THE MASTER PLAN FOR THE NEW CAPITAL CITY

1949

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THE MASTER PLAN

FOR THE

NEW CAPITAL CITY

FEDERICO MANGAHAS COLLECTION

Philippines (Agentic)

CAPITAL CITY
PLANNING COMMISSION
MANILA, PHILIPPINES
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Republic of the Philippines

CAPITAL CITY PLANNING COMMISSION

25 March 1949

His Excellency
ELPIDIO QUIRINO
The President of the Philippines

Your Excellency:

We have the honor to submit herewith in conformity with Republic Act 333, the Master Plan of the new Capital City with a set of supplementary plans and the corresponding report thereon.

For an easy, over-all comprehension of the scope and intent of the Master Plan, the Report is described in a brief summary. However, a careful reading of the Report in detail and of the supplementary addenda will be necessary for a thorough understanding of the findings of the Commission regarding the Plan for the new Capital City.

Respectfully,

JUAN M. ARELLANO
Chairman

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JOSE PAEZ, SALVADOR ARANETA,

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CONTENTS

	Page
Acknowledgments	2
Letter of Submittal	3
Foreword	5
In Summary of the Report	7
Report on the Master Plan	9
Appendix	AP-1
Annex	AN-1

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LIST OF PLANS & PLATES

Plans

Plan No. 1.....Master Plan

Plan No. 2.....Location Plan

Plan No. 3.....Topographic Map

Plan No. 4.....Major Districts

Plan No. 5.....Study of a Typical Neighborhood District

Plan No. 6.....Existing Land Uses in Quezon City as per 1941

Plan No. 7.....Land Use Plan

Plan No. 8.....Thoroughfare System

Plan No. 9.....Parks and Open Spaces

Plan No. 10.....Water Supply and Sewerage System of the Capital City

Plan No. 11.....Water Supply and Sewerage and Storm Drains System of a Typical Neighborhood District

Plates

Plate No. 1.....Proposed Hall of Fame in the Constitution Hill (In Colors)

Plate No. 2.....Proposed Senate Building in Constitution Hill (In Colors)

Plate No. 3.....Panoramic View of Constitution Hill, showing the Mall along Commonwealth Avenue (In Colors)

Plate No. 4.....Panoramic View of a Neighborhood Unit (Black & White)

Foreword

The new Capital City is a challenge to the Filipino people to build a great, modern and beautiful city.

Skeptics will say that the project is a waste of government funds and that other projects should have been given priority.

But food, clothing and shelter, after all, constitute the bare essentials of decent livelihood. And shelter, especially for the poor, is most inadequate in Manila.

By creating a Capital City Planning Commission entrusted with the power to develop new residential districts on an extensive scale with a revolving fund of twenty million pesos, our leaders have made it possible to offer lots at the lowest prices so that more people can own homes.

The creation of the new Capital City will provide, not only residential lots for the small employee, but also jobs for the unemployed. More than 200,000 people in Manila now are without jobs. The building of roads, bridges, new homes, and government and civic centers in the Capital City will create opportunities for work so that this great amount of human energy may not be wasted nor breed discontent. Furthermore it will promote the development of new industries for building materials, since the Commission proposes the use of locally manufactured building materials, as much as possible, in all structures in this new Capital City.

In the new Capital City the Commission sees not only the beautiful seat of our country's government, but more important, a site on which 200,000 families will have the chance they could not have otherwise, of owning their homes; of leading useful, healthy and happy lives.

This new Capital City where our constitutional offices will function in an atmosphere of dignity, freedom and human happiness will rise as the citadel of democracy in the Orient.

The Report in Summary

PLANNING THE NEW CAPITAL CITY— (See Chapter I)

When the Capital City Planning Commission was entrusted with the planning of the new Capital City, the members approached the task with enthusiasm and reverence. For the task is not only a rare privilege but also a great responsibility.

The ideal planner, so they say, is one who holds his head among the stars yet keeps his feet upon the ground. He combines imagination with practicality; and high idealism with the ability to compromise realistically.

As the city grows and changes, affected by the wishes of the people who live in it, as well as by forces outside itself, so also must the Master Plan be constantly revised, to meet new needs. It is a tool, realistic and flexible, essential to the building of a great city and its future development.

In planning the new Capital City the Commission took into initial account the role that the city is destined to play; politically, as the seat of the national government; esthetically, as the showplace of the nation, a place that thousands of people will come to visit as an epitome of the culture and spirit of the country; socially, as a dignified concentration of human life, aspirations, endeavor and achievement; and economically as a productive self-contained community.

Yet a city is not made up merely of public buildings and other expensive structures. While these may be the inescapable features of the metropolitan physiognomy, equally important, though often neglected, are the homes of the people who work and live in the city and its periphery.

There will be places of residence within the metropolitan area, yes. But the bulk of homes will be located in neighborhood districts for which the Master Plan provides north, west and south of the metropolitan area. Here will be formed neighborhood units, planned physically around the activities of the family: Father going to work in office or factory; Mother preparing meals in the homes, going out for provisions in the market or in the shops; children going to school; each activity whether of work or play, being accomplished in a self-contained neighborhood where bus line, market, school, church or park is within an easy walking distance from the home on lanes and streets under shade, safe from the hazards to life and limb of metropolitan traffic. So designed, the neighborhood unit becomes the modern urban version of family and neighbor relations as we know them in a rudimentary form in the provinces.

Traffic being the life-blood of the city, adequate thorough-fares will serve the metropolitan area, conveying traffic to the government and business centers without disturbing the tranquillity of the neighborhood units.

Related to the traffic problem are transit and transportation problems which can be a real headache to a city that has not provided in advance for the proper location, nor visualized the character, of facilities that will be devoted to these services. The Master Plan furnishes a guide for meeting these problems, with a traffic system that will be geared to the varied requirements of buses, private automobiles, trucks and pedestrians for rights of ways, terminals and parking spaces.

LAND USES MUST BE PLANNED—(See Chapter II)

Having taken a bird's eye view of the physical outlines of the Capital City as delineated by its corporation boundaries and its proposed system of thoroughfares, the Commission goes into an unfolding of proposals for land uses.

A Master Plan for the physical development of a city is not a single plan or map but a series of plans and maps showing the inter-relationship of one pattern to the others. The pattern for land-use affects the street and highway patterns. Plans for street improvements are correlated with the uses to which land will be put. Streets serving sites for legislative, executive or judicial buildings for example, will follow a more or less straight design to familiarize visitors easily with the thoroughfares system, and also to keep in harmony with the dignity, grandeur and formal beauty of design in a metropolitan area. Streets in the neighborhood districts, on the other hand will more nearly follow natural land contours to fit in with the informal pattern of neighborhood community life.

Every activity of our daily life requires an allotment of land. There must be places for civic activities. There must be space for living, space for work, room for play and recreation, areas for streets and highways so that people and goods can move freely within a community.

The Master Plan provides for a sound distribution of these uses, for immediate and for future needs, so that no land use will interfere with or injure any other. A companion tool of land-use planning is zoning or the regulation of private land in the interest both of the whole community as well as the owners of such land since zoning tends to direct the social and economic growth of a community and to conserve property values. To make the wisest use of land requires land-use planning which takes in the elements of control as well as development. Extensive studies must be made of the topographical, geologic and other natural aspects of the city besides its man-made features — social, political and economic (and land-uses based on such studies) in order to enable the city to sustain itself and to grow out of its own soil, as it were.

The new Capital City will rise on land naturally beautiful to begin with. In accepting that land for our use, it is our responsibility to enhance its beauty rather than to mar it. By segregating the unsightly, by developing the city according to an attractive, well-designed, functional plan we can protect its natural beauty and its character.

IF THE PLAN IS TO WORK:—(See Chapter III)

There must be, aside from the Enabling Act other factors that must contribute to the successful implementation of the Act and of the Master Plan as submitted by the Commission.

Two amendments to the Enabling Act are proposed by the Commission to strengthen the court in which the Act was passed. One amendment has to do with Commission authority to design the plans for the public buildings to harmonize and correlate with the over-all Plan. The other amendment has to do with special assessments on private properties benefited by public works undertaken by the Commission.

Naturally, the Master Plan must first be approved if it is to work. Then the P20,000.000 bond issue to finance the project as authorized by the Enabling Act must be made available before any work can be started.

Then private lands affected by the Plan to be used for national and city government buildings, all lands needed for roads, parks, markets and other essential public purposes and lands allocated for housing projects, must be acquired without delay at present values. Delay in getting such lands will result in grief later. For then the government will have to pay high speculative prices for land needed for public use.

Obviously it is not possible to carry out the entire plan in the near future. Planning is a process, not a blue-print. A plan will take several decades to carry through to completion and by that time it will have changed and metamorphosed as the city's needs change and take different forms and shapes.

But the Commission would start the project now on its first two-year plan, beginning with the building of the government buildings on Constitution Hill, following through with the Executive Center, meanwhile building such roads as are necessary for the development of each newly opened area; continuing with the topographical survey, malaria control measures, geologic and soil surveys, and arranging for temporary public services and utilities during the time of development until such time as the plans for such utilities can be perfected based on more thorough and exact studies and when funds are available for construction.

Yet one stumbling block to the success of the Plan may be mentioned. The best of Plans would fare badly unless faithfully executed. The jurisdiction of the Commission is limited and in the case of such matters as zoning and building code enforcement and the levying and collection of special assessments the Commission must rely entirely on the cooperation of the city authorities.

As times shows pitfalls and snags not immediately discernible when the first steps were taken those will be corrected.

The philosophy remains on which the Master Plan is based. To plan so that each detail as executed serves a practical purpose as well as an asthetic and fits into its assigned place in a component whole. To plan a city functional and modern yet possessed of a personality and spirit distinctly Filipino, drawing for inspiration on a people's history and folklore.

CHAPTER I

INTRODUCTION
METROPOLITAN AREA AND NEIGHBORHOOD DISTRICTS
THE MAIN TRIANGLE
CONSTITUTION HILL
DILIMAN QUADRANGLE
AVENUE OF THE REPUBLIC
AVENUE OF THE COMMONWEALTH
NEIGHBORHOOD UNITS
NEIGHBORHOOD DISTRICTS



THE MASTER PLAN

Report on the Master Plan

CHAPTER 1—DESCRIPTION OF THE MASTER PLAN

I. INTRODUCTION

The new Capital City was conceived by President Quezon. The dream will soon come true, greater than he envisioned—an eloquent demonstration of a government's and a people's loyalty to a departed leader.

This city was not born in a day. The antecedents of Republic Act 333 (which designated Quezon City with an enlarged area, as the Capital City of our country, and created a Commission to prepare a Master Plan, with sufficient powers to develop the City) are found in Appendix I called "Background".

After seven months of study, this Commission is now prepared to submit to the President of the Republic, the Master Plan and this Report. The Master Plan, is marked Plan No. 1. In its preparation, the Commission had to consider important controlling factors, described in the attached Appendix II, entitled "The Site and Important Controlling Factors", which the reader should consult to gain a complete understanding of the problem entrusted to the Commission.

Using the general objectives given by Congress in the Enabling Act No. 333 as its terms of reference, the Commission supplemented same by specific directives formulated for self-direction and control. These sets of principles and conclusions are embodied in Appendix III, entitled Objectives and Directives.

II. METROPOLITAN AREA AND NEIGHBORHOOD DISTRICTS

The Capital City of a nation, by its very nature, must be a metropolis or "mother city". The Capital City has an esthetic as well as a political role to play, not only for those who are residing permanently in the city, but for thousands of visitors, Filipinos and foreigners. If it must serve its purpose, it is destined to grow out of all proportion to provincial cities.

The many evils inherent in a metropolis have caused many thinkers and planners to study possible remedial methods to the problem.

In drafting the Master Plan of Quezon City to suit its needs, we must determine first the kind of city it will be. Because it is a metropolitan city, it must have a metropolitan area to include governmental, residential, educational, health and commercial centers. Its transportation system must serve the nation as a whole rather than a group of people living in a neighborhood. On the other hand, in line with modern city planning, integrated neighborhood units should be provided in the Capital City for those permanently residing in the neighborhood units.

The nucleus of the neighborhood unit is the public school so located that children will not have to cross traffic and will not walk more than five hundred meters from their homes. There should be shaded lanes within the unit converging at the school site for the benefit of school children.

A group of two to five neighborhood units form a neighborhood district. The district has for its nucleus the high school, the district shopping center, a health center, the civic center and various recreational facilities designed to accommodate the residents of the entire district.

The number of people living in the neighborhood units should be limited to that which is consistent with the main idea of a neighborhood. Big apartment houses should never be permitted in the neighborhoods. The size of lots in the residential sections should have a fixed minimum. And a maximum area for building will be fixed per lot depending on the class of residential district. These restrictions will give us a reasonable control of the maximum number of people that will reside in a given neighborhood.

On the other hand, big apartment houses will be allowed in the metropolitan residential units, for these sectors are part of the metropolis. And unlike neighborhood units, no definite limits may be set to the population growth of the metropolitan units.

The Plan divides the entire Capital City site into four major districts, with their respective areas as follows:

1. The Metropolitan Area ..... 7,627 has.
2. The North Neighborhood District ..... 2,785 has.
3. The West Neighborhood District ..... 1,766 has.
4. The South Neighborhood District ..... 2,281 has.

The metropolitan area is located in the central portion of the city, while the three neighborhood districts are located to the north, west and south of the metropolitan area. See Plan No. 4 which shows the metropolitan area and the neighborhood districts.

III. THE TRIANGLE

The three main units of the metropolitan area form a triangle. The Constitution Hill is located on the northeast, the Executive Center (formed by the Executive Department, the Bureaus and the main Housing Project for government employees) on the south, and the Business Center on the west.

Three major thoroughfares, the Avenue of the Republic, the Commonwealth Avenue and the Mindanao Avenue connect these units. Bisecting the triangle is the Congressional Avenue. Traversing it are the Luzon Avenue and the Visayas Avenue. These six avenues, serving the metropolitan area, will provide segregation of traffic.

Constitution Hill will be the most important and imposing center of the City. The 20-hectare Plaza of the Republic, the 30-hectare park fronting the Constitution Hill, the 70-meter wide Avenue encircling the Plaza and joining the three main groups of buildings in Constitution Hill, and the six thoroughfares converging at the hill will provide ample space and arteries for the free movement of thousands of vehicles and all the people that may be expected to participate in great national manifestations.

The sections of the metropolitan areas that will tend to become crowded during normal days, will be (1) the Executive Center and (2) the Business Center.

But congestion in the Executive Center has been forestalled by providing (1) ample grounds for the bureaus that will permit expansion and off-street parking places (2) a housing project for government employees adjoining the Bureaus (3) the establishment of these units at the periphery of the Central Park and (4) a system of wide thoroughfares.

Again, by establishing the Business Center at the west corner of the triangle, we achieve a well-planned decentralization of activities which by itself has simplified the traffic problem. This Business Center has an area of 318 hectares, ample enough to be developed with sufficient parking places. The whole area should be expropriated by the government, in line with the spirit of Enabling Act 333 that business lots should be owned by the Government.

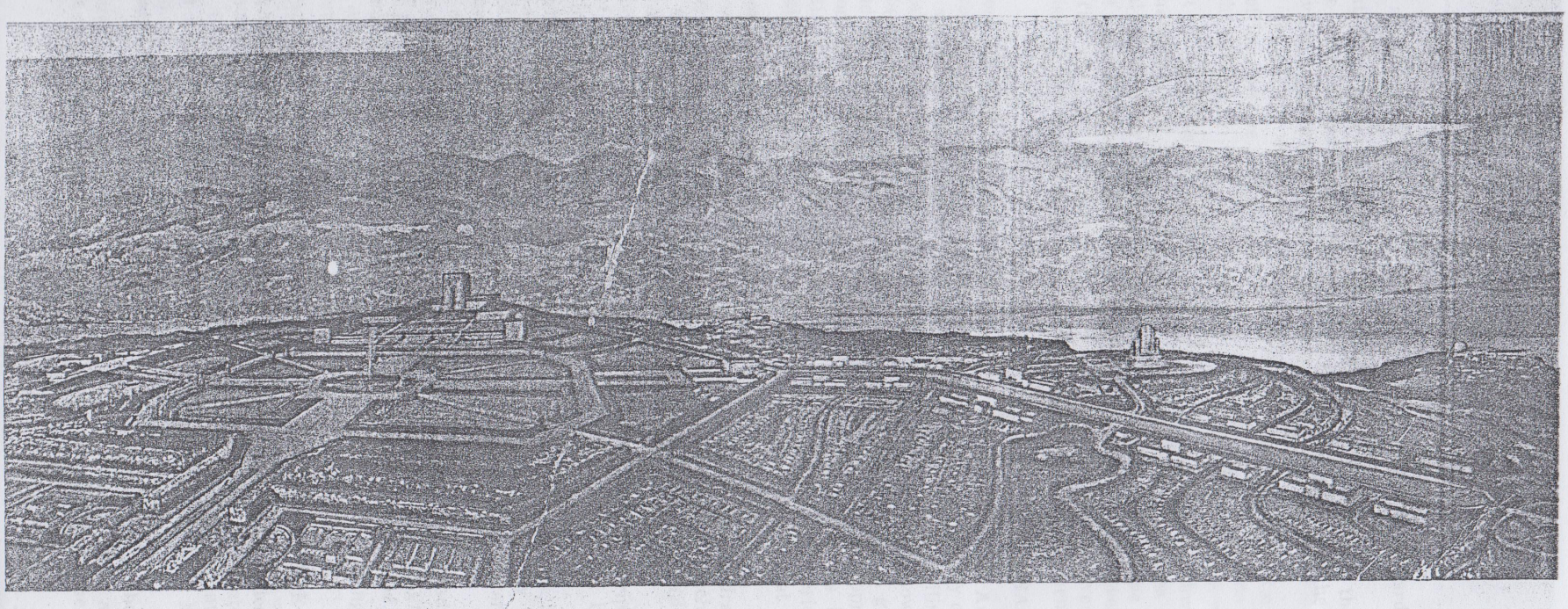
Within the triangle, near Constitution Hill, where the three avenues are about to converge, a small park of 50 hectares is provided, which comes well with the nature of the land, and serves as a bulwark against any possible crowding.

The central portion of the triangle is assigned for a medium density residential section and for a Business 2 section, with a few spots for high density residences.

IV. CONSTITUTION HILL

The center motif and most beautiful part of the city is the high plateau which we call Constitution Hill. It will be the seat of the Constitutional Bodies distributed in three groups of buildings. In the center, fronting the plaza of the Republic will be the House of Congress. It will accommodate the Senate and the House of Representatives in two wings projecting from the central tower, where the Hall of Fame and the Library of Congress will be located. The Hall of Fame will be the temple of our patriots, where our heroes will receive the proper memorial due them, all those who have loved our country so much and so well. Plates Nos. 1 and 2 show the proposed Hall of Fame and the proposed Senate Building.

At the back of the Hall of Fame and facing San Mateo Hills and Mariquina Valley, we propose the erection of a Hall of Brotherhood, to be used as the assembly hall for important international meetings and conventions, a place dedicated to the peace



A PANORAMIC VIEW OF CONSTITUTION HILL

and progress of the world.

To the right of the House of Congress will be located the Palace of the Chief Executive. It will be divided into three sections. The main palace for official functions in the middle, the offices, on one side, and the residence on the other.

To the left of the House of Congress will be located the offices of the moderating constitutional bodies of our government. We refer to the Supreme Court, the Auditor General's Office, the Civil Service, the Electoral Commission, and the Commission on Elections.

Constitution Hill with 158 hectares, has ample reserved space for possible future edifices which should be constructed only in the rear areas, particularly in the vast site behind the Supreme Court group, to conserve the plaza and so that they will not detract attention from or otherwise break the harmonious motif of, the three main groups of buildings facing the plaza.

These three main buildings will symbolize for generations to the whole world, the government and culture of the nation. It is imperative that symbolic and dignified names be given to each one of them. These could be called Palaces or Houses. We have the Palace of Justice in Paris, and Buckingham Palace in London. We have the House of Parliament in London and the White House in Washington. Being a democracy and a Republic, we favor the designation of Houses to our main buildings, and the House of Congress could be very appropriately and symbolically called the House of Wisdom, the Palace of the President, and the House of Prudence, and the Offices of the Supreme Court and other moderating bodies, the House of Justice.

Wisdom, Prudence and Justice, the three main virtues so often mentioned and extolled in the Proverbs, would become the distinguishing qualities of the three departments of our government. A name can add prestige to a place and it can inspire great deeds and restrain improper use of power.

A permanent reviewing and speakers' stand will be erected on the first steps leading to the front yard of the House of Congress.

In the center of the Plaza of the Republic should be erected the Monument to President Quezon.

See Plate No. 3 for a panoramic view in colors of Constitution Hill, showing the mall along the Commonwealth Avenue.

Along the southwestern slope of Constitution Hill, an area of 44 hectares, between a creek, the Avenue of the Republic and the Commonwealth Avenue is the site recommended for a government housing project for high government officers.

V. DILIMAN QUADRANGLE

Commonwealth Avenue, the main avenue connecting the City of Manila to Quezon City, passes thru the Diliman Quadrangle and the old Capitol site, now the site of the Executive Building, and goes to Constitution Hill. It is very appropriately called Commonwealth Avenue as it was built during the Commonwealth period by President Quezon, who was our first President of the Commonwealth.

Inside the Quadrangle will be located the Central Park, which will include a botanical and zoological garden, a golf course and a national stadium.

Outside the periphery of the Quadrangle will be located the Executive Center (on the northeast corner), the City Hall (on the east), the Quezon Memorial (on the north, balancing the City Hall), the main Housing Project of the government and the Veterans' Hospital.

Near the Quadrangle, the Exposition Grounds and the grounds for the scientific bureaus are located.

Diliman Quadrangle is certainly the people's Quadrangle

VI. AVENUE OF THE REPUBLIC

The plan provides for a main thoroughfare with a 95-meter right-of-way running west from Constitution Hill, in due time to connect with the North Road and Dewey Boulevard.

Upon entering the Capital City limits, the visitor will notice a strip of parks on both sides of the Avenue. A big circle is located

at the end of this park which is the site chosen for the War Heroes Memorial.

After crossing the first circumferential road, identified as Mindanao Avenue, the visitor will enter the section of the Avenue of the Republic which is reserved for Business No. 1. Since the Avenue has a protective strip on both sides, these shops will be sufficiently far from heavy traffic. The plan calls for safety lanes with trees.

Moving eastward along the Avenue of the Republic, between the circumferential roads known as Visayas Avenue and Luzon Avenue, the visitor will find the section reserved for semi-public institutions.

From Luzon Avenue, the visitor will see mansions flying the flags of the different nations. This section is reserved for embassies and chancelleries.

The Avenue of the Republic ends with a small park surrounding the Square of the Republic.

As envisaged by the Commission, the Avenue of the Republic will be the principal showplace of the Capital City.

VII. AVENUE OF THE COMMONWEALTH

The Avenue of the Commonwealth will constitute the connecting link between the Executive Center, the U. P. site and the Constitution Hill, a distance of 6.5 kilometers. After leaving the U. P. site, the Avenue will be provided in the center strip with a mall 60 meters wide, a section 4.5 kilometers long, both sides of which are reserved for apartment houses (the first kilometer) and for future government buildings. At the point where the avenue changes its course is a convenient site for the location of a cathedral. The avenue will be a showplace and will have the benefit of the beautiful view of the Mariquina-San Mateo Valley.

VIII. NEIGHBORHOOD UNITS

A city is a living, growing and active organism, composed of different cells, each of which is self-contained in itself. This we call a neighborhood unit. It is in itself a complete unit, within which the basic and essential daily needs of family groups are provided for, such as playgrounds, parks, elementary schools, shopping center and other community facilities inherent to the needs of a community of men.

The size and extent of a neighborhood unit has been fixed at about 100 hectares (or about 1 kilometer square) based primarily on the convenient walking distance for the inhabitants, from their place of abode to the center of the unit, wherein are located the various facilities mentioned above.

Considering our climatic conditions, about 500 meters could be considered as a convenient walking distance.

The following data show the efficient figures and considerations taken into account for the design of a neighborhood unit.

Streets	18%	of	area	or	18 hectares
Schools	3%	"	"	"	3 "
Parks	12%	"	"	"	12 "
Churches, Shopping Centers & Community facilities	7%	"	"	"	7 "
Residential	60%	"	"	"	60 "

See Plate No. 4 for a panoramic view of a neighborhood unit.

IX. NEIGHBORHOOD DISTRICTS

Having the size and extent of each neighborhood unit, the next step was to group these neighborhood units (from 2 to 5) into districts.

Aside from a high school, each district is provided with a market and district business center, parks and playgrounds, and such other facilities needed by large groups of people.

The successful application of the above-mentioned planning principles will not be difficult within that area of the Capital City lying north of the U. P. site, due to its undeveloped and almost uninhabited conditions. It is, however, admitted that these principles cannot be readily carried out to its complete desired application within some fully developed areas lying directly south and southwest of the U. P. site, in view of the existing developments thereon and the planning methods adopted in these areas.

See Plan No. 5 for a detailed study of a neighborhood district.



A DISTRICT UNIT

CHAPTER II

LAND USES
THOROUGHFARES
THE PARK SYSTEM
GOVERNMENT BUILDINGS
CIVIC CENTERS
SEMI-PUBLIC BUILDINGS
CHURCH SITES
EMBASSIES AND CHANCELLERIES
EDUCATIONAL INSTITUTIONS
RESIDENTIAL ZONES
BUSINESS ZONES
INDUSTRIAL ZONES
BUS TERMINALS
PARK AREAS
CEMETERY AND FUNERAL PARLORS
AIRPORTS
AIR RAID SHELTERS
OTHER SPECIAL USES
AGRICULTURAL BELT

CHAPTER II—LAND USES

I. LAND USES

The land within the Capital City may be classified according to the use assigned, as follows:

1. Thoroughfares
2. Parks
3. Government buildings (national or city owned)
4. Civic centers (national or city owned)
5. Semi-public buildings
6. Church sites
7. Embassies and Chancelleries
8. Educational institutions
9. Residential zones
10. Business zones
11. Industrial zones
12. Bus terminals
13. Parking areas (government or privately owned)
14. Cemeteries and funeral parlors
15. Airports
16. Other special uses
17. Agricultural belts

Plan No. 6 shows the existing land uses of Quezon City of 1941, and Plan No. 7 shows the proposed land uses. Appendix IV is a table showing areas of land for the different land uses in the metropolitan area and in the neighborhood districts.

II. THOROUGHFARES

A. General Layout

Although due regard was given to the rolling topography of the site, an effort was made to trace the main thoroughfares along straight lines as much as possible. See Plan No. 8 which shows the thoroughfare system.

Considering that one of the most characteristic traits of a city is the framework of its streets and the manner in which that framework is treated, and furthermore, that the Capital City comprises an area of 14,459 hectares, the Commission found it indispensable to follow a certain symmetry in the general layout of the main thoroughfares, to achieve a monumental character in the plan of the metropolitan area and so that visitors may easily acquaint themselves with the thoroughfare system of the Capital City.

However, within the neighborhood units, a symmetrical treatment is not necessary so that more regard was given to natural contours.

Thus, we are able to present for our metropolitan area a plan which embodies all the dignity and grandeur of a Champs Ellysees or an Unter-der-Linden, while maintaining, at the same time, the advantages inherent in the asymmetrical and informal treatment of the neighborhood units.

In line with the modern concept of laying out thoroughfares of an integrated city, the major streets follow the radial and circumferential pattern, with Constitution Hill as the focal point.

A major factor that governed the laying out of the thoroughfares is the Capital City's proximity to Manila. The three main radial roads, therefore, were designed to make the new city accessible from Manila, which, obviously, will be the principal source of traffic.

Other regional arteries are laid out to reach the Capital City from all directions. This includes the Avenue of the Republic, which was laid out to serve the big traffic that in time will come from the north.

B. Classification of Thoroughfares

The different types of thoroughfares provided in the Master Plan are classified as follows:

1. **Avenues (Radials and Circumferentials)**

Avenues are radials or circumferential roads of limited access.

These arteries are meant to carry a continuous and uninterrupted flow of traffic. Access of these arteries shall be at very limited points about one (1) kilometer apart.

All avenues shall be provided with service streets along both sides separated from the main roadways by plant strips.

The width of the avenues are from 60 to 95 meters wide. A portion of Commonwealth Avenue is provided in its center with a mall 60 meters wide.

2. **Secondary Roads**

These streets are meant to be subsidiaries and feeders to the avenues. They are meant to carry the bulk of traffic feeding into the different districts.

They are 38 meters wide.

3. **Parkways**

There shall be a system of parkways along the periphery of the city, to be connected with the proposed parkways in Manila.

The width of the parkways is at least 60 meters.

4. **Neighborhood Distributors**

Within each neighborhood and metropolitan unit there shall be "neighborhood distributor streets", which are actually the main arteries of each neighborhood unit, and which shall carry the main bulk of traffic within each neighborhood and metropolitan unit.

5. **Local Streets**

Local streets act as subsidiaries or feeders to the neighborhood distributors to serve the residential areas.

These streets are from 13 to 17 meters wide.

C. **Thoroughfares of the Master Plan**

The Master Plan calls for eleven major thoroughfares, as follows:

1. The Parkways—which encircles the entire city to be known as Katipunan Parkway. A branch of this park leads eastward to connect the town of Montalban, adjoining which are extensive land reservations of the government.

2. The circumferential road (Highway 54), to be called Liberation Avenue.

3. Extension of Sta. Mesa Boulevard, up to Mariquina, to be known as Malaya Avenue.

4. The continuation of España Extension to be known as Luzon Avenue, a circumferential road that after traversing U. P. and Balara goes northwestward to San Jose del Monte.

5. Commonwealth Avenue already described in Chapter I.7.

6. In Manila, a new road will begin from the overhead crossing at Dimasalang, cutting through San Francisco del Monte, then through the northern boundary of the Exposition site up to Constitution Hill. This road is identified as Congressional Avenue.

7. Avenue of the Republic. This avenue has already been described in Chapter I.6. It has for its purpose, to provide a direct connection with Polo and Meycauayan which the Commission envisions will become an important food and industrial center. A big airfield north of Manila, in Polo, is also recommended in the Master Plan and

the Avenue of the Republic will provide direct connection between said airfield and the Capital City. While in the immediate future, Commonwealth Avenue and Congressional Avenue will carry the greatest traffic, in time, the Avenue of the Republic will gain importance as the Capital City develops towards the north.

8. Visayas Avenue, a circumferential road which will connect the north road in Meycauayan, passing through the industrial section of the north district, bisects the Avenue of the Republic, serves the Business Center and the Executive Center and ends at the Malaya Avenue.

9. *Mindanao Avenue, coming from the* Ipo road, going southwest, bisects the north district, intersecting the Avenue of the Republic at the Monument of the War Heroes; continues southward, serves the Metropolitan Business Center, the scientific bureaus and the Exposition, and terminates at Liberation Avenue.

10. Presidential Avenue, the parkway, which starting from Constitution Hill, goes northward to eventually connect with the national park reservation of Biaknabato and the national forest park reservation of Bongabong. The road will traverse the most scenic section of Luzon.

11. Judicial Avenue, which connects the Capital with the San Mateo Hills.

12. Attached hereto as Plan No. 8 is the thoroughfare system.

III. THE PARK SYSTEM

A. General Layout

To beautify the city and to offer ample open spaces for the relaxation and enjoyment of its inhabitants, a system of parks, parkways and green strips is generously provided in the Plan.

Under the Master Plan, parks in the metropolitan area and in the neighborhood districts, cover roughly 9% and 5%, respectively.

Public parks are located at convenient points in each neighborhood district. The neighborhood units shall have playgrounds and play lots where children may play within walking distance from their homes and free from traffic hazards.

To exploit scenic resources to the full, and to protect water courses, the system of parks are designed along rivers and creeks.

An important feature of the Master Plan is the emphasis given on shaded lanes along the roads.

See Plan No. 9 for parks and open spaces.

B. The Central Park

The heart of the park system of the Capital City is the Diliman Quadrangle consisting of about four hundred hectares. It will be devoted exclusively to park facilities and allied recreations.

Manila at present has insufficient park facilities for its inhabitants; for this reason, the Central Park has been located as nearly as possible to Manila.

The entire northern half of the Quadrangle (about 200 hectares) will include a botanical and zoological garden, incorporating the latest in landscaping techniques.

The southwestern quarter of the Quadrangle, an area of about 100 hectares will be converted into a municipal golf course.

The southeastern quarter of the Quadrangle has been allocated for the national stadium. There will be approximately one hundred hectares devoted exclusively to major sports. It is pro-

posed that facilities similar or even better than the present Rizal Memorial be constructed in this area.

C. Metropolitan Park System

Northeast of the Quadrangle and southwest of Constitution Hill, within the embrasure of the Commonwealth and Republic Avenues, and traversed by Congressional Avenue is a depression with an area of 170 hectares. It is in long, irregular strips, dispersed in such a way as to make it ideal as a park area to serve the residential section of the Metropolitan district.

This site can be made to look like a natural park with picnic groves, lanes and wooded areas, for passive recreation.

However, certain areas may be set aside for future recreational purposes.

D. North Parks

The system of parks in the north district is a combination of natural parks, