

A Chinese Government Building in Hong Kong

by

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(ABSTRACT)

This thesis proposes a Chinese government building in HONG KONG reflecting the contemporary social, economic and political situation. It includes three parts: First, the study of the building systems of the building which reflect the symbolic idea of a gateway in the Central Business District of Hong Kong; second, the proposal to connect the existing system of elevated footbridges in the urban fabric of CBD in Hong Kong; Third, the implementation of this project by an advanced computer graphics workstation IBM 5080 with the softwares CADAM and ISD.

In this way, the results are elucidated by a series of computer drawings which not only exemplify the architectural design process but also act as guidelines for students interested in computer-aided design.

# Acknowledgements

I would like to thank my advisor Professor Robert N.S. Chiang for his positive guidelines and insights throughout the whole research.

Thanks also to Professor Kilper, Schueller and Jones for their critical comments and useful advice.

Many thanks to my parents for their spiritual and financial support, their understanding and love, to make my dream come true.

Many thanks to \_\_\_\_\_ for her encouragement, her understanding, her patience and her love throughout the past years.

Many thanks to the other members of my family for their care of my Mom and Dad while I have been away.

Special thanks to Dr.Arvid Myklebust, Heiner Schnoedt and Yuk Piu Tsang for their influence which gave me inspiration and motivation on Computer-Aided Design.

Thanks also to my friends in Cowgill, CAD/CAM lab., and in HONG KONG.

Finally, I thank God for His creation of Orders in the Universe for the human beings to follow, especially, the Order of Achievement.

# Table of Contents

<b>INTRODUCTION</b> .....	<b>1</b>
History and Location of Hong Kong .....	1
Objectives .....	2
Scope of study .....	2
<b>SITE AND CONTEXT</b> .....	<b>3</b>
<b>DESIGN CONCEPT</b> .....	<b>6</b>
The Tangible .....	6
The Intangible-Feng Shui .....	7
<b>THE GOVERNMENT OFFICE BUILDING</b> .....	<b>8</b>
The Building program .....	8
The Building Systems .....	10
Superstructure .....	10
Mechanical Systems .....	12
Seawater Intake Cooling System .....	13
Vertical Circulation System .....	14
<b>DISCUSSION OF THE COMPUTER APPLICATION IN ARCHITECTURAL DESIGN PROCESS</b>	<b>15</b>
<b>CONCLUSION</b> .....	<b>16</b>
<b>BIBLIOGRAPHY</b> .....	<b>17</b>
<b>APPENDIX</b> .....	<b>18</b>
<b>VITA</b> .....	<b>25</b>

# INTRODUCTION

## History and Location of Hong Kong

History has shown that people have lived in HONG KONG from primitive times, but the population was sparse up to the 19th century. Small villages maintained themselves by fishing, farming and hunting. The territory's greatest natural asset is its harbour. Because of the asset, the British Colony of HONG KONG was established in 1842 as a place from which to trade with China, and ships from many parts of the world started filling the Victoria Harbour. For the next 100 years, HONG KONG earned its livelihood as an entrepot to China. In the 1950's, after a period of economic stagnation caused by the United Nations Embargo on trade with China, it diversified and began to develop its industries.

The growth and the changing structure of the population, which led to the development of large and diverse financial and commercial sectors. Following the successful conclusion of the Sino-British negotiations in 1985, HONG KONG will be returned to China after 1997. From that time HONG KONG will remain politically unchanged for 50 years. This joint declaration accompanies a marked upturn in trade, industry and business activity in general, which engendered a more optimistic outlook to replace the political uncertainty that had earlier weighed upon many aspects of life in HONG KONG.

This trend is reflected by the major developments to improve the infrastructure of HONG KONG. For example, the construction of new Hong Kong and Shanghai bank and the Bank of China Headquarters has consolidated the existing financial and economical situation of contemporary HONG KONG. These important developments also help to promote a wider international understanding of HONG KONG and give a fresh emphasis to HONG KONG's continued commitment to the future. Therefore, the development of a new government office building for China after 1997 is necessary in order to serve as headquarters for the new political regime.

Victoria, the capital of Hong Kong and the centre of commerce, on the north side of Hong Kong Island. Victoria and Kowloon form twin cities facing each other across one of the most spectacular harbors in the world. The two cities are 90 miles southeast of Canton, 40 miles east of Portuguese Macau, and 70 nautical miles south of the Tropic of Cancer. With Hong Kong Island and its adjacent islets covering 29.2 square miles, Hong Kong's total land area is 404 square miles including recent reclamation.<sup>1</sup>

<sup>1</sup> Hong Kong 1985



Figure 1. HONG KONG at 1845

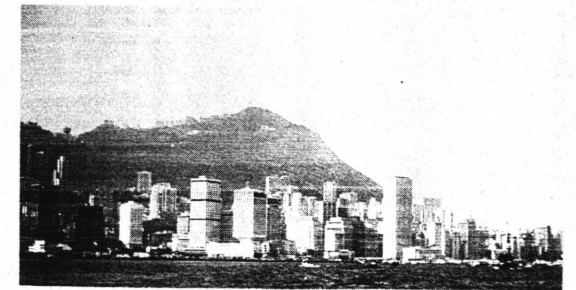


Figure 2. Today's HONG KONG

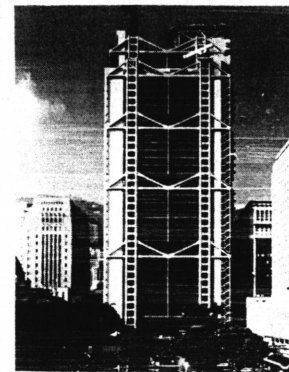


Figure 3. Hong Kong and Shanghai Bank Headquarters.

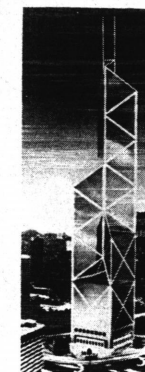


Figure 4. Bank of China Headquarters.

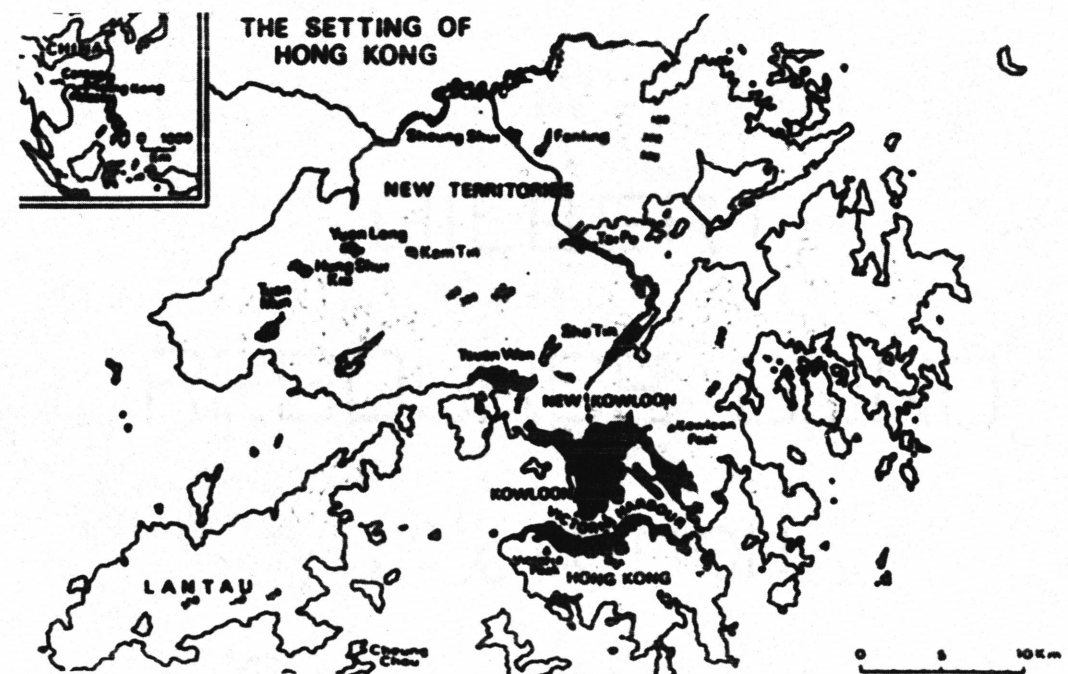


Figure 5. Geographical location of HONG KONG

## **Objectives**

1. *To reflect the contemporary social, economic and political situation in HONG KONG.*
2. *To develop a government office building for China after 1997 which would reinforce the symbolic idea of the Urban gateway.*
3. *To create an urban corridor in the heart of the Central Business District in order to complete a closed network of walkways through all major office buildings and improve the pedestrian traffic condition.*
4. *To explore the potential of the CAD system in the design and presentation process.*

## **Scope of study**

1. *The study of the overall development of the government office building.*
2. *The study of the closed network of the pedestrian walkways will be considered in the master plan.*
3. *Discussion of the implication of CAD in this project.*

# SITE AND CONTEXT

The site was originally a three-storey carpark near the waterfront of the Victoria Harbour. It has Hong Kong City Hall on its east, Connaught Centre on its west and Statue Square on its south. In addition, it lies on a strong north-south axis with the Hong Kong and Shanghai Bank to the south and the Victoria Harbour to the north. Statue Square is the principal open space for the public and acts as an "urban oasis" in the central business district. Not only do many people use it as a thoroughfare from Star Ferry to the public transport in the heart of the CBD, but it is also heavily used for recreation and tourism. Therefore, geographically the site functions as a significant entrance gateway to the inner part of the central business district.<sup>2</sup>

## 1. Existing elevated pedestrian walkway systems

The existing elevated footbridge system is one of the urban design product in the CBD of HONG KONG. Owing to the inadequate areas of the sidewalks in the ground floor level, it helps to solve the human traffic circulation problem by connecting all major commercial buildings in the CBD. Besides that, the ferry piers on the water front discharge a huge amount of people to the CBD from Kowloon and the other islands in HONG KONG. Therefore, the existing elevated footbridge system plays an important role in the Central Business District of HONG KONG.



Figure 6. Existing 3-storey carpark



Figure 7. View from HONG KONG City Hall



Figure 8. View from Statue Square



Figure 9. Buildings adjacent to Statue Square



Figure 10. Hong Kong Club

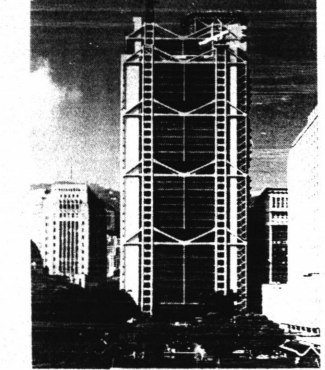


Figure 11. Hong Kong and Shanghai Bank

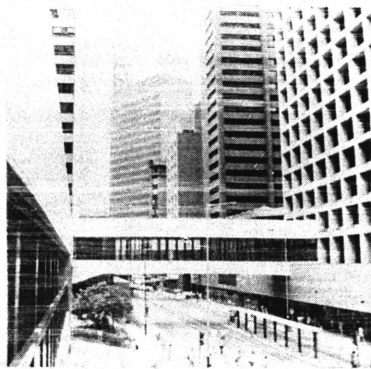


Figure 12. Existing elevated footbridge in CBD

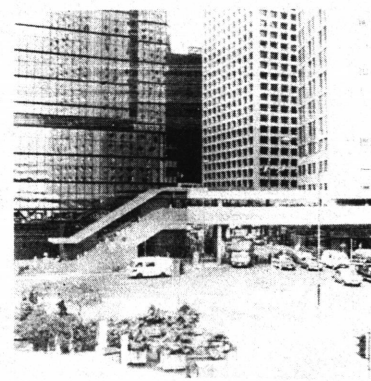


Figure 13. Existing Footbridge along Connaught Road

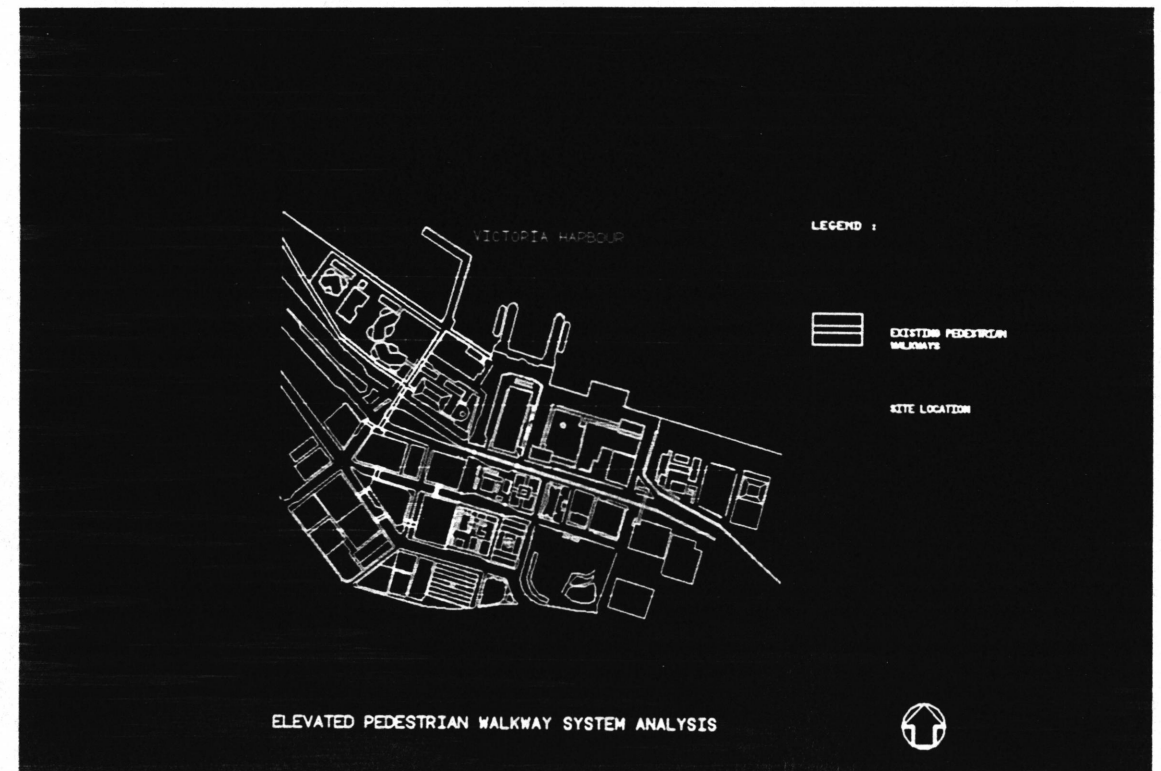


Figure 14. Graphic analysis by CAD system

<sup>2</sup> A Re-evaluation of Tall Buildings

## 2. Pedestrian movement towards the site

There is a considerable amount of pedestrian traffic from Star Ferry to Des Voeux Road. Despite the opening of the Mass Transit Railway, heavy movement through Statue Square from the Star Ferry continues up to the midlevel of the island. However, the extensive elevated pedestrian network currently being developed in the central business district does not offer direct access to the Statue Square.<sup>3</sup>



Figure 15. View of underground walkway towards the site



Figure 16. Human movement through the Statue Square

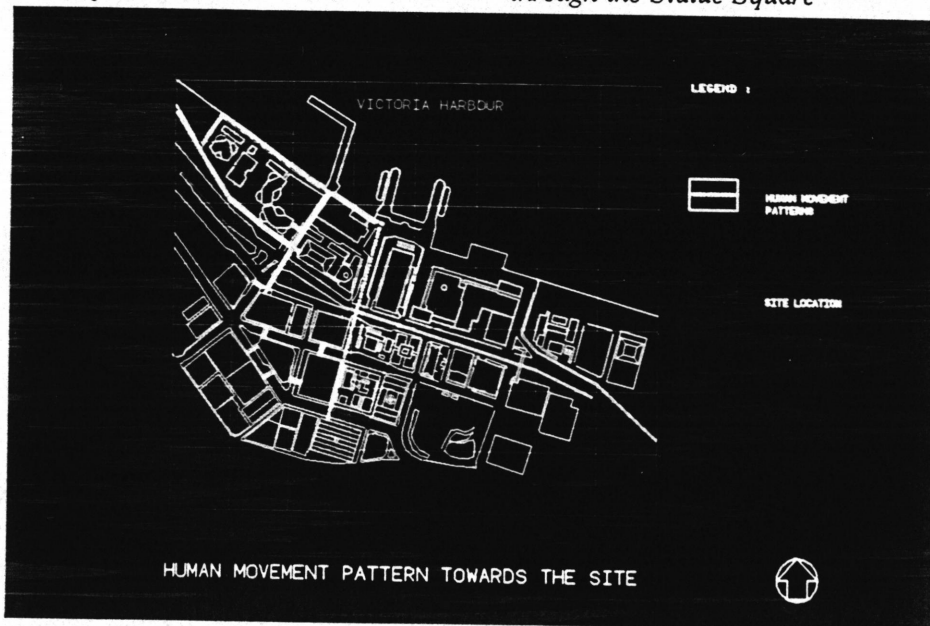


Figure 17. Graphic analysis by CAD system

## 3. Vehicle and public transport movement

Des Voeux Road is used by buses and trams (streetcars) only, with restricted access for service and other vehicles. Buses and trams provide the main east-west public transport on the island. Chater Road is a one-way thoroughfare that separates the Statue Square in two. Beneath Chater Road is the largest station of the new Mass Transit Railway system. The system links the island to Kowloon and the New Territories. Connaught Road is another one-way traffic route that separates the site and the Statue Square.<sup>4</sup>

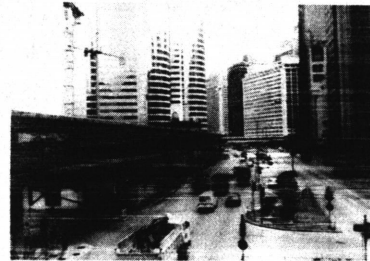


Figure 18. Transportation facilities in CBD



Figure 19. Mass Transit Railway Station

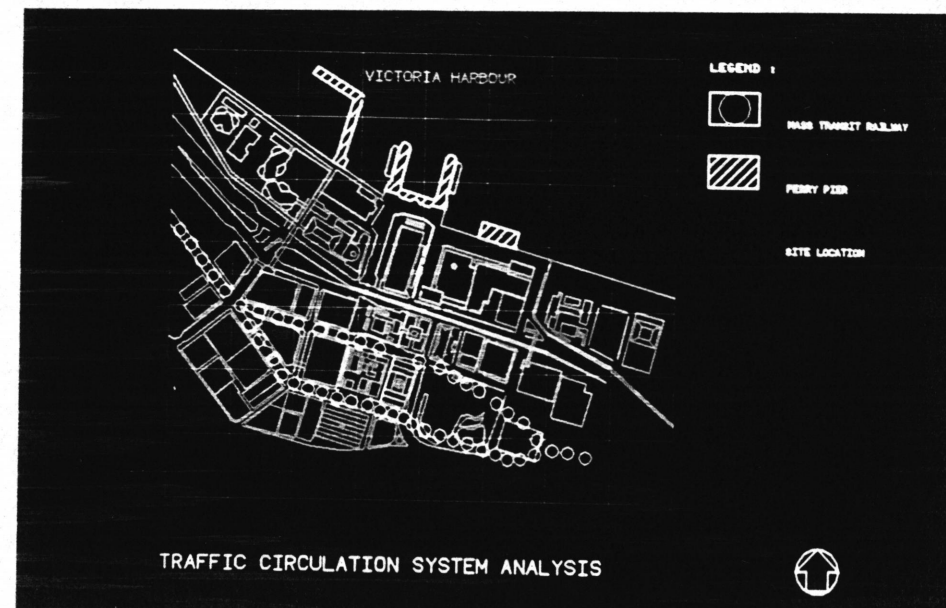


Figure 20. Graphic analysis by CAD system

<sup>3</sup> A Re-evaluation of Tall Buildings

<sup>4</sup> A Re-evaluation of Tall Buildings  
SITE AND CONTEXT

#### 4. Building Types

Primarily, all the buildings in the study areas are commercial buildings. Besides that, there is a supreme court house, two hotels, two car parks and the Statue Square. In addition, the areas along the water front are mainly used by government, such as : the British Navy Headquarters, the HONG KONG City Hall and the Post Office Headquarters. Therefore, the location of the existing 3-storey carpark is very suitable for the development of the new Chinese Government Office Building.<sup>5</sup>

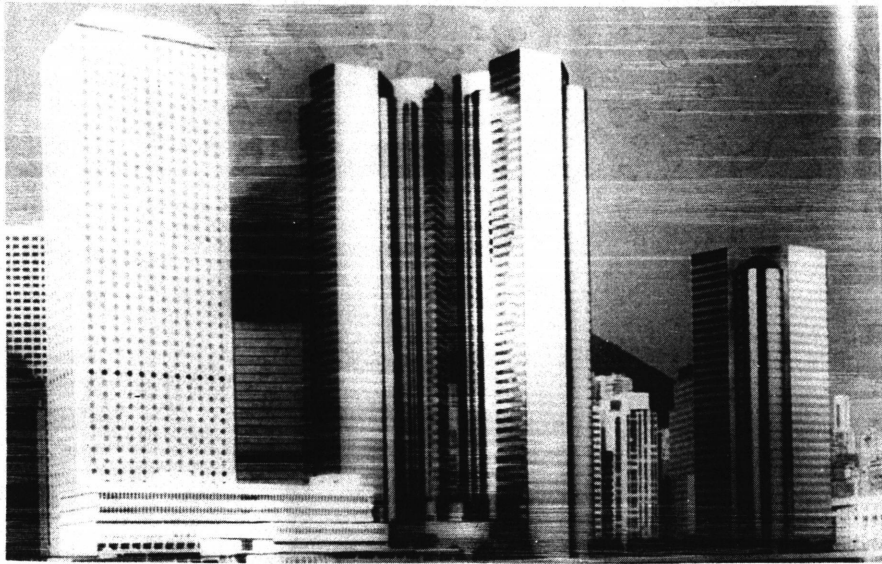


Figure 21. Building types in CBD



Figure 22. Graphic analysis by CAD system

<sup>5</sup> A Re-evaluation of Tall Buildings

#### 5. Proposed closed network of the pedestrian walkways

An elevated footbridge will be developed through the new government office building, starting at one end of the waterfront promenade and ending in the Statue Square next to the Des Voeus Road. Pedestrians can use the Mass Transit Station in the proximity of the Statue Square as a connection to all major office buildings in the CBD. At the same time, the divided Statue Squares will be linked together as a unique open space.

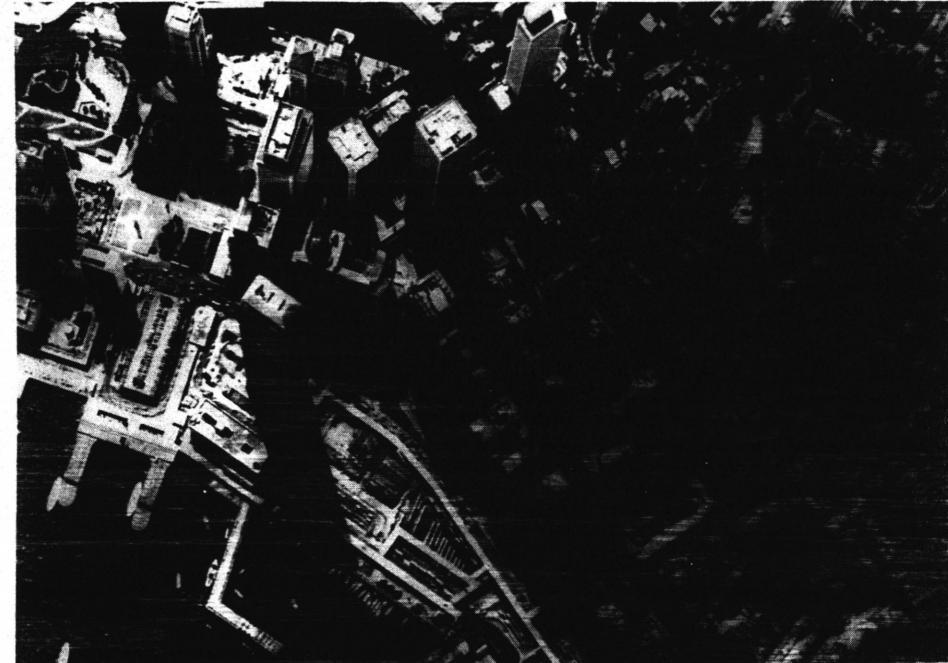


Figure 23. Bird view of CBD

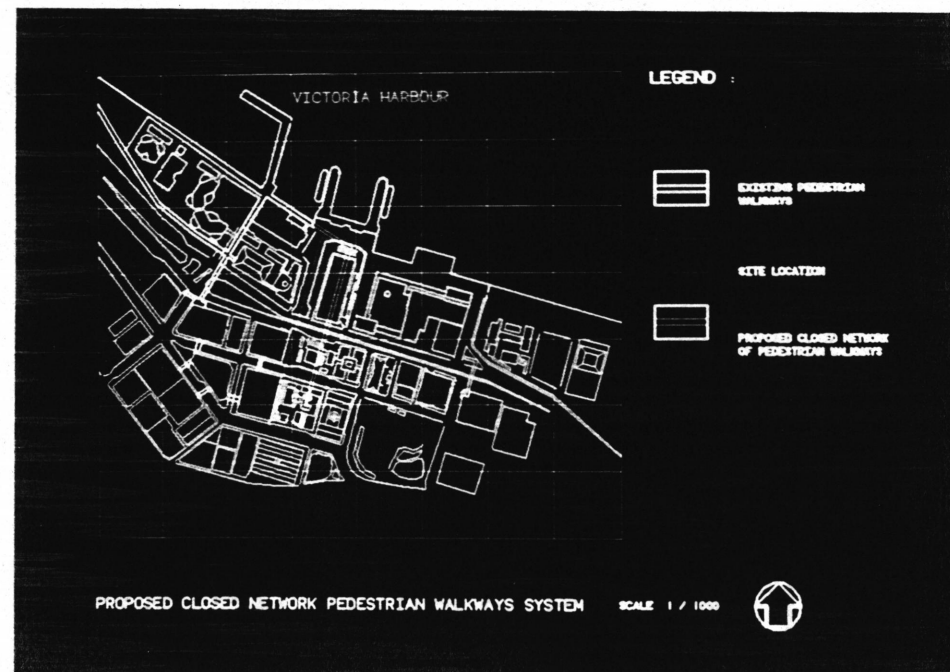


Figure 24. Graphic analysis by CAD system.

# DESIGN CONCEPT

## *The Tangible*

### 1. *The Urban Corridor (Street)*

Traditionally, there are fewer plazas and squares in Oriental cities. Their functions are performed by streets. This phenomenon of a street - building relationship is becoming more evident in Asia, especially in HONG KONG, because of the typical street oriented lifestyle and a deficiency in land of the region.

In densely populated HONG KONG, it is impossible for the traditional low-rise building to survive. Urban sites were cleared for new, taller buildings developments. Isolated individual high rise building developments, like tombstones, line the streets. The traditional physical-social continuity of the street fabric was obliterated.

Furthermore, because of the architectural and structural purity, the ground floor level of most high-rise buildings is non-people oriented. Successful high-rise buildings can exist only if we reconsider the relationship between the ground floor level and its proximity, surrender this spaces back to the streets through the use of human scale.

Streets play a dual functions of traffic facility and living areas. In other words, buildings and city are intermingled. The coexistence does not mean the resolution of a conflict or a compromise. It is rather to exist side by side due to the presence of the third element. The Chinese philosopher Laotze signified the continuity of universe, the heaven and the earth, which performed the permanent transformation. Men are the third element who linked the heaven and earth to coexist with each other.<sup>6</sup>

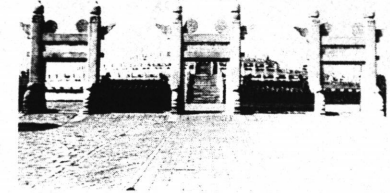
The street provides an organic connection between the exterior and the interior. At the same time, street provides a place for the people to mix and communicate. As a result, a situation of street integrated with architecture and architecture containing street will be engendered.

Streets can provide urban movement which cause transformation and keep the city alive. Only transformation can provide room for the plurality of interpretation that extends the creativity of human beings to the other new horizon.<sup>7</sup>

In order to reinforce the idea of the urban corridor, a symmetrical geometry of the building is created to act as an urban gateway. It will become a transitional space, a point of arrival and a point for departure.

<sup>6</sup> Metabolism in Architecture

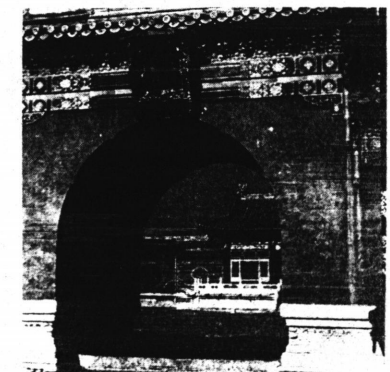
<sup>7</sup> Metabolism in Architecture



*Figure 25. Traditional Chinese Gateway*



*Figure 26. Detail of Chinese doorway*



*Figure 27. View framed by an entrance gateway*

## The Intangible-Feng Shui

Feng Shui (Geomancy) is defined as the art of divining the future for good or ill fortune from the figure suggested by dots or lines placed at random on the earth's surface.

Feng Shui in Chinese means wind and water. It is related to all the geographical features. It stands for the power of natural environment - the wind and the air of the mountains and hills, the streams and the rain, and the composite influences of the natural processes.

Feng Shui originated in China a few thousand years ago. In traditional China, the concept of the location of buildings and dwelling units had great importance. There must be a prescribed siting, dimensioning and orientation of a town or even a dwelling.

The art of divination with regard to Feng Shui is closely related to the harmony of the cosmic breath - YIN and YANG. YIN and YANG are the positive and negative principles of the universal life. According to LAOTZE, the ancient Chinese philosopher, "Good life is supposed to be achieved by man when he is in harmony with the flux of YIN and YANG."<sup>8</sup>

The famous Hong Kong and Shanghai Bank by Norman Foster also had to meet the requirement of Feng Shui. The orientation of the entrance escalators in the ground floor lobby were angled to avoid the bad fortune caused by the evil spirits. The same situation occurs in this project. Both of the buildings line up on the same north east and south west axis. In Feng Shui language, the northeast is said to be "the door of the devil" and the southwest the "back door of the devil". Therefore, this is the reason that the entrance escalators of the Hong Kong and Shanghai Bank were distorted.

In my project, the entrance is not angled. Instead, a huge red verindeel girder is used to support the elevated pedestrian walkway, because straight line is the shortest distance for circulation. This red huge verindeel girder symbolises the mouth of a tiger, which can counteract the bad fortune caused by the orientation of the entrance in the northeast - southwest axis. Red is related to fire and is applied to doors and buildings to symbolise heavenly blessings and happiness. Moreover, the geometry of the plan of the building symbolises the bat which signifies luck, blessing and joy.

On the other hand, the Bank of China by I.M. Pei will not be able to bring good fortune because its acute, pointy edges would slice through the YIN and YANG or the cosmic balance, thus pricking and angering unwary spirits, who would then direct their anger at buildings toward which the triangles pointed.<sup>9</sup>

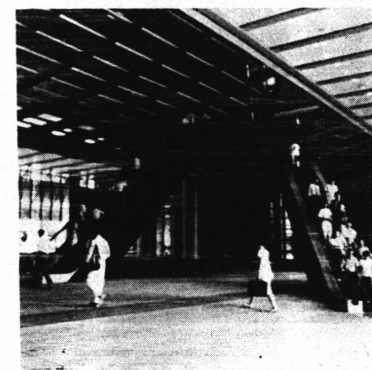


Figure 28. Escalators of H.K. & Shanghai Bank

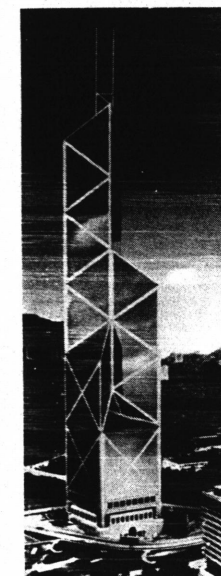


Figure 29. Bank of China Headquarters

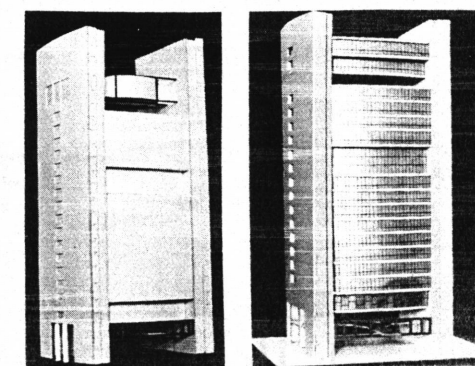


Figure 30. Proposed Chinese government office building

<sup>8</sup> Chinese Geomancy

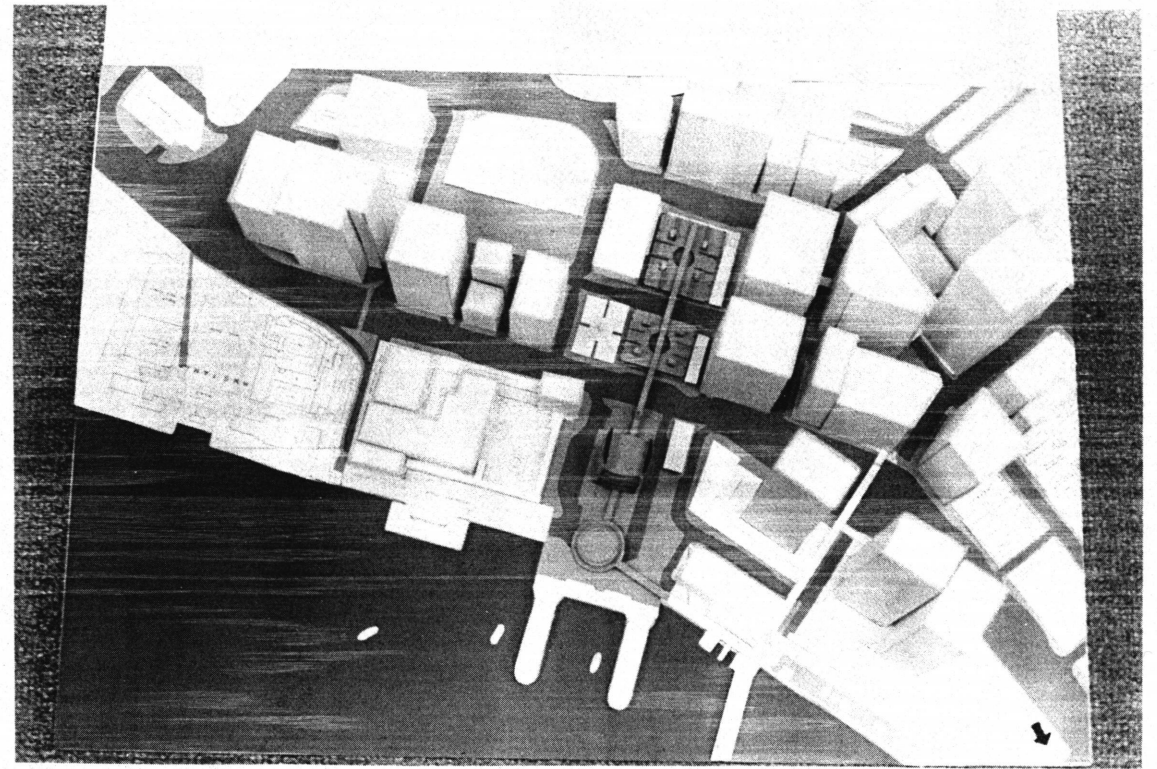
<sup>9</sup> How to keep the Dragons Happy

# THE GOVERNMENT OFFICE BUILDING

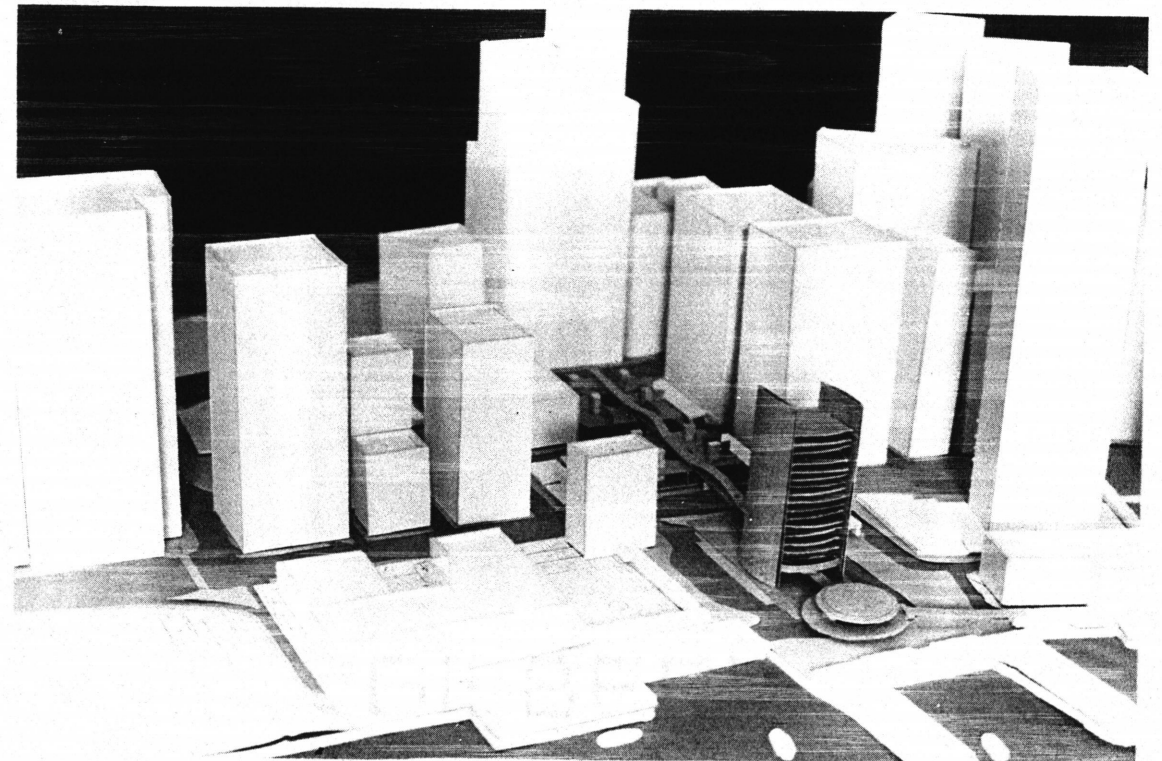
## *The Building program*

A specific program is absent in this project. Therefore, the overall dimension of the building is entirely controlled by the symbolic image of a traditional Chinese gateway and the site geometry. The elevated urban corridor running below the building can bring a feeling of the coexistence of exterior and interior, thus, introduce the third element -exhibition hall in the ground floor.

An area of about 17280 sq.m. is established to accommodate the use of the government building. A restaurant above the elevated urban corridor provides services primarily for the employees. On top of the restaurant are 10 typical office floors to provide services for the public. This may be expanded to meet the future use under the limitations of the existing structural system of the building. Above the office floors is the location of the main computer system floor. On top of this is a 4-storey atrium office areas which provides indirect daylight for the computer floor below. Above the atrium floors is a roof garden which acts also as an observation platform for the public use. At the top level is the conference room.



*Figure 31. Bird view of site model*



*Figure 32. Axonometric view of site model*

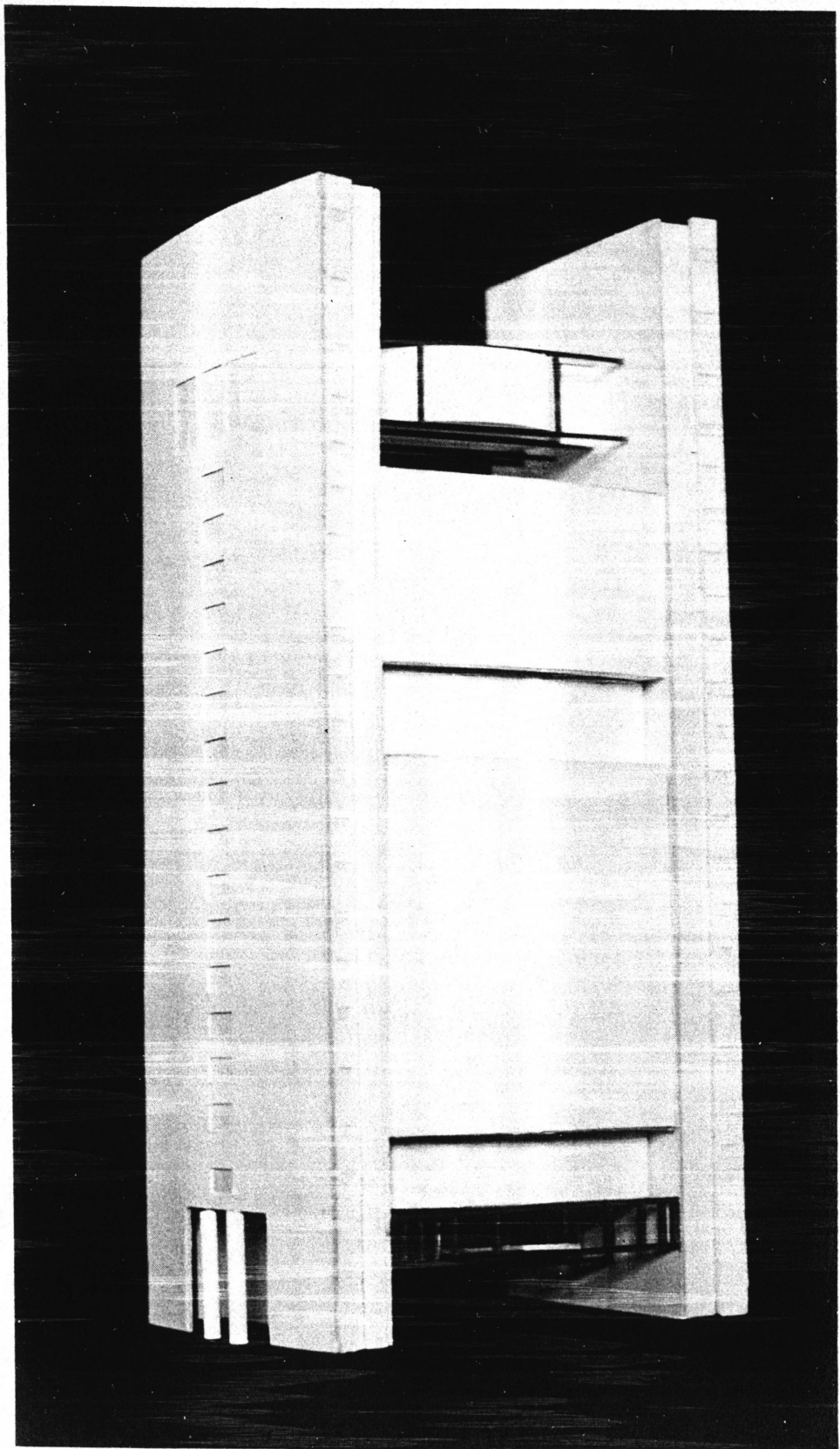


Figure 33. Model of government building (scheme 1)

THE GOVERNMENT OFFICE BUILDING

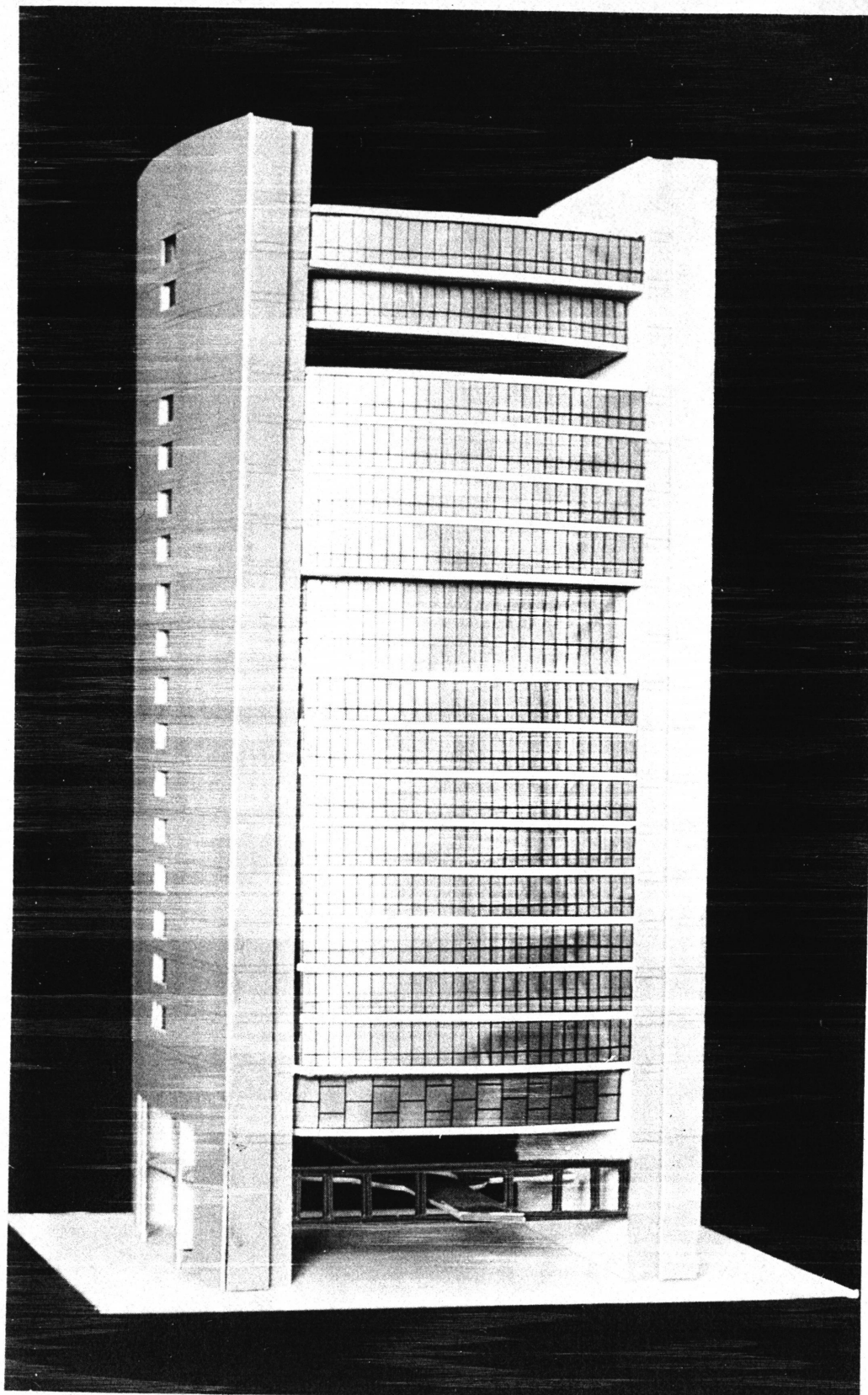


Figure 34. Model of government building (scheme 2)

# The Building Systems

## Superstructure

The superstructure of the building consists of a pair of symmetrical structural cores lying on the east-west axis. The construction method is the cast insitu reinforced concrete throughout the whole building. According to the building code requirement, HONG KONG's wind load is twice as high as New York's, and its earthquake load is three times what it would be in Los Angeles.<sup>10</sup> Therefore, a one-way, pre-tensioned, precast T-beam floor construction with simply supported joints is used to allow for the movement of the building in case of the above hazards. The span of the one-way T-beams is 26 meters with a depth of 900mm running across the two structural cores. The spacing between two ribs is 3 meters, which can accommodate the integration of the other building systems. With the use of the above structural system, a free, open layout will be established due to the absence of structural columns in each floor. Besides that, the advantage of the one-way T-beam floor construction can allow for the increment of structural floor height easily. In the pedestrian walkway level, 4 structural girders are used as support for the elevated circular pedestrian walkway above the ground floor level. The conference room at the top floor employs the same structural concept in the support in one of the schemes.

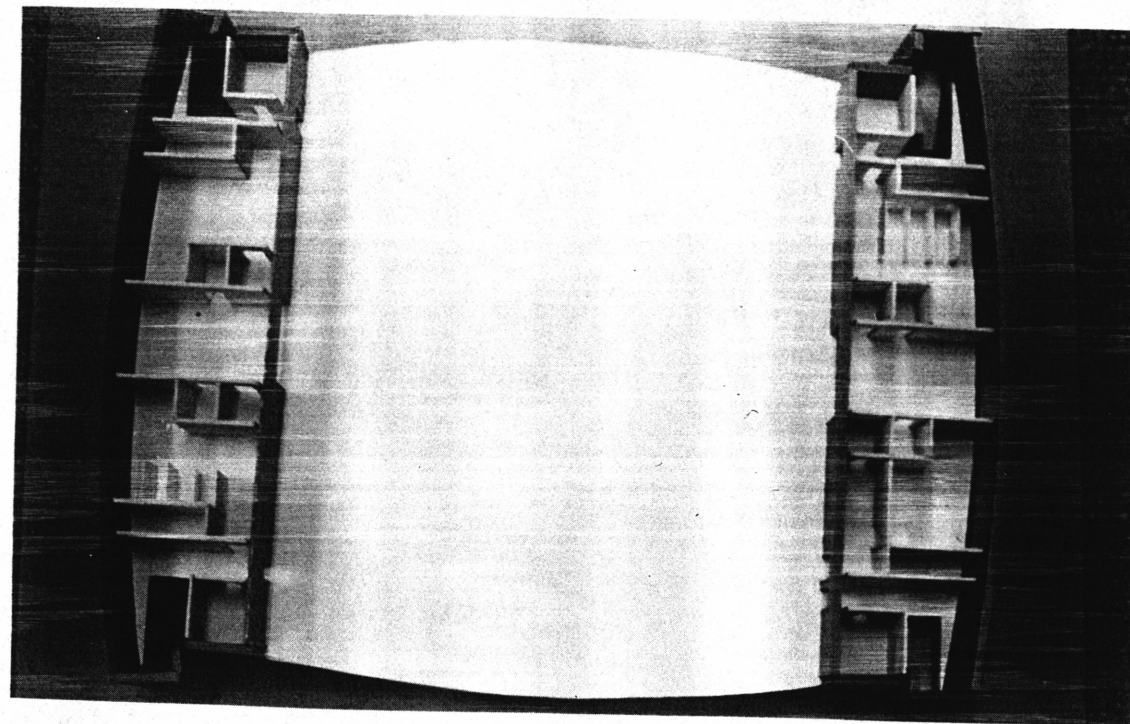


Figure 35. Model of typical floor plan

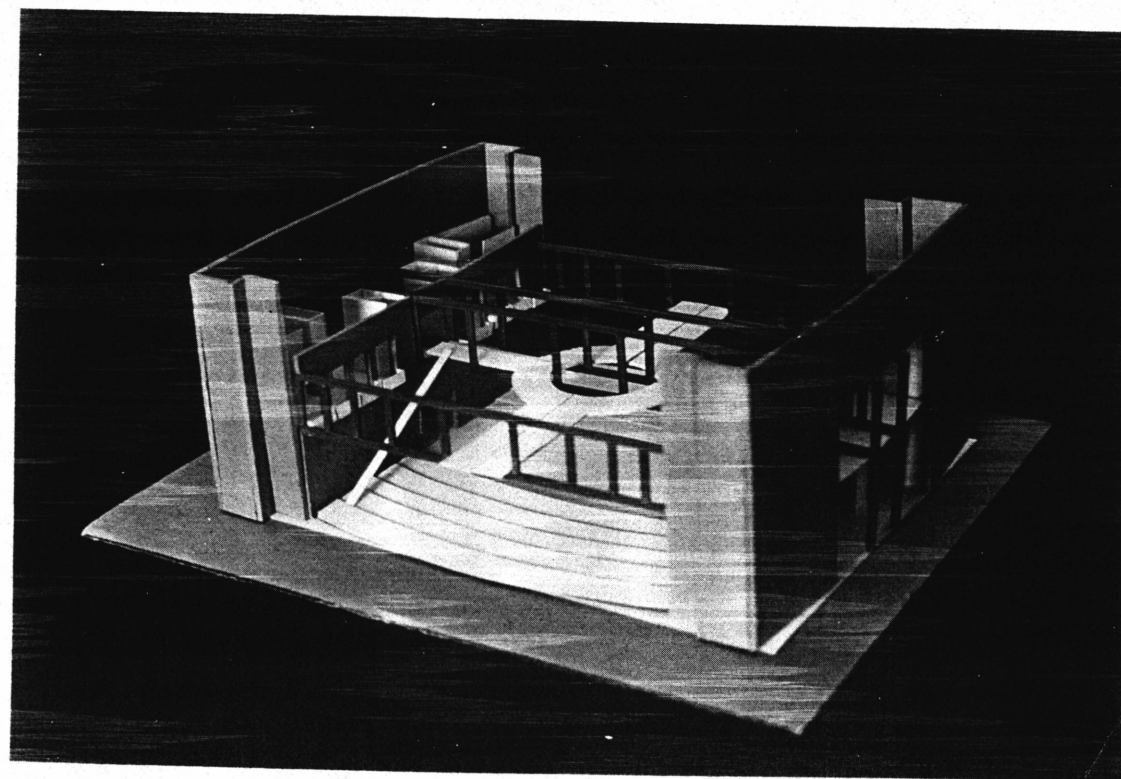


Figure 36. Model of the elevated pedestrian footbridge

<sup>10</sup> Tower like bamboo, reaches high simply

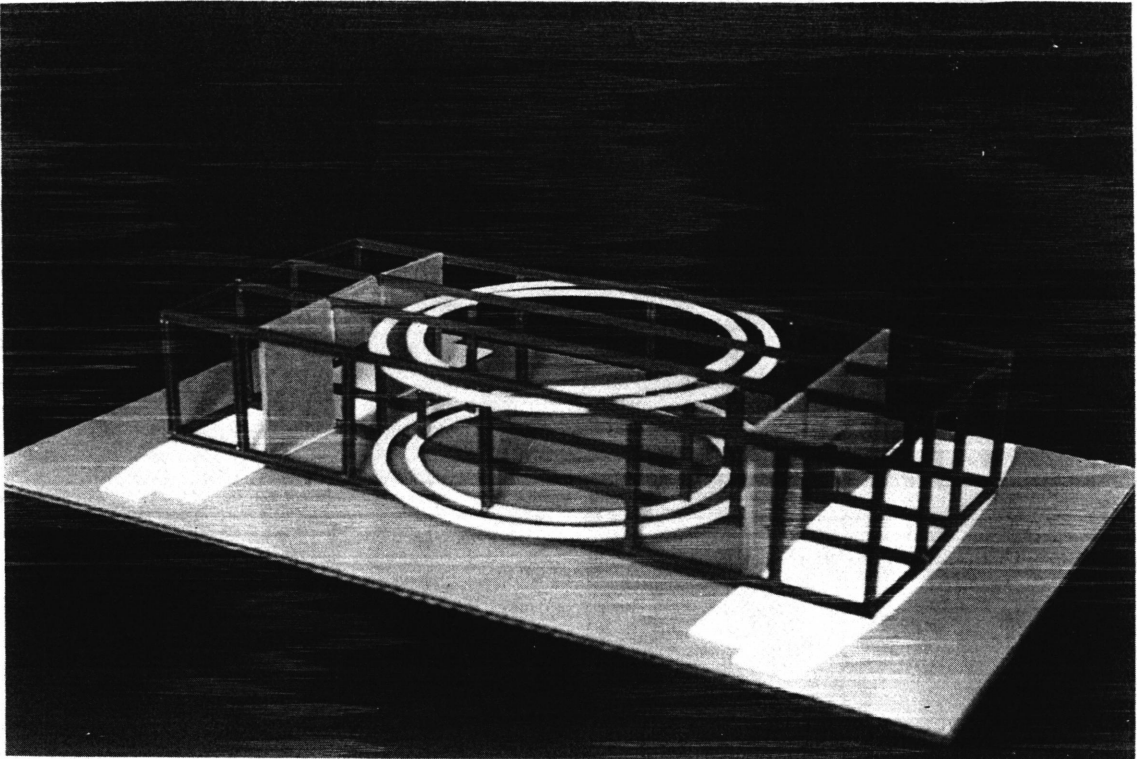


Figure 37. Structural frame of the conference floor

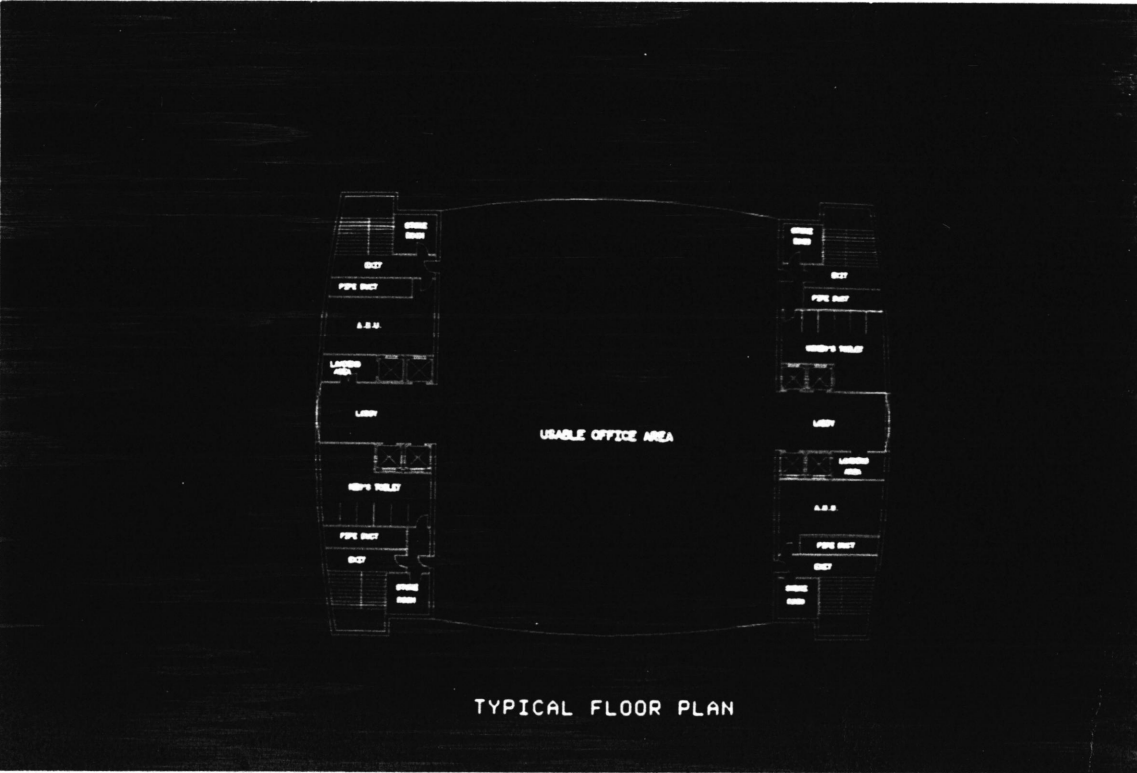


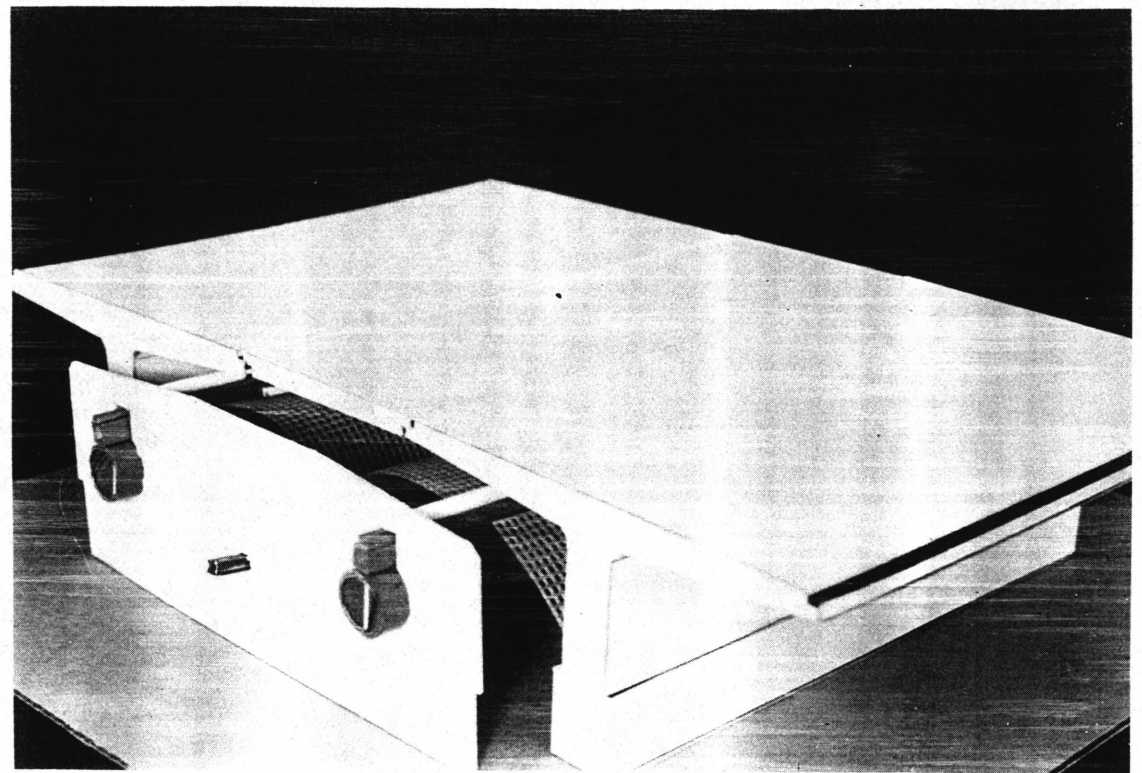
Figure 38. Typical floor plan of the government building

## Mechanical Systems

1. HVAC. There are two VAV air handling units on each floor. Each of them is located at one of the structural cores in a position diagonal to each other. Each of them can supply fresh air to half of the usable floor areas. The chilling water system is underground and is incorporated with the existing seawater intake system developed by Hong Kong and Shanghai Bank.<sup>11</sup>The branched air ducts in each floor are located between every two ribs of the T-beams to achieve an integrated approach.

2. Lighting System. Special lighting fixtures are located at the top of the air ducts, insulated by the transparent plexiglass in an air-tight condition. Therefore, the entire plenum above the lighting fixture can act as a return air duct from which the heat is dissipated by the light can be taken away in summer time. In winter time, the functions of plenum and supply ducts can be reversed due to the reverse direction of the damper inside the air handling unit. Therefore, heat dissipated by the lighting can be mixed together with the fresh air to warm the usable floor areas in each floor. However, this approach depends entirely on the amount of budget. The maintenance is easy to be carried out, because the plexiglass can be mass produced and moulded in a specific profile in the factory. In the second approach, every one of the two ducts between the ribs will be used as supply duct, the others will be used as return ducts.

3. Plumbing Systems. The pipe ducts at each of the structural cores are located between the lavatories and the stairwells. Therefore, water can be supplied for flushing, cooling and fire service. However, there will be no plumbings go through the central part of each floors. Hence, all the kitchenettes or drinking fountains will be located within the areas of the cores due to this limitation.



*Figure 39. Model of HVAC system*

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<sup>11</sup> Vision 1

## Seawater Intake Cooling System

Seawater is the primary cooling medium for the air-conditioning system in the building. It is also used for flushing and other secondary purposes in HONG KONG. The seawater intake cooling system, developed by Hong Kong and Shanghai Bank, was designed to process and deliver sea water at a rate of 4000 litres/sec. The sea water will be drawn into the system through an intake set into the sea wall between Star Ferry and Queen's Pier. The system is designed for both the bank's project and future government requirements on adjacent sites. Underground pipes will then carry it to a shaft in Edingburgh Place in front of the HONG KONG City Hall. The shaft is 75 meters deep and circular in section. The top half is 11 meters in diameter and constructed as a diaphragm wall. The lower section is sunk in hard rock granite by drill and blast techniques. The shaft serves as a plant room to contain pumping and filtration equipment and as a means of access to the tunnel. The return pipes will be carried back to the tunnel and will discharge through the sea wall in an outfall chamber in Star Ferry Pier.<sup>12</sup>In this project, the location of the power plant system is also in the basement which will share the use of the existing seawater intake cooling system.

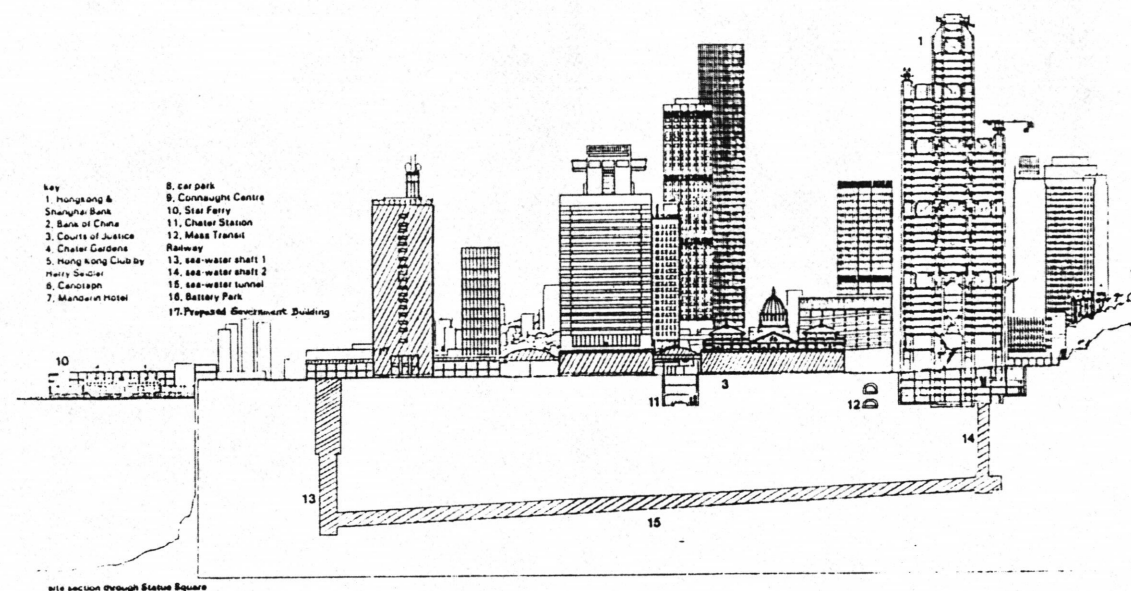


Figure 40. Existing seawater system

<sup>12</sup> Vision 1

## Vertical Circulation System

The circulation system in this building includes four escalators serving mainly for the human traffic circulation between the ground floor and the pedestrian footbridge. Besides that, six elevators run in two different zones with three of them in each core. Two service elevators run through the whole building to provide transportation service to each floor. Therefore, the horizontal circulation in each floor can be in form of central corridor pattern or looped circulation pattern dictated by the location of the two structural cores.

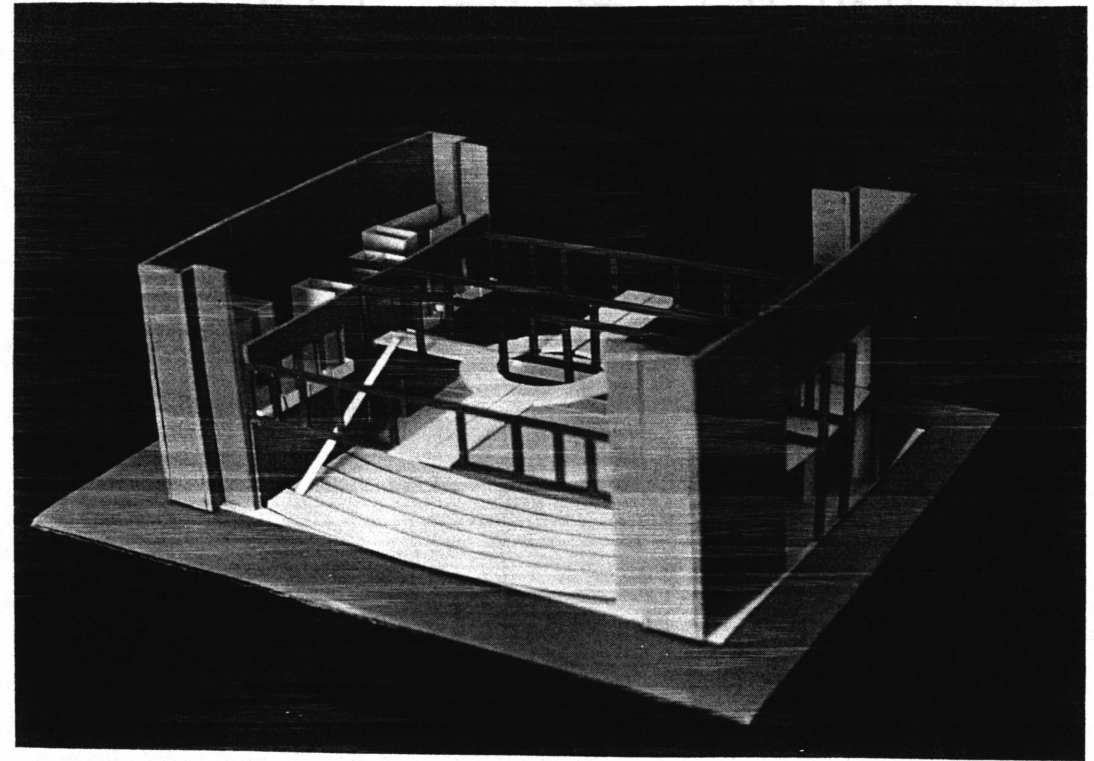


Figure 41. Circulation system between ground floor and the elevated footbridge

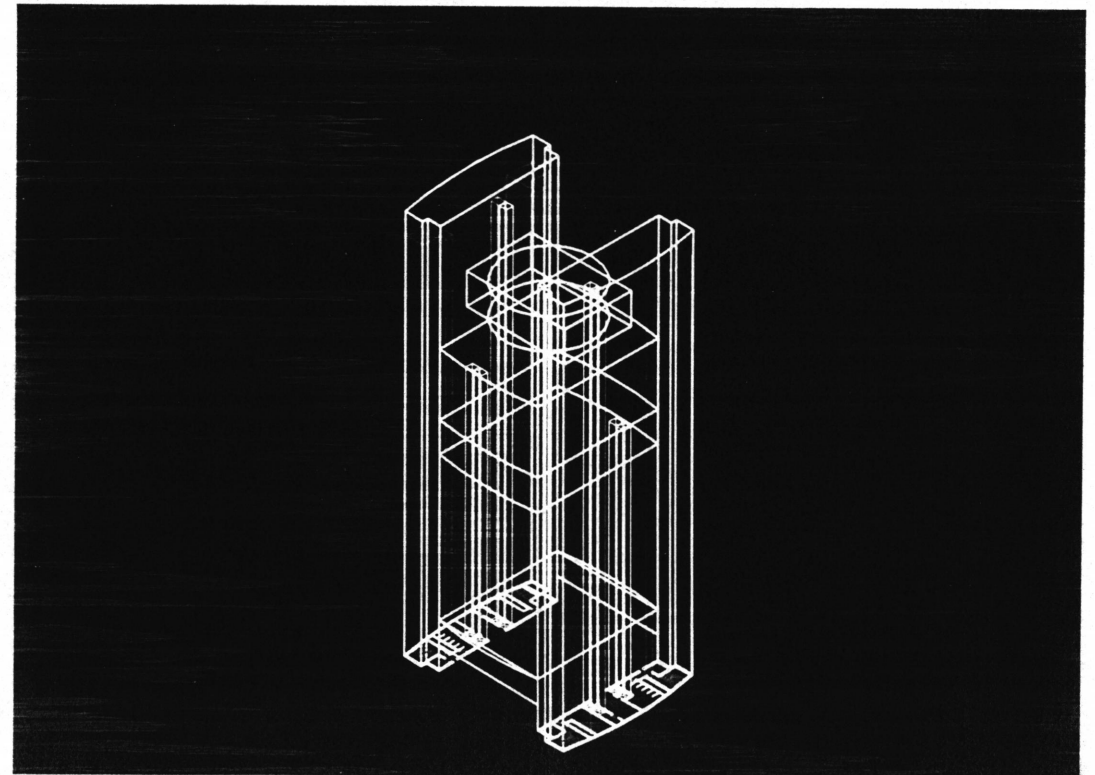


Figure 42. Graphics analysis of the vertical circulation by CAD

# DISCUSSION OF THE COMPUTER APPLICATION IN ARCHITECTURAL DESIGN PROCESS

This chapter records the use of an advanced graphics system IBM 5080 runs together with CADAM and ISD to model and depict the Central Business District in Hong Kong in order to study the urban issues in a 3-Dimensional quality. This workstation provides us a dynamical view and enable us to simulate a walkthrough within the urban environment. Today, developments of CAD have offered little to these concerns with the problems of design and planning in an urban scale because of the limitation of computer memory. One of the significant developments can be used to applied to the link between the geometry database and the informations in the archives about the buildings in different cities. Indeed, the intentions of this study is not to provide solutions or proofs. Rather, I intend to provoke questions so that architects and urban planners can consider before they employ computers in their practice.

In the 19th century, the Industrial Revolution through the use of machines considerably expanded human's productivity. At present, computer has become a major technological innovation having a profound impact throughout society. Indeed, already its applications have tremendous influence and are used broadly throughout society. The impact should rely on the authentic potential embodied in the computer.

The computer has three basic prime functions. First, it serve as an extension to the memory of the designers. Second, it enhances the analytical and logical power of the designers and third, it relieves the designers from routine and repetitive tasks.<sup>13</sup>Therefore, designers are free to perform other activities such as control of the design process, information distribution, application of creativity, ingenuity and experience. Besides that, the computer can act as a large data bank with processing power and reliable memory.

On the input of data during the programming stage, it will be manipulated through the schematic and design development stages. The advanced 3-Dimensional wire frame and solid shading techniques will help to portray the images more realistically without being wasted time constructing the study models. Therefore, the presentation quality will be effectively improved because of the inherent quality control capabilities of the system together with better readability. Since drawings have always been the prime media of communication in the architectural world, they should be produced more rapidly and precisely and can be modified easily by the application of computers.

Despite the above mentioned qualities of computers, there are still some shortcomings and limitations to computer application. Firstly, the expected results will be strongly hardware and software dependent. Secondly, limitation on the memory will be a great drawback to the application of computers in architectural design. Thirdly, three-dimensioning and solid shading of the images requires a tremendous amount of memory in order to produce the expected results. Moreover, the appropriateness of the use of color to architectural elements is another important issue. Color is used to discriminate materials, to define texture, form and volumes which help to improve the believability, memorability and comprehensibility of the computer users. However, users might often ask such questions as: What color should they use? How many colors should they use? Are these colors appropriate to reflect the texture of the materials in order to achieve visual realism?<sup>14</sup>

These controversial issues mentioned above have always been significant obstacles to the application of computers in architectural design. Computers drawings have always inculcated a strong feeling of completeness, growthlessness and lifelessness because of their precision and accuracy. Will this quality prevent the designers from pursuing the best solutions for design? Instant accuracy is not always desirable.<sup>15</sup> The idea should be revealed and be congruous with the stages of the design. The refinement of a project is a step-by-step refinement in the comprehension and representation of our images. Besides that, will the inappropriate use of colors affect the visual realism apart from the standpoint of using colors only for massing study? One of the great architects, Ludwig Mies Van Der Rohe said, "Architecture starts when two bricks are placed together." Will the architects lose their sense of participation?

We all know that everything in the universe has two complementary sides; positive and negative, tangibles and intangibles. If we look at architecture in a logical and rational way, we will undoubtedly lose an important essence in architecture, that is, the philosophical issues.<sup>16</sup>As a matter of fact, architecture is concerned with structuring man's environment to facilitate the achievement of human purposes.<sup>17</sup> A strongly related emotion will be imposed on the people. It is easy for the architects of large building complexes to absorb in the mathematics and process of design while neglecting the tremendous complexities of lives and aspirations of people who inhabit those buildings. It is urgent that architects should be aware of the situation that their buildings dominate the lives and activities of human beings through many centuries. If architects are dominated only by a small group of experts in the society, the built environment will be jeopardised. Therefore, it is urged to understand that the changes are with us and the presence of computers are indelible. If we are not able to control them, we have to give a great deal of consideration to the problems and also to understand what is happening in the world of computers, since the growth of computer application in architecture seems inexorable.

Recently, many researches on expert system are being conducted throughout many countries which apply the artificial intelligence. AI is different from the natural science and the other equations, it has a prominent store house of knowledge held in the expert systems shell in form of statements of logic.<sup>18</sup> A user can get advice with possible solutions from the system just like consulting human experts. However, can expert systems be applied to architecture? The statements of logic that are fed into the expert systems should be made explicitly, precisely and tangibly.<sup>19</sup>Human beings have their intuitively and intangible way of thinking. How can these instinct be made known and explicit to the expert systems? How can the statements be interpreted in a mechanical and efficient way to produce solution for a problem? Logic has no control structure, so an additional interpretation must input on logical statements.<sup>20</sup>Therefore, it still has a large obstacle to the application of computer in architectural design process. Apparently, it is essential to be aware of what we intend to do with computer, how and when the computer applications enter and help the design process. If the advantage of computer application only lies on the versatile quality of large data banks of information, can computer help the designers to use the precedents by means of the data base system while searching for new creations? However, the interpretation of historical issues and contents require another level of understanding that may cause the application of computer more difficult.<sup>21</sup>

In my opinion, before the above controversies are made known, I would rather suggest the users to use computers with a certain amount of consideration. The architects should be the ultimate judge in implementing mechanized and automated design process.

<sup>13</sup> Computer Aided Design and Manufacture

<sup>14</sup> The Ten Commandments of Color

<sup>15</sup> The Architecture Machine

<sup>16</sup> Genius Loci

<sup>17</sup> The Automated Architect

<sup>18</sup> An introduction and tutorial to the popular artificial intelligence language

<sup>19</sup> Architecture-Formal Approach

<sup>20</sup> An introduction and tutorial to the popular artificial intelligence language

<sup>21</sup> Architecture-Formal Approach

# CONCLUSION

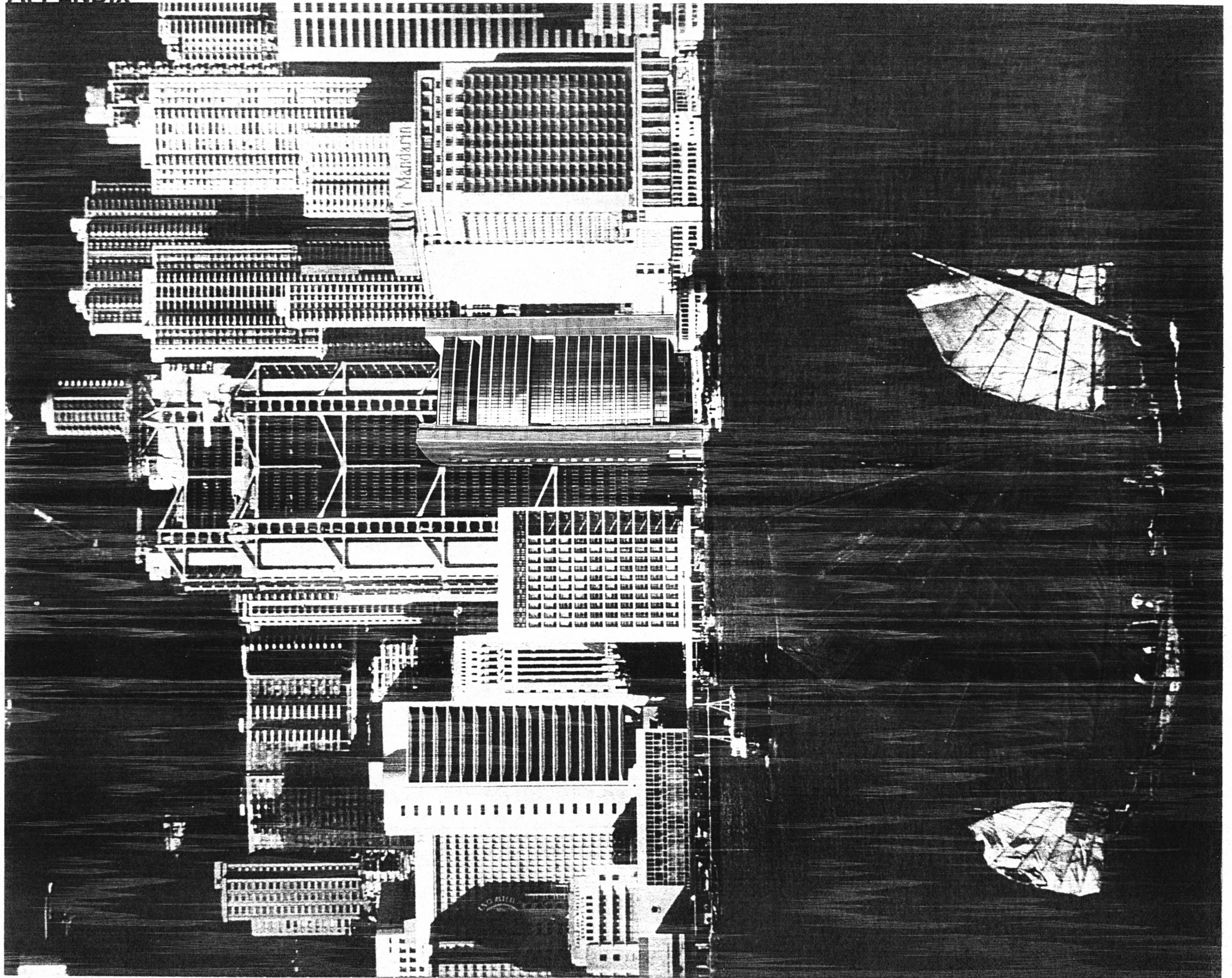
1. The methodology used in the thesis is in a non-traditional way. First, the results are elucidated in the appendix by a series of computer drawings instead of ink drawings. Second, the result does not provide the design solution, instead, it conveys the guideline and my personal experience in the application of computer in architecture. The subject matter emphasizes on the overall development of the building systems to reflect the idea of the Urban gateway, Urban corridor and the potential of CAD. Third, the detail development of the different floor plans will be beyond the scope of this study. Fourth, there is no fixed program. Therefore, future expansion will be entirely depended on the existing structural system. Fifth, the overall building design will be totally reflected in forms of the building systems. Sixth, the design concept is entirely cultural oriented.

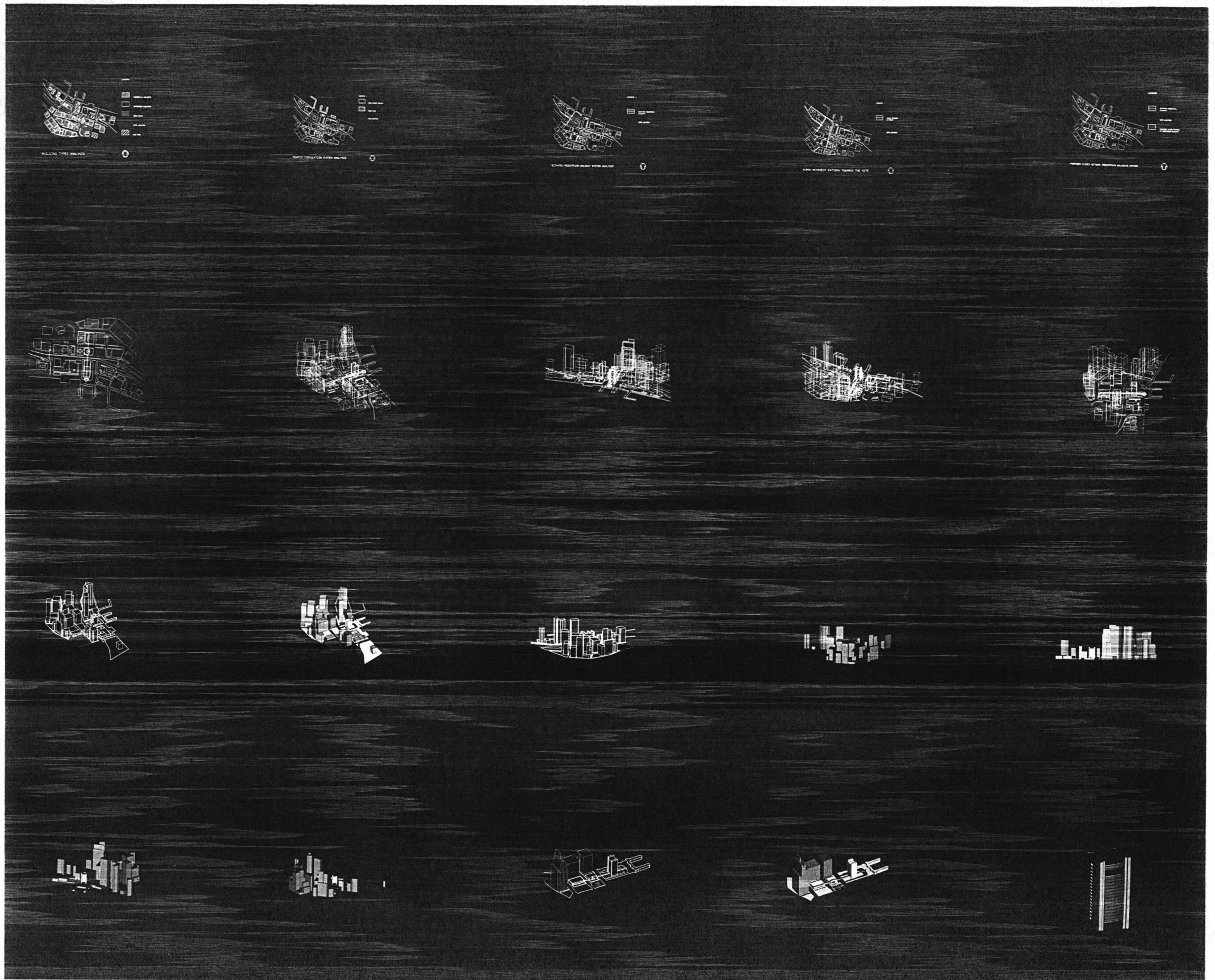
2. The results of this design will not only enable the creation of an urban gateway near the water front but also help to form a closed elevated pedestrian walkway system in the CBD. Thus, improving the existing human circulation situation and unifying the separated Statue Squares.

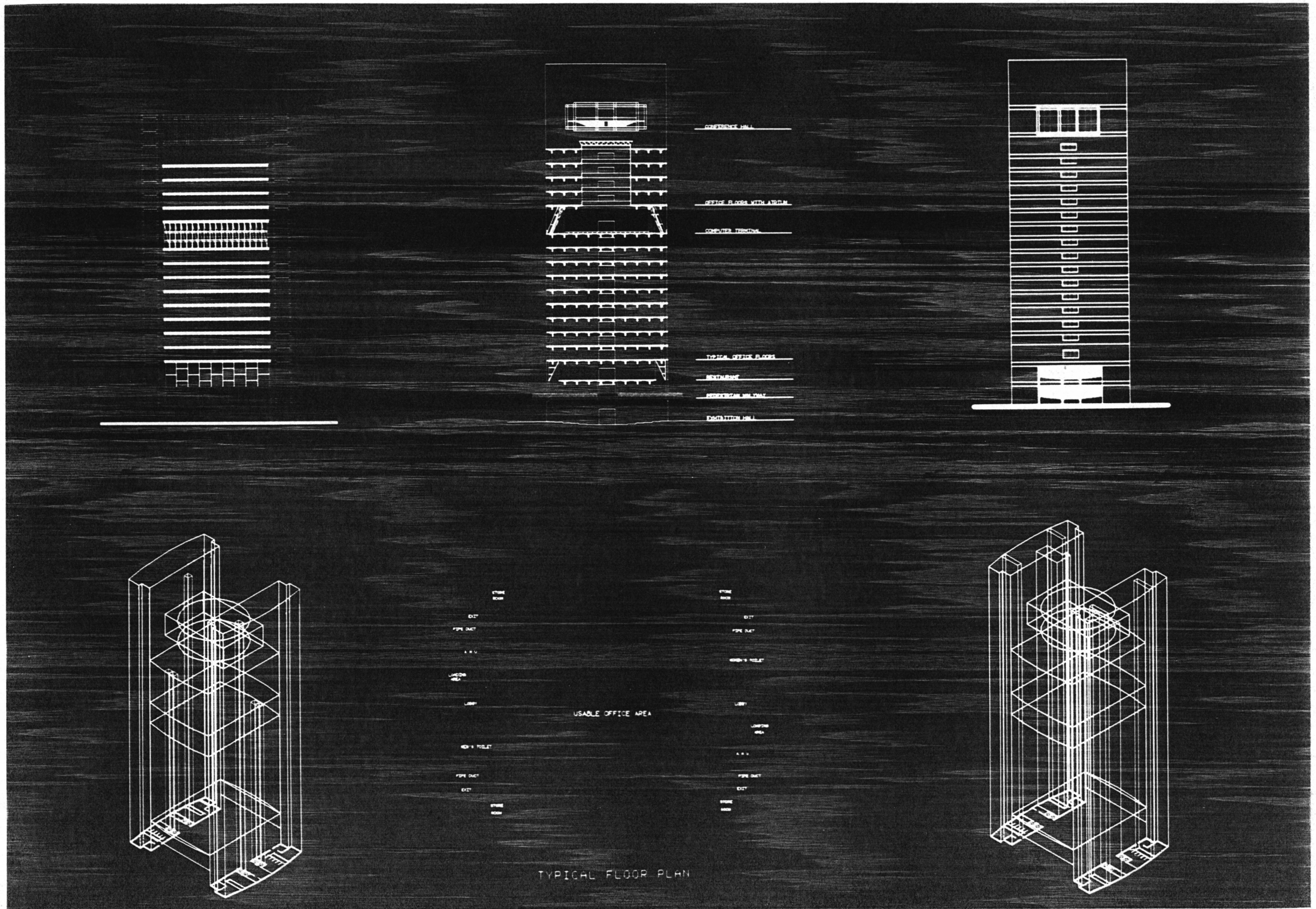
3. The application of computer in this architectural design is an attempt to study the urban issues in the CBD of HONG KONG. The 3-Dimensional quality of the computer drawings help us to visualise the effect easily, quickly and precisely. Therefore, computer graphics can be a very powerful tool for architectural and urban design. However, the ultimate decision on the use of CAD still relies on your own.

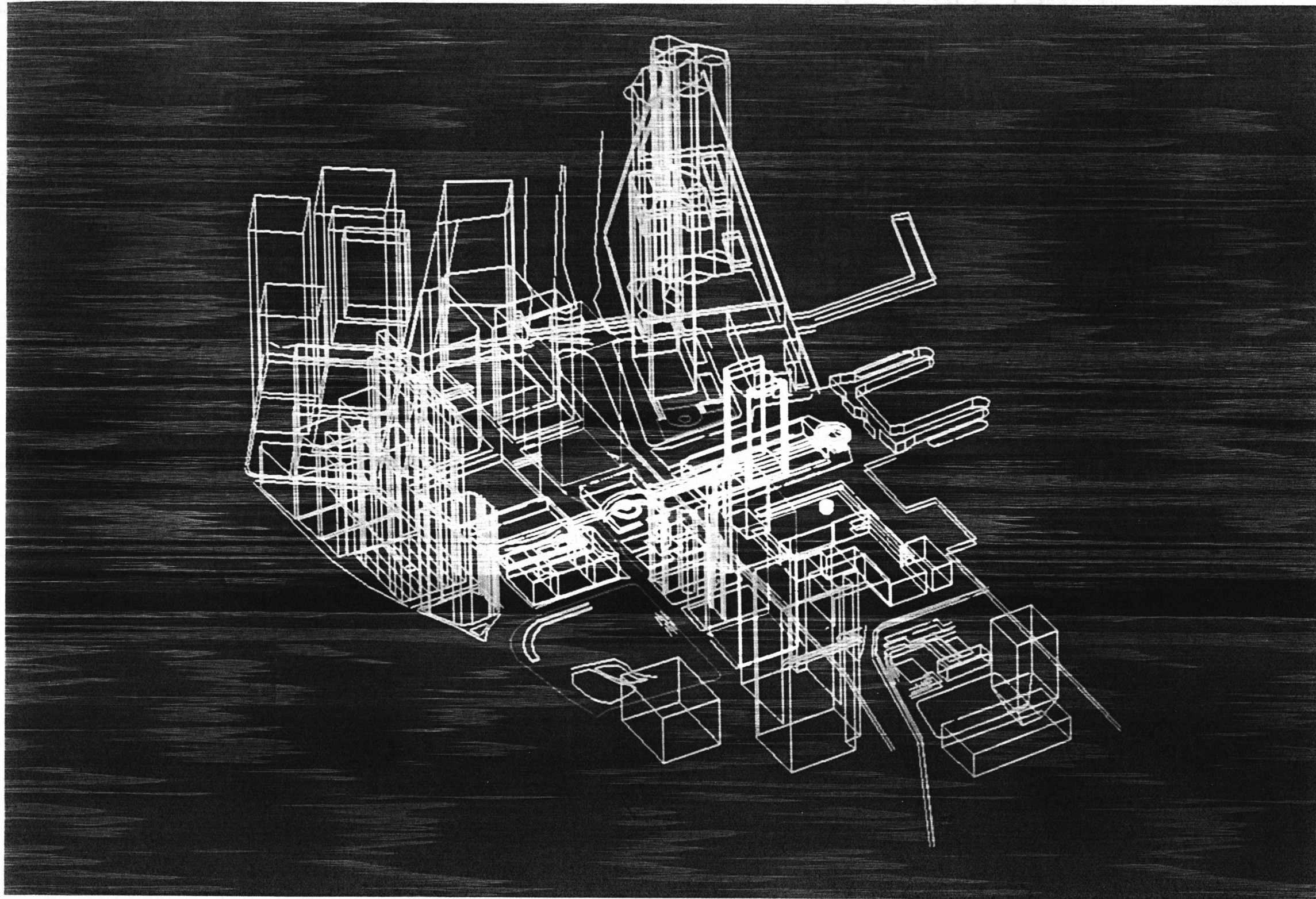
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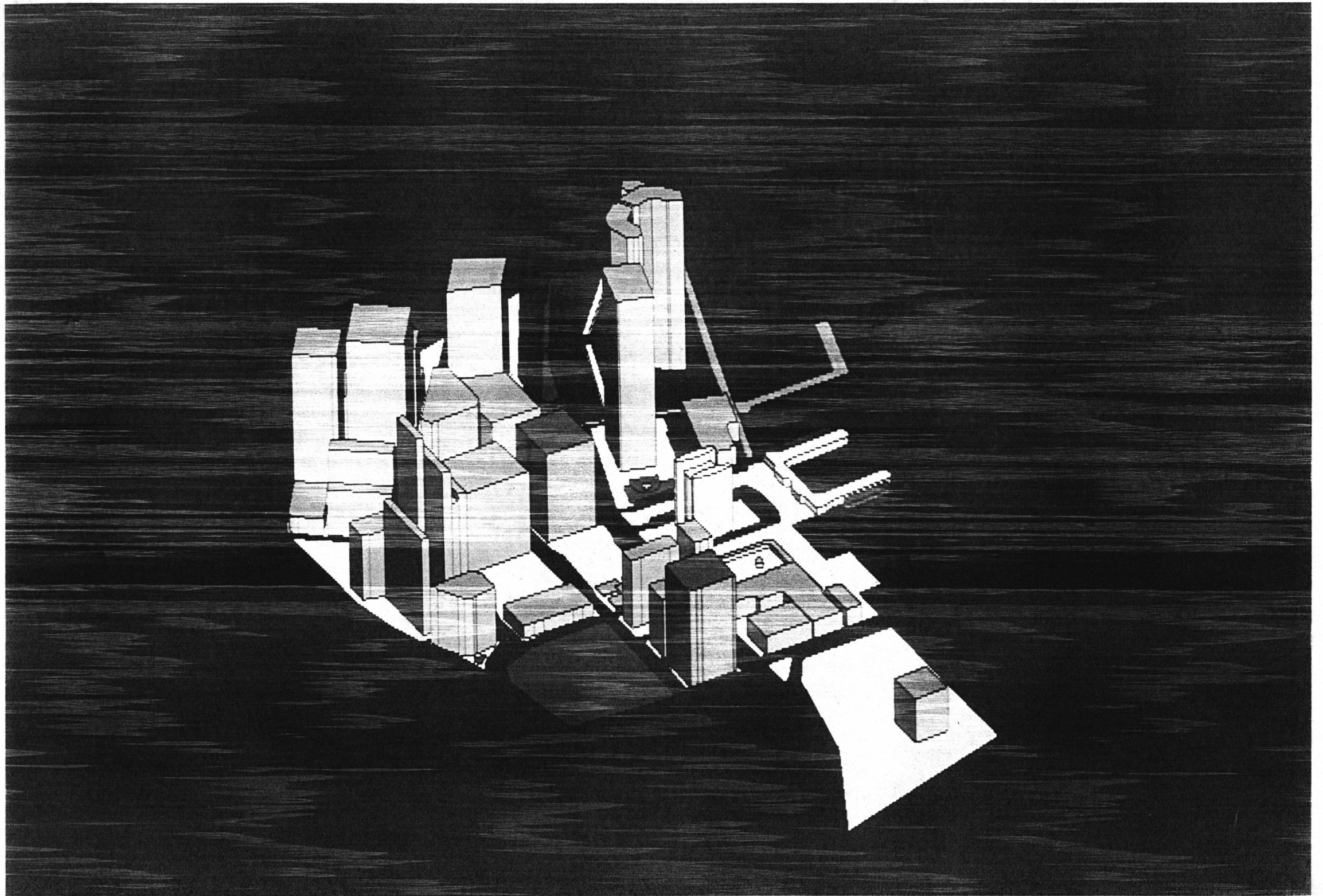
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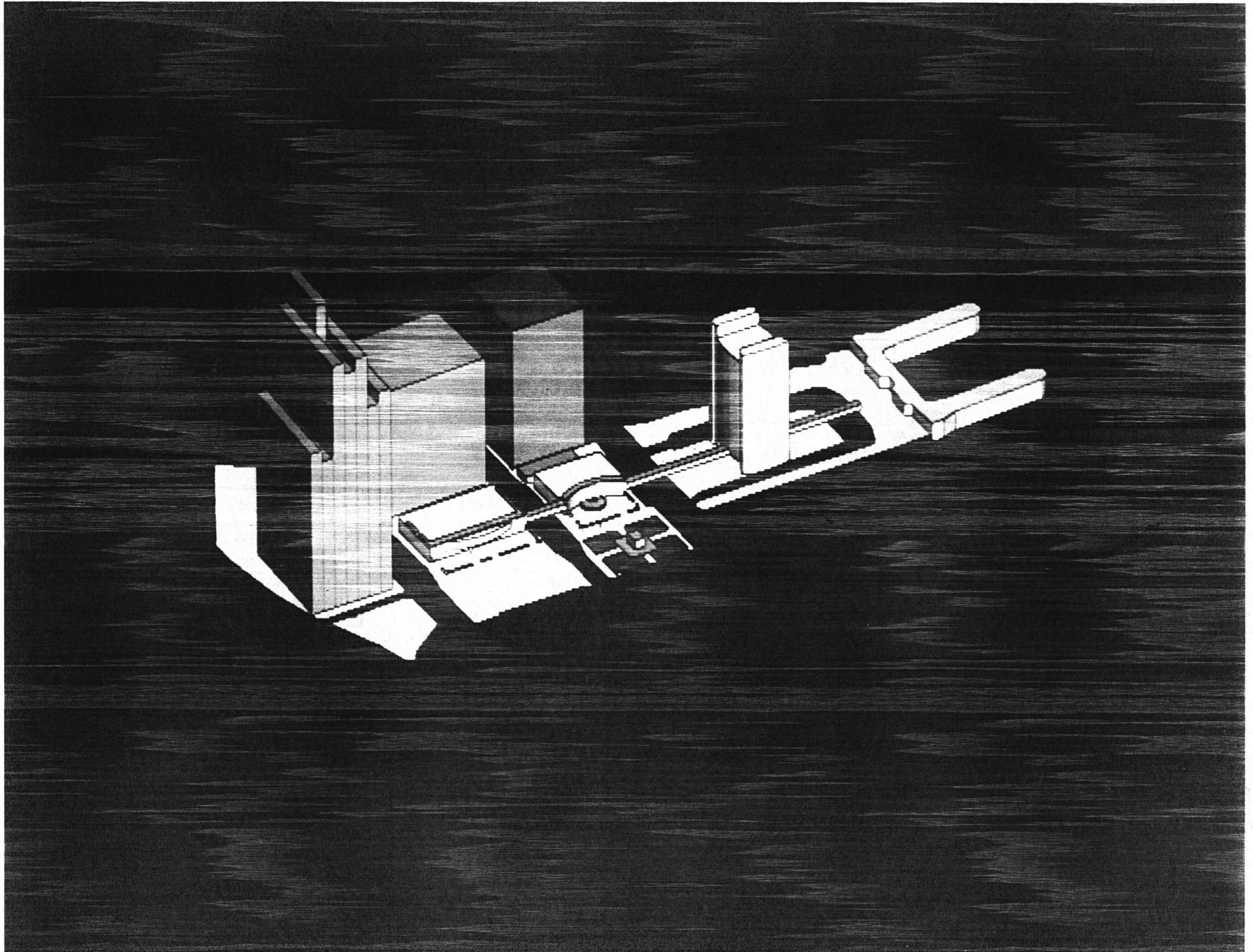


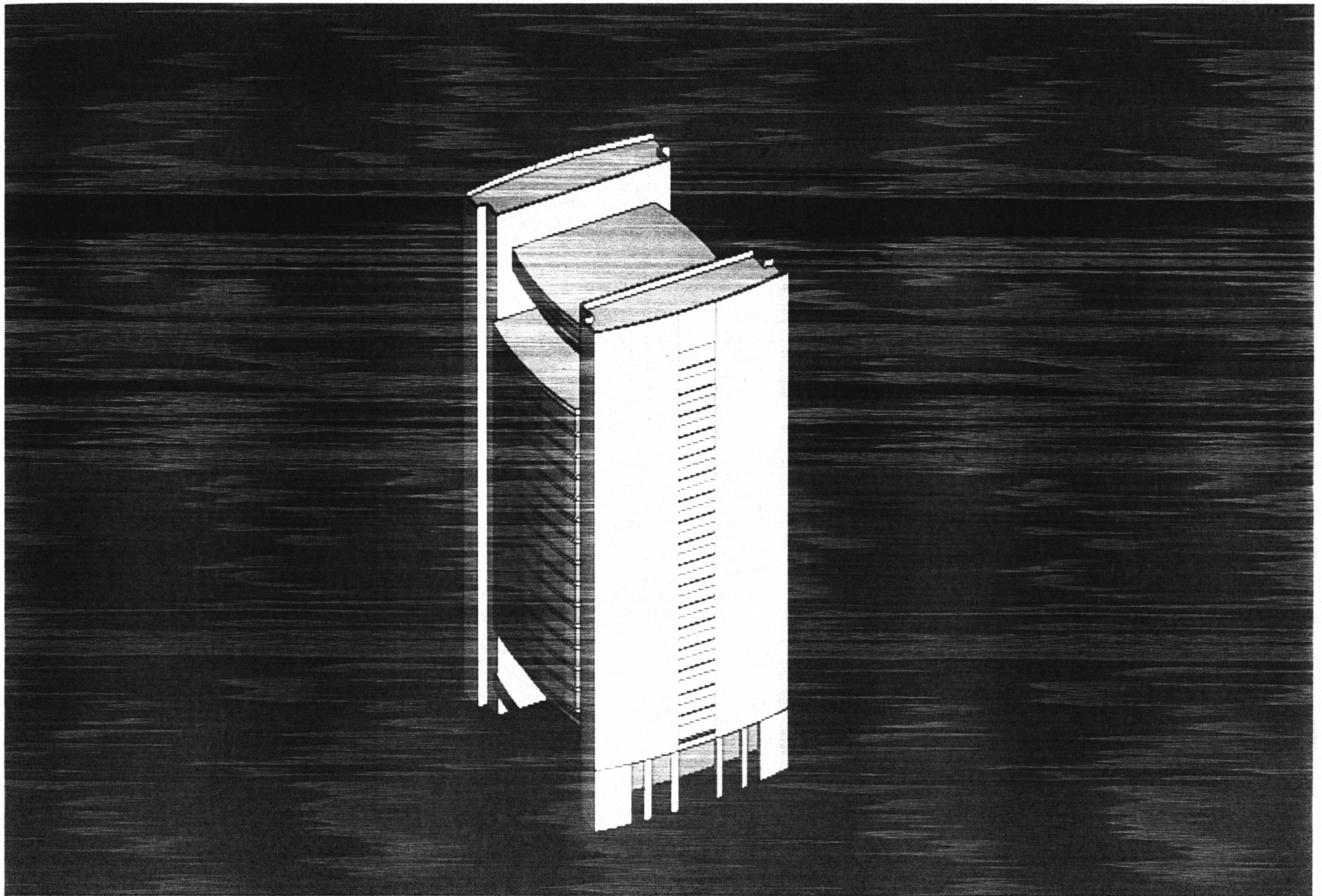












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