the ceiling should be low enough to be easily cleaned, and inaccessible dust - collecting corners and crevice should be avoided. Unless cutting is to be confined to 16mm, cutting tables and cabinets, must be of metal and should be panelled to make dusting easier. "Each room, in short, should look like a hospital ward". To remove the last traces of dust from the air, a precipition or other similar electronic dust precipitator may be installed, through the price is very high.

c. The surface of each cutting table should be frequently dusted and kept absolutely spotless. The inside of bins and other areas difficult to dust carefully, should be lined with detachable covers or spread with soft tissue paper.

d. The negative cutters should wear white uniforms and gloves when they are working, and these should be washed at frequent and regular intervals.

e. Original films should always be handled by edges.
When they are fitted on synchronisers and taken off again, rough contact between film and metal must be carefully avoided.

f. Original film should never be assembled with metal clips, unless paper is inserted both over and under the clips so that they are completely covered.

The important thing about the negative film is that while most other production departments modify or add to the film in some vital way, the negative department's chief care is to add nothing and to take away nothing from it, but to preserve untouched the irreplaceable image its scarcely less delicate support.

3.1.2 **THE ANSWER PRINT**

This is the first combined picture and sound print, with picture correctly graded for density an d colour and sound correctly synchronised - the first acceptable print although several may have made before the standard was acceptable.

This is eventually subjected to a preview by a group of the censors body or even by the public which will be requested to fill out certain questionnaire prepared by the film producer to ascertain public opinion on the production.

3.1.3 NEGATIVE RE-CUTTING

When charges are made and approved after the final preview, picture negative must be recut, and also sound negative unless a complete new negative is to be supplied as a result of redubbing.

Those charges made, temporarily, in the combined preview, print, must now be created out on the editors work print and all the sound tracks involved. Crude alterations necessary with a combined print are now more carefully made in the work print as the operation is no longer tied to the advanced sound synchronism.

The editor's revised work print is once again sent to the processing laboratory for negative recutting with any new dissolves incorporated if necessary. The negative cutters at result of the preview. so wherever a picture changes has been made a paper in the work print, inserted at the recut, will serve as guide when negative and positive is rematched in the film synchroniser.

Sound negative recutting is done in the same way, if needed. Recut papers are inserted in the sound workprint where cuts can be made without redubbing.

Whether or not preview are held, negative recutting is eventually completed for both picture and sound, the ANSWER PRINT is made combined form and approved, and RELEASE PRINT can take place as required for the production.

3.1.4 DUPLICATE PRINTING FACILITIES

so far, only one picture negative and one sound negative is available for this mass printing. It may in some areas be necessary to provide further printing facilitates for large scale distribution, not only to limit the possibility of damage to the existing negatives, but also allow printing in various territories for the world market. Original language versions may be needed in other countries and printing may be required simultaneously in all areas. duplicate printing facilities therefore have to be made available.

Duplication of the picture negative is strength forward. Fine grain positive duplicating prints, or inter - positives, are made from the original negative without going through the intermediate positive stage. Either system provides another synchronous picture negative which can be used for printing.

A direct colour internegative can used without going through interpositive stage, by using colour reversal film stock - the colour reversal internegative system, or C. R. I. Film manufacturers produced a new type of reversal stock for this systems and RELEASE PRINTS taken from the c. R. I. are regarded as being equal quality to those taken from original negatives.

There are several advantages here. The original negatives is only used to produce the requirement quantity of internegatives.

It therefore has very little wear the original cut negative is full of physical splices, the C. R. I. taken from it has none and the release printing operation is less hazardous. the original negative can also be cut so that dissolves and fades are made direct to the C. R. I.

by the auto - optical system. This cuts out one generation of film duplication and these effects are, therefore higher quality.

REDUCTION PRINT

If the original negative is 35mm it does not necessarily follow that all release prints are to be made in this gauge. Many reduction prints are made on to 16mm and even super 8mm. The use of 16mm is widespread, particularly for "in-flight" movies used by airlines and on doubt, see this gauge in much greater use in the educational field and in cassettes for home reproduction on television screens.

a duplicate picture negative is made, optically reduced to the required gauge on a special printer. Naturally, a similar gauge sound track negative will also be needed for the combined picture sound printing operation. To maintain high sound quality, these sound negatives will should never be made by optical reduction. The result is far better from when a transfer is made on to the combined printing sync will be different from 35mm of course and this is dealt with by the film laboratory.

A 35mm picture negative can also be used to make enlarged prints by using a special printing machine - mute 70mm reels being printed, then stripped and recorded with multiple sound tracks from magnetic printing master specially made.

Although the film editors is not directly concerned with printing systems, he should be aware of the dye - transfer method of colour release printing, if only to understand the different type of duplicating facilities he may have to order.

With the Technicolor dye - transfer system, the original colour picture negative is cut to match the editor's final work print. If there are dissolves and fades, however the negative is assembled for the auto - optical process, no special dupe negatives incorporating these optical effects being needed.

RELEASE PRINTS.

These are the final projection prints, or show copy, of a completed film.

Release prints are not made from the original negatives. It is the basis of making three special separation positives prints, each of a slightly, different nature. Each reel of cut negative is printed three times, each time through one of the primary colour filters - first through a red, then through a blue, and then through a green filter. When these three positives are developed a relief image is produced, the emulsion varying in thickness according to the light and shade value of the subject.

Each separation print is really a type of mould known as a MATRIX. If a matrix is soaked in colour will be colour dye and then placed in contact with blank film, colour will be transferred to the blank according to the varying thickness of the matrix emulsion. each matrix, having being printed through a primary filter, will be used to transfer a dye of the appropriate complementary colour. The red filtered matrix will carry a mixture of the other two primary colours, blue and green (cyan); the green filtered matrix will transfer a mixture of red and blue and green (magenta); and the blue - filtered matrix, a mixture of red and green (yellow) in later editing processes, the editor can cut in such scene of the picture film as best fit the development of the story, but they are all anchored to the same time sequence of the sound tracks.

For this, it is necessary to have absolute synchronism between the various picture films and sound recording.

The second change in technology was the advert of Magnetic sound Recording. The big advantage of this technique is that it provides improved sounds quality, thus permitting greater flexibility in editing procedures. when a sound track is copied, the copy is not as good as the original, and a copy from the copy is poorer yet, and so on as successive copies in editorial process while still giving the final copy adequate quality for exhibition purposes.

Also Magnetic tape or film does not need to be developed but can be used as soon as made and does not need to be protected from light. The result is that most of the present original sound recording for motion pictures is done magnetically. On the other hand, most of the 35mm film projected in theatres carried a photographic sound track, as most theatre projectors in current use are equipped with optical sound reproducers, thus requiring the magnetic sound track in the exhibition print.

Blank perforated film of the required gauge is first printed with the appropriated photographic, sound track the remaining area of the film being clear. then, in a continues operation, the clear area is brought into carefully registered contact with each matrix in turn, colour dye being transferred to the blank film. First the magenta dye is transferred; then, still in continues operation, the cyan matrix transfers it colour dye on top of the now dry magenta, finally yellow dye is added to these two from the third matrix and the full colour picture is complete, with a synchronous photographic sound track.

These matrices can be used over and over to produce further dye - transfer colour prints. Large scale RELEASE PRINTING is thus possible without any wear and tear on the valuable original colour negative.

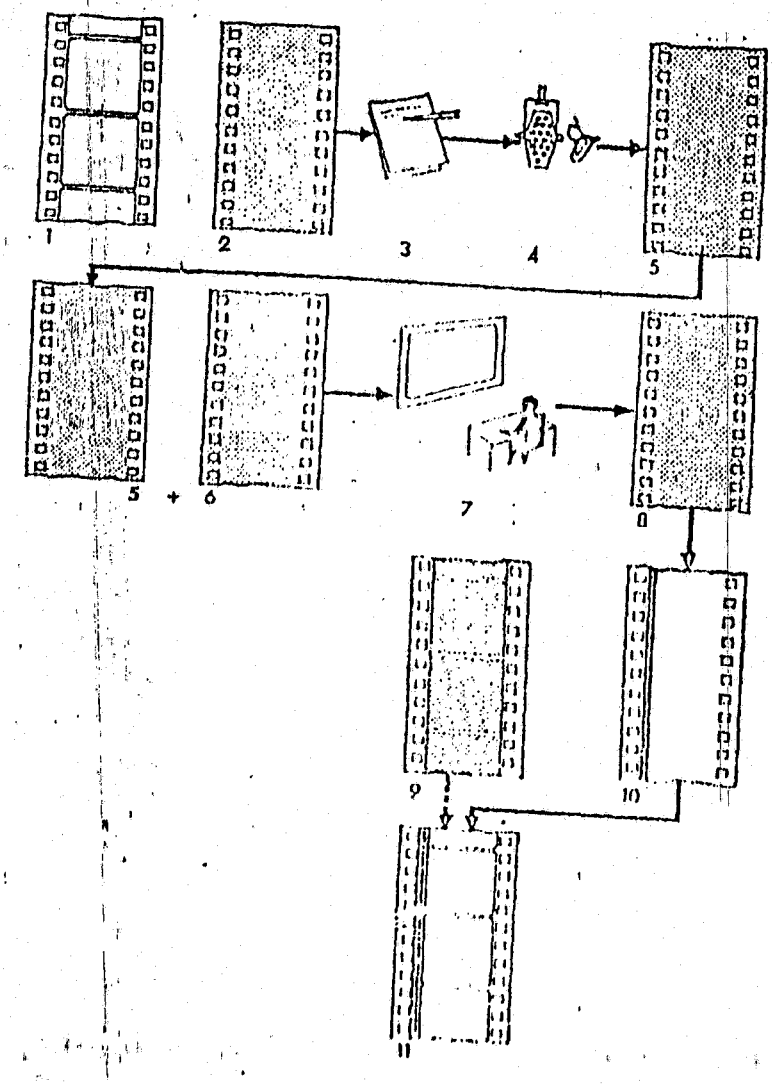
3.2 FOREIGN VERSIONS OF FILM PRODUCED

There may be considerable foreign version requirements for a film. Let us examine these on a major feature where distribution is to be in both 70mm and 35mm formats, with multiple and mono sound channels. The responsibility for providing and the necessary foreign printing and sound dubbing facilities usually rests with the production company. Delivery of such film is part of a contract existing between producing and distributing companies. the concern of the laboratory and sound departments to ensure that contractual obligations are met,

3.3 FILM STORAGE

By the time the editorial staff have completed their work, there is a large quantity of working film in the cutting room. similar quantities are in the sound department, apart from unused takes and negatives trims held at the laboratories.

At such film must be stored for aluminium periods as directed by the production company and kept in groups until disposal instruction are eventually issued. some of the working film is soon destroyed, other film - sound master and picture protective masters are kept for an indefinite period.



Foreign versions. (1) Picture dupe work print and (2) working dialogue track sent to foreign dubbing centre for dialogue translation (3). (4) Foreign dialogue post-synchronizing to produce (5), foreign synchronized dialogue track. Foreign dialogue track combined with M & E track (6) in foreign dubbing theatre (7). This produces foreign master dubbed sound track on magnetic film (8) which is then transferred to the photographic sound negative (10). (9) Duplicate picture negative combined with (10) photographic foreign sound negative to produce foreign combined print, (11).

3.3.1 FILM SUITABLE FOR LIBRARY

The first consideration should be the preservation of any picture negative, or sound recordings, which may be of future use in the stock film library. Several of the sound effects, at least specially recorded preserving for future use, even though they may not have been used in the final dubbed track, Selected effects can be transferred on to magnetic film, documented with all available detail; and filed in the film library for use in future productions.

Suitable uncut picture negative should also be preserved.

Establishing shots made on location, for example, may be expensive pieces of film and there will almost invariably be more than one takes or more than one angle but only one used in the cut version. Background films used for rear Projections or for travelling matte shots are generally photographed for a specific purpose but are usually well worth preserving. The laboratory can be asked to separate such negative which is still in the cutting room, cab be filed in the picture shock library - again, documented for future use.

3.3.2 TYPES OF MATERIALS TO BE STORED

All remaining material can now be gathered and stored in film vaults until disposal instructional are given. The following film groups are usually involved:

The editors picture work print

All the unused positive rush prints, picture and sound and all the trims of used material.

All component sound track which were built for the final sound dubbing operation - dislodge, effects and music tracks together with dubbing charts.

The master magnetic final dubbed track; premixes and three-track magnetic mixes made to produce the single track dub.
The master magnetic foreign version music and effects mix.

A magnetic transfer of the entire music scored and recorded for the picture, whether or not use in the final version.

Original master recordings made at the time of shooting.

All picture negative trims and unused slates. Protective master of the final edited version.

Cutting room records and documents.

3.4 FINAL RESPONSIBILITIES

Final editorial tasks include preparing existing required by the accounts department in orders to meet existing regulations and contracts.

If any film picture or sound, used in the final version was supplied from a stock library source exact footage's have to be given to the accounts department so that contracts can be met and appropriate payment made to the library concerned.

3.4.1 **FILM STORAGE**

The film is usually stored under various temperatures and humilities depending on its nature.

Unexposed Film:

This is preferably stored in a refrigerator at 50 C or less.

One should be aware of frosting and condensation. If should be ensured that can kept for some time are:

a. not allowed to rust and

b. kept sealed by the sealing tape.

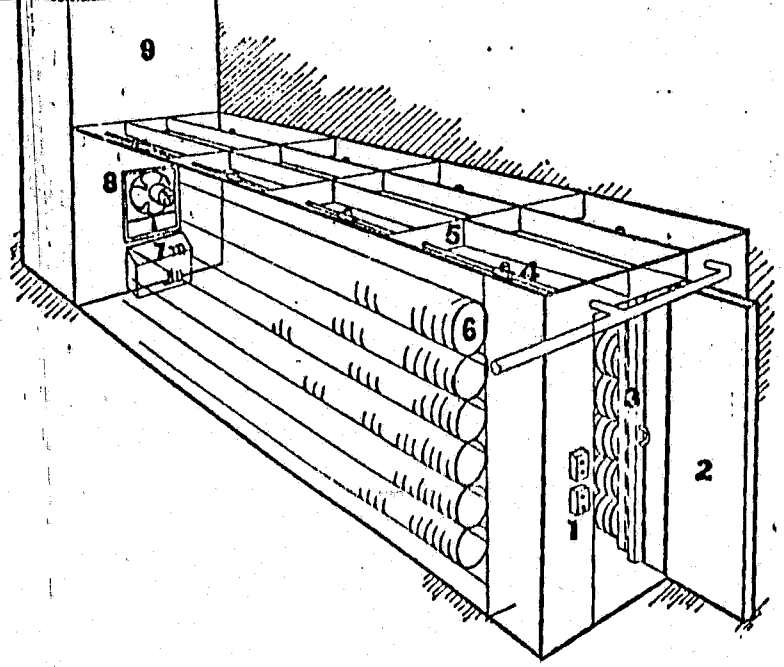
Exposed Film:

Identify this should be stored at a temperature below 0 C.

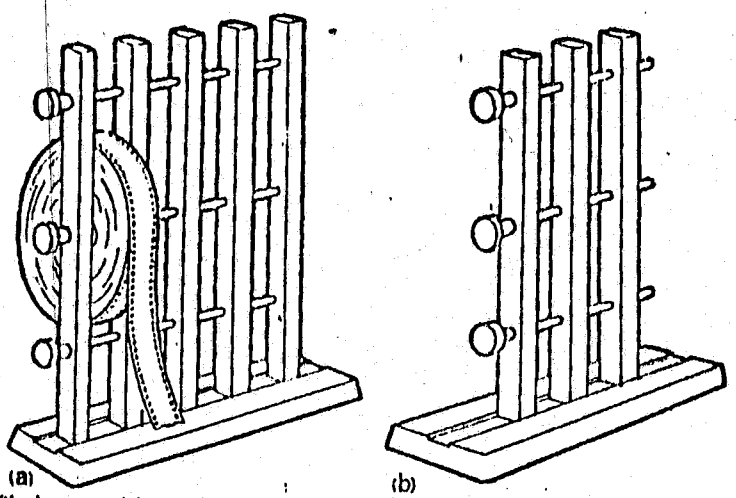
The colder the better the humidity must be kept down, as dampness causes more problems than high temperature.

Recommendations:

1. Refrigeration:- at - 5 C humidity at this temperature must be between 40 - 60%. Reseal the can before refrigeration.



A vault for storing inflammable film. Electric switches for the vault are mounted outside (1) to reduce sparking hazards. A steel door (2) provides a first line of protection in case of fire, and a safety door (3) slides to when released by a fusible link. An 8-head sprinkler system (4) is ready to dowse the film, while baffles (5) direct water downward onto the cans (6). The radiator (7) is protected by a well-spaced grille, and a fan (8) draws fresh air under the door and expels it outside. This fan is mounted so that it will fall outward if an explosive pressure builds up in the vault, a pressure which will then relieve itself through the large vent (9) into the open air. Vault shown holds 750 cans.



Film horses widely used in European cutting rooms. Many separate rolls of film are held in the way shown here with one roll. (a) 4-way model. (b) 2-way model.

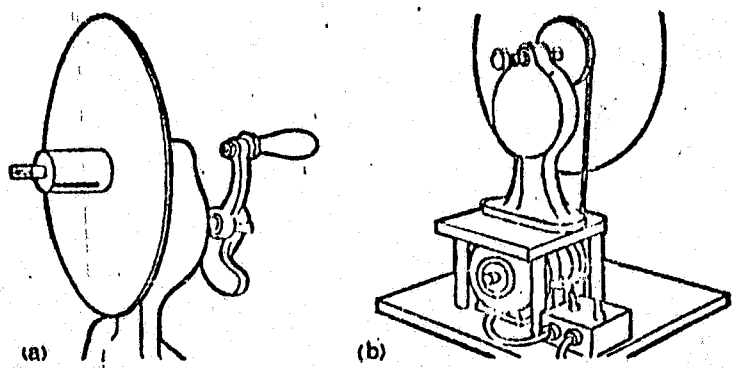


Plate rewinding. Rewinding mechanism used when film is not mounted on spools. (a) 35 mm rewind plate for approx. 1,000 feet of film on plastic centre. (b) Motorized version.

2. No Refridgerator available:- Use sealing tape to hold can together but do not reseal hermetically. Stored in a cool shade place. If possible place a scaled polythene bag with fresh silicon gel.

3. Tropical and Humid Conditions:-Use sealing tape to hold can together but do not reseal hermetically. Place each can in an individual polythene bag with fresh silicon gel and seal bag hermetically.

- proceed film can be stored in any cool, even temperature area and direct sunlight. Humidity should be ideally 40 - 60% R. H. and temperature 10 C or less.

Normally, very little picture stock footage's is used in a major production but sound effects are almost invariable used, sometimes in large quantities. the sound editor in charge of effects on the production must prepare this in formation before his assignment finishes.

3.4.2 **MUSIC USED**

Music used in the film must also be accurately documented whether it has been specially written for the film as an original score, or whether a re-recording has been made of some traditional or copyright work, Details may vary from country to country but the following are usually basic requirements:

Titled of production. Name of composer, arranger and where the recording were made.

Copyright details where these apply.

Duration's of each music section used in the final version, reel by reel.

Whether the recording made on each music section was entirely or partially used and whether it was visual or non-visual (i.e. featured or background music).

3.4.3 **FINAL FOOTAGE**

Individual requirement of accounts department vary but they often have to make returns which give details of the use of foreign labour in a film and the amount of materials used when photographing on foreign a suitable breakdown of the final screen footage, sub-dividing the amount of film made in various circumstances as required by prevailing conditions. A sample would be:

CHAPTER FOUR

THE STUDY AREA

4.1 LOCATION

Jos town is located in Jos Local Government Area of Plateau State. Plateau State is one of the 30 states of Nigeria. The State is located more or less in the centre of the country; latitudes 90 and 110N and longitude 70 and 2550E. It occupied an area of about 53,585Sq. Kilometres.

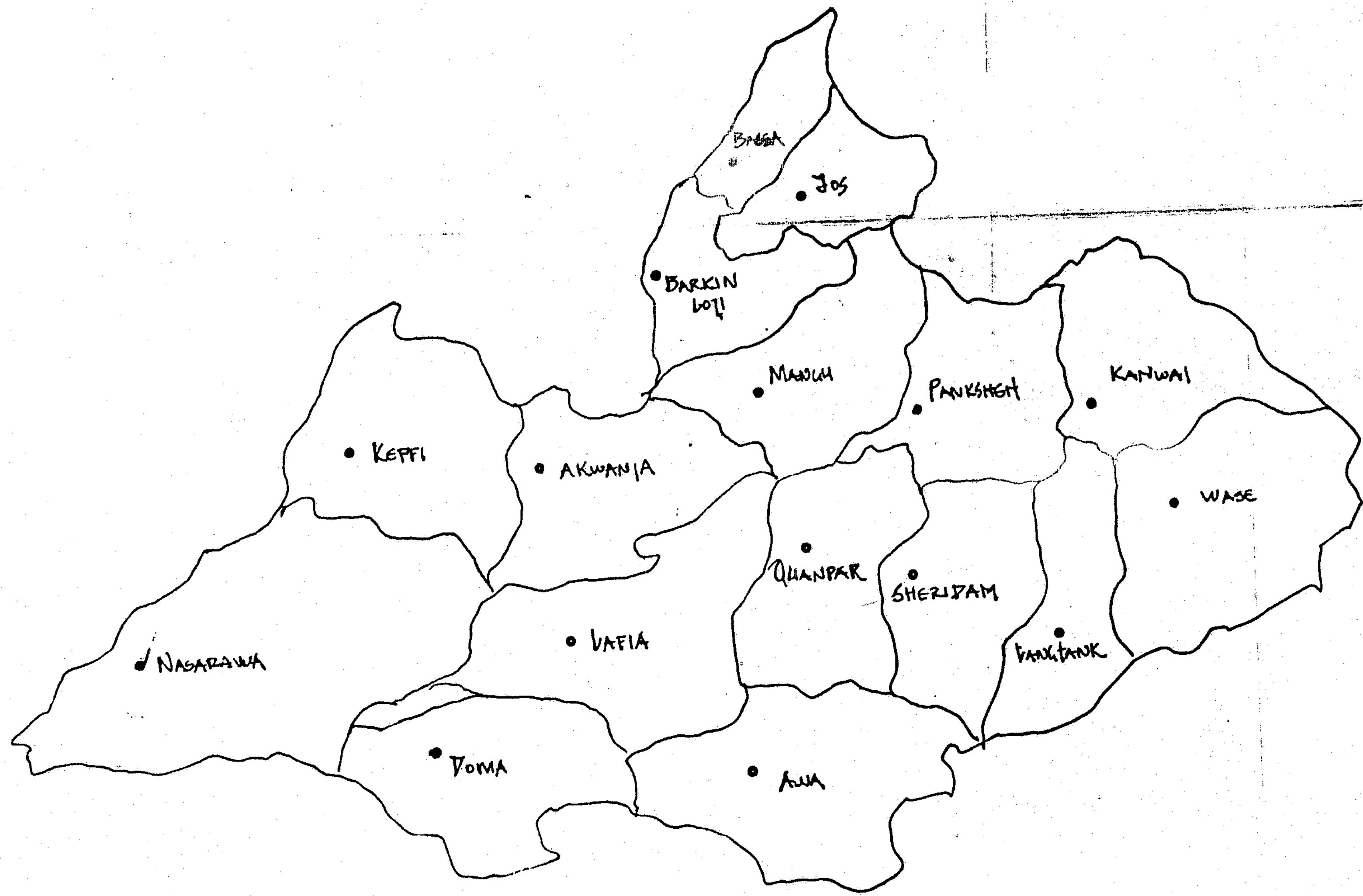
The state shares common boundaries with five of the 30 states of the federation and the new Federal Capital Territory, Abuja. To the North and South-West are Benue, Kwara, and Abuja, while to the North-west, North and North-east are Kaduna, Bauchi and Gongola respectively.

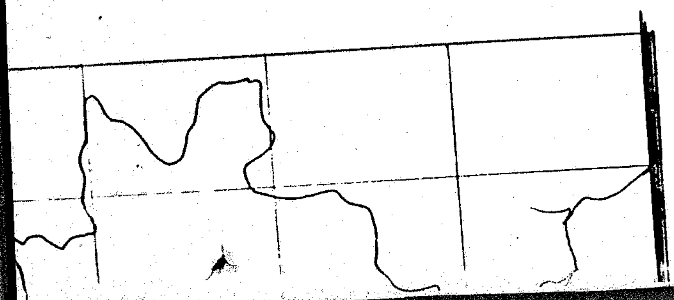
4.2 HISTORICAL DATA

Plateau State derives its name from the geographical landscape that dominates the area, namely the undulating plateau high-lands referred to as the "Jos-Plateau".

Jos, the capital city of Plateau State was a small mining settlement which started about 70 years ago. It's successive role as provincial and state capital made it grow rapidly within the last three decades.

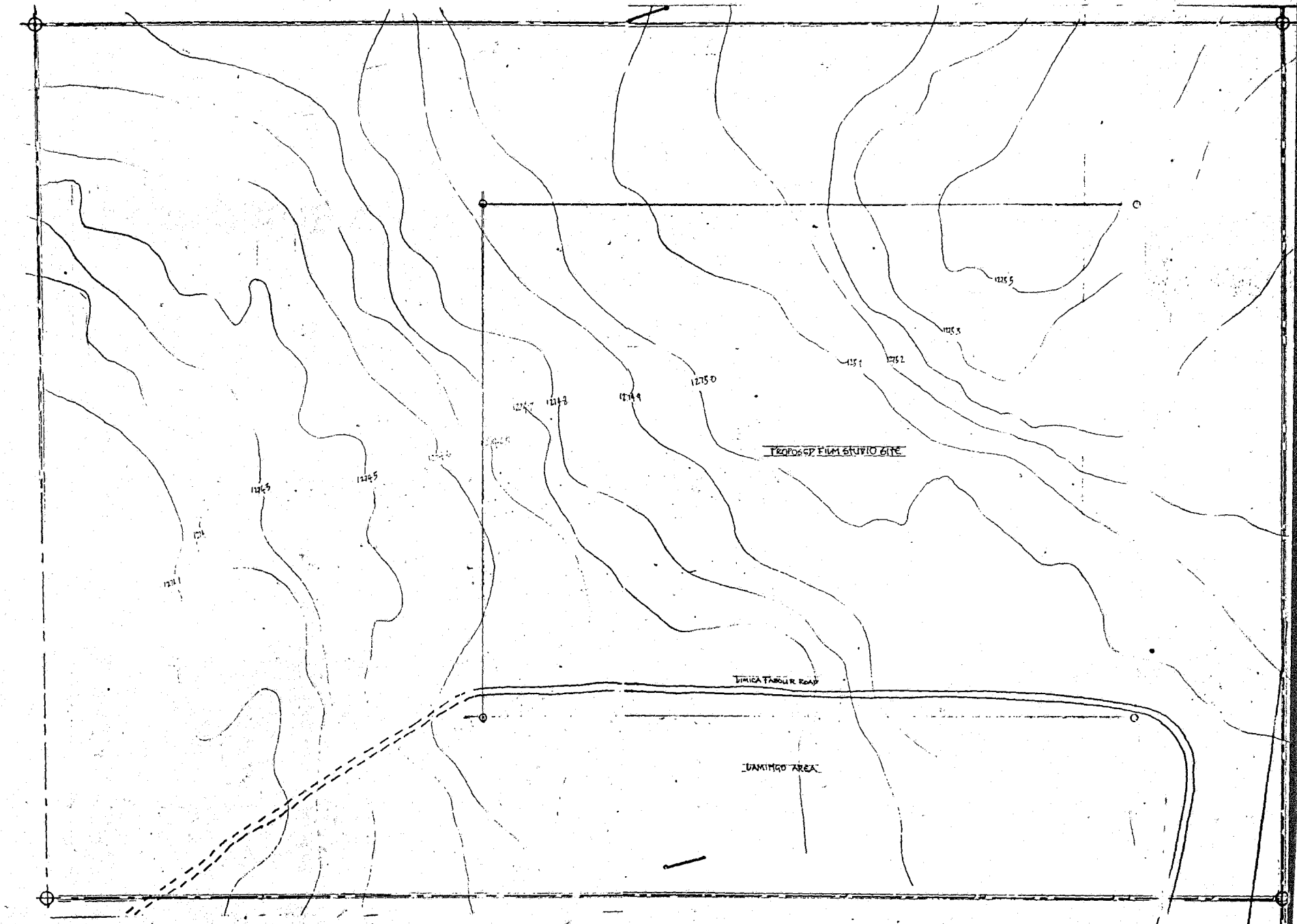
Plateau State was created out of the former Benue-Plateau State in 1976. Prior to the 1976 local government reforms, the state had eight administrative divisions. Following the reforms, the divisions were abolished and the new local government councils were created - Akwanga, Awe, Bassa, Barkin-ladi, Lafia, Kanam, Jos, Shendam, Langtan, Wase, Mangu, Keffi, Nassarawa and Pankshin. Two new Local Government councils have new been created namely Doma and Quan pan bringing the total to sixteen local government councils in Plateau State.





THE STUDY AREA, JOS

Jos is located in Jos Local Government Area of Plateau


PROPOSED FILM STUDIO SITE
TIMIKA TABOLI R. ROAD
DAMMGO AREA

4.3 GEOLOGY AND TOPOGRAPHY

Jos-Plateau is the higher of the two plateau found in Nigeria, the other being the Mambila Plateau in Gongola State. The Jos Plateau highlands stand at an average height of 1,200 metres above sea level with peaks like Shrere hills, rising to over 2,500 metre above sea level. The landscape rises steeply from the riverine plains of river Benue in the south and descends towards Bauchi State in the North East.

Nature has indeed greatly endowed the Jos Plateau with scenic beauty. Jos occupies a unique position in the middle of the Jos Plateau and has predominantly hilly countryside and many captivating rock formations. It's picturesque landscape ranges from bare rocks and artificial hillocks and deep mining gorges and ponds. It has been called the Tourist Haven due to it's geo-physical formation and near temperate climate.

4.4 SOCIAL CULTURAL FACTORS

Plateau state consists of about 50 ethnic groups with an estimated (projected) population of about 3,323,937 (1984 Plateau economic planning projection).

Inspite of it's large ethnic and tribal composition no single group can claim a majority position to threaten peace and unity. This has exemplified it as a state where unity is seen as being very compatible with diversity. There is closeness, and similarities in the various cultural and traditional ways of the people which enables them to live in harmony.

Their accommodating way of life has also made it possible for other tribes of the federation to live in peace and unity in the state, hence its being termed a melting pot of various tribes and cultures of the country. This, as well as the seemingly temperate climate plus other factors has resulted in the influx of so many expatriate settlers and workers into the state.

4.5 JOS THE CITY

Jos the state capital which is the study area has a projected population of about 300,000 people.

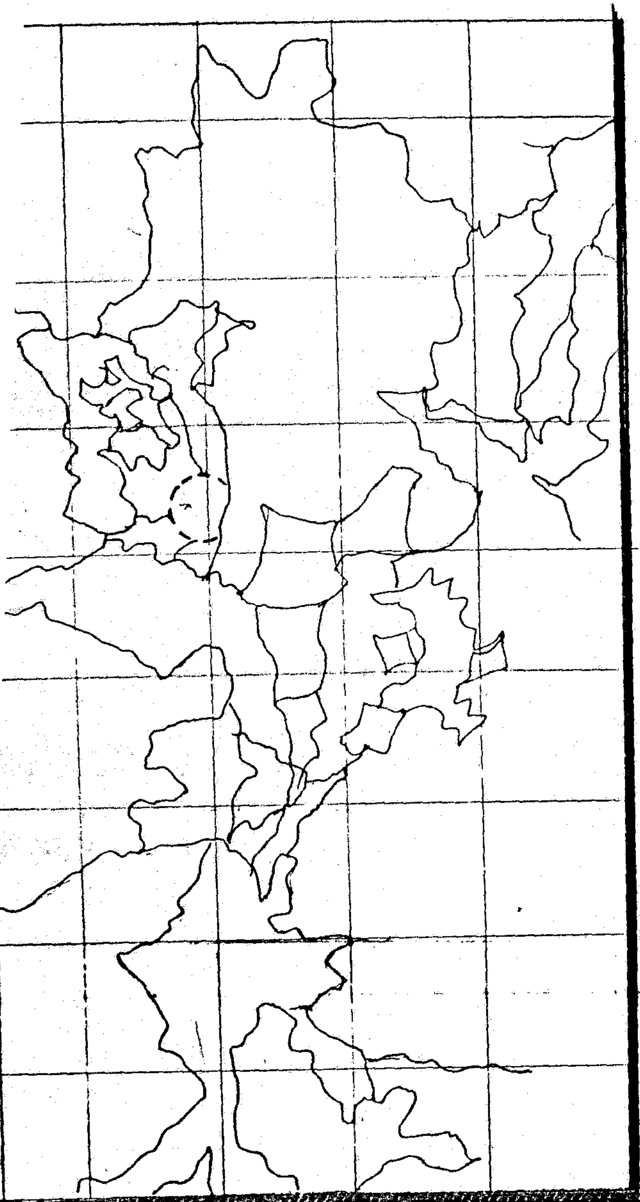
It is uniquely situated in the middle of the Jos Plateau and as stated earlier it came into existence as a result of mining activities in the early 1020s (fig).

The introduction of Tin mining on the Jos Plateau brought with it tremendous changes to the lifestyle and landscape, the economy and social organisation of it's inhabitants. This also motivated the movement of a good number of people from the hills to the plain and from other parts of the country to take up unskilled labour in the tin mines.

People from all over the country and a good number of aliens including Europeans decided to settle on the Jos Plateau and they now make up most of the urban dwellers including Bukuru town which is about 14 kilometres from Jos.

Physically, Jos is an attractive place to visit and live in, and many people prefer to live, or work in Jos than elsewhere mainly because of the favourable climate and pleasant social conditions.

To the tourist and visitors the city is of particular interest because of it's remarkable physical landscape, surroundings and other natural attractions like the Museum and wildlife park.



• THE STUDY AREA, JOS

JOS IS LOCATED IN JOS LOCAL GOVERNMENT AREA OF PLATEAU STATE ON LATITUDES 7° AND 11°N AND LONGITUDES 7° AND 25°E. IT OCCUPIES AN AREA OF ABOUT 53.585 sq km, AND SHARES COMMON BOUNDARY WITH 5 STATES, BAUCHI, KADUNA, NIGER KOGI, TARABA AND THE FEDERAL CAPITAL TERRITORY.

• HISTORICAL DATA

PLATEAU STATE DERIVES ITS NAME FROM THE GEOGRAPHICAL LANDSCAPE THAT DOMINATES THE AREA, NAMELY THE UNDULATING PLATEAU HIGH LANDS REFERED TO AS JOS PLATEAU.

JOS, THE CAPITAL CITY OF PLATEAU STATE STARTED AS A SMALL MINNING SETTLEMENT 80 YRS AGO AND HAS RAPIDLY GROWN SINCE

CREATED OUT OF THE FORMER BENUE-PLATEAU STATE IN 1976. IT NOW HAS A TOTAL OF 16 LOCAL GOVERNMENT COUNCILS.

STUDIO JOS

NAME ADESOYE O.M M.TECH
REG NO 90/1464
[illegible] PROF S.O SOLANKE

GENERATED DATA

TOPOGRAPHY:

According to the relief map of the Nigerian regions, the city of Jos lies in the highest part of the High Plateau of the North central area and is located on an altitude of around 1,200 metres above sea level. Jos Plateau is probably the most striking morphological features in Nigeria. It is surrounded by high plains with altitudes ranging from 300 to 1,000 metres above sea level. Apart from the southern margin which is both very steep and rather regular in outline, the plateau is bordered by an irregular margin with gentle slopes. The highest surface of the Plateau occurs in the surrounding of Ngel and Bukuru from where the headwaters of rivers flowing into lake Chad, the Niger and Benue and the Gongola radiate approximately north-west, south and east respectively. The Ngel-Bukuru neighbourhood therefore constitutes the hydrological centre of Nigeria.

The watershed presents a rather interesting aspect in that they are no striking relief features like high ridges or rocky mountains which features as wear divides. Rather, the picture presented is one of an undulating swampy plain diversified by a few broken ridges and low granites inselbergs. These headwaters have, however, carved out narrow rocky valleys on the Jos Plateau surface and their descent to the surrounding plains is marked by picturesque waterfalls and narrow gorges which are fast cutting back into the Plateau itself

CLIMATE

On the basis of available data, the city of Jos lies in the high Plateau region with much more pleasant weather than the surrounding pains. Monthly rainfall varies in Jos from 2.5mm while annual rainfall reaches up to 327mm.

About 90% of the rainfall in the six months between April and September and the rain usually comes in thunder storm of high intensity, particularly at the beginning and towards the end of the rainy season.

As a result of the high elevation of the Plateau, average annual temperatures are lower than in the surrounding plains.

March and April are the hottest months while July and August are the coolest. These go with the peaks of dry and rainy season: during which the clearing skies in March and April of the dry season and the changing from dry to rainy season during this time make it particularly very hot while in July and August, the rainy season is at its peak, during this time the sky is covered with clouds almost throughout the days hence stopping harsh sunshine. This makes these months particularly coolest. Mean maximum temperature fluctuate around 300C while near minimum temperature is around 170C.

The low relative humidity in Jos which is less than 25% between November and March is the most significant factor for the "climate" condition of the Plateau highland area. The weather of this period of the year is therefore windy and dry. (Table 5.7.1. abc).

Jos therefore has two main seasons, the dry and rainy seasons. The former characterised by the tropical maritime Air Mass (S.W. Trades) spanning. April to October; while the latteris marked by the tropical Maritime Air Mass (N.E Trades) lasting from November to March. (fig. 3.7.1).

VEGETATION

Jos lies in the guinea savannah belt and in the centre of Jos Local Government Area. The vegetation consists mainly of gross land except near some villages where thick hedges of cacti have been planted around the household, farms or compound lands. small grooves of male and Atilis (canarium are also found around some villages but the main farm lands are completely devoid of trees and so are the flat-topped lateritic hills. Fringing wood lands and Bamboo thickets may still be found along the valleys of the more isolated streams.

According to Nigerian Soil map which has been prepared by Federal Surveyors several years ago, the Nigerian Soil is roughly grouped into four zones. These are:

i] The zone of alluvial soils;
ii] The southern belt of forest soil;
iii] The interior zone of laterite and
iv] The Northern zone of sandy soils.

Jos city thus lies in the interior zone of laterite soils. In many parts of the Jos Plateau, the soils are closely related to the topography as well as to the parent material of which a wide range exists. Climate is also an important factor in the formation of older soils which occur in fairly level area. The marked dry season and the open nature of the landscape provide suitable conditions for the development of laterite soils which are very common on the Plateau surface .

CHAPTER FIVE

5.0 CASE STUDIES

5.1 CRITERIA FOR CASE STUDY SELECTION

The main aims of carrying out case studies are for the purposes of research and data collection; to a give the student a better understanding of the project being handled be learning from examples of such facilities as is being designed. Because of the nature of this project, it stands to consist of several facility with facility each of which can be broken down to several case studies. However for easier manipulation of the project case studies of 2 major facility become the prime focus.

There are: a. the film show studios complex and

b. the television broad studio

Since the project aims to manipulate both individual forms of film

CASE STUDIES OF FILM STUDIOS

These case studies because of their large scales are studied by methods of their unique schematic by outs. It should also be noted that all film studios are foreign case studios due to lack of a standard film studios in Nigeria.

Where: A --- Studio

B --- Change rooms of film stars

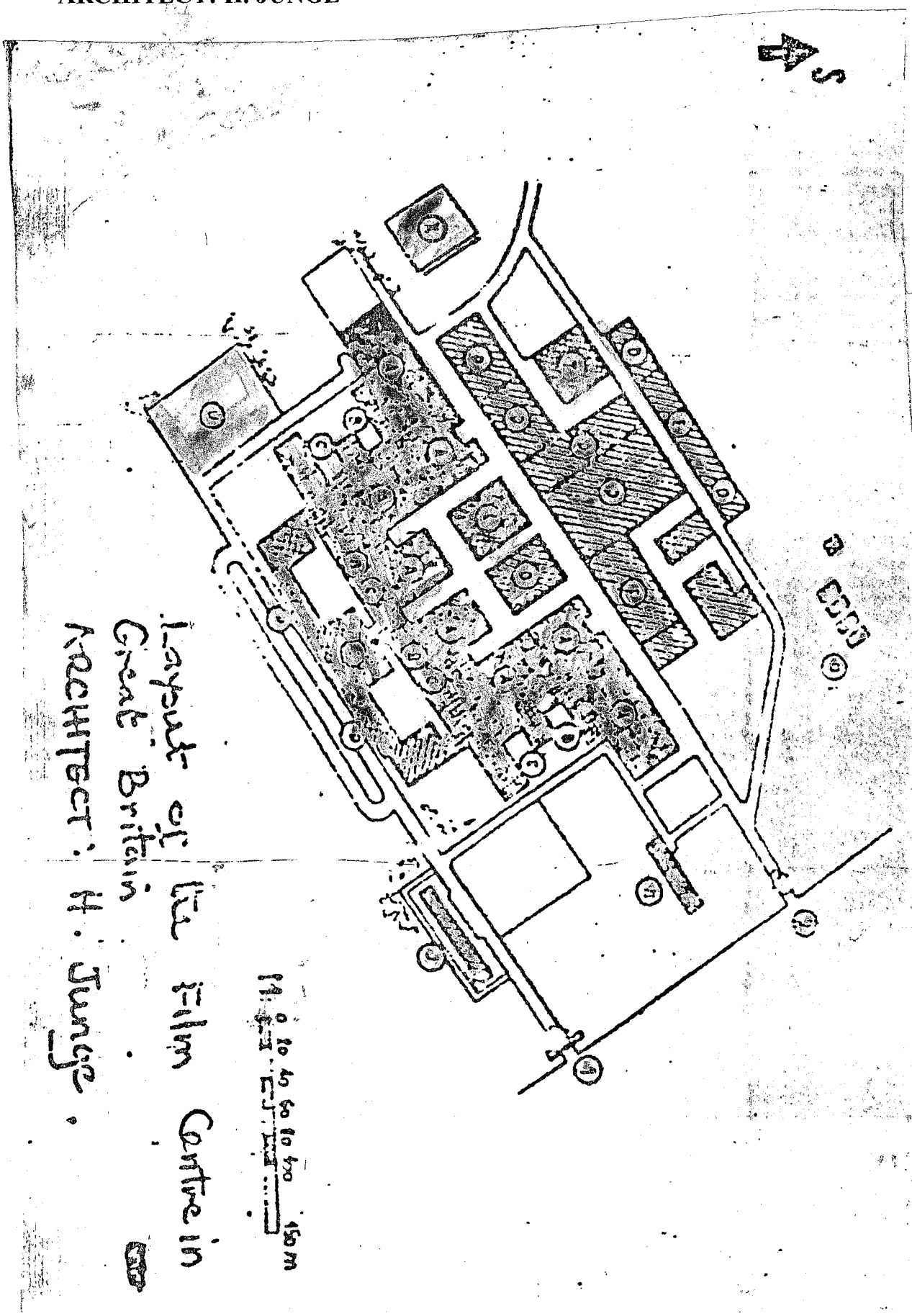
C	---	Changing rooms of ordinary actors
D	---	Workshop and storage facilities
E	---	Timber storage
F	---	Storage of decoration
G	---	Set decoration assembly
H	---	Storage of permanent equipment
CH	---	Rehearsal studios
I	---	Power House
J	---	Garages
K	---	Short lengths films
L	---	Sound studio
M	---	Laboratories
W	---	Cutting Rooms
O	---	Storage of films materials
P	---	Administration Block
Q	---	Technical Research
R	---	Film Institutes
S	---	Restaurant (canteen)
T	---	Parking Space
U	---	Film schools
V	---	Play ground
X	---	Pool
Y	---	Changing Rooms
Z	---	Park and Recreation

5.1.1 SCHEMATIC LAYOUT OF THE FILM TOWN IN PARIS

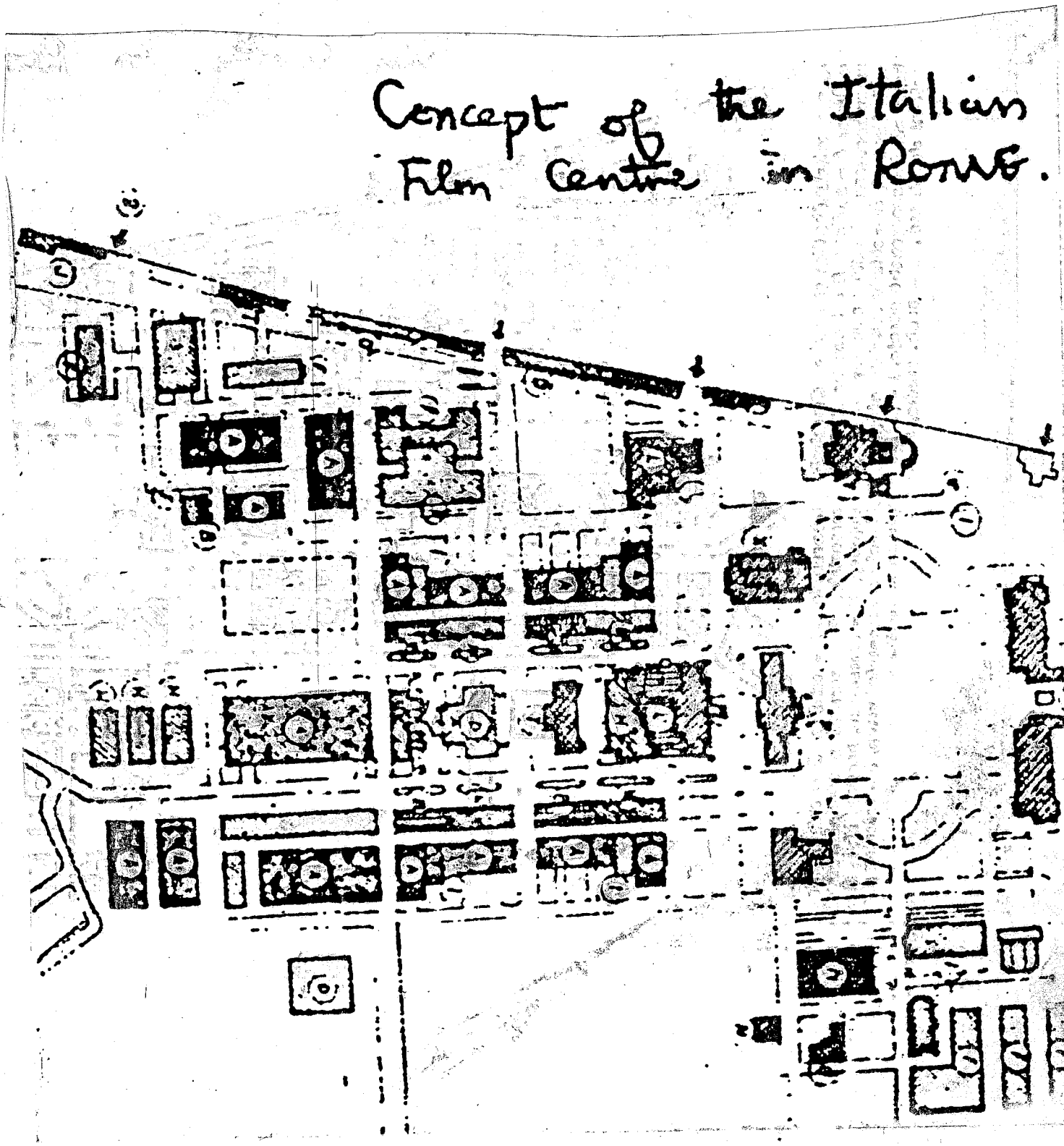
ARCHITECT: F.BAVER (1945)

5.1.2 LAYOUT OF THE FILM CENTRE IN GREAT BRITAIN

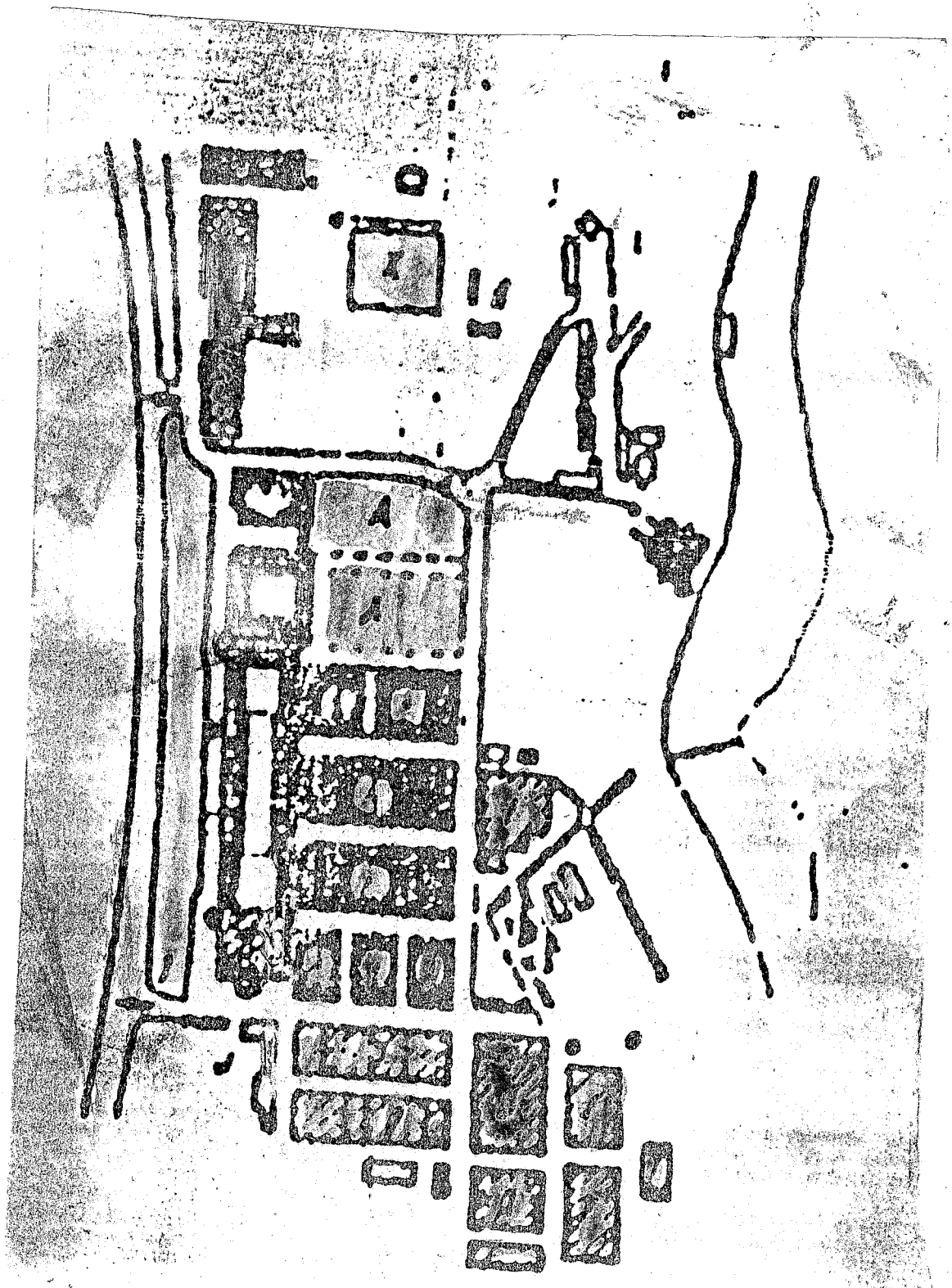
ARCHITECT: H. JUNGE



5.1.3 CONCEPT OF ITALIAN FILM CENTRE, ROME



5.1.4 CONCEPTION LAYOUT OF THE LONDON FILM IN DENHAM ARCHITECT: ARCHITECT M. JOSEPH



5.1.5 CASE STUDY 5

SCHEMATIC LAYOUT OF A MEDIUM SIZED FILM CENTRE

ARCHITECT: JAN NOVAK (1952)

5.2 CASE STUDY OF TELEVISION STUDIOS

These case studios include both international and local level studios.

5.2.1 CASE STUDY 1:

OGTV, ABEOKUTA

Thus station has outstanding features including giant studios for audience participation and large complex. Thus site planning takes care of noise by dividing the site unto zones.

Facilities include central air conditioning, water reservoir and powerful operating plant and staff facilities.

Merit:

Zoning contents noise infiltration into studios as well as use of internal treatment.

Demerit:

Site two for from talents source on the outskirts of town

5.2.2 NIGERIA TELEVISION AUTHORITY (NTA) KADUNA

The complex is located along Hospital road by Independence Way Kaduna while the transmitting complex is located at Jaji along Kaduna Zaria road.

It consist of a broadcasting block, a technical block consisting of three studios equipped with production sound and vision controls. Lighting and ventilation are by artificial means.

Merits:

Fairly good planning of studios from their storage sets, advanced modern equipment.

Demerits:

Poor site location near a heavy traffic zone bounding the site two directions.

No economy in planning as transmission is located off broad cast site.

5.2.3 YORKSHIRE TELEVISION

Thus station was designed by George Traw/Dunn Partner for an independence television authority.

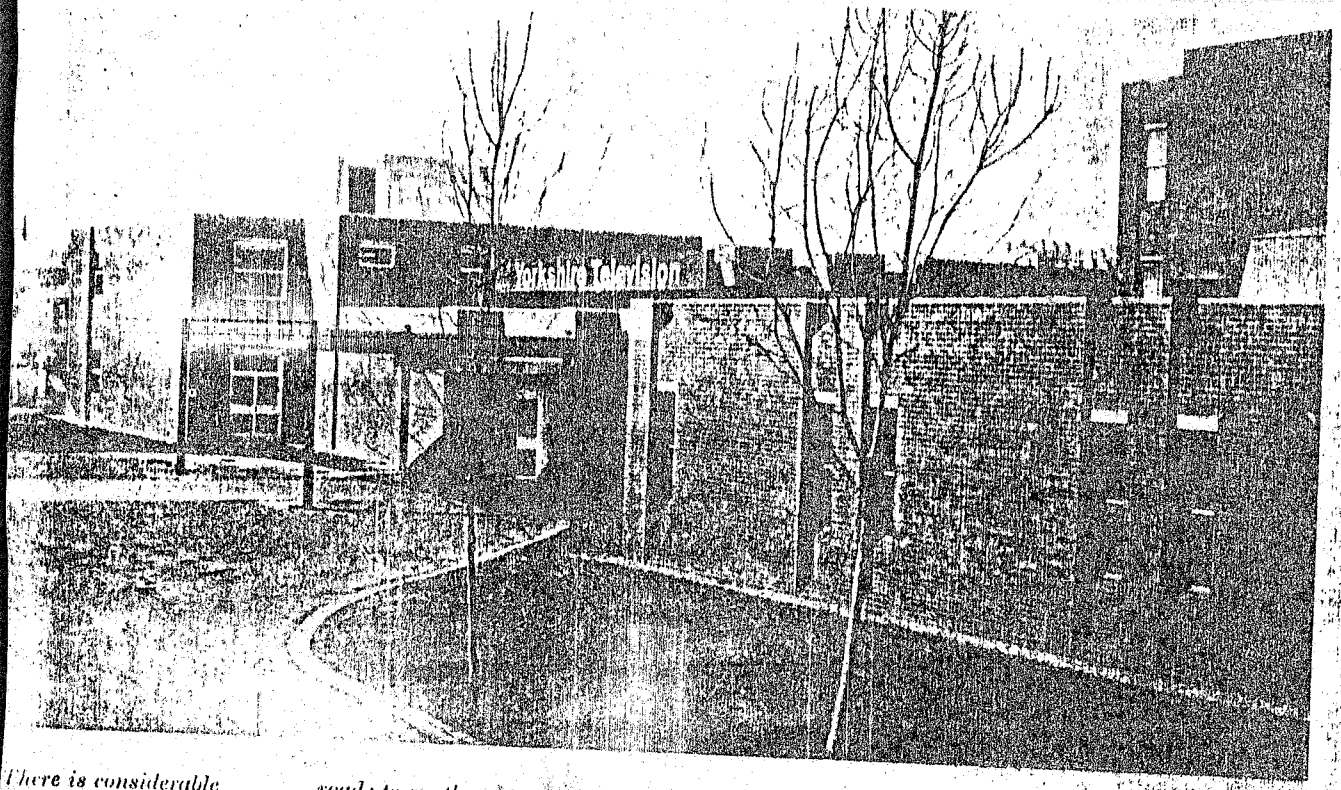
Consist of three large studios 149m 465m and 743, cafeteria, workshops, with the administrative block as the major elements.

Merit:

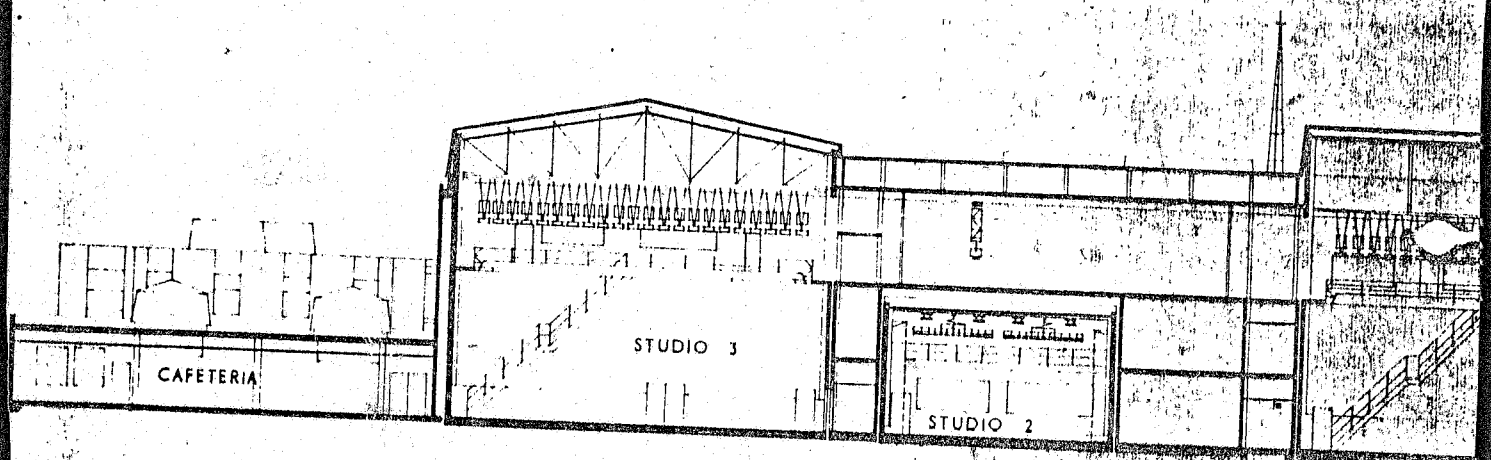
Good unit between services and studios block and administrative block studio.

Demerit:

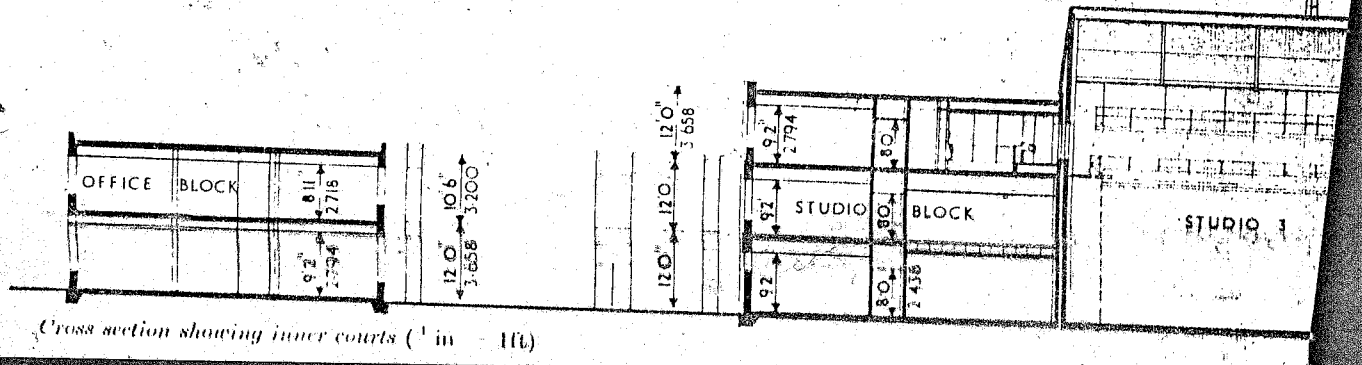
Poor site location under air traffic ensures noise on the site.



There is considerable ace around the Yorkshire centre: to north-west an d being turned into a rk; to north-east present c park (area for future pansion); to south-east a road; to south-west open space (keeping the buildings back from a future major road junction). Main entrance, seen here, is from a private road across this south-west frontage. Top photo on p93 emphasises overall informality of the group's massing. This view will be seen by motorists from the new road junction, with flyovers



ong section through studios 3 and 4 ($\frac{1}{32}$in = 1ft)



Cross section showing inner courts ($\frac{1}{}$ in = 1ft)

5.2.4 B.B.C TELEVISION ENGLAND

This consist of a large station covering about 13 acre
room. Test floor consist of engineering control room
consist of equipment and technicians workshops, t
fourth offices, and services plants.

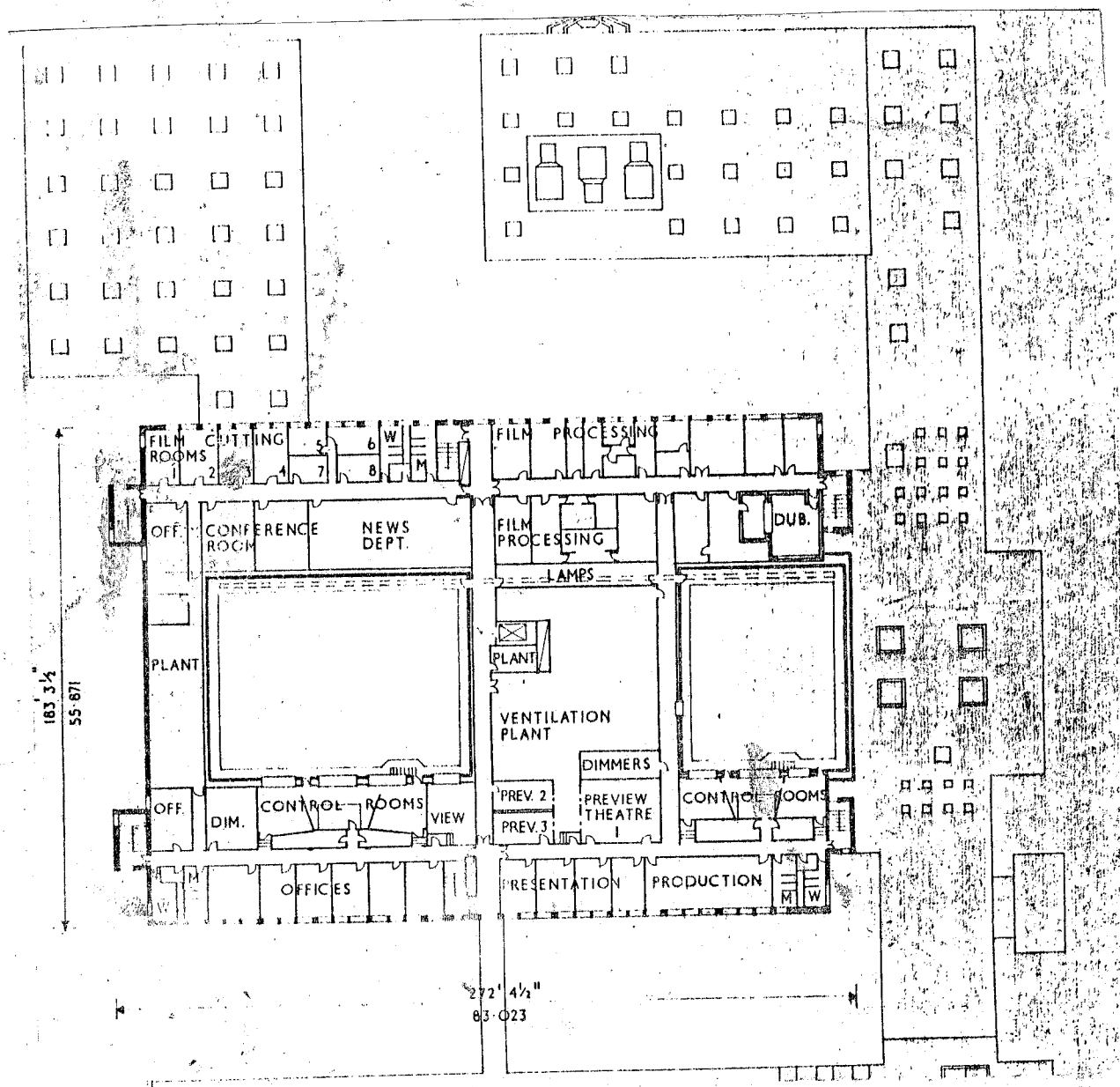
Merits:

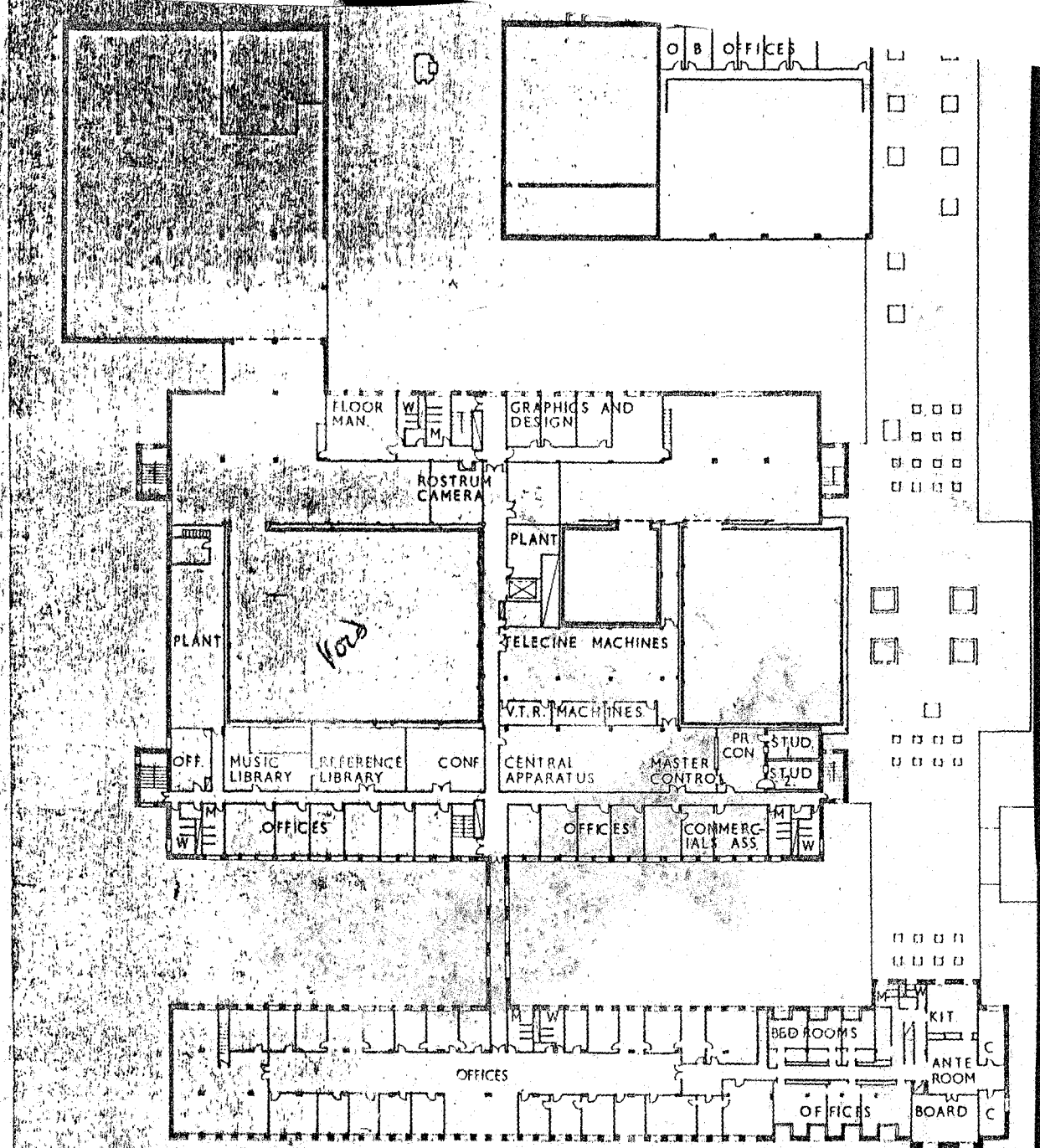
Studios are good proximity with artists meeting room and la
Extend finishes on block work make easy maintenance.

Demerit:

Restaurant block is not centralised.

2N FLOOR PLAN B·B·C





First floor plan ($\frac{1}{16}$ in = 1ft)

B·B C TELEVISION

CHAPTER SIX

6.0 PLANNING AND DESIGN CONSIDERATIONS ARCHITECTURE OF FILM STUDIOS

From the different case studies investigated, it was discovered that film studios bore a universality in planning and design which puts aesthetics as a supplementary to functionality.

Thus all film studios are designed to be acoustically functional. This in turn affects their design and gives them a rather brutish form of appearance to which end they more or less bear semblance to warehouses, large spanned hanger buildings as well as resemble factory industrial architecture which is ironic because a film studio becomes the embodiment of a film industry.

CREATION OF AN AFRICAN IMPACT

It is important despite the universality of most film studios to distinguish it with features reflective of the unique culture of it's location.

In Northern Nigeria where they square and rectangular forms are popular traditional architectural elements, the same is predominant in the design of the film studio Jos when many of the facilities tend to adopt these features.

6.1 THE SITE

Criteria for selecting the site are stated below:

6.1.1 SELECTION CRITERIA

The following criteria were considered in the selection of a suitable site for the film studio, these criteria primarily aim to control noise in the Film Studio. They are:

i Film studios are preferably required to be sited away from heavy noise sources. Therefore they are usually located in the quiet area of town. (In the case of this project, the Laminga Area Jos) where heavy commercial and industrial areas are avoided.

ii Accessibility to the site is also important. For effective usage a site must be easily accessible from parts of town.

iii With reference to the television studio block, the television transmitter is often required to be located on a relatively high topography so as to prevent obstruction of television signals that travels in a straight line. It is therefore generally required that the television transmitter be high enough for it's waves to reach far and wide with little obstruction.

6.1.2 LOCATION

The Site is located in the Laminga area, a mere twenty minutes from the main town from where it is linked by an extended road leading towards the Sherere Hills site. Therefore it is accessible directly from the city center.

6.1.3 SITE ANALYSIS

The project site is in the Laminga area along Limica-fabour road by which it is accessed, the land is vacant except when cultivated. It is basically a crop farm and grazing field for cattle.

Trees and shrubs are very sparse and the site resembles vast open plain with a gentle downward slope in the eastern direction.

In the far distance, are the Sherere Hills, a Jos tourist attraction. The Site is influenced by two major winds, the Southwest Monsoon winds which hail from the Atlantic, blowing humid cold air from March to October yearly and the Northeast Trade winds or Harmattan winds that blow dust and cold dry air from the Sahara during the months of November to February.

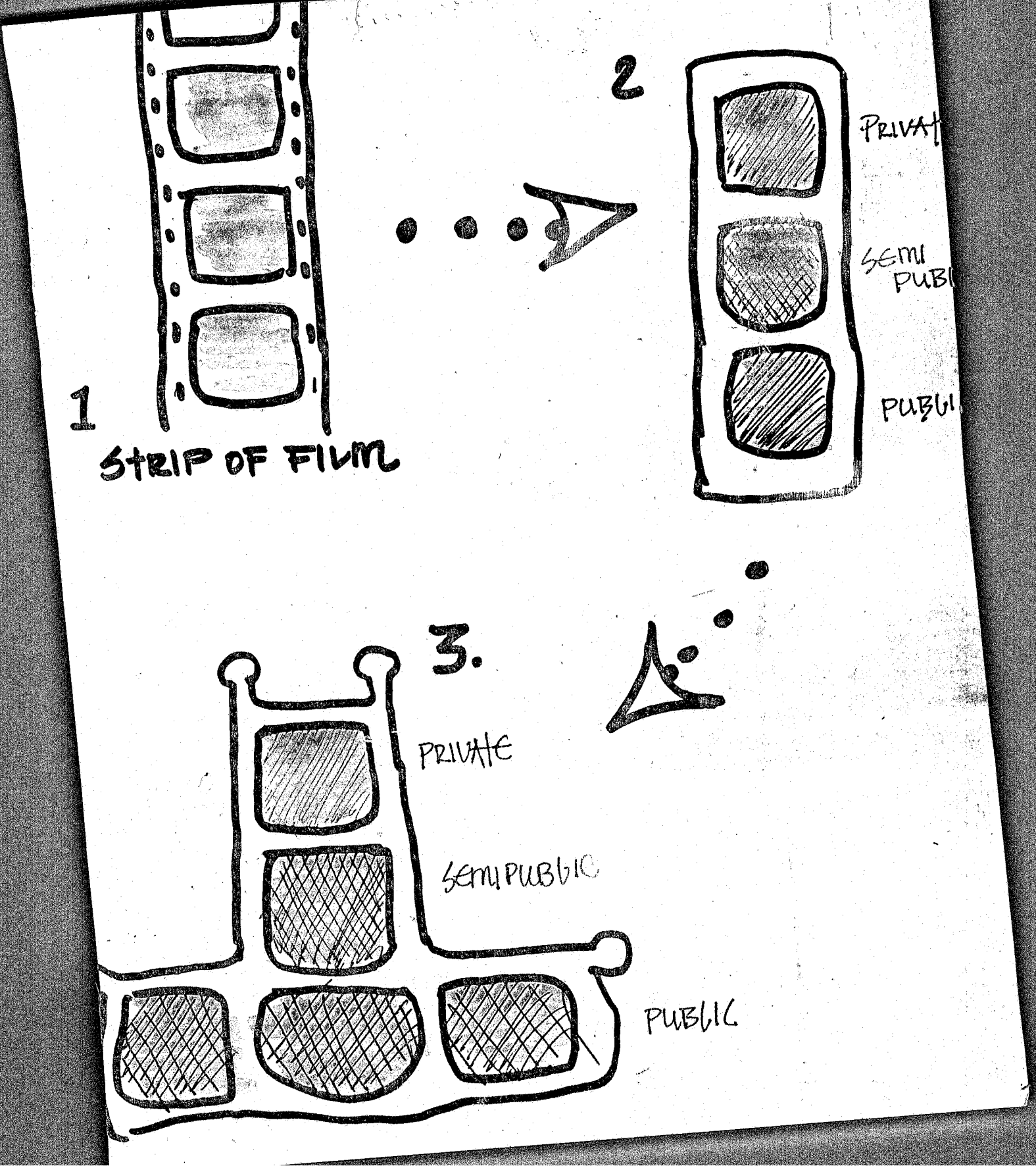
6.1.4 SITE CONCEPT/ZONING

The concept of the site is primarily based on the issue of noise control and physical conditions of the site. Such as road accessibility and physical development around the site and the satisfactory arrangement of spaces for the easy manipulation of sound on the site.

6.2 DESIGN CONCEPT

The concept adopted in the design was selected as a result of the combination of the following considerations:

i The consideration for the control of noise as it affects the studio and other recording areas. This stems off directly from the zoning concept.


1
STRIP OF FILM
2
PRIVAT
SEMI
PUBL
PUBLI
3.
PRIVATE
SEMI PUBLIC
PUBLIC

ii The concept of a CELLULOID FILM STRIP which holds a progression of frames representing the natural flow of movement in stages. This provided their inspiration and aesthetics for the site concept design.

6.2.1 PLANNING

The planning, based on the design concept is planned in such a way that the site is primarily divided into three main zones. Public, semi-public, and Private zone which involves more restriction as compared to the other two zones where circulation is freer.

6.2.2 FUNCTIONAL AND SPACE ANALYSIS

The facilities required to suit the various functions of the film studio are:

A ADMINISTRATIVE BLOCK

B PREPARATORY WORKSHOPS

C FILM SHOOTING STUDIOS

D TELEVISION STUDIO BLOCK

E FILM REVIEW CENTER

F FILM PROCESSING LABORATORY

G FINAL FINISH LABORATORY

H MAINTENANCE AND SERVICES

I GARAGE

J RESTAURANT FACILITIES

The space analysis of this brief is as follows:

A ADMINISTRATIVE BLOCK

No	DESCRIPTION OF SPACES	AREA/UNIT	TOTAL AREA
1	Reception Hall/Lobby	75 Sq.m.	75 Sq.m.
1	Clerical Office	35 Sq.m.	35 Sq.m
1	Chief Administrative Office	35 Sq.m	35 Sq.m
2	Executive Office	20 Sq.m	40 Sq.m
1	Chief of Personnel Office	20 Sq.m	20 Sq.m
1	Script writer's Office	35 Sq.m	35 Sq.m
2	Film Producer	20 Sq.m	40 Sq.m

3	Principal Film Director	35 Sq.m	105 Sq.m
2	Film Director	20 Sq.m	40 Sq.m
1	Camera Men	20 Sq.m	20 Sq.m
1	Conference Room	35 Sq.m	35 Sq.m
1	Film Distribution	30 Sq.m	30 Sq.m
1	Sales Office	17.5 Sq.m	17.5 Sq.m.
1	Public Relation	25 Sq.m.	25 Sq.m.
1	Registration Office	20 Sq.m.	20 Sq.m.
1	Paymaster's Office	16 Sq.m.	16 Sq.m.
1	Record Room	20 Sq.m.	20 Sq.m.
1	General Accounts Office	20 Sq.m.	20 Sq.m.
1	Senior Exec. Account	20 Sq.m.	20 Sq.m.
1	Chief Exec. Office	20 Sq.m.	20 Sq.m.
1	Stationary Store	20 Sq.m.	20 Sq.m.
1	Xerox's Room	16 Sq.m.	16 Sq.m.
1	Personnel Manager	20 Sq.m.	20 Sq.m.
1	Typing Pool	20 Sq.m.	20 Sq.m.
1	Account Record Register	20 Sq.m.	20 Sq.m.
1	Ordering Office	20 Sq.m.	20 Sq.m.
4	Toilet Facilities	20 Sq.m.	80 Sq.m.
1	Equipment Store	20 Sq.m.	20 Sq.m.
2	Tea Room	20 Sq.m.	40 Sq.m.
1	General Office	35 Sq.m.	35 Sq.m.

1	Driver's Room	20 Sq.m.	20 Sq.m.
1	Printing	60 Sq.m.	60 Sq.m.
1	Dark Room	15 Sq.m.	15 Sq.m.
2	Artiste Manager	30 Sq.m.	60 Sq.m.
1	Computer Room	20 Sq.m.	20 Sq.m.
1	Legal Adviser	20 Sq.m.	20 Sq.m.

B PREPARATORY WORKSHOPS

NO	DESCRIPTION OF SPACES	AREA/UNIT	TOTAL AREA
4	Offices	12 Sq.m.	48 Sq.m.
2	Toilet Facilities (Male)	12 Sq.m.	24 Sq.m.
2	Toilet Facilities (Female)	12 Sq.m.	24 Sq.m.
1	Equipment Store	15 Sq.m.	15 Sq.m.
4	Raw Materials Store	40 Sq.m.	160 Sq.m.
1	Workshop (Tailoring)	250 Sq.m.	250 Sq.m.
1	Workshop(Sculpture)	250 Sq.m.	250 Sq.m.
1	Workshop (Metal Work)	250 Sq.m.	250 Sq.m.
1	Workshop (Wood Work)	250 Sq.m.	250 Sq.m.
2	Supervisor	16 Sq.m.	32 Sq.m.

C FILM SHOOTING STUDIO

NO	DESCRIPTION OF SPACES	AREA/UNIT	TOTAL AREA
4	Shooting studio Artiste Facility	390 Sq.m.	1560 Sq.m.
8	Star Dressing Room	24 Sq.m.	192 Sq.m.
2	Ordinary Actors Dressing Room	90 Sq.m.	180 Sq.m.
1	Star Artiste Lounge	80 Sq.m.	80 Sq.m.
2	Gen. Actor's Costume Store	40 Sq.m.	80 Sq.m.
2	Toilet Facilities For Gen. Actors	24 Sq.m.	48 Sq.m.
8	Toilet Facilities For Star Actors	3 Sq.m.	24 Sq.m.

D TELEVISION FILM STUDIO BLOCK

NO	DESCRIPTION OF SPACE	AREA/UNIT	TOTAL AREA
1	Lobby	50 Sq.m.	50 Sq.m.
3	Staircases	24 Sq.m	72 Sq.m
1	Exhibition Area	126 Sq.m	126 Sq.m
1	Public Waiting	224 Sq.m	224 Sq.m
1	Cloaks	21 Sq.m	21 Sq.m
1	Bar Facility	42 Sq.m	42 Sq.m
10	Toilet Facility (Female)	2 Sq.m	20 Sq.m
10	Toilet Facility (Male)	2 Sq.m	20 Sq.m
1	Artiste Lounge	42 Sq.m	42 Sq.m
1	Dressing Room	64 Sq.m	64 Sq.m

1	Scenery Store	55 Sq.m	55 Sq.m
1	A/C Plant Room	50 Sq.m	50 Sq.m
1	Studio Store	84 Sq.m	84 Sq.m
12	Sound Lobby	8 Sq.m	96 Sq.m
17	Office Space	20 Sq.m	340 Sq.m
4	Talks/ Interview	30 Sq.m	120 Sq.m
5	Control Cubicle (Mini Studio)	12 Sq.m	60 Sq.m
1	Studio 1	784 Sq.m	784 Sq.m
1	Studio 2 (Drama)	198 Sq.m	198 Sq.m
1	Studio 3 (Music)	154 Sq.m	154 Sq.m
1	Studio 4 (Rehearsal)	140 Sq.m	140 Sq.m
1	Studio 5	160 Sq.m	160 Sq.m
1	Goods Lift	20 Sq.m	20 Sq.m
3	DJ Studio	42 Sq.m	126 Sq.m.
1	Staircase (Circular)	72 Sq.m	72 Sq.m
1	Rear Reception	52.5 Sq.m	52.5 Sq.m
1	Tape Production	77 Sq.m	77 Sq.m
1	Tape Store	85 Sq.m	85 Sq.m
1	Programme Switching	85 Sq.m	85 Sq.m
1	General Maintenance	160 Sq.m	160 Sq.m
1	Electronic Maintenance	85 Sq.m	85 Sq.m
3	Mini Studio	40 Sq.m	120 Sq.m
4	Interview	30 Sq.m	120 Sq.m

E FILM REVIEW CENTER

NO	DESCRIPTION OF SPACE	AREA/UNIT	TOTAL AREA
1	Lobby	100 Sq.m	100Sq.m.
4	Toilet Facility	12 Sq.m.	48 Sq.m.
3	Projector Room	20 Sq.m.	60 Sq.m.
1	Projector Room Store	6 Sq.m.	18 Sq.m.
3	Screen Room	308 Sq.m.	924 Sq.m.
1	A/C Room	15 Sq.m.	15 Sq.m.
3	Office	20 Sq.m.	60 Sq.m.
1	Janitor	15 Sq.m.	15 Sq.m.
3	Store	16 Sq.m.	48 Sq.m

F FILM PROCESSING LABORATORY

NO	DESCRIPTION OF SPACES	AREA/ UNIT	TOTAL AREA
2	Reception	30 Sq.m.	60 Sq.m.
2	Lobby	36 Sq.m	72 Sq.m
1	Tea Room	30 Sq.m	30 Sq.m
3	Editing Room	30 Sq.m	90 Sq.m
1	Gen. Lab. Manager	30 Sq.m	30 Sq.m
1	General Office	40 Sq.m	40 Sq.m
1	Secretary	25 Sq.m	25 Sq.m

1	Design Studio	45 Sq.m	45 Sq.m
1	Modelling Room	30 Sq.m	30 Sq.m
1	Special Effects Lab.	300 Sq.m	300 Sq.m
2	Film Processing Lab.	300 Sq.m	600 Sq.m
2	Film Vault	32 Sq.m	64 Sq.m
2	Chemical Laboratory	32 Sq.m.	64 Sq.m
1	Chemical Store	35 Sq.m	35 Sq.m
1	Colour Balancing	30 Sq.m	30 Sq.m
1	Staff Room	30 Sq.m	30 Sq.m
2	Equip./Raw Film Store	32 Sq.m	64 Sq.m
1	Chemical Tank Room	15 Sq.m	15 Sq.m

G FINAL FINISH LABORATORY

NO	DESCRIPTION OF SPACES	AREA/UNIT	TOTAL AREA
1	Reception		
	Offices		
	Synchronisation Hall		
	Recording Studio		
	Sound Lobby		
	Tape Production		
	Store		
	Film Vault		

H MAINTENANCE AND SERVICE SECTION

NO	DESCRIPTION OF SPACES	AREA/UNIT	TOTAL AREA
	Fuel Pump		
	Engineering Offices		
	Generators		
	Chillers		
	Water Tank		
	Ware House		

I GARAGE

NO	DESCRIPTION OF SPACES	AREA/UNIT	TOTAL AREA
	Parking Spaces		
	Offices		
	Toilet Facilities		

J RESTAURANT FACILITIES

NO	DESCRIPTION OF SPACES	AREA/UNIT	TOTAL AREA
1	Restaurant Floor Spaces		
1	Servery		
1	Indoor Kitchen		
1	Outdoor Kitchen		
1	Store		
1	Wash		
2	Toilet Facility (Male)		
2	Toilet Facility (Female)		
1	Office		
1	Staff Room		

CHAPTER SEVEN

7.0 SERVICE REQUIREMENT OF A FILM STUDIO

The original filming whether by a T. V. camera or a film celluloid film camera, is the film shooting studio or sound stage studio.

A film studio can be described as bright artificial illuminated large halls with highly absorbent enclosures so that scenery sets can contribution their own acoustical characteristics as required. Economy in construction and efficiency of operation suggest that several large size motion picture studios be grounded together. This allows set construction and preparation to be carried out in one or more studios while normal production continues in the adjacent one. Provision for the required reverberation time and high degree of noise and vibration isolation within these studios is the main acoustical objective.

Therefore one of the chief expense on the introduction of the sound film was the sound proofing of the stage. It is essential that a stage should be non reverberate when supposedly out of doors scenes are shot in the studio, and its equally important that external noise should be excluded.

7.1 ACOUSTICS

Acoustics refers to the behaviour of noise with an enclosed space i.e. a film or television studio.

Noise, one could define as being any unwanted sound especially noise, one could define as being any unwanted sound especially one that causes a lot disturbance to people who are directly or indirectly affected by its impact on hearing. this phenomenon therefore presents a lot problems in the design of building in a bid to keep it (noise) out of these buildings, One might therefore suggest that this could be part of the reason why towns are planned for an ideal situation, that is, certain areas of the town are allocated for particular developments such as industrial areas, commercial areas, residential areas and others. This pattern of planning is known as the land i use zoning; areas are also producing buildings are kept together in an area while the quite areas are also grouped together in another area, away from the noisy ones.

The energy generated outside a building and those being radiated internally constitute the background noise particularly in television studios. These are perceived at certain level if intensities depending on the characteristic output of the noise source. To keep noise out of buildings, a television studios particularly, a survey of noise have to be carried out on site before the planning of such buildings commence. This is in order to identity all important noise sources, the control of noise generated from integral parts of the building should normally be taken care of at the planning stage. Noise producing areas are also normally separated as much as possible from the areas where noise level is required to be

very low. Also, noise generated as result of the characteristics properties of buildings such as the television studios interior are controlled by the adequate treatment of the surface of the interiors.

The following are therefore studios being carried out on the aspect of noise and controls in order to understand the problems and method which are used in solving them.

7.1.1 SOURCES OF NOISE IN FILM STUDIOS

The general breakdown include all noise sources outside the studios and those inside the studios. They are as follows:

Traffic Noise Source: Traffic noise could be that of motor vehicles plying motor ways or rail engines along the rail rocks. Also included is the air traffic noise form aircraft at act ports or flying overhead.

Machinery Noise Source: This is Noise produced from machines operating on site. Machinery noise source on scene site as studio usually originated form heavy power generated plants used as steadily for continuous power supply for the operations in a film studios.

Air-conditioning and Ventilation Plant Noise: The noise originate from the operations of the motor parts of the plant and from the fans. The noise from the plant engine and from external sources are passed through the connecting ducts into the studio. Together with these, aerodynamic noise from the fan blades is also carried along the ducts. The

movement of air through the ducts also produce noise which depends on the velocity of flow of air produces noise which depends on the velocity of flow of air through ducts. Noise is also produced as a result of air movement over the grilles and louvers where the duct terminates into the conditioned space.

Circulation Noise: Circulation noise include those produced from the movement of people in and around the studio. These are often originated from corridors close to the studio and from the working spaces in the studio. This could also be called impact noise produced from the impact of people on floors as a result of walking around.

Noise from Lighting Equipment: As a result of the need to light television studio for programming production, the need also arise for the movement of lighting equipment from one scene of programme to another. This movement to and from one place to another produces some form of noise as the lighting hoists moves over the lighting metal grid in the studio ceiling.

Sound Reverberation: This a phenomenon about the reflection of sound in the studio interior. The sound produced from a source is being reflected by the interior surface of the studio such as the floor, walls and ceilings. This results into the generation of sound of different noise level at different points in the studio. The experience one gets in this situation is the general confusion of sounds resulting into noise. This occurs because the sounds are continuously being reflected by the surface until finally decays or totally being absorbed. This is not a suitable condition for television broadcasting studio as a clear and defined sounds are required.

Noise From Other Areas : This include the noise produced from other noisy areas which part of the studio centre. This noise originated mainly from the technical areas comprising of several types of workshops and garages. The noise from this sources could not be totally neglected in planning as it could create a problem in design.

7.1.2 APPROACHES TO NOISE CONTROL

In order to achieve effective noise control in buildings generally, some basic approaches would be mentioned here. This include:-

The identification of noise sources and their separation from those areas where quietness is required, by the greatness distance practicable.

The planning of buildings or part of building where noise reduction is not strictly required to act as shield or screen between the noise source and areas requiring quietness,

The location of parts of the building which produces noise at area where there are likely to be incidence of noise on the site. Same treatment to be given to the quiet areas.

Location of machinery's and any other noise sources which may transmit noise to the building through the structure to areas where they have little or no effect on the building.

Finally, considerations should be given to those parts of the building which admits noise easily. These include the windows doors.

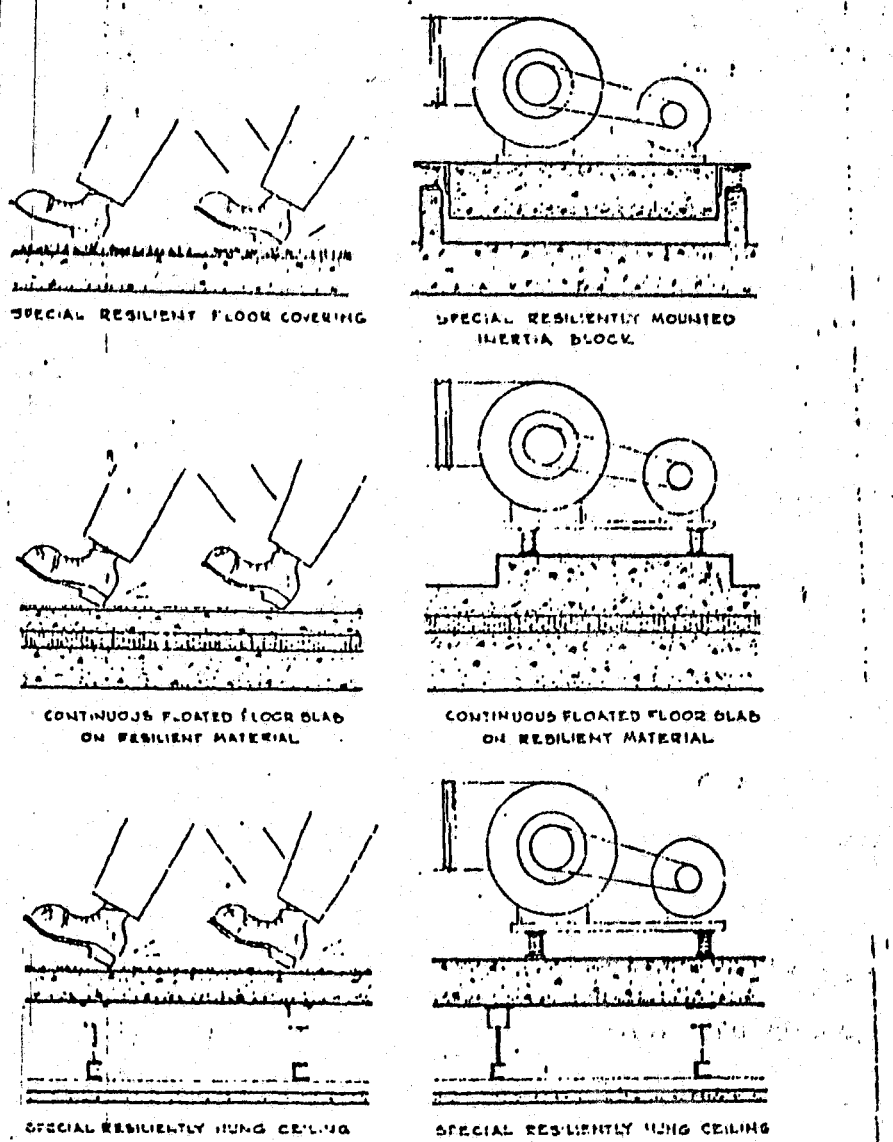
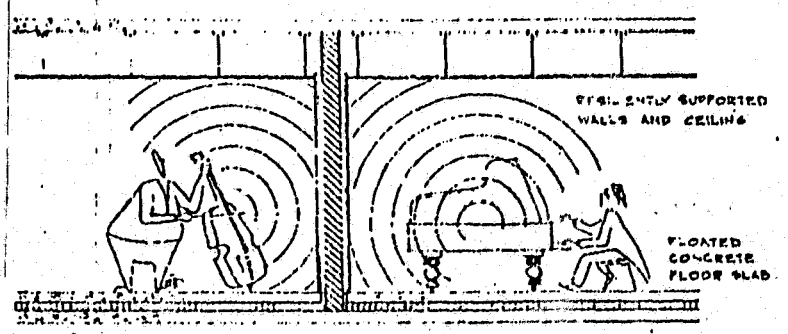


Fig. 24. Typical corrective measures for structure-borne sound problems involving (right) vibration-inducing noise sources and (left) direct impact sources



Schematic representation of constructions required to control the transmission of high levels of air-borne and structure-borne sound

the road. Also other building blocks are usually used to screen the studio from the road traffic noise.

Vibration produced are normally achieved by suspending the control of ceiling and walls of the studio on resilient materials to act against vibration noise.

As for the control of aircraft noise, the general oneness is never to locate the studio near an airport and the generally avoid the airport's run away routes as the aircraft are closer to the ground surface at these positions, thus the increase in noise level.

b. Machinery noise:

The machinery Noise as a power generating plant used on site are often located away from studio position on site. They are often located in the noisy parts of the site where the noise could not easily get to the studio. Furthermore, a barrier such as thick wall screen are also used to reduce the transmission of the noise to studio. This helps in reflecting away most of the noise generated plant could also be entirely housed to prevent the radiation of noise.

c. Air-conditioning and Ventilation Plant Noise:

This is often a major problem in noise control for studios. noise are generated from the equipment plant and are transmitted through the ducts into the ventilation space. To control noise in ducts, the common methods includes the lining of the inner surface of the duct with sound absorbing material to reduce transmission over a long distance or to even absorb all the sounds totally.

The effect of control of noise in the duct depends on the type of lining materials (with its absorption coefficient) and the type of duct. Splitters which are impervious sheets lined with absorbent are mission of the noise from fan in the duct and the transmission of external noise through the duct. The noise produced from the grilles and louvers at duct inlets and outlets of the studios are often considered unnecessary as they only served to control and charge direction of the out-coming air. However suitable designs of the grilles are arrived at to suit the velocity of the moving air thus producing less noise.

Other noise associated with ventilation plants arises from the vibration produced by the plants itself. Therefore the need arose to isolate the plant from the building structure by using resilient antivibration mountings to avoid machines direct contact with the structural floor or wall. Also construction techniques are used in isolating the vibrating produced.

d. Circulation Noise:

The circulation noise originate from corridors, stirs and working areas in the studio. This results from the peoples impact from walking or moving in the areas. To control these, stairs are structurally isolated or prevented in the studio directly. corridors floors are often covered with thick sound absorbing carpet. If possible, the movement of people in these corridors related to the studio is reduced to the barest minimum. The working areas in the studio are also covered with carpets but this could not in introduced into the areas where the television cameras are expected to manoeuvre. On a personal point of view, camera operators and other studio technicians should not put on hard soled shoes. rubber soled shoes should be recommended for them.

e. Lighting Equipment Noise:

The noise made by contact of rollers over the lighting grids are usually solved by using rubber rollers. Also, the noise made by the electric driving motor are controlled by encasing the motor in a wooden box paddled with sound absorbing materials.

f. Reverberation Noise:

As earlier discussed, sounds in an enclosed space will be afflicted several times by the interior surfaces of the space.

Through some part of the sound are being absorbed at each reflection, this resulting situation in the studio is not suitable for broadcasting. Therefore to control this, consideration is usually being even the reverberation time of the studio space. This is the time taken for a sound to die away to one millionth part of its original intensity, that is, by The shorter this time is, the more suitable for television studio for broadcast. In practice, absorbed of sound are used on wall surfaces in the studio. This absorbs the sound striking the surface of the wall therefore reducing the number of sound reflections that could occur and hence reverberation time of the studio.

But as the characteristics of sounds vary from one sound to another in terms of their frequency, so also, the type or properties of a suitable sound absorbs vary. Generally, there are three basic types of absorbers, namely;

a. Panel absorbers
b. Porous absorbers and
c. Resonance absorbers

The performance of these absorbers depends on the characteristics of the sound to be absorbed. Therefore, a general knowledge of the frequency range of sound is necessary. In many cases, the combination of these a absorbers are used for effective control of sound reverberation in television in television studios.

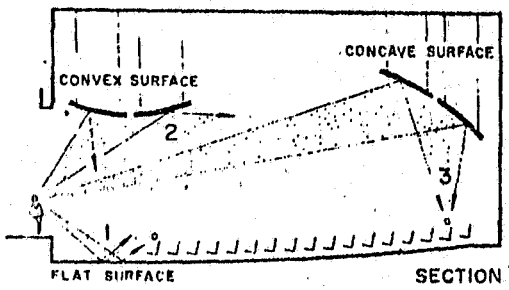
g. Noise From Other area:

The noise from other areas around the studio is mainly from the technical areas which are somehow very busy with technicians activities. The other areas include the various workshops particularly the noisy areas which forms part of support facilities for the studio. Normally, the control of noise from these source are taken care of by adequate or effective zoning of the spaces. Buffer zones are also often introduced between the noise source and the quite studio area. In as such as some technical areas which are noisy are required to be close travelling to the studio. This is often achieved by introducing barriers such as the walls between these two areas.

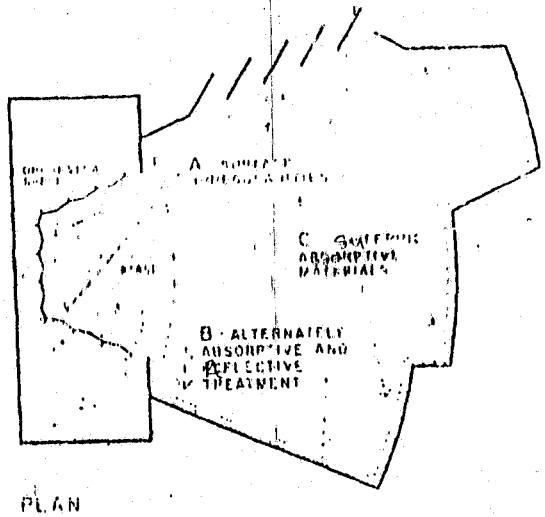
To further ensure the effective control of noise in the studio, there are other parts which are always given much consideration. These could be discussed in the following sections.

7.2 OTHER SPECIFICATIONS FOR NOISE CONTROL

These specifications are related to the type of doors, windows floors, walls and ceiling used in the studio to protect against the intrusion of sound. This can be described as sound insulation.

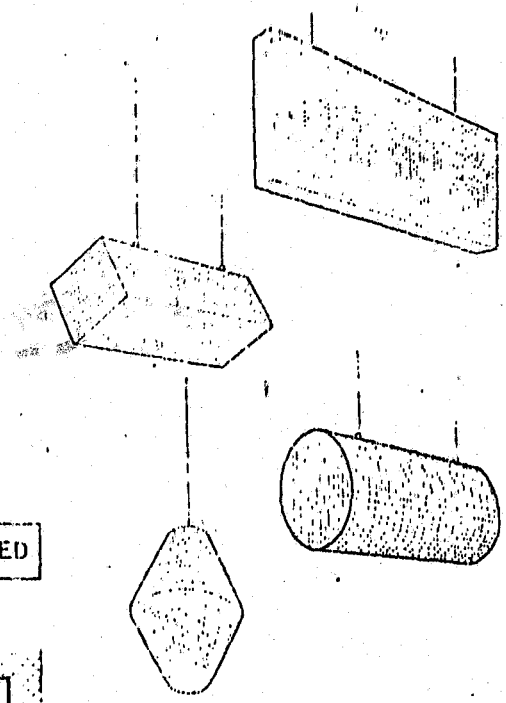


Sound reflection from differently shaped surfaces: (1) uniform reflection; (2) sound dispersion; (3) sound concentration.

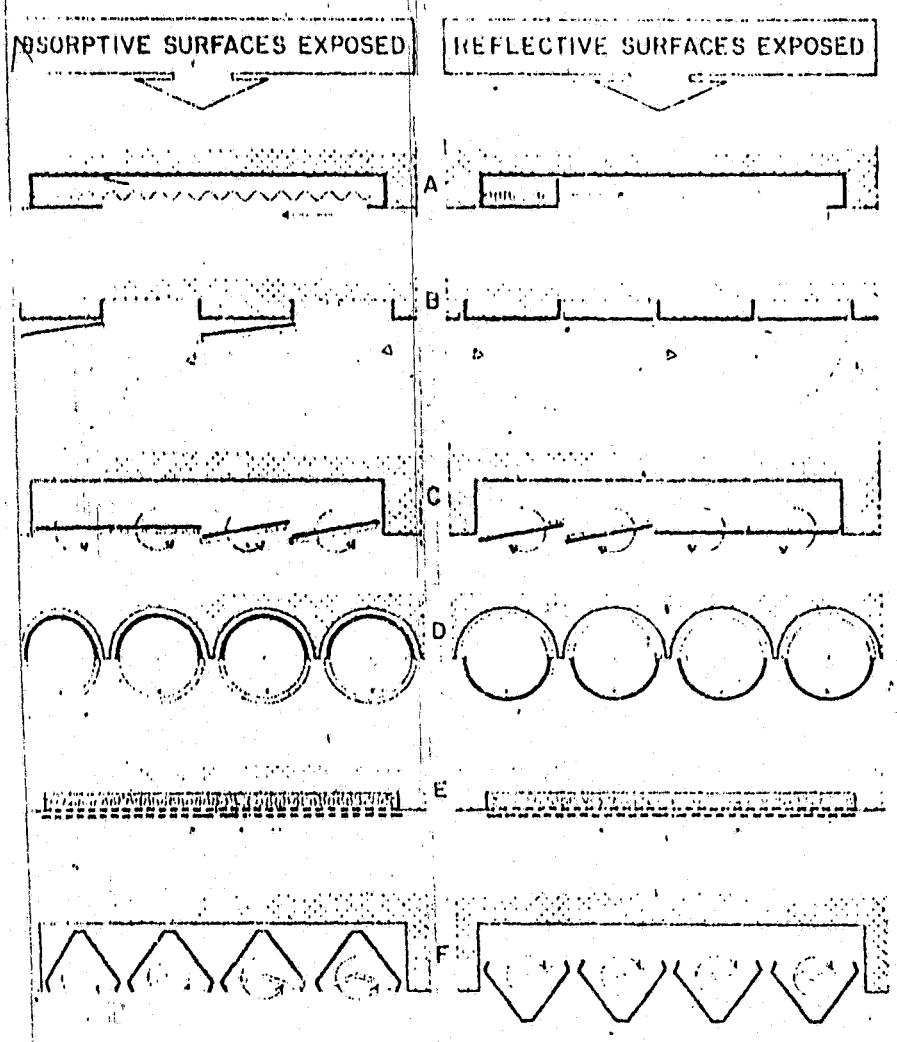


PLAN

Sound diffusion (dispersion), or the uniform distribution of sound energy in auditoriums, can be achieved by the use of (A) surface irregularities, (B) alternately applied sound-absorptive and sound-reflective treatment, or (C) acoustical treatments of differing sound absorption.



Space absorbers can be suspended as individual units from the ceiling. They are used when the area of the room surfaces is not adequate for conventional acoustical treatment.



Schematic illustration of variable absorbers which provide means for altering the absorption and thus the RT: (A) retractable curtain; (B) hinged panels; (C) rotatable panels; (D) rotatable cylinders; (E) sliding perforated panels; (F) rotatable triangular elements.

7.2.1 DOORS AND WINDOWS:

These parts of a building structure easily enhance the transmission of sound into the enclosed space. For studios, double doors are used in practice with sound lobby -in-between for insulating against noise entry into the studio. The studio lobby is also often treated with sound absorbing materials on all the surfaces. The doors used are heavy sound insulating doors. The windows particularly the observation windows overlooking the studio floors from the control rooms are made to consist two or three sheets of glass with the loopholes sealed with suitable mastic or absorbent. the same treatments is also being used for the doors.

7.2.2 WALLS AND CEILINGS:

For protection against external noise, the construction of the studio normally involves the use of heavy massive walls. Furthermore, the used of double walls with cavities proves to be sound insulative. For the interiors, as explained under sound reverberation, the walls are usually covered with absorbent to reduce noise treated with sound absorbing materials particular to absorb the noise from the proof such as rainfall impacts.

7.2.3 FLOORS:

The floor specification depends on the influence of noise and liberation acting on it. For example a floor which is liable to liberate and cause noise which originate from other parts of the building structure are often controlled by isolating the floor completely from the structurally floor. figure 6.1. This is referred to as discontinuous construction. The floor is suspended on vibration isolating mountings. Other specifications for floors include those floors to be designed for good impact and sound isolation. These doors

include soft floor finish, concrete construction; medium-hard door finish, concrete construction and a variation of others. But number floor construction are usually in the film studio.

7.2.4 CONCLUSION:

The conclusion arrived at in this study of the control of noise film studio shall be line out as follows:

Land use and site selection: Land use zoning is important in the location of a film studio. It is important that the studio are located away from noise producing areas such as industrial areas, airports, rail stations or routes and commercial areas. Thus the site for a studio could be located either residential area and public official buildings where noise generation is very low. The site should not also be located close to major highways.

Site Zoning: The zoning of the site is necessary in separation noisy areas from the quiet studio areas. The zoning should also consider the use of building blocks where noise. The use of landscape as buffer zones could also be introduced.

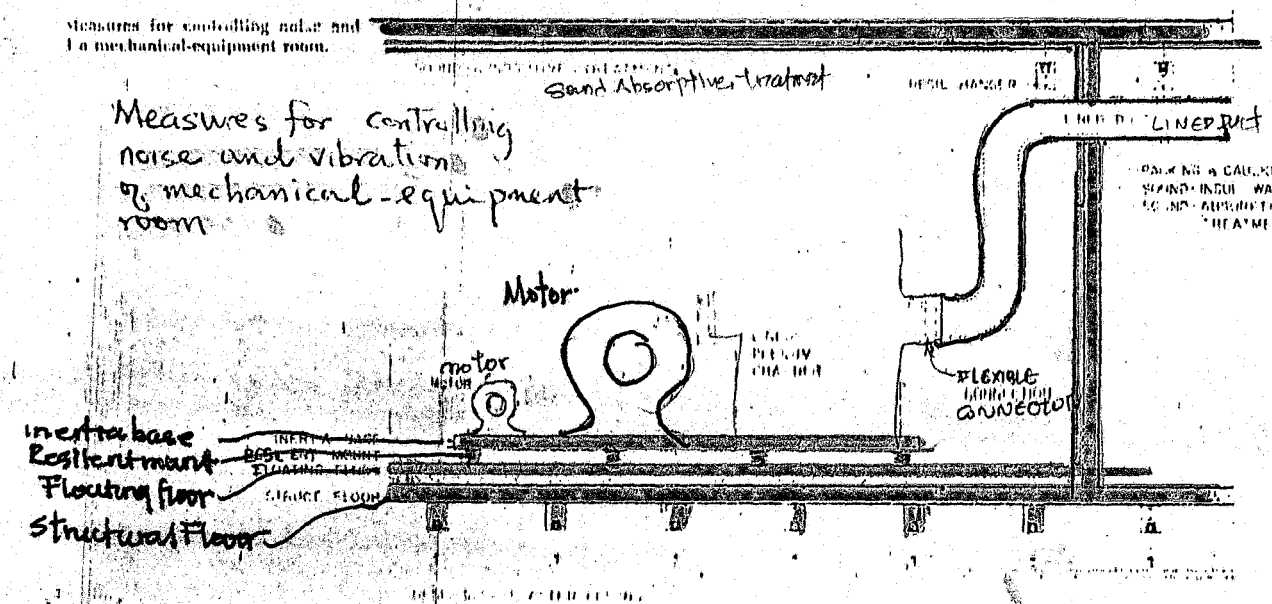
7.3 VENTILATION OF STUDIOS

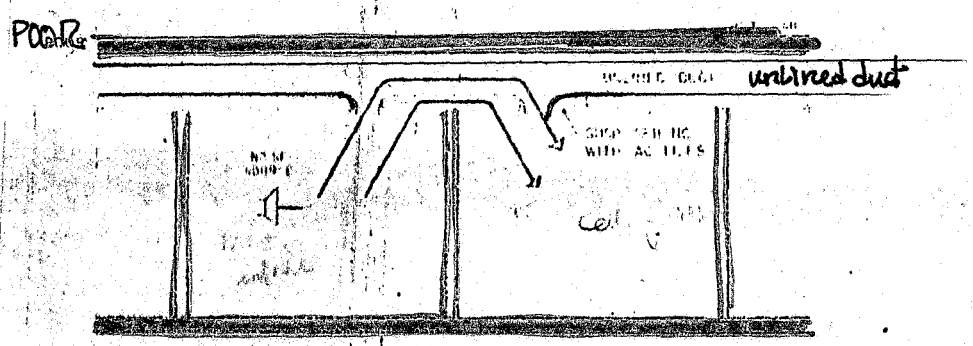
7.3.1 INTRODUCTION

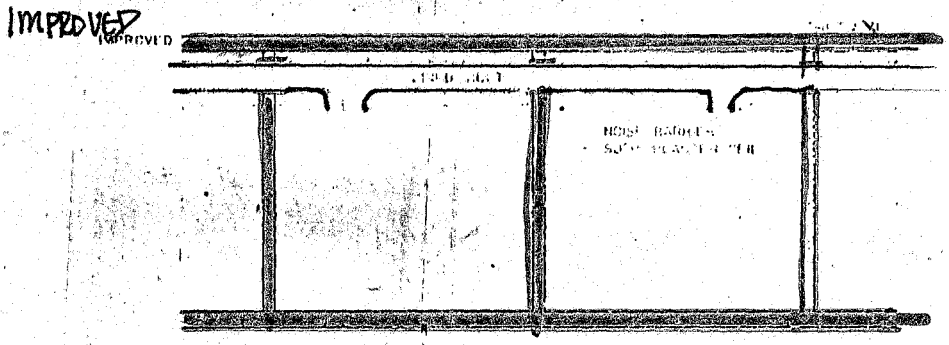
Because of the acoustic requirement of the various types of studios, it is a necessity that direct openings to the exterior should be avoided. This therefore created a great problem for the flow of air for ventilation. It is therefore necessary to use some mechanical means of ventilation the studio spaces.

measures for controlling noise and
l a mechanical-equipment room.

Measures for controlling noise and vibration of mechanical-equipment room







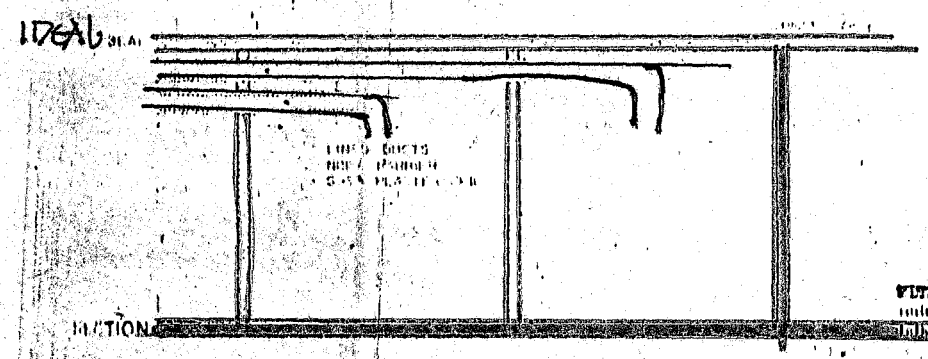


FIGURE 1 Layouts of supply or return air d
reduce the undesirable transmission of noise t
between nearby rooms.

Where p is the specific heat of air at constant pressure.

This represents a volume of

giving approximately

This is clearly a very large flow rate demanding large ducts and a high velocity within them.

The fig..... shows a typical ventilation installation for a large studio. air is drawn from the outside of the building through filters by a large centrifugal fan and discharge into a mixing chamber from which ducts lead to the upper part of the studio.

The fan is isolated from the floor by anti vibration mountings, or by a simple slab or cork serving the same purpose and is connection to the mixing chamber by a short section of flexible trunking.

A second fan draws air from exhaust ducts in the studio, and discharges it into the mixing chamber by way of a refrigeration plant. Automatic controls maintain the proportion of recalculated air, and thus keep the air supply to the studio at a desired temperature. The air is conveyed from this mixing chamber to distributing ducts in the upper part of the studio. These ducts are breached off a main duct running along one side or across the middle of the studio, thus distributing the air evenly all over the area.

7.3.3 CALCULATING NOISE OUTPUT

Methods of calculating the noise output of a ventilation system have been worked out be several people,

The basis of these methods is to compute total production of sound energy in the fan by means of an empirical formula that includes the nominal power of the driving motor and the static pressure produced or the volume flow of air through the system.

This total power is then fitted to one of a series of spectral for the types of fan that are available.

Centrifugal fans produce relatively more low-frequency noise than axial blowers. These are less frequently used for large ventilation systems, but are feasible for system using high velocities and small ducts.

The reduction or regeneration of sound power as the air is conveyed through the ducting to the studio is then examined in detail, taking into account the effect of bonds, duct linings, charges of section and use of attenuator. Finally the sound pressure level (S. P. L.) at the nearest point of the studio to each outlet at which an operational microphone is likely to be situated is calculated using some standard equations.

A point of importance in the design of such a system is the effect of the grilles that are often fixed over the ends of ducts where they terminate at the studio walls. These are use:

i. to regulate or modify the direction of airflow.

ii. to prevent papers or cigarette ends from being drawn into exhaust ducts.

iii. for purely decorative purposes.

The installation of mechanical ventilation systems with its accompanying noise and vibration tendencies therefore obviously poses a big problem for the studio architect if normal studio (which should be as quite and still as possible) activities will not be disturbed.

7.3.2 **VENTILATION SYSTEMS**

If the ingress of external noise is assumed to have been satisfactory reduced by effective sound insulation and by isolation from structure - borne sound, the major source of background noise is usually the ventilation system.

A large studio may be equipped with lights consuming up to about a third of a megawatt or power, and this power is almost entirely converted into heat, which raises the temperature of the air.

If the ventilation fails in a studio such as this, work becomes impossible within about 15 minutes if the normal production is carried on.

If we assume that a rise in temperature of 15 C is permissible in the studio as the ventilating air flows from inlet to exhaust ducts through the studio, the mass of air to be moved per second is given by:

300,00

---------- Kilometres,

15 Cp

Unfortunately, however, if not well designed, these can be the source of considerable regeneration of noise, either by turbulence or by the production of clearly pitched "aecolian tone" originating from a regular series of vortex that are shed by the vain or bars of the grilles and travelling downstream.

Generally speaking, such grilles serve very little purpose in studios, and are best avoided if not fulfilling a definite function.

7.4 LIGHTING

Working under studio conditions, it is possible to assume that no natural lighting exist; what is in front of a camera is invisible. It emerges out of darkness only as it is lighted at the command of the cameraman and the chief electrician, or gaffer.

7.4.1 TYPES OF LIGHT

Three types of lighting can be conveniently distinguished:

a. FRONT LIGHTING

b. CROSS LIGHTING

c. HIGHLIGHTING

FRONT LIGHTING consists of general illumination of the subject from the side toward the camera. It provides basic light intensity required for paper exposure within the latitude range of the negative emulsion.

CROSS LIGHTING provides the basic modelling which determine the general balance of light details in the subject and gives them added prominence.

BACK LIGHTING, importance as it is as a technique, is not really a distant type of lighting. If only the reverse side of an object were illuminated, the camera would notice no difference in its appearance, and the light would thus be throne away.
Actually of course, back lighting becomes diffused and speed out so that it illuminates the sides of objects, throwing them into high relief. It is thus a kind of side lighting. TOPLIGHTING is also as a rule as combination of front lighting and cross lighting.

7.4.2 **SOURCES OF LIGHT**

Light from a bulb is usually directed by a reflector into the limited area where it is needed. Two kinds of surfaces are used as reflector: DIFFUSE AND SPECULAR. DIFFUSE REFLECTION takes place when the reflecting particles in a material throw the light equally in all directions. SPECULAR REFLECTION takes place when they throw it all in one direction. The same terms apply to substance which transmit light. Specular transmission goes with transparent substances; diffuse transmission with translucent substances which spread the light evenly over a wide field or view.

Today focusable spot lamps are used. The two most common shapes of reflector - the SPHERE and the PARABOLA - are both used.

Most studios light sources today combine the lens and spherical mirror to produce a beam which can be almost parallel or caused to corsage or damage over a smaller or larger angle, while still keeping the illumination uniform.

Light sources used in movie shooting today are almost exclusively of two kinds:

a. INCANDESCENT

b. CARBON ARC.

The popular fluorescent lamp has so far proved of little value in the motion picture studio.

a. INCANDESCENT LIGHTING

this is the lighting produced by rising of a metallic filament to a high temperature.

It has today been developed to such an efficiency that it will suffice for all small and medium - size sets, and will cover most of the interiors commonly met with on location shooting.

Tungsten is almost universally used as a filament material since it has the highest melting point of any conductor (about 3,650 K).

Something must be said about the type of focusing lamps in which these light sources are most often used. These fit into the general category of SPOT LAMPS or SPOTS , that is lamps which can give either a very narrow or comparatively wide beam, ranging usually from about 10 degrees to 45 degrees and having a good degree of uniformity.

b. ARCH LIGHTING

This is a type of lighting produced by a bridge of incandescent vapour which carries an electric current from one electrode to another. This current sustains the luminous bridge so long as the distance between the electrons does not exceed critical limit.

At present carbon arcs are the only type of arc widely used in studios.

7.4.3 ACCESS TO LIGHTING POSITION OVER THE STUDIO

All lighting positions have to b reached so that individual units can be directed, focused, colour filters charged and the fittings maintained. It is most convenient if the electricians can be reach the lanterns from permanent walk ways or platforms with room to walk without stooping, but this is not always possible over the stage where hanging space is great demand.

Lighting over the studio is usually suspended from bars attached to counterweight sets or winches. It should be known however that the ability to raise or lower these bars does not make it possible to adjust the angle or focus of a spotlight before haunting the bar into place. Such adjustments can only be made when it is in its final position. there is a limited range of lanterns which can be directed from below by means of a pole, but this is at best unwidely and adjusting from a step ladder is usually a sure method. Step ladders are, however, dangerous and inconvenient.

Access to the lantern from bridge and slots should be easy and safe. It may be necessary to knee down to make some adjustment to the extremities of the lanterns but this is no reason to expect technicians to reach lighting position by crawling on all fours.
There should be proper headroom of 2 metres over all access routes so that people can walk naturally without having to crouch.

Platforms and walkways should be finished in material which is quiet to walk on and reasonably comfortable to kneel on.
Wood or linoleum are suitable and have another advantage in their electrical insulation which reduces the risk if a technician touches a faulty lantern. Kicking plates must be provided at the edges of walkways to prevent small items being knocked off.

All the bars mentioned for suspending studio lighting equipment should be 50mm outside this metre tube which has a recommended span of 195mm. a span of 240mm should not be exceeded. This is the usual scaffold tube and other sizes or square section tube will not take the standard hook damp used for attaching lanterns and are therefore, unsuitable.

7.4.4 **STORAGE**

Storage space and racking for spare lamps, equipment, colours and cables should be available on or adjacent to bridges and slots. The amount of space required is difficult to determine precisely, but it is reasonable to provide 20% spare lanterns, coil of cable, spare colour frames, tools and accessories.

7.4.5 REFLECTING SURFACES

There is inevitable some light spill from lanterns and to avoid distracting reflections, all those studio surfaces near bridges and slots should be of low reflectance's. In particular, polished surface which give specular reflections should be avoided.

7.4.6 THE LIGHTING CONTROL ROOM

The best position for the operator of the lighting-control board is in a control room in the studio with an observation window allowing him an unrestricted and undistorted view of the sets, wing to wing and floor to borders.

The Control room houses the lighting plot, storage and maintenance activity. A space 3m wide and 2.4m deep should be allowed initially, but this may have to be revised depending upon the equipment installed.

The normal access to the control room should be outside the studio and preferably separate from public areas, but a door direct into the studio is desirable for rehearsal. There should be an easy connection from the control room to the stage and dimmer room and any associated data stores, without having to go through the studio.

7.5 WASTE DISPOSAL

As a consequence of the multi-disciplinary nature of the Film Industry, the volume of waste accruing from it is enormous. The categories of waste from the proposed film industry fall into two groups.

a. SOLID WASTE

b. LIQUID WASTE

These group need special methods of handling if normal life within the environment will not be hampered. A careful analysis of these waste will help in providing methods of dealing with there.

a. SOLID WASTE: These are the waste which come from stationery, timber bits, saw dust and shaving, Textile waste, Broken Ceramic elements and waste food from Restaurant.

b. LIQUID WASTE: These are those accruing from the urine waste, surface water from rain, waste from taps and showers chemicals from the film laboratories and waste from the water closets.

DISPOSAL

The solid waste should be collected at a point and carried to a distant where they could be burnt or buried while those from the WC and the liquid waste can go to a central sewage treatment plant.

Waste from the laboratory especially the used sodium this sulphate (hypo) from which, through a process called SILVER RECOVERY, the silver in the hypo is electrolytically plated or chemically precipitated. The pure silver thus recovered can be sold while the liquid is allowed to wash down the drain.

CHAPTER EIGHT

8.0 CONSTRUCTION AND MATERIALS

Because of the function follows form concept which characterises a film studio all the felicities designed tend to take up a more industrial form of architectural appearance.

Function does not necessary mean how a thing works. It includes all the relationship between a facility and the people/persons who uses it which id an important principal used in the design of factories and industrial facilities.

Integration is also important. This consist of the combination of the various elements and considerations that make the project complete. Such as proper siting, right choice of building materials and construction methods and a good design layout to control/natural light ventilation, heat, noise, pollution and other environmental factors by providing the desirable elements necessary for the project to shield the desirable.

8.1 MATERIALS

The selection of materials for an industrial facility entails a lot of consideration which are based on wide range of factors such as flexibility, integration of building, function, structure, organisation, durability etc.

However, the primary factors is provide the light design for the activities to be carried out, bearing in mind the read for comfort use and cost effectiveness,.

For instance the film processing knobs take on an industrial outlook with under spanned steel truss roof to allow for apace clearance within the building and resilient padded floors to absorb the vibrations of the equipment..

Apart from the facilities in the project which are acoustically treated due to the activities performed there, the basic materials used for the project include concrete, masonry, steel, from, welded glass etc.

8.2 CONSTRUCTION SITE

Before any construction begins on site, the site has to be cleared. Thus involves a number of operations which include taking a reconnaissance, noting existing factors on site, removing existing trees that will affect construction, clearing the ground, settling out the site, locating the building line.

Construction also involves ensuring that the location of buildings on site concrete with the location of relating services to ensure integrated functional flow of activities on site.

8.2.1 FOUNDATIONS

The foundation or system of a building which is its structure is a critical link in the transmission of building loads to the ground. Bearing directly on the soil, the foundation system must both distribute vertical loads and factor wrecking forces.

The foundation choice is affected by the type and bearing capacity of the soil as well as the potential form of the superstructure. Foundations as well as other components will be in compliance with the basic building function requirements. Expansion will be required, as well as a laid damp proof.

8.2.2 STRUCTURAL SYSTEM

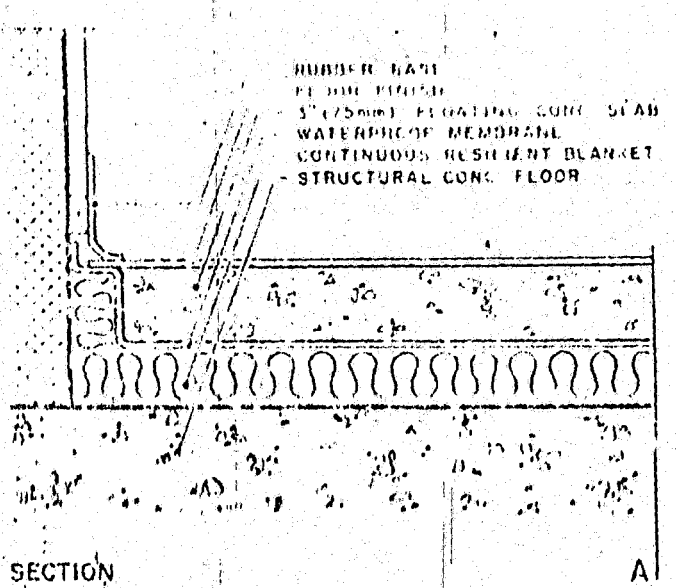
Understanding the type and magnitude of the forces acting on a building and how a might deform when acted upon by these forces give significant clues as to how best to resolve the forces with the buildings structural system.

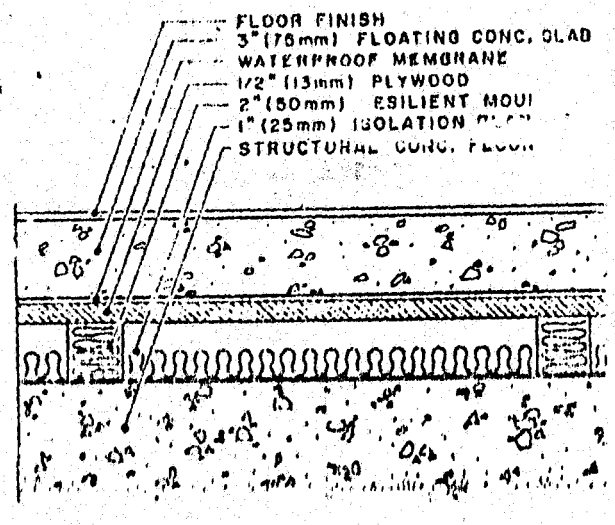
In the case of the film studios processing laboratories preparatory workshops and warehouses a large column free space as is economically possible, considering movement characteristics of handling plant, as well as dimension and tolerances such as circulation storage future flexibility especially for building services.

8.2.3 FLOOR AND FLOOR FINISHES

Generally all the floor of each studio facility should be hardwearing, non porous material so that it would be able to understand maintenance and processing operations e.g. (in the case of process lab) and tape production hall.

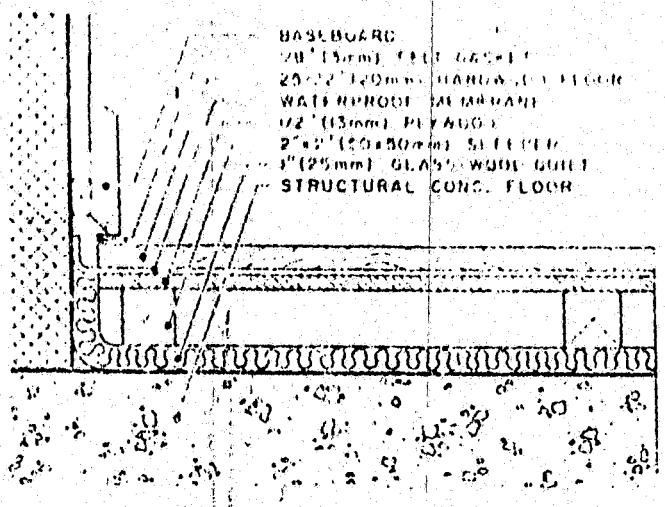
However in the case of actual sound studios, acoustic element, such as resilient pads, rubber mats, carpets or any of such sound absorbent material are employed.

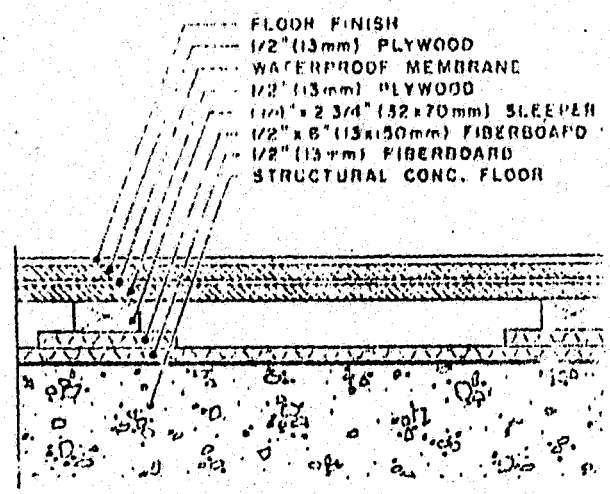




SECTION A

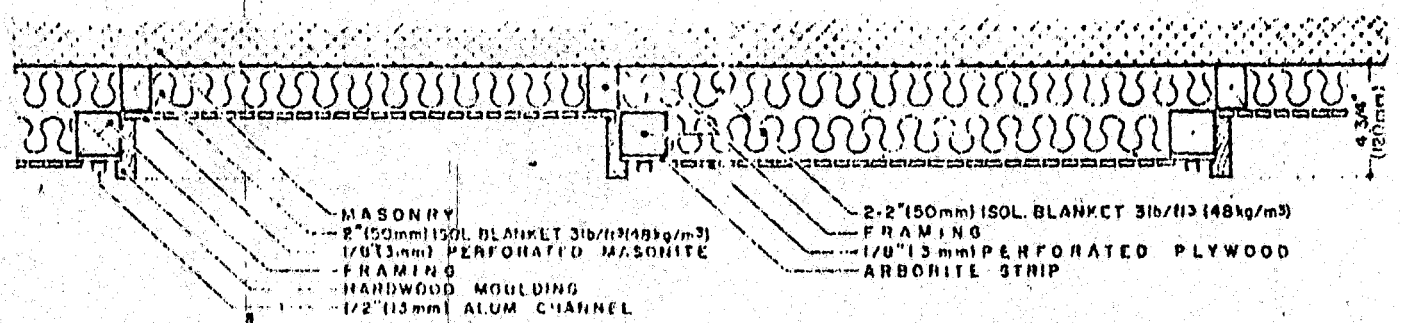
Floating concrete floors supported by (A) a continuous layer of resilient blanket and (B) distributed resilient mounts.



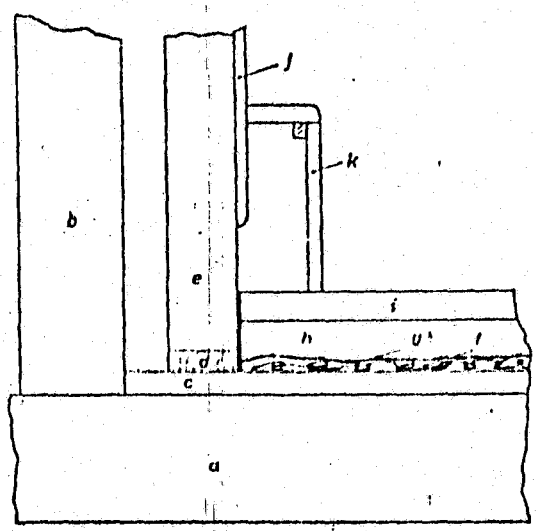


SECTION

Floating wooden floors supported by resiliently mounted sleepers.

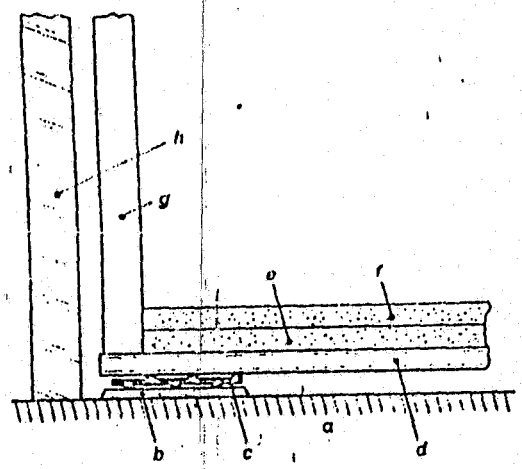


LITTLE THEATER, ACADEMIE DE QUEBEC, ANYOT VAS, ARCHITECTS



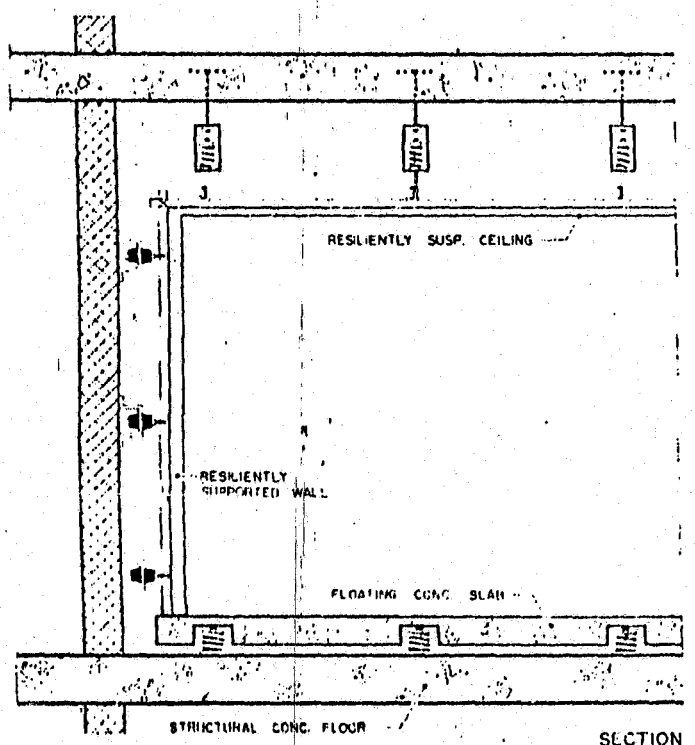
Studio floor laid on mineral wool

a Structural floor slab
b 125mm brickwork
c Lightweight concrete screed
d Cork
e 75mm breeze block
f Mineral-wool blanket
g Waterproof paper
h Lightweight concrete
i Finishing screed
j Plaster
k Microphone skirting



Suspension of studio on rubber pads

a Structural floor
b Concrete plinth
c Rubber pad
d Prestressed-concrete planks
e Concrete
f Screed of asphalt concrete
g Inner wall
h Outer wall



SECTION

Discontinuous construction with floating floor, isolated wall, and resiliently suspended ceiling.

Toilet facilities may be tiled and ordinary office floors administrative areas may be notable screened. In the warehoused and storage areas maintenance rooms where chemical spills maybe expected, an epoxy jointless floor finish will be used because of their high tolerance, it will also be adopted in the film vaults which should be finished to a non slip surface.

8.2.4 WALLS AND WALL FINISHES

Wall systems are the primary vertical planer elements of any building and are composed of linear bearing elements (column and beams) along with both structural and non structural panels in between them walls determine the light of the building choice of wall system differs, for the ordinary film facilities the basic durable exterior walls are utilised to improve sound insulation by absorbing noise generated outside the perimeter of the facility.

Interior walls and partitions may either be load walls (structural) or non structural. They are basically divided and defining elements of space - both usually and acoustically Therefore the product characteristics of the wall material must be considered. Wall elements also serve as a useful purpose in a accommodating the vertical and horizontal travel of mechanical and electrical lines and their outlets.

8.2.5 DOORS AND WINDOWS

Doors and Windows provides for physical, visual and light penetration into and through a building interior while enclosing interior space and maintaining continuity of the building skin. There are many types and sizes of doors and windows which affects the physical appearance of a building gives it natural lighting, ventilation and interior spatial quality.

In the film shooting studio's however, windows are hindrance, disturbing the acoustic balance of the space and natural lighting or ventilation is undesired. However windows may be utilised if need be, but these must be total sound proof of penetration. Choice of window fitters with requirements, but basic consideration includes; location, security, condensation, low maintenance.

Window openings will not be less than 1m above the floor.

Doors should be sized to suit easy passage of both humans and machines as well as transfer of materials and equipment. They should be self closing, smooth surfaced for easy cleaning and in the case of films shooting studios should be sound proofed.

Doors to clod, film vaults should be considered as part of both the insulation and building fabrics and should have the same thickness of insulation.

8.2.6 ROOFS AND CEILINGS

The roof systems of a building functions as the primary sheltering elements protecting the interior spaces and activities from natures elements. Roof also controls the flow or rain water, water vapour, heat and air. Roof systems are best structured to carry their own weight as well as wind loads.

In this project design both industrial and administrative character are exposed in the roof systems employed and for the roofing material long span aluminium, roofing sheets are employed, in most of the large spaces designed, alternatively slab and claypot roofs are also used.

8.2.7 **DRAINS**

Floor drains should be wide and deep and have on even fall so that water cannot remain in them they should be covered with Metal gratings which should be level and flush with the floor and can also removed for cleaning purposes.

Especially in the film processing labs where toxic water may be drained away and be collected before final disposal.

CHAPTER NINE

9.0 GENERAL APPRAISAL AND CONCLUSION OF THE DESIGN

9.1 GENERAL APPRAISAL

The project a film studio, Jos gets its unique inspired site plan, from the form of a strip of celluloid film, which is cellular in shape connected or bounded by vertical and horizontal spaces which on the site was adopted to form rods network and buffer zones.

The locality of each film facility to the other depended on the strength of the functional relationship and whether the facilities were better interested by footpaths or isolated in the form of vehicular link ways.

Landscape elements were often used to define boundaries that were to be isolated or to act as buffer zones for incurring noise generated from each other.

The landscape consist of both hard and soft, in the form of roads, walkways, green lawn, trees shrubs and flowers to create a harmonious and inviting scene to more or less soften the of the project.

The site was scant of trees and large shrubs many would have to be planted and the landscape developed over a process of time to balance with hard landscape.

Most of the builders are distinctly formal because despite is taken in Nigeria. The world of film is truly very formal and organised.

Though not to present another 'universal studio design' African most and abstract arts are to be body embellished on the boundary walls of the site as well as on some of the facilities e.g. the film review centre.

Other places on the site African inspired mosaics may be incorporated include the entrance gate, and the workshop where large wall spaces are left bare.

9.2 CONCLUSION

The designed project as a whole, thought its concepts and philosophy and in attempting to fulfil the outlined goals, aim and objectives has worked at creating a facility to achieve what it set out to do.

A project like this, a film studio however can never end or be limited to a scope because as long as films belong to the world of the imagination it has no limit.

It is hoped that the films studio would be preserved as a bold challenge for Nigerians to contribute to the yet untapped field of gold which is the Nigeria film industry and aid in building her up to her maximum potential.

For through film we can reach the international community and project to the true image of ourselves and our identity something we have been derived too long.

GLOSSARY OF TECHNICAL TERMS

Animation:

The technique of synthesising apparent mobility of inanimate objects of drawing through the medium of cinematography. The term is also used for the sequence of drawing made to create the movement, and for the movement itself when seen on the screen.

Answer Print:

The first print (combining picture and sound, if a sound picture) in release form, offered by the laboratory to the producer for acceptance. It is usually studied carefully to determine whether changes are required prior to printing the balance of the order (UFPA).

Close-up (CU):

A detail photographed from such a distance that only a small portion of the subject fills a frame of film.

Cut:

1. The instantaneous change from one scene and the successive frames contain the last frame of one scene and the first of the following scene.
2. To stop operation of camera, action, and/or sound recording equipment.
3 To sever or slice film in the editing process.

Dallies:

(Rushes) - Usually a one light print, made without regard to colour balance, from which the action is checked and the best takes selected.

Directors:

The Individual who interprets the script in terms of cinema technical supervises all phases of the work involved in achieving a coherent, unified film presentation, and assume responsibility for what appears on the screen. (UFPA).

Dissolve:

An optical or camera effect in which one scene gradually fades out at the same time that a second scene fades in. There is an apparent double exposure during the centre portion of a dissolve sequence where the two scenes overlap.

Dolly:

1. A truck built to carry camera and operator to facilitates movement of the camera during the shooting of scenes.
2. 2 To move the camera toward or away from the subject while shooting a scene. (UFPA)

Dubbing:

The addition of sound (either music or dialogue to a visual presentation via a recording process, which prepares a complete sound track (usually magnetic) that can be transferred to, and synchronized with, the visual presentation.

Editing:

The process of assembly, arranging, and trimming the desired shots sound tracks to best advantages for the purpose at hand. (UFPA)

Editor:

The individual who decides what scenes and takes are to be used, how, where sequence, and at what length they will appear. (UFPA)

Fade:

Exposure of motion pictures film either in the camera or during subsequent operations, so that, for a fade-in, starting with maximum density and extending for a predetermined number of frames each successive frame receive a systematically greater exposure than the frame proceeding it, until full normal exposure.

Magnetic Track:

Audio materials recording on a film or tape that has been coated with a magnetic recording medium.

Master:

The final negative - reversal positive or intermediate film from which subsequent prints are made.

Master Shot:

Usually a long in which all action in a scene takes place. Action is repeated for the MS and CU which may be cut into the scene.

Medium Shot (MS):

A scene that is photographed from a medium distance so that the full figure of the subject fills on entire frame.

Negative:

The term "negative" is used to designed any of the following (in either black-and-white or colour): 1. The raw stock specifically designed for negative images.

2. The Negative image.
3. Negative raw stock that has been exposed but has not been processed.
4. Processed film burning a negative image (UFPA)

Negative Image:

A Photographic image in which the values of light and shade of the original photographed subject are represented in inverse order, Note: In a negative image, light objects of the original subject are represented by high densities and dark objects are represented by low densities. In a colour negative, colors are represented by their complementary colour (UFPA).

Optical Effects:

The alteration of a motion picture scene, commonly introduced in duplication, including fades, dissolves, and wipes, as well as many more spectacular effects.

Original:

An initial photographic image, or sound recording - whether photographic or magnetic as opposed to some stage of duplication thereof. (UFPA)

Positive Image:

A photographic replies in which the values or light and shade of the original photographed subject are represented in their natural order. The light objects of the original subject are represented by low densities and the dark objects are represented by high densities.

Posynchronization:

The recording of the sound track after the picture has been completed.

Presychronization:

The recording of the sound track before any production has begun, so that action can be synchronised when the film is exposed with the pre-recorded sound.

Production:

The general term used to describe the processes involved in making all the original material that is the basis for the finished motion picture. Loosely, the complete film.

Projection:

The process of presenting a film by optical means and transmitted light for either visual or aural review. or both.

Raw Stock:

Motion picture film that has not been exposed or processed.

Reduction Printing:

The process of production and recording photographically a smaller image-usually on a smaller film format - from a larger image. Film thus made is referred to as reduction negative or a reduction print.

Release print:

A complete print made for general distribution and exhibition in after the final answer or sample print has been approved.

Reversal Film:

A film which, after exposure, is processes to produce a positive image on the same film rather than a customary negative image.

Rough Cut:

A preliminary, trail stage in the process of editing a film. Shots, scenes, and sequence are laid out in approximately relationship, without detailed attention to the individual cutting points.

Rushes:

See "Dollies"

Scene:

A continuous unit of action in a film.

Sequence:

A series of shots characterised by inherent unity of theme and purpose.

Shot:

1. A single run of the camera.
2. The piece of film resulting from such a run.

Sound Track:

The portion of a length of film reserved for the sound record, or any recording so located. Also, any length of film bearing sound only.

Special Effect:

Any shot unobtainable by straight forward motion pictures shooting technique. In this category are shots requiring multi-image montages, split screens, vignetting, models, etc.

Synchronisation:

The positioning of a sound track so that it is in harmony with, and timed to, the pictures portion of the film.

Synchroniser:

A mechanism employing a common rotary short that has sprockets which, by engaging performance in the films, pass corresponding lengths of pictures and sound films simultaneously, thus effectively keeping the two (or more) films in synchronism during the editing process.

Take:

A term used to indicate the number of times a given shot has been made. Takes are usually numbered sequentially and are identified in the picture by slate and in the track by voice.

Wild:

Picture or sound shot without synchronous relationship to the other.

Wipe:

An optical effect used as a transition from one scene to another. In a common form, scene "A" appears to be "Wipe" off the screen by the progressive revelation of scene "B" as a vertical dividing line separating the two advance across the screen from left to right.

Work print:

Any picture or sound track print, usually a positive, intended for use in the editing process to establish through a series of trail cutting the finished version of a film. The purpose is to preserve the original intact (and undamaged) until the cutting points have been established.

Zoom - in:

A continuos of the camera of the lens focal lengths, which gradually narrows down the area of the picture being photographed, giving the effect of continuously enlarged the subject.

Zoom - lens:

A lens whose focal length is variable within specified limits, and is capable of simulating the effect of camera movement toward or away from a subject.

Zoom - Out:

A continues changing of the camera lens focal length, which gradually enlarges the area being photographed, giving the effect of a continuos diminishing subject.

Scene has been attained. From this frame on, successive frame receive identical exposure for the remainder of the take. The procedure is reversed in the case of fade outs.

Frame:

1. One individual picture on a piece of motion picture film.

2. To bring the limits of an individual picture on a piece of motion film into coincidence with the limits of the projection aperture in projection.

3. To complete shot.

Gobo:

Panel of opaque material used to confide the area a light illuminates, or to keep light from shining directly onto the camera lens.

Laboratory:

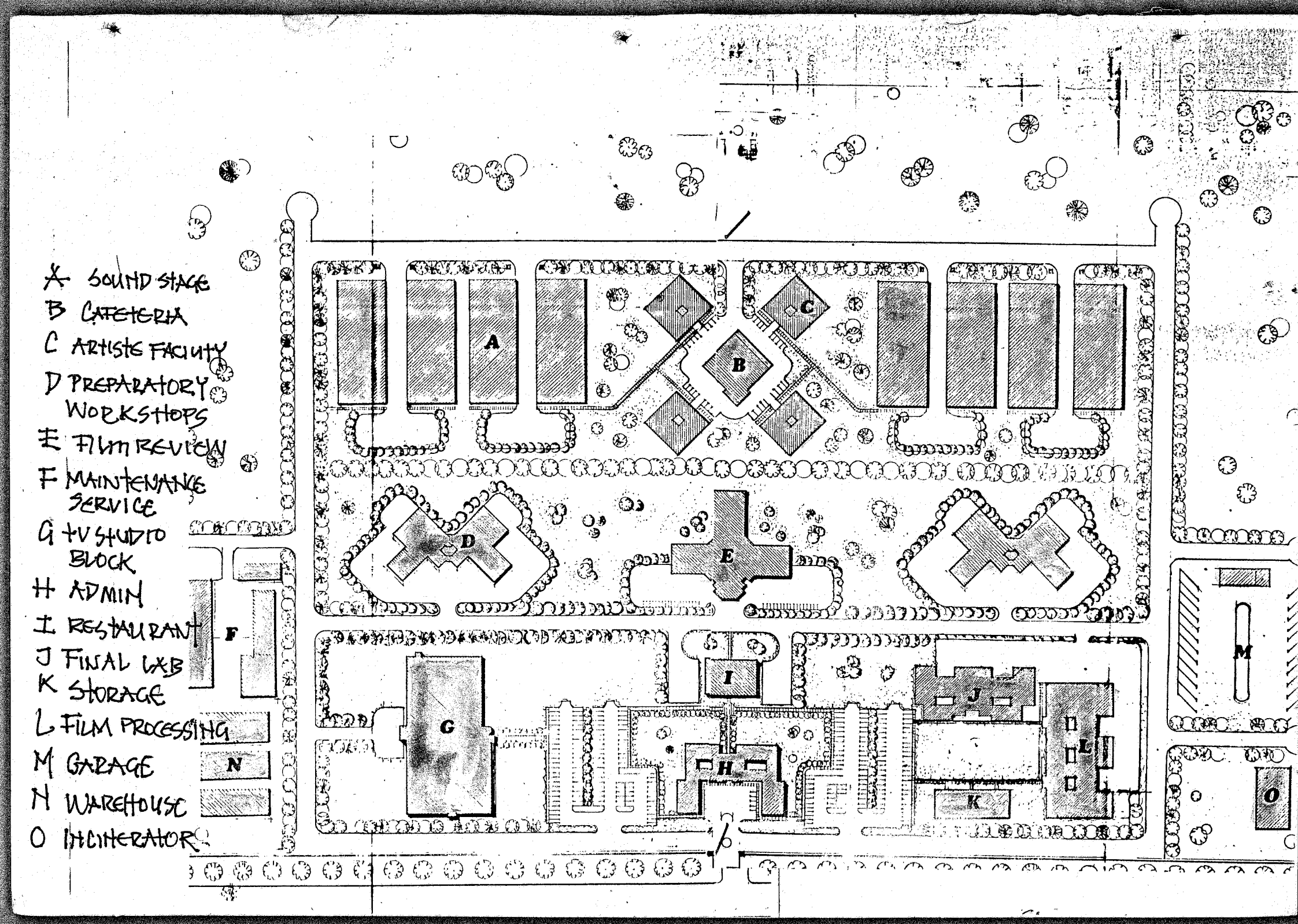
An establishment organised and equipped to provide services such as processing motion pictures film, produce pre-release duplicating internegatives, master positive, duplicate and work prints, as well as completed release prints for distribution.

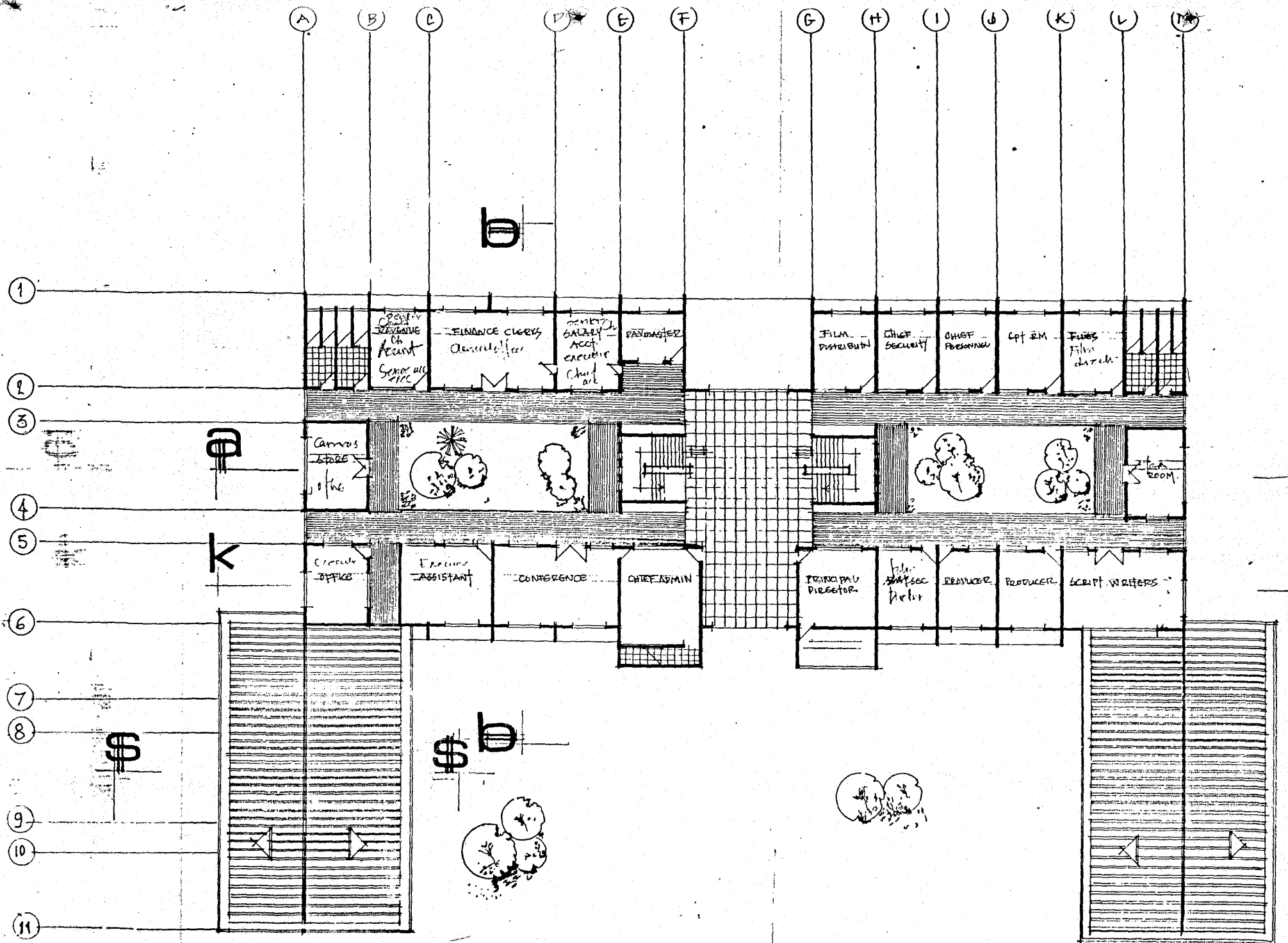
Lip Synchronisation:

The relationship of sound and picture that exist when the movement of speech are perceived to coincide with the sounds of speech.

Long Shot (LS):

The photographing of a scene or motion from a distance or a wide angle of view so that a large area of the setting appear on a frame of film, and the scene or objects appear quite small.


A SOUND STAGE
B CAFETERIA
C ARTISTE FACULTY
D PREPARATORY WORKSHOPS
E FILM REVIEW
F MAINTENANCE SERVICE
G TV STUDIO BLOCK
H ADMIN
I RESTAURANT
J FINAL LAB
K STORAGE
L FILM PROCESSING
M GARAGE
N WAREHOUSE
O INCINERATOR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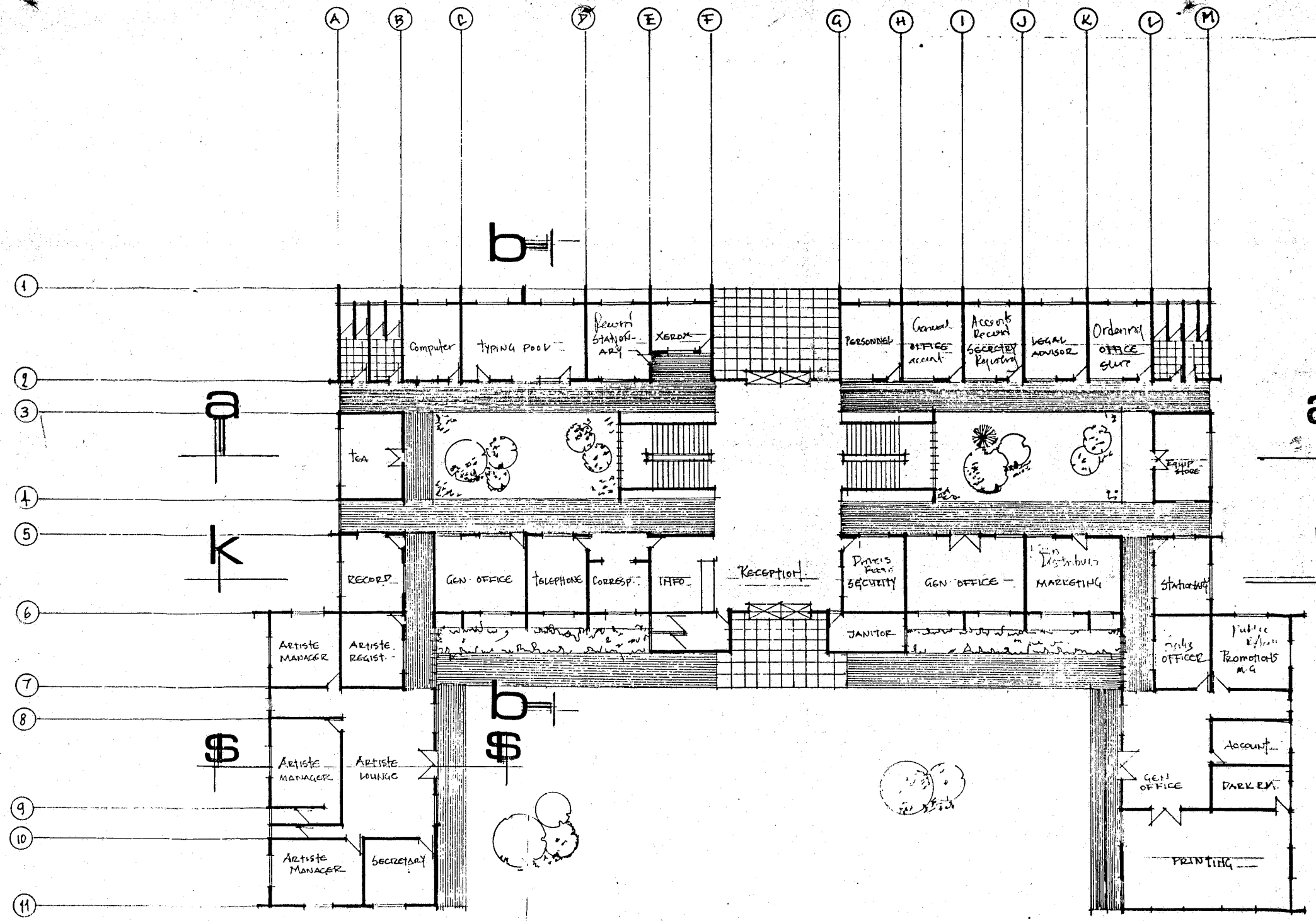
CHIEF SECURITY
CHIEF PERSONNEL
Cpt RM
Canvas STORE
CONFERENCE
CHIEF ADMIN
PRINCIPAL DIRECTOR
PRODUCER
PRODUCER
SCRIPT WRITERS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INFO
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Press Room SECURITY
GEN. OFFICE
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STATIONERY
JANITOR
ARTISTE MANAGER
ARTISTE REGIST.
Sales OFFICER
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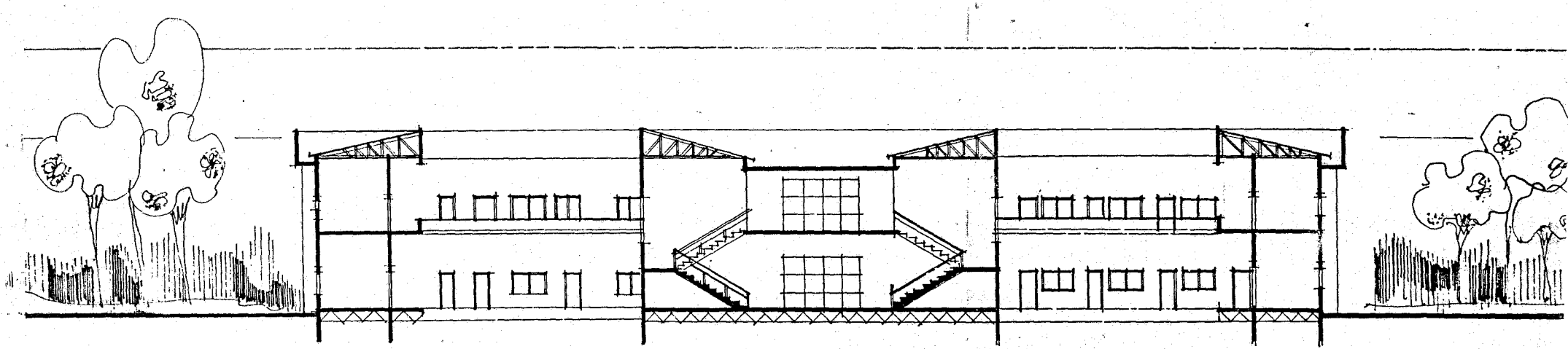
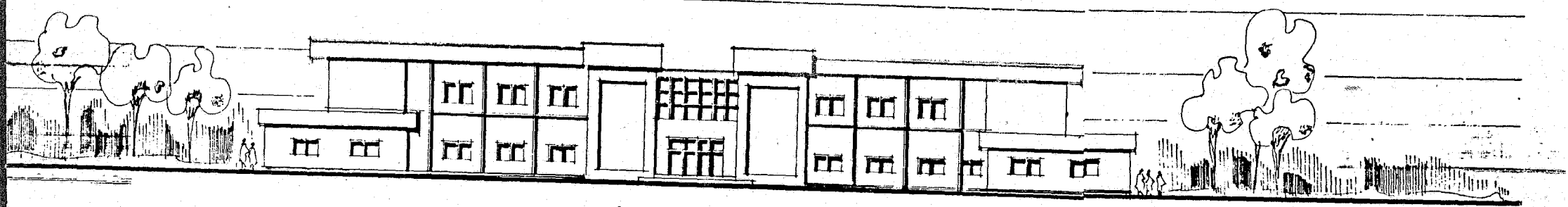
SECTIONS

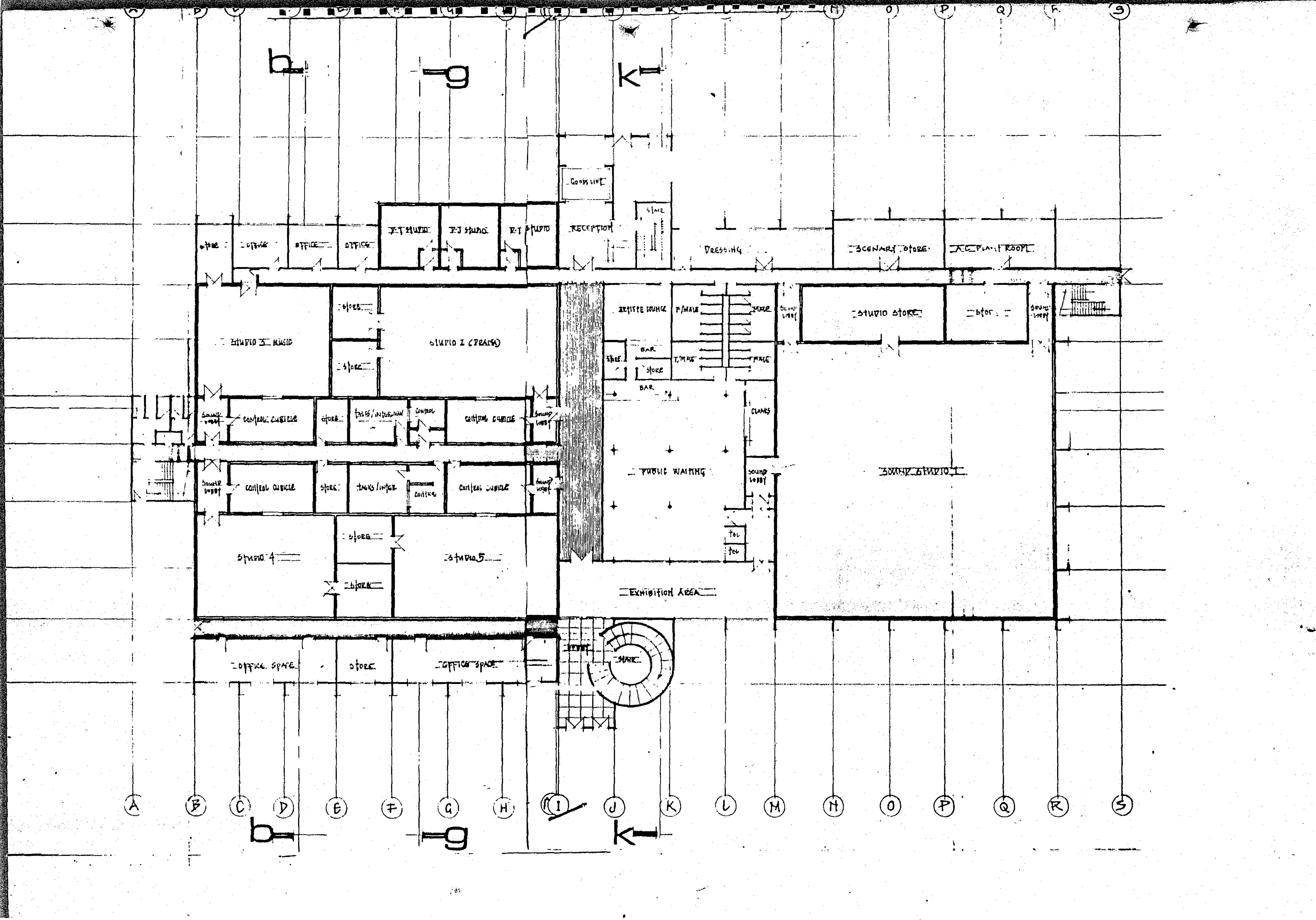


SECTION A-A ADMIN

ELEVATIONS



FRONT ELEV. - ADMIN



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OFFICE
OFFICE
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T.V. STUDIO
T.V. STUDIO
GOODS LIFT
RECEPTION
DRESSING
SCENARY STORE
A.C. PLANT ROOM
STUDIO 3 MUSIC
STUDIO 2 (DRAMA)
STORE
STORE
ARTISTE LOUNGE
F/MALE
MALE
BAR
STORE
BAR
T/MALE
F/MALE
STUDIO STORE
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CONTROL CUBICLE
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STUDIO 5
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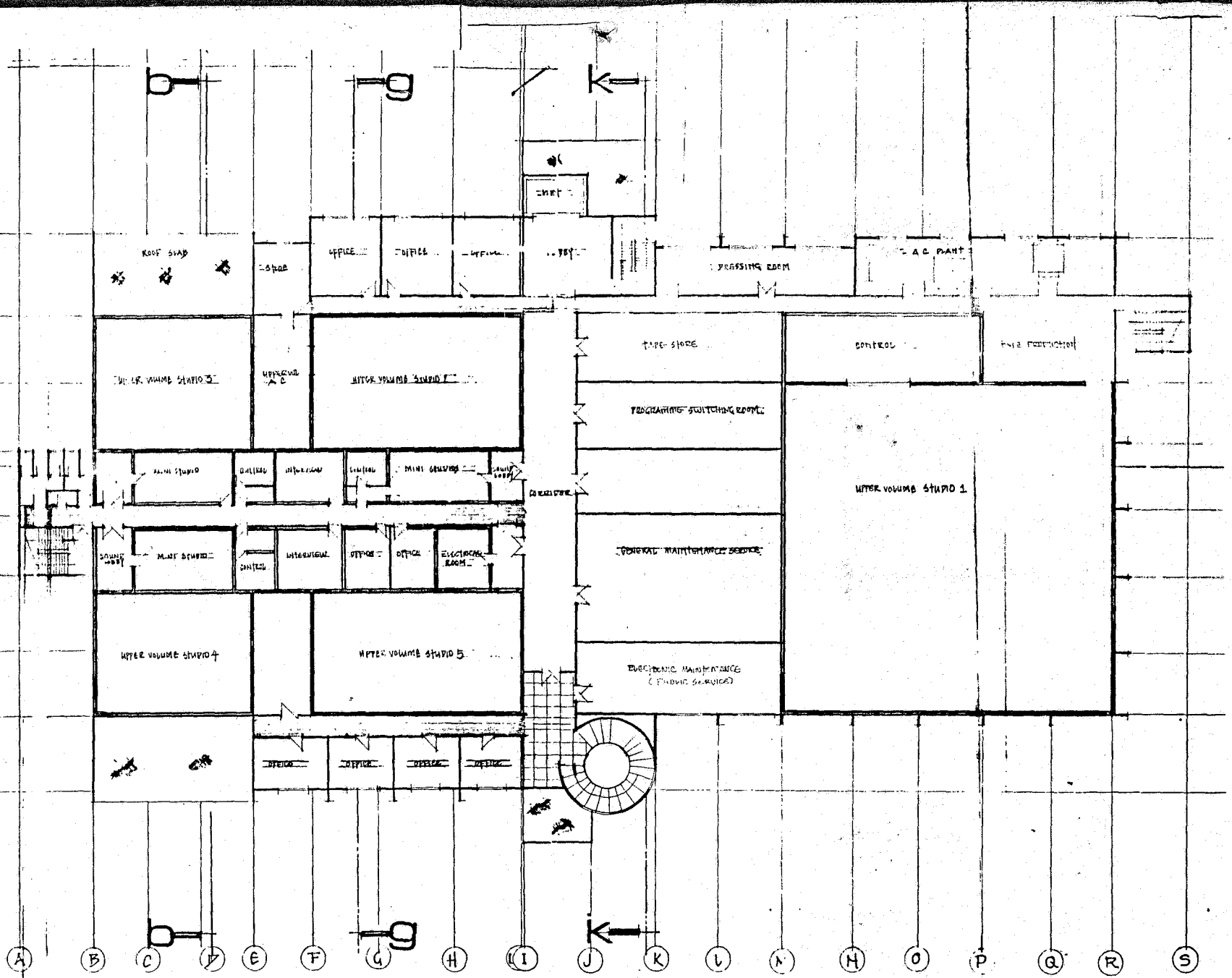
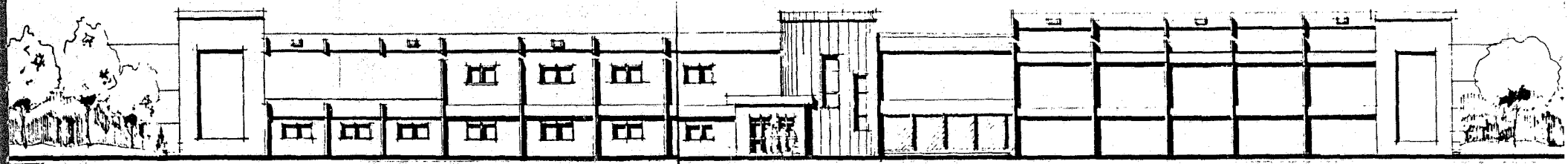
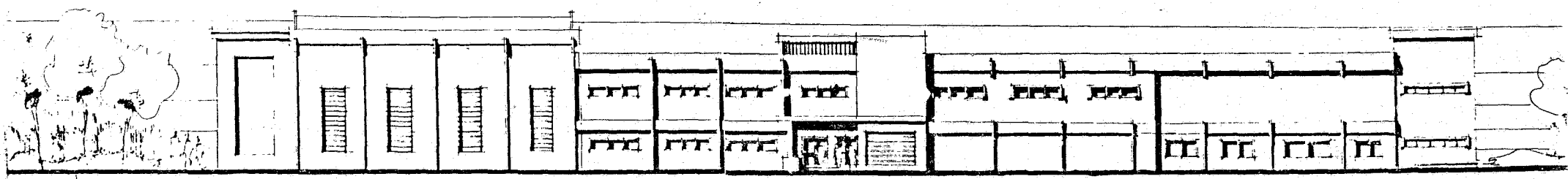


FIRST FLOOR PLAN - STUDIO BLOCK

ELEVATIONS



FRONT ELEVATION — STUDIO-BLOCK



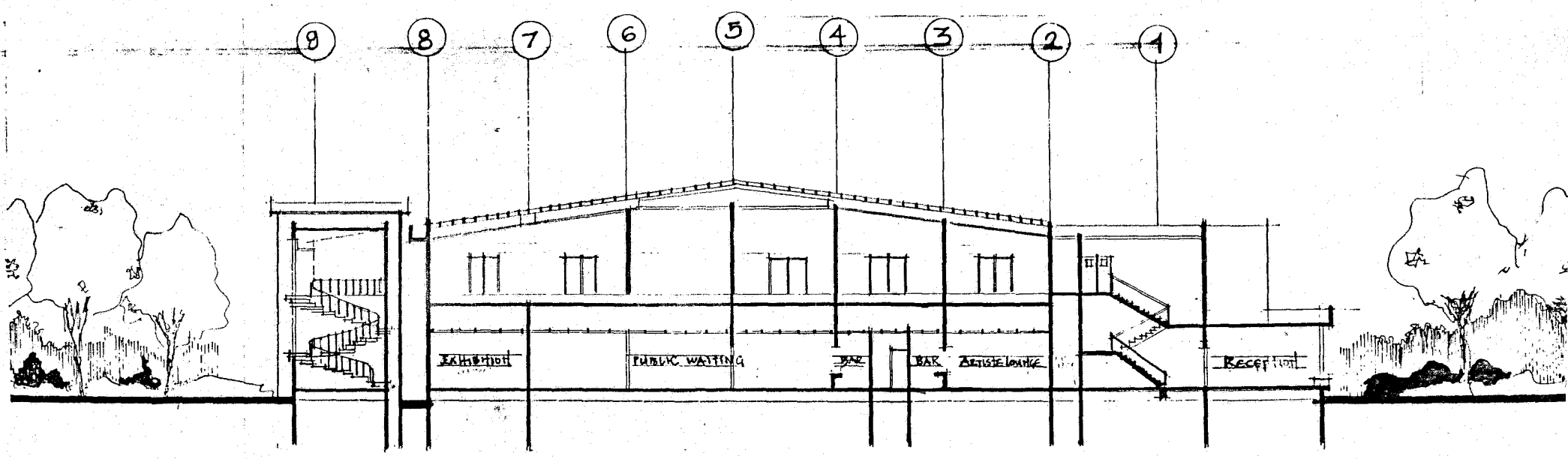
BACK ELEVATION - STUDIO BLOCK

1:200

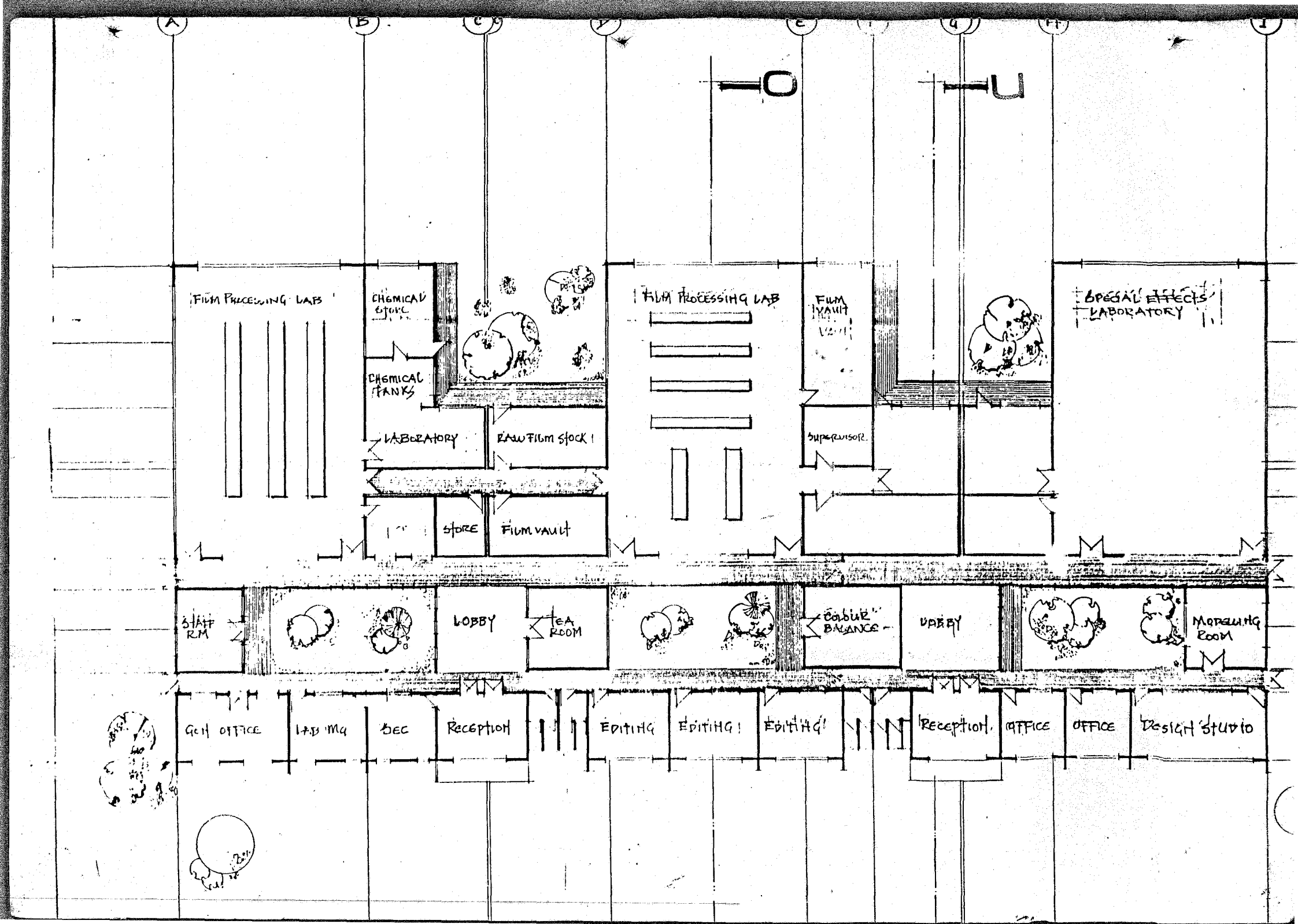
FILM STUDIO JOS

NAME	ADESOYE O.M
REG NO	90/1464
MENTOR	PROF S.O SOLAHI

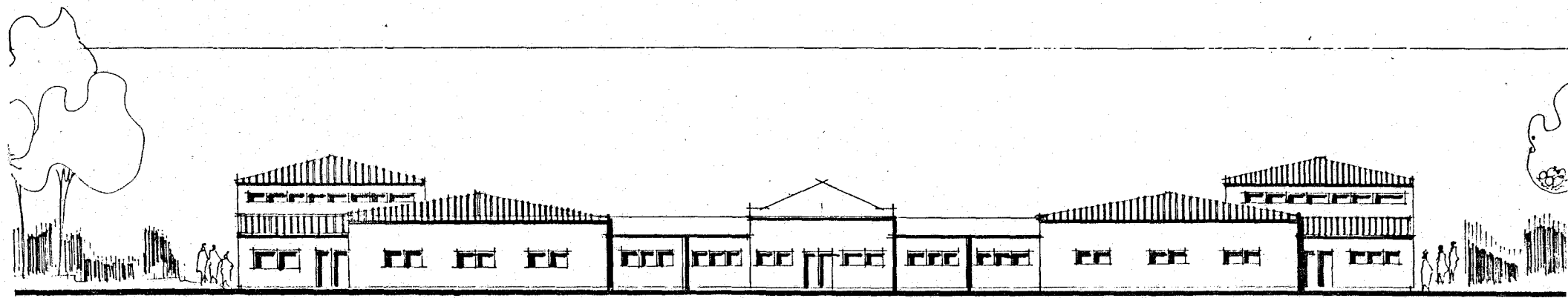
SECTIONS



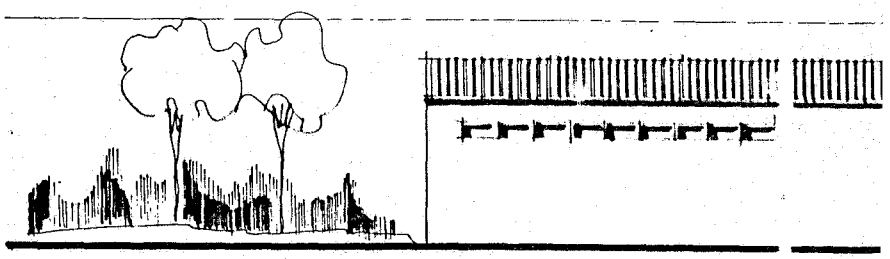
Section K-K – STUDIO BLOCK


A
B
C
D
E
F
G
H
I
FILM PROCESSING LAB
CHEMICAL STORE
CHEMICAL TANKS
LABORATORY
RAW FILM STOCK
STORE
FILM VAULT
FILM PROCESSING LAB
FILM VAULT
SUPERVISOR
SPECIAL EFFECTS LABORATORY
STAFF RM
LOBBY
TEA ROOM
COLOUR BALANCE
LOBBY
MODELLING ROOM
GEN OFFICE
LAB MG
SEC
RECEPTION
EDITING
EDITING
EDITING
RECEPTION
OFFICE
OFFICE
DESIGN STUDIO

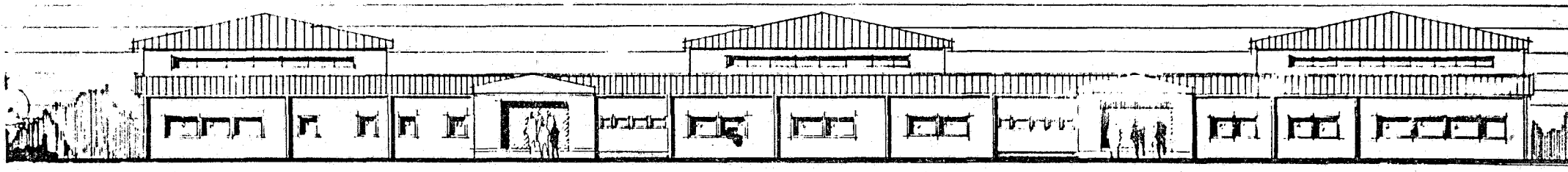
ELEVATIONS



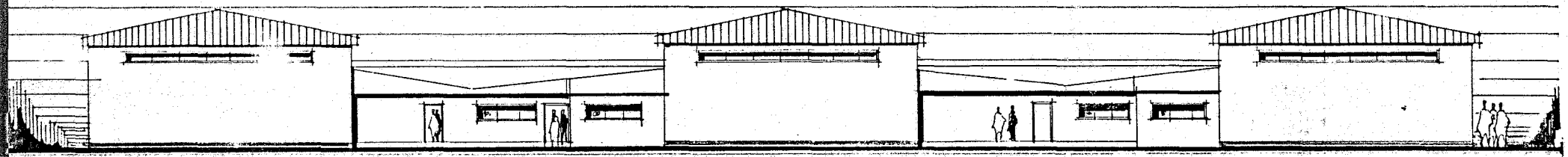
FRONT ELEVATION – FINAL LAB.



ELEVATIONS



FRONT ELEVATION – PROCESSING LABORATORY

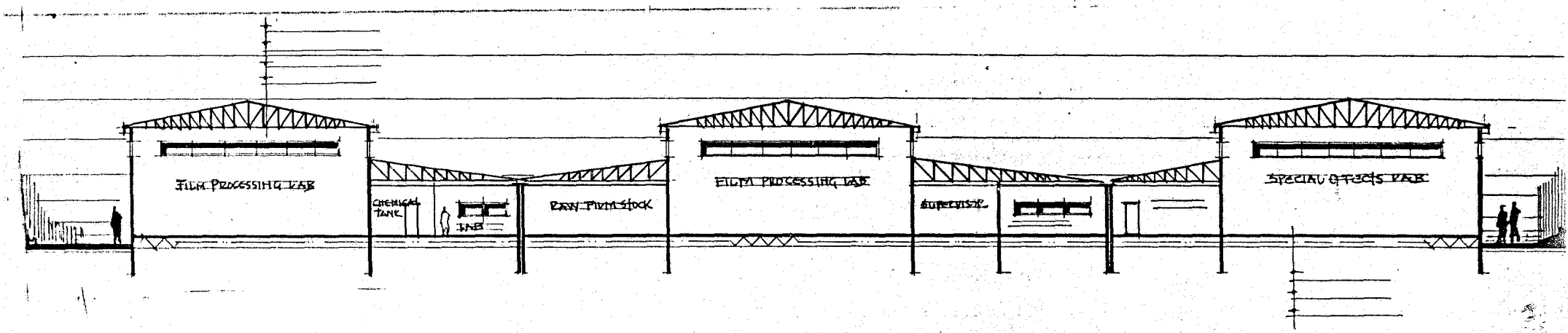


BACK ELEVATION - PROCESSING LABORATORY

FILM STUDIO 305

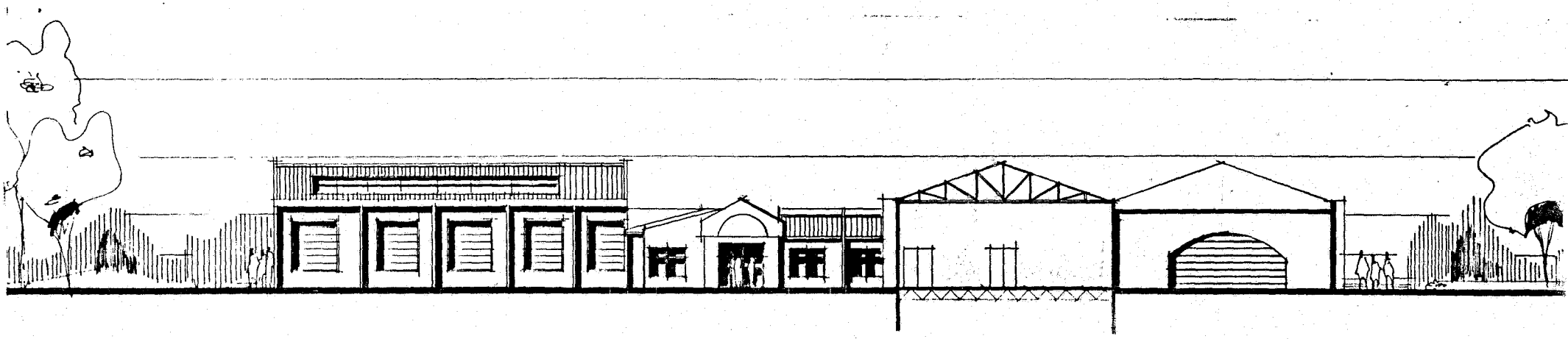
NAME A
REG NO 9
MENTOR P

SECTIONS

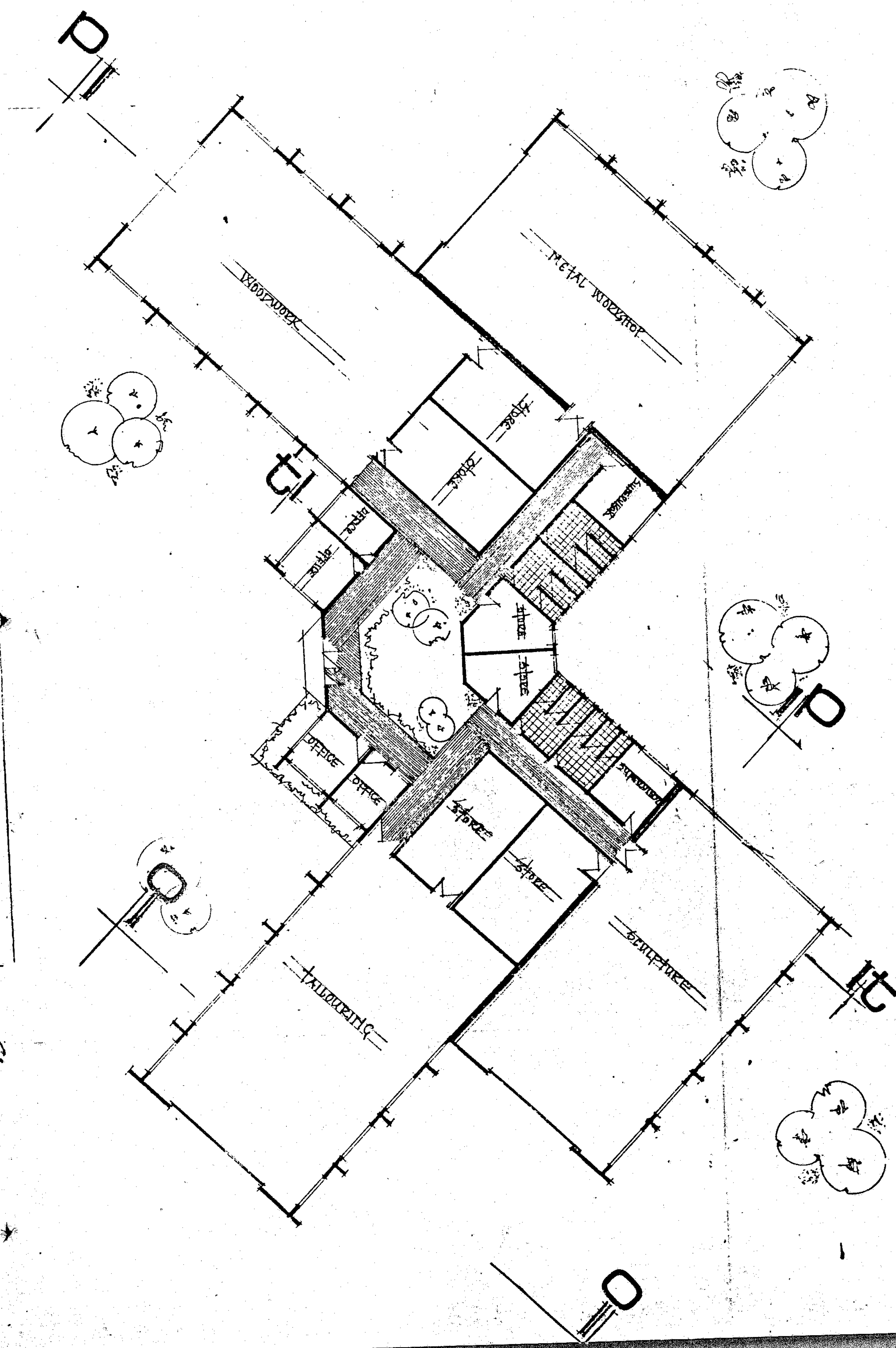


SECTION A-A PROCESSING LAB.

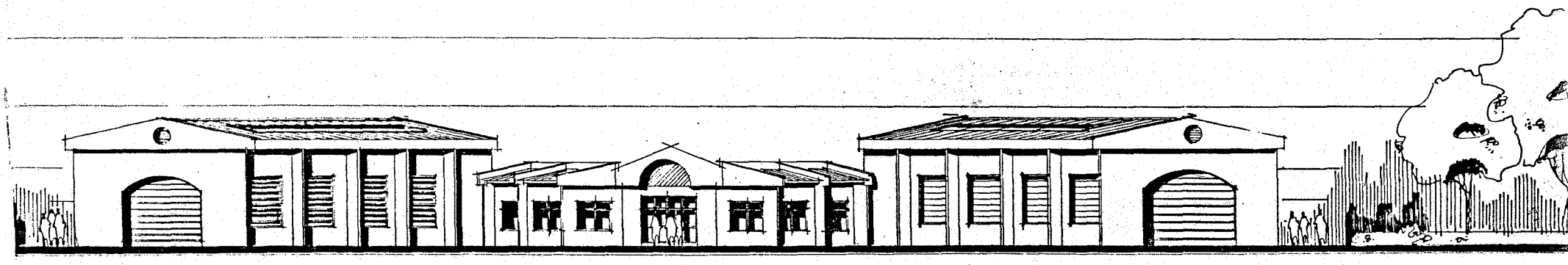
SECTIONS



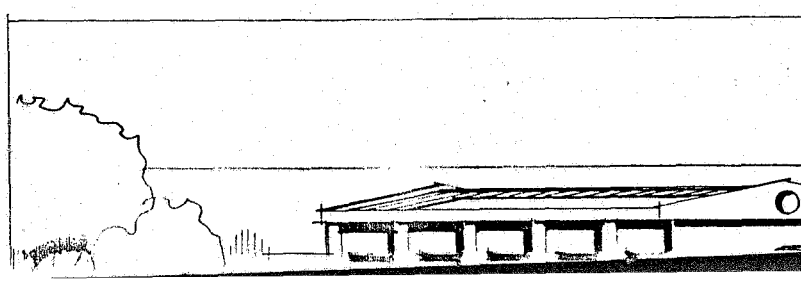
O – PREP. WORKSHOP

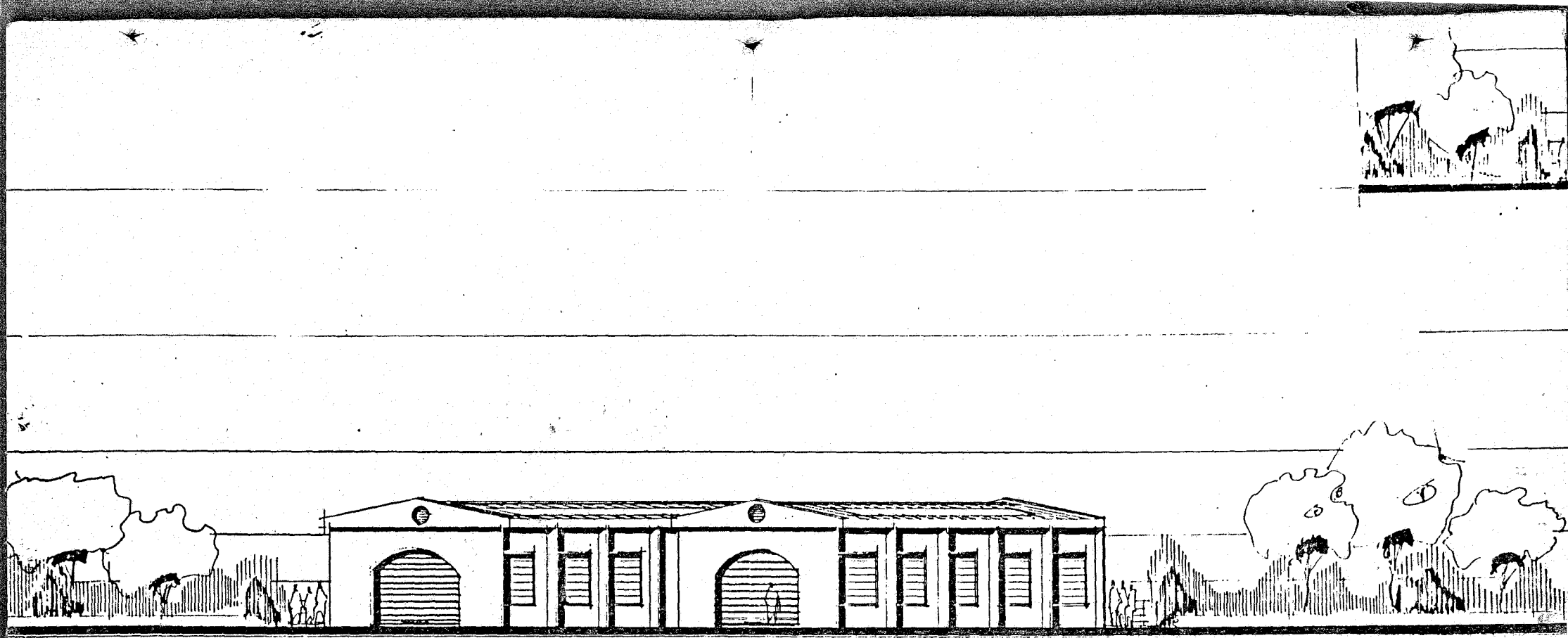

WOODWORK
METAL WORKSHOP
STORE
OFFICE
STORE
TAILORING
SCULPTURE

ELEVATIONS



FRONT ELEVATION - PREPARATORY WORKSHOP

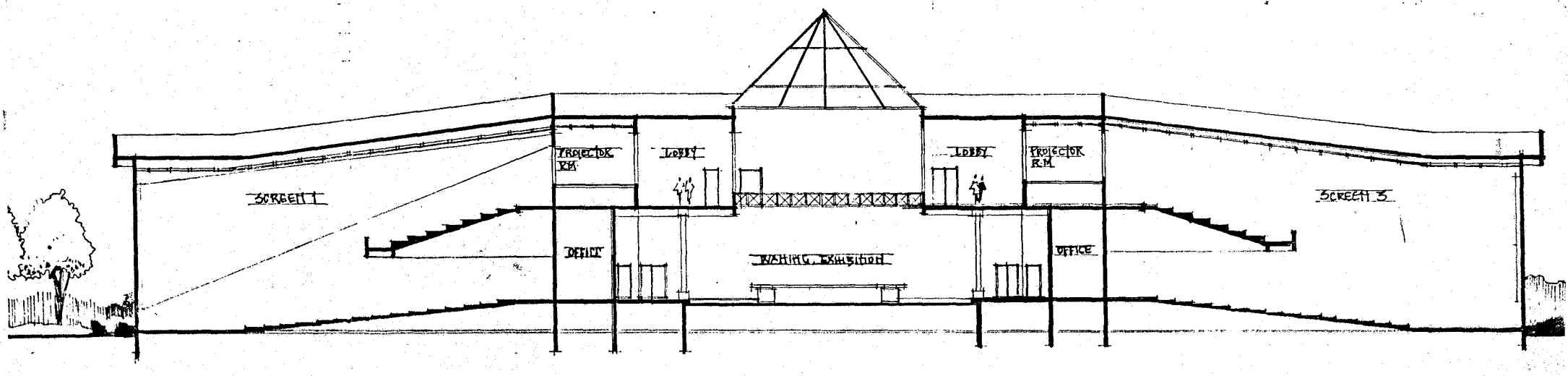




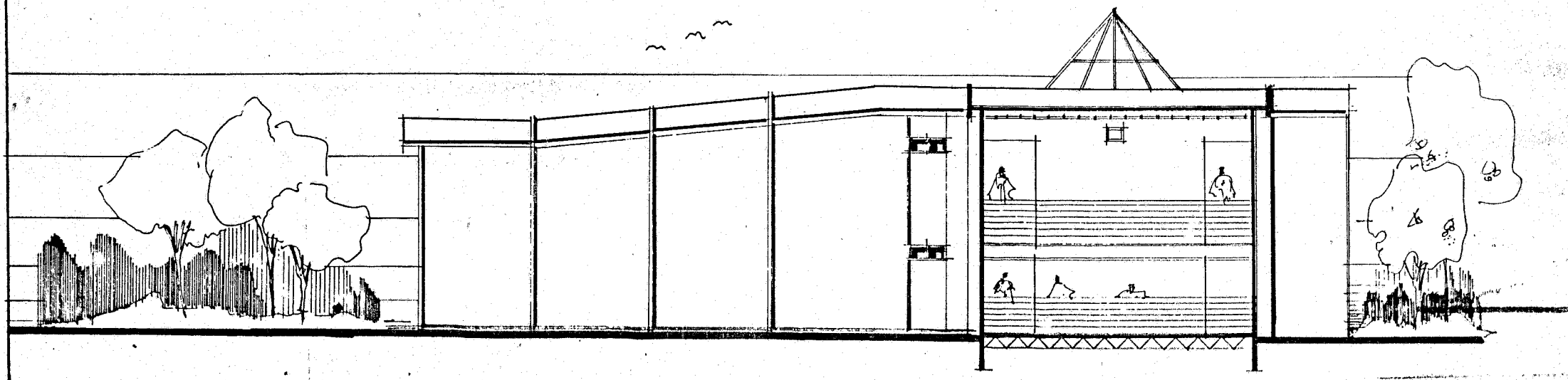
RIGHT ELEVATION (WK SHOP)

FILM STUDIO

SECTIONS



SECTION t-t - FILM REVIEW CENTER

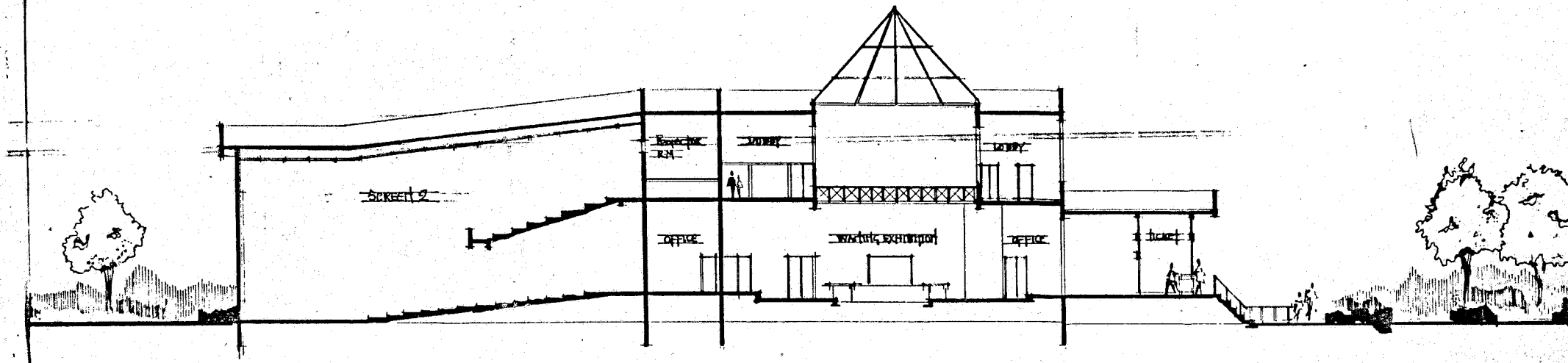


SECTION N-N (FILM REVIEW)

Notes

SCALE 1:100

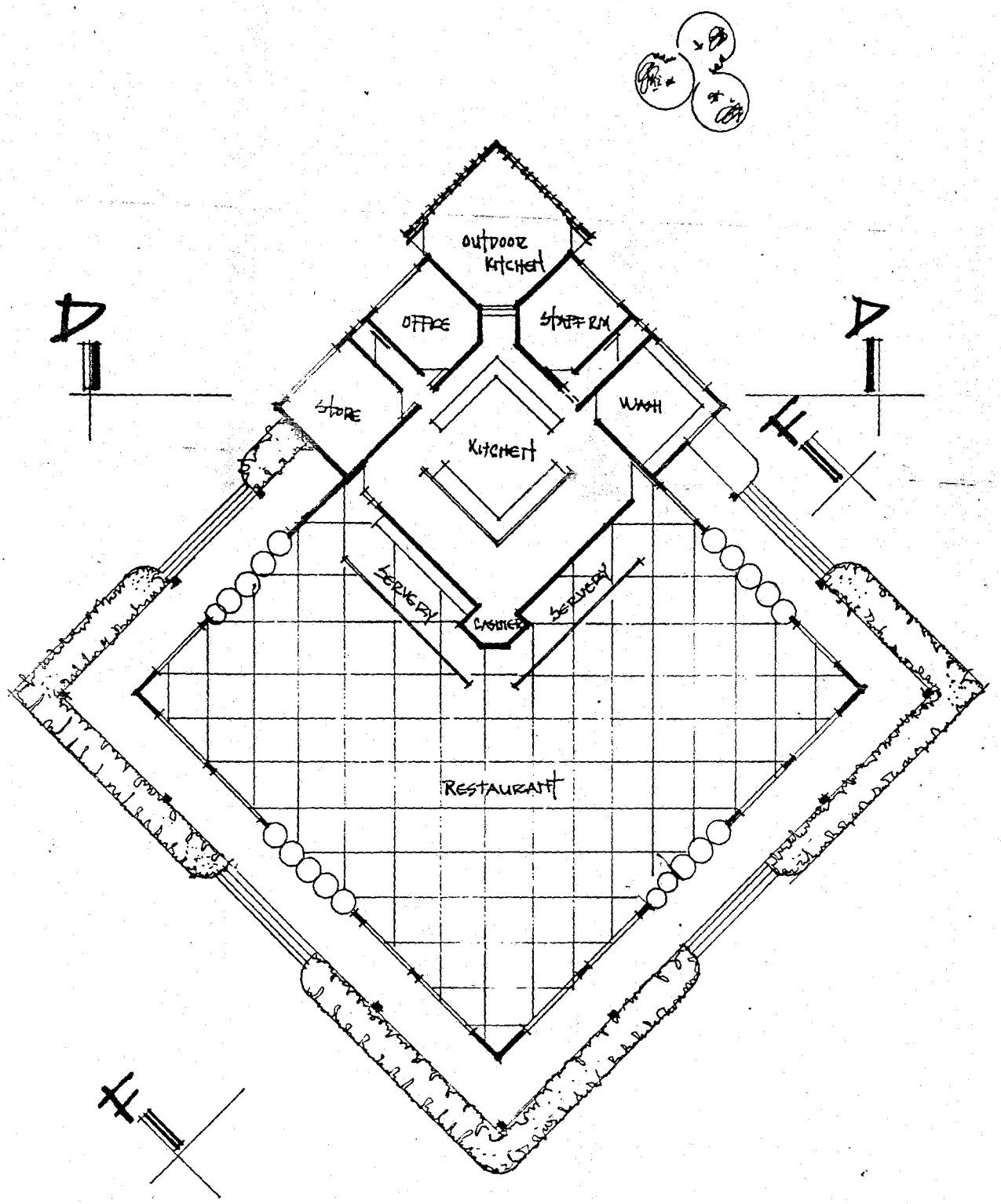
FILM STUDI



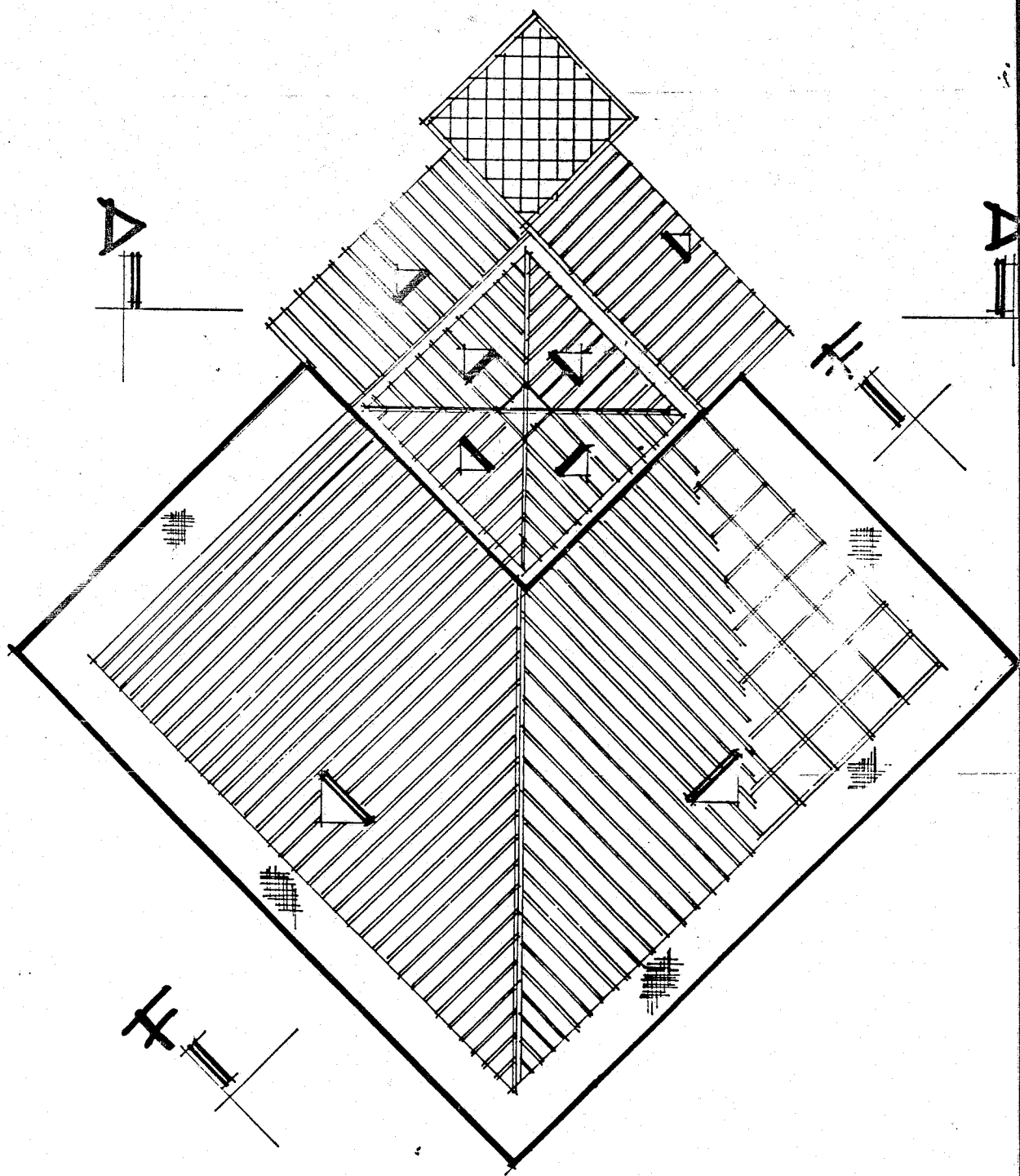
SECTION r-r~FILM REVIEW CENTER

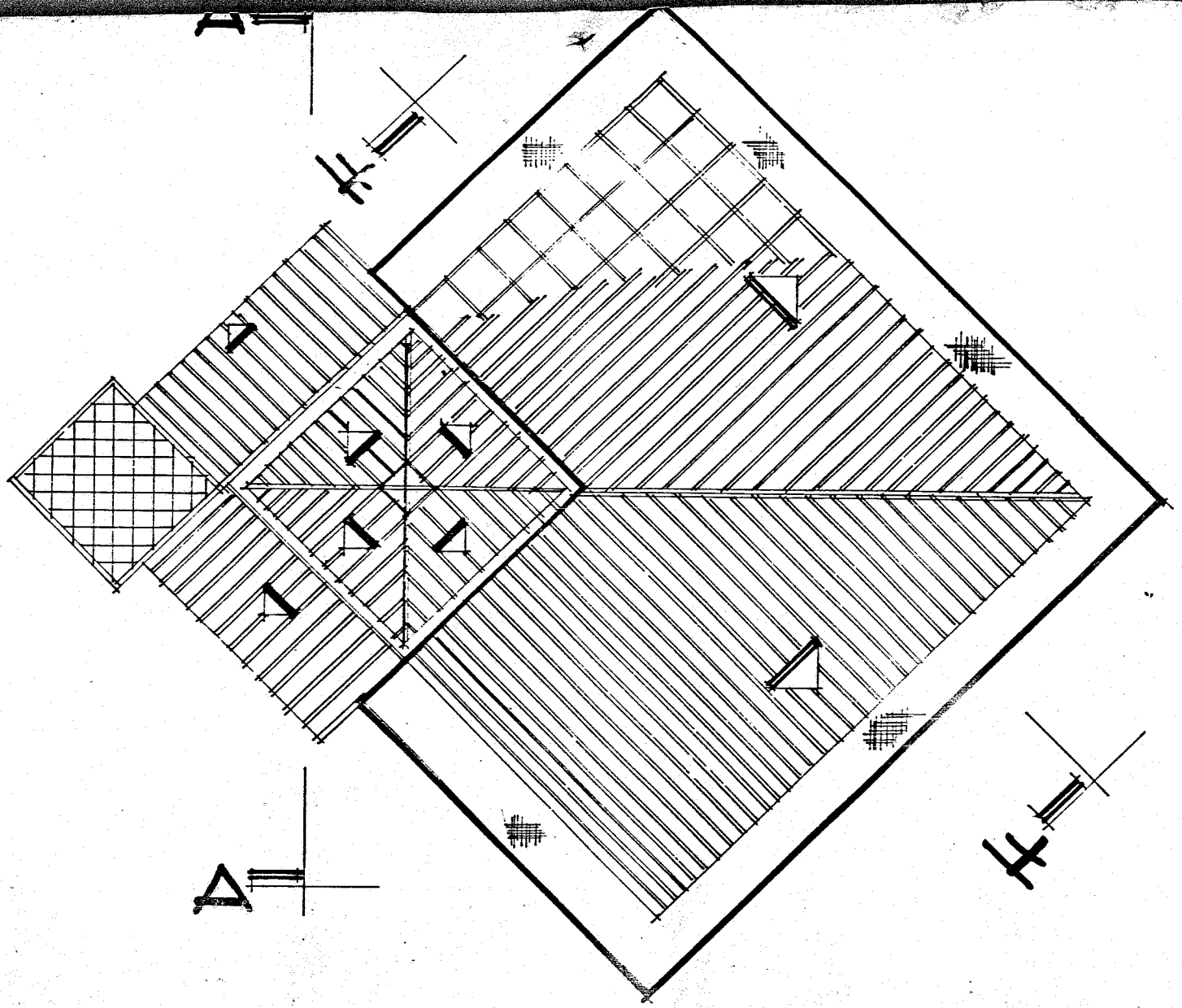
FILM STUDIO 105

HAME
REGI
METH

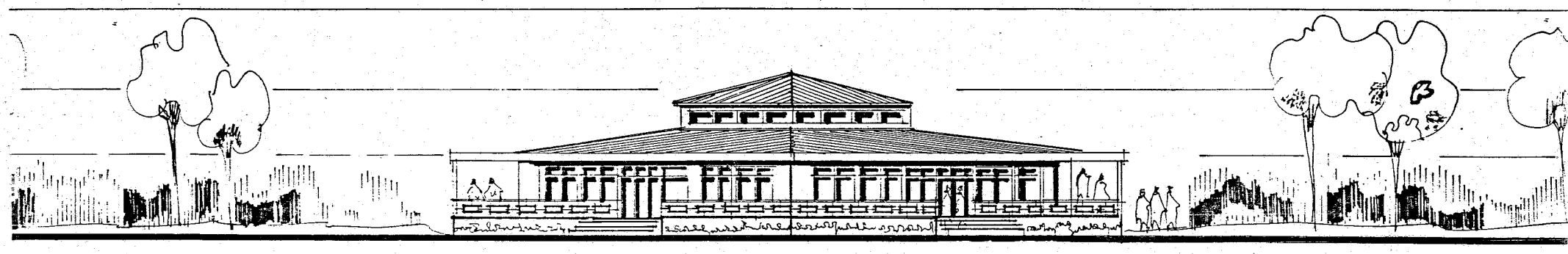


KITCHEN FLOOR PLAN

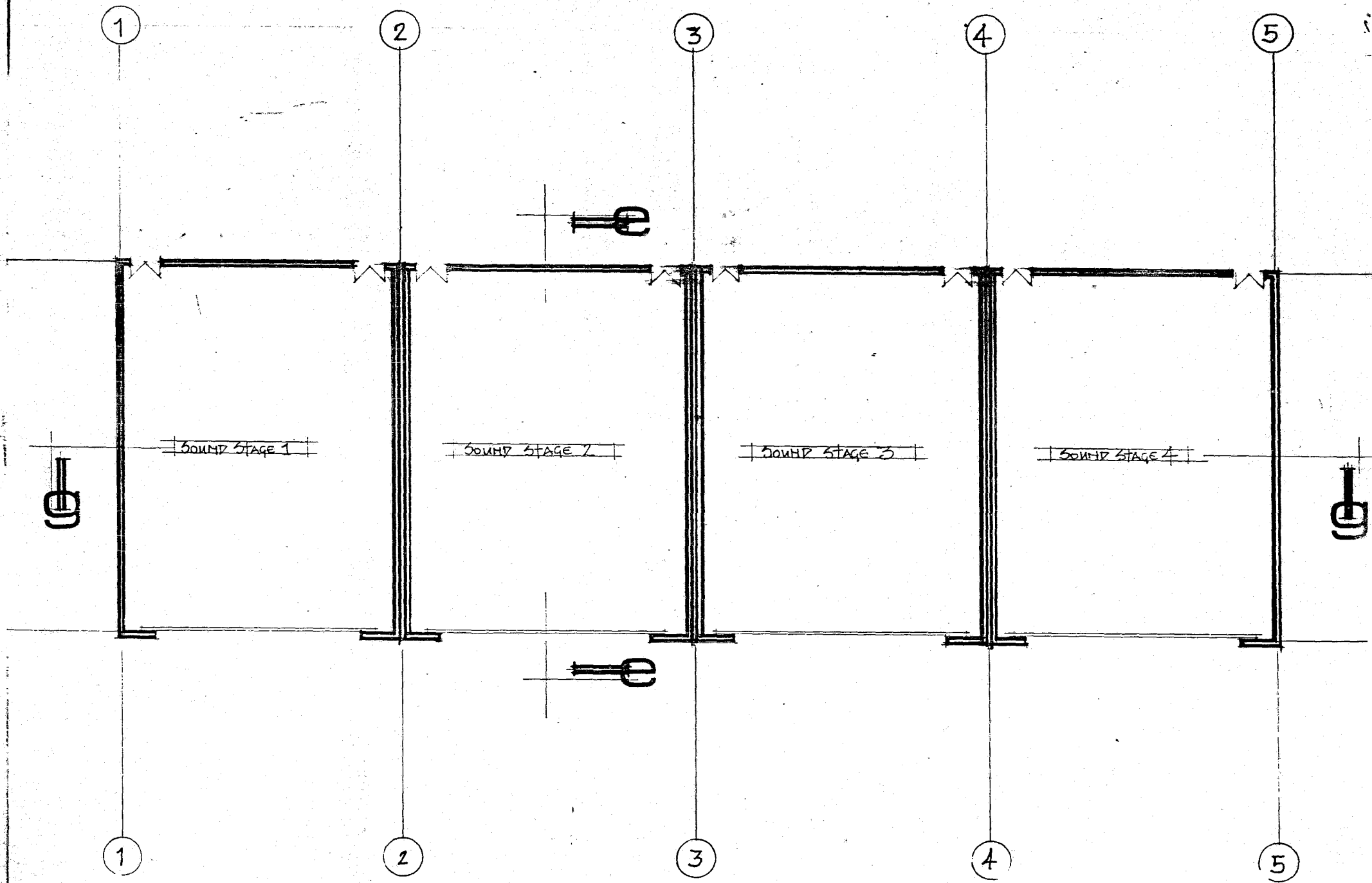



A
A
A
A

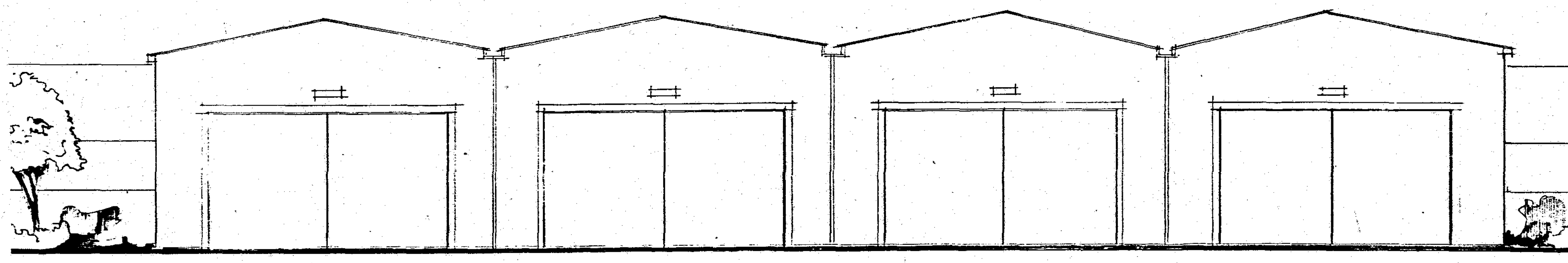
ELEVATIONS



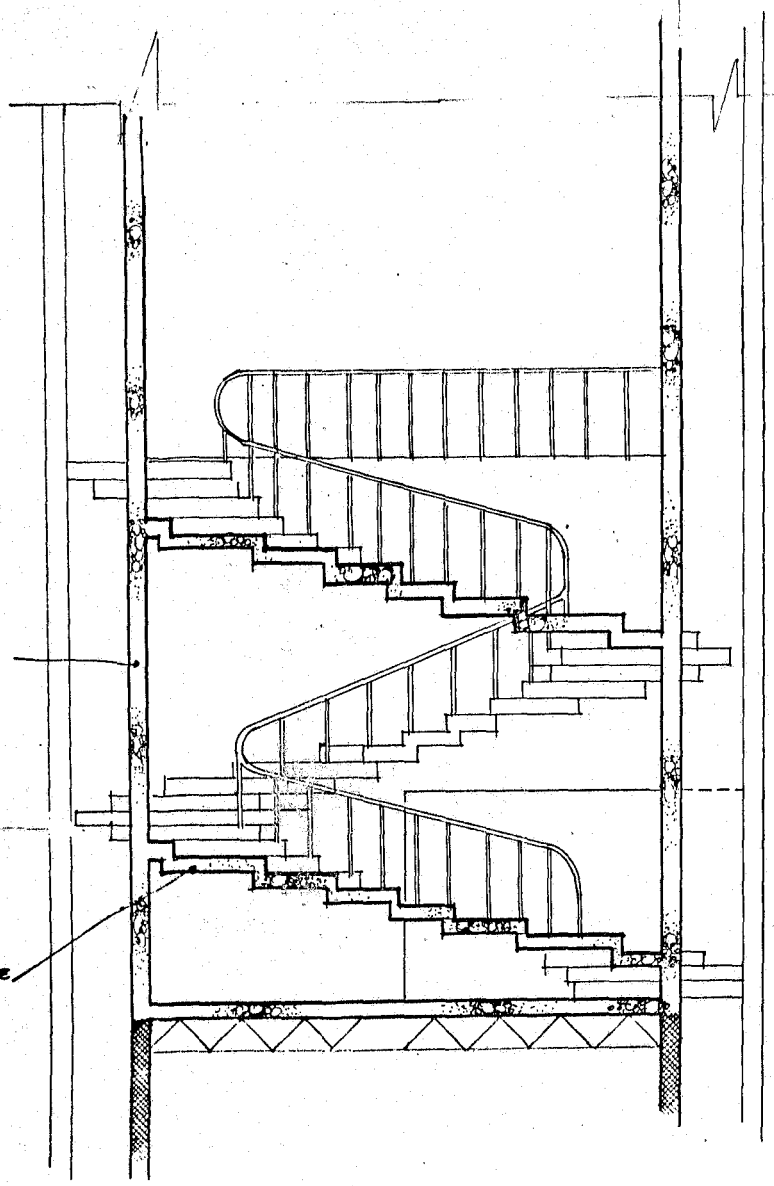
FRONT ELEVATION — CANTEEN

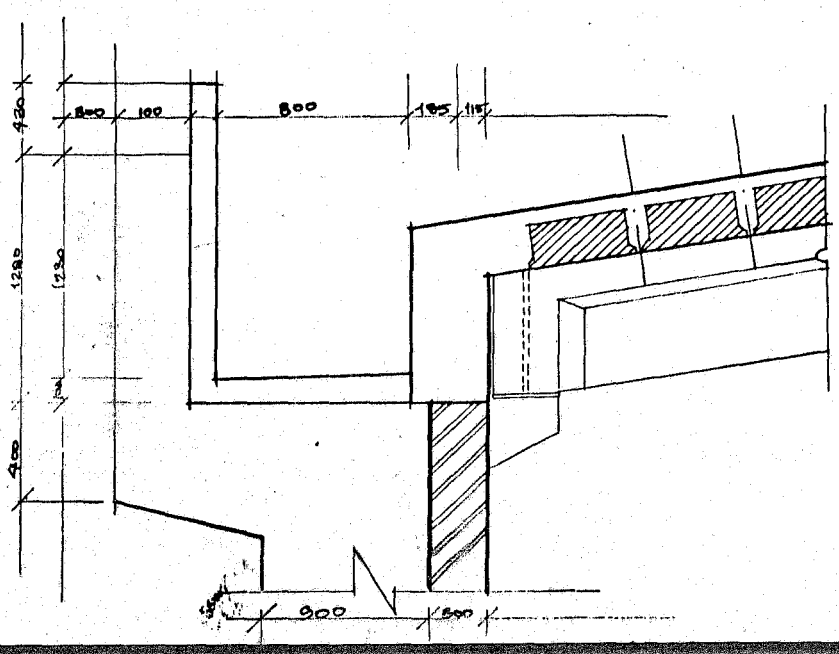

1
2
3
4
5
SOUND STAGE 1
SOUND STAGE 2
SOUND STAGE 3
SOUND STAGE 4
1
2
3
4
5

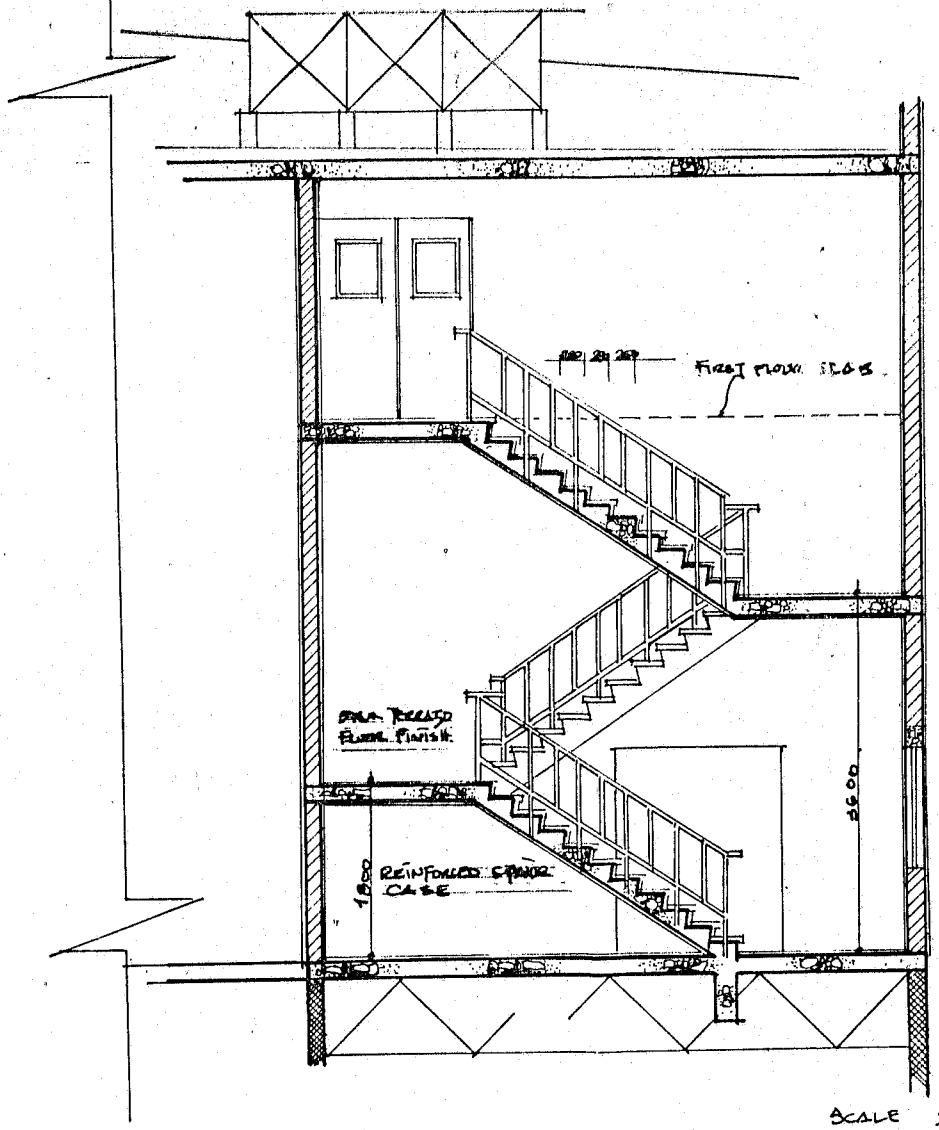
ELEVATIONS



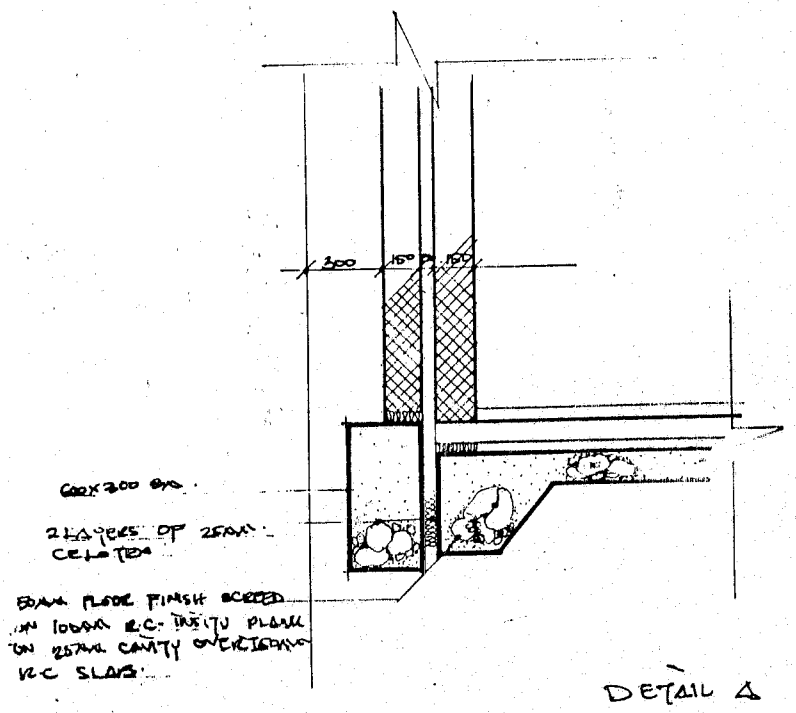
FRONT ELEVATION ~ SOUND STAGE


200mm R.C.
WALL.
STAIR CASE


420
300
100
800
185
115
1290
1290
400
900
300

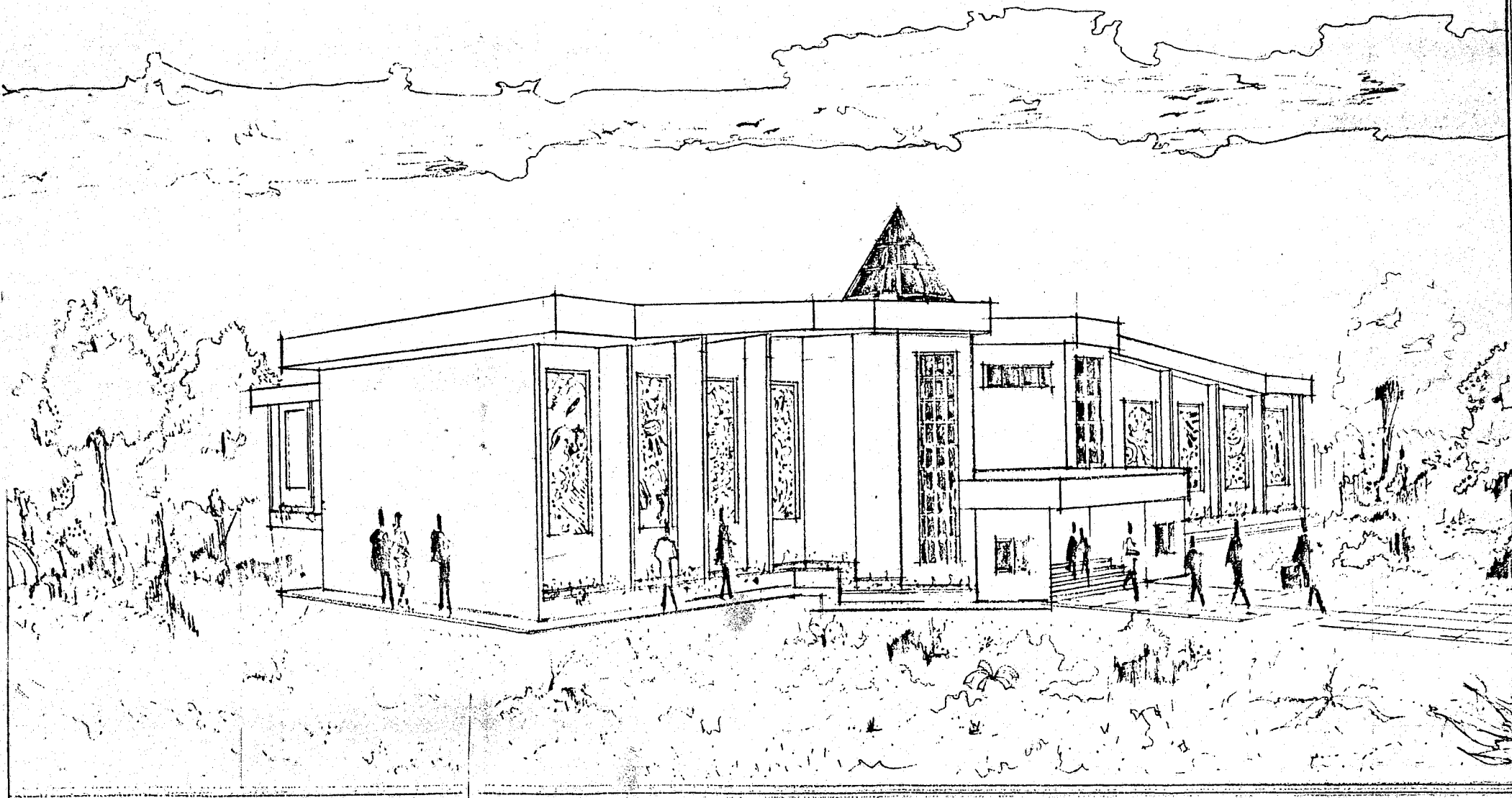


SCALE 1:50



DETAIL A

LM REVIEW CENTER – PERSPECTIVE.



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S. Koletivem Autoru Zpracavali

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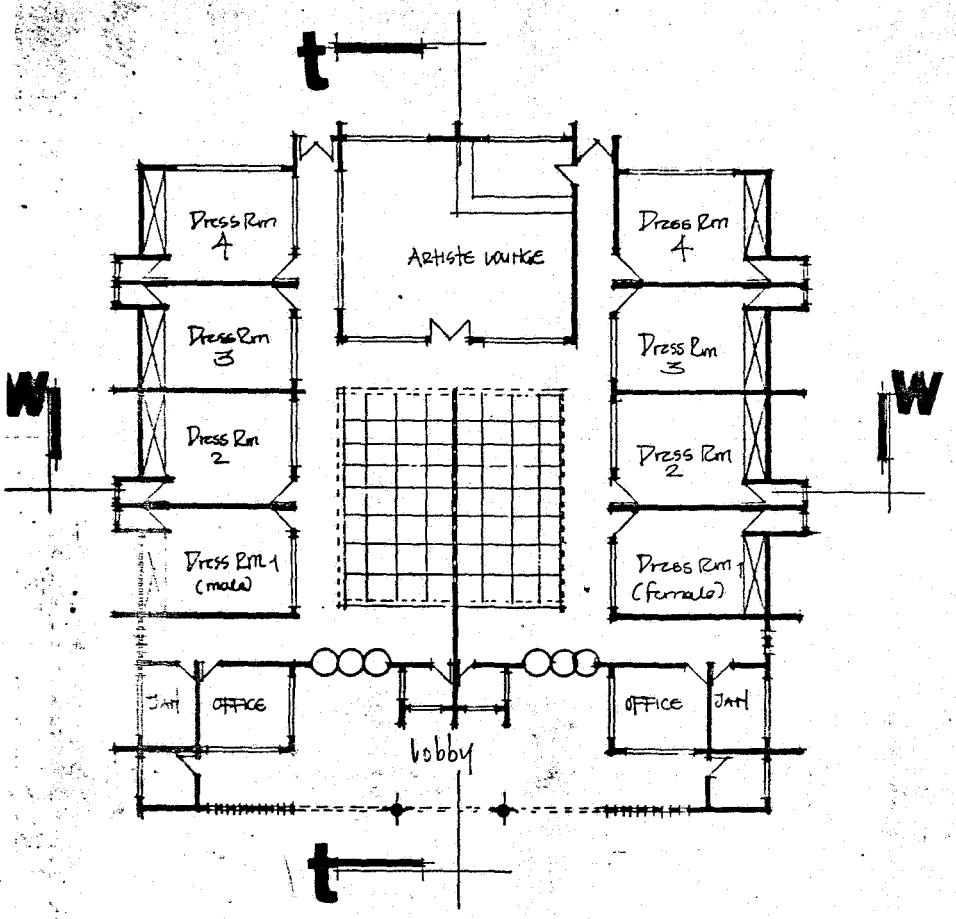
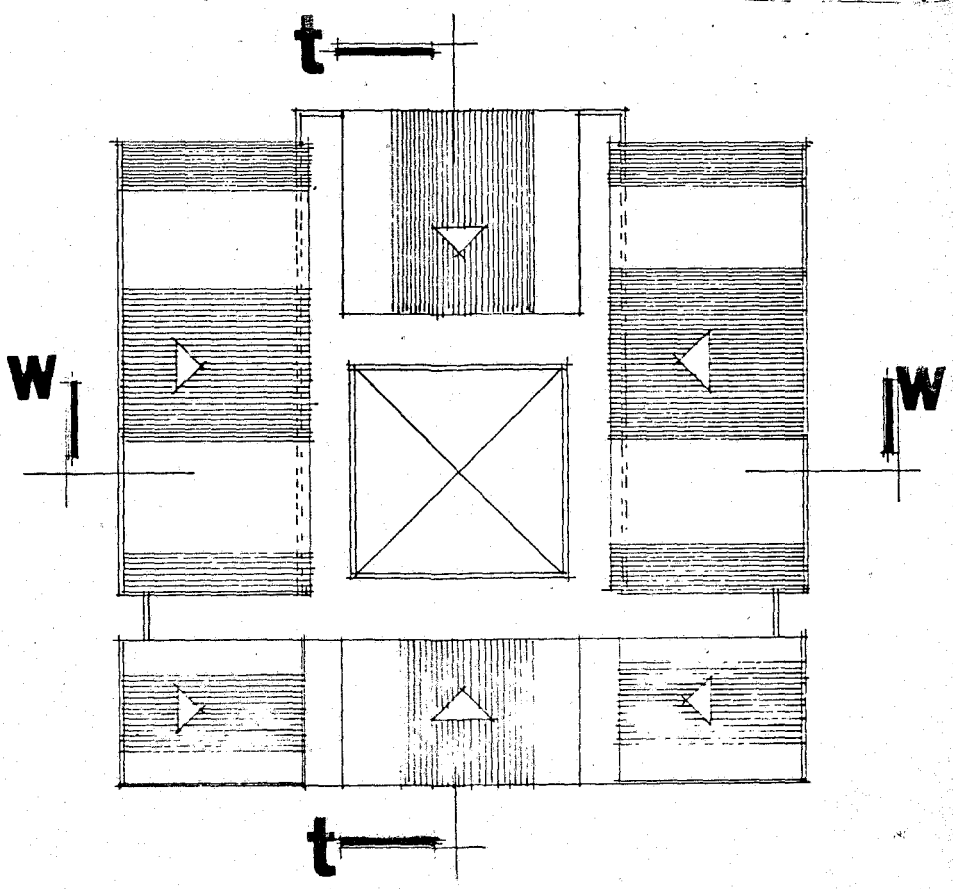
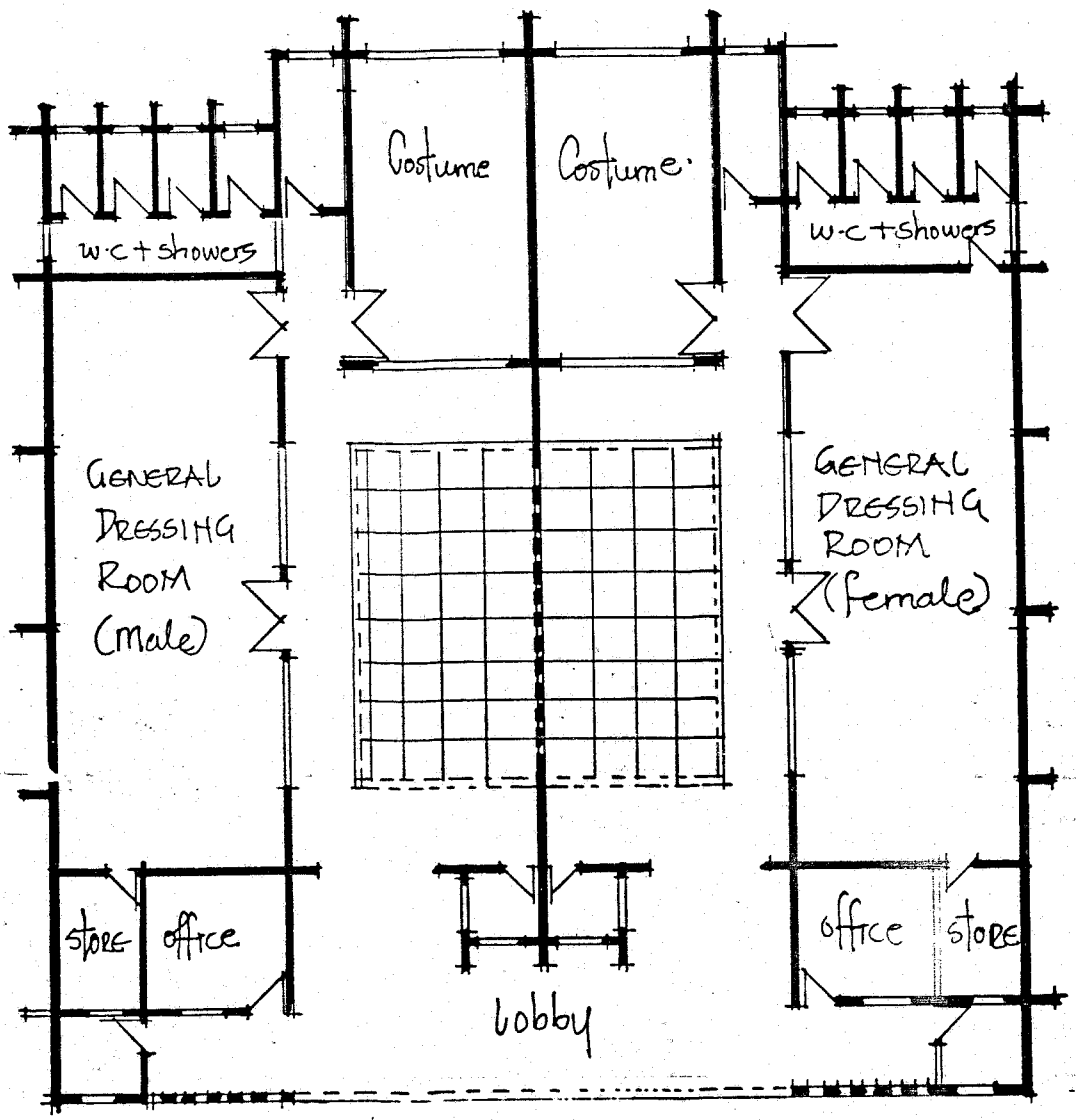


DRESSING RM FOR STARACTORS

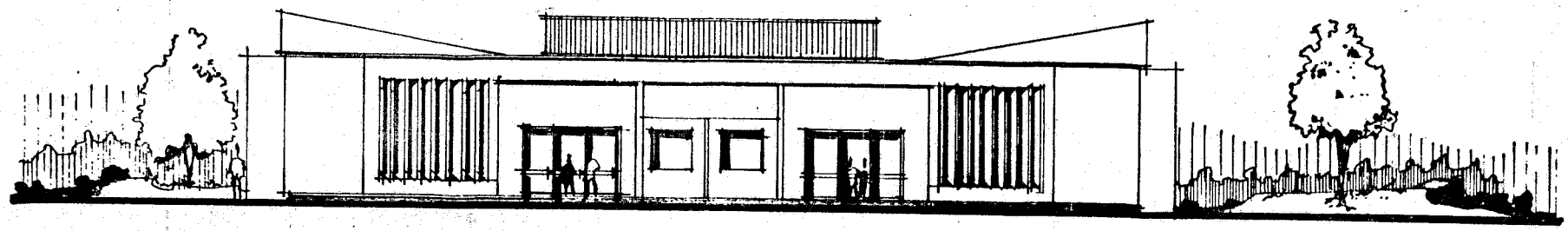


ROOF PLAN FOR DRESSING RMS

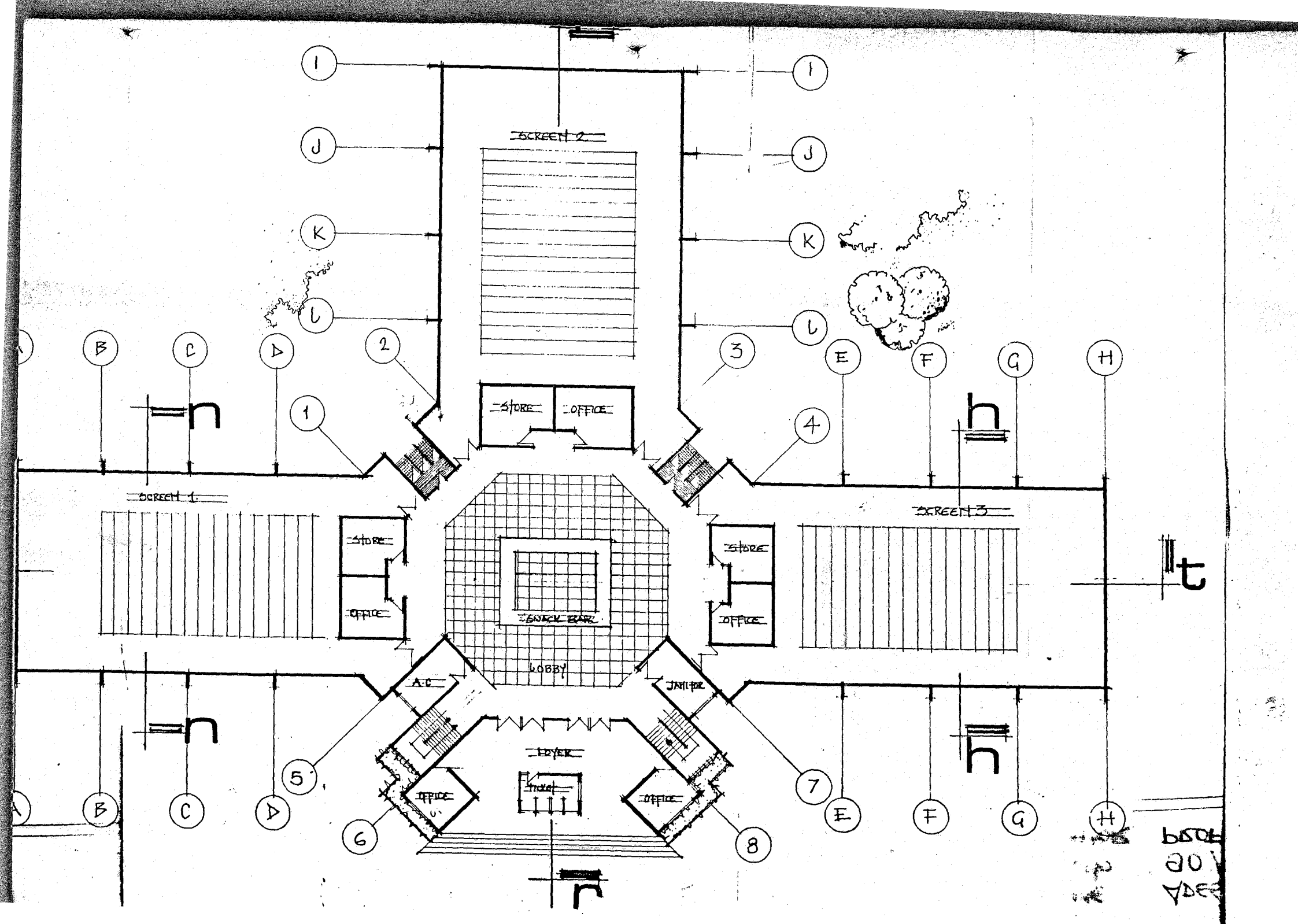
LAN



DRESSING RM FOR ORDINARY ACTORS



FRONT ELEVATION OF CHANGE RMS


SCREEN 2
STORE
OFFICE
SCREEN 1
STORE
OFFICE
SNACK BAR
LOBBY
A.C.
JANITOR
SCREEN 3
STORE
OFFICE
FOYER
TOILET
OFFICE
OFFICE
I
J
K
L
B
C
D
2
1
3
4
E
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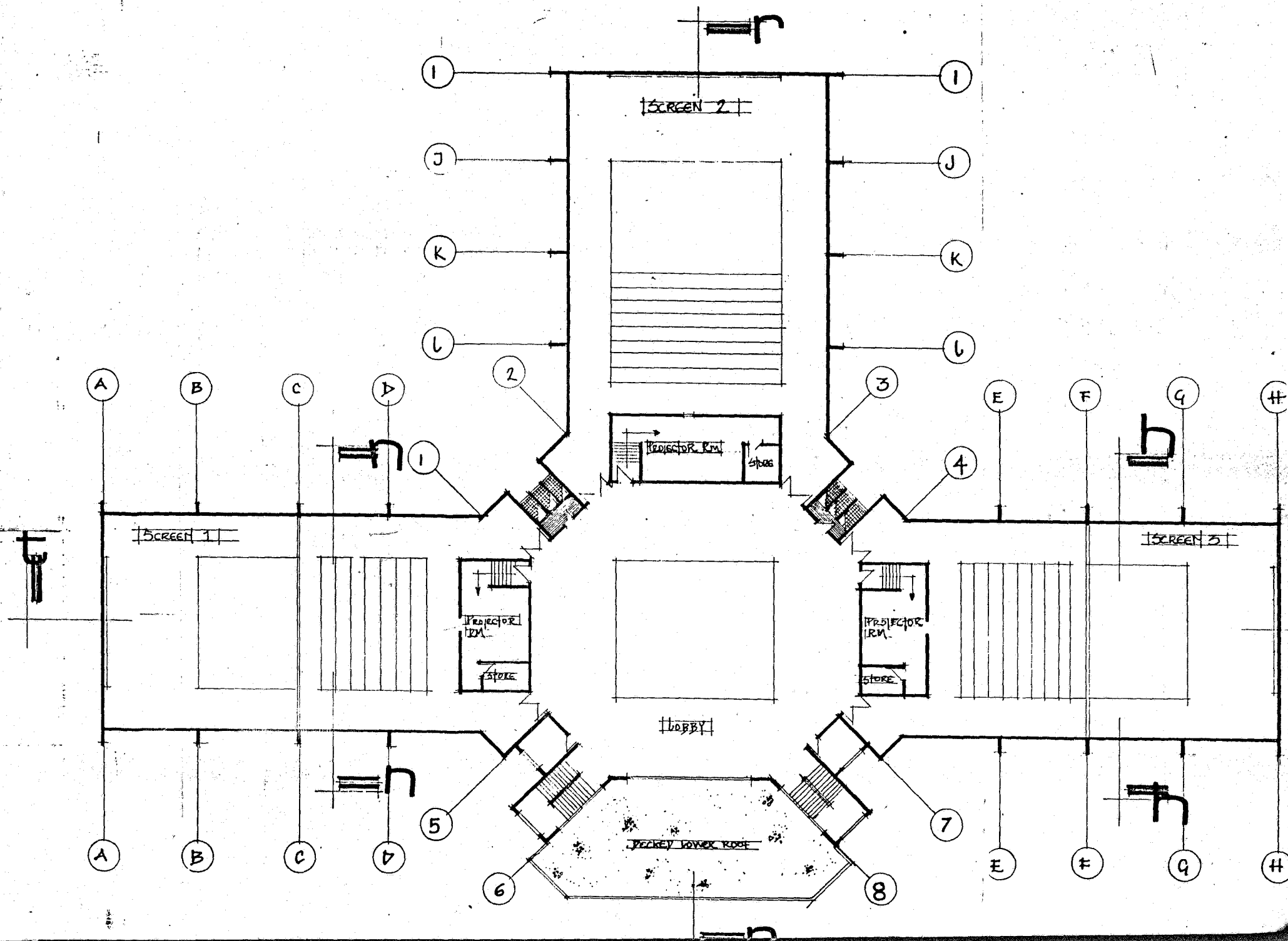
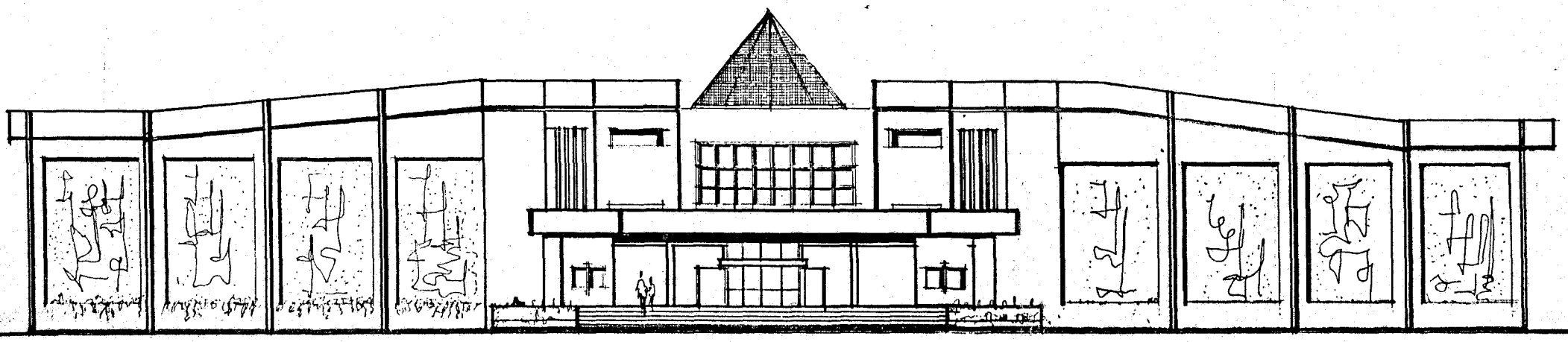
G
H
5
6
7
8


SCREEN 2
SCREEN 1
SCREEN 3
PROJECTOR RM.
STORE
PROJECTOR RM.
STORE
PROJECTOR RM.
STORE
LOBBY
PECKED LOWER ROOF
1
2
3
4
5
6
7
8
A
B
C
D
E
F
G
H
J
K
L

ELEVATIONS



FRONT ELEVATION - FILM REVIEW CENTER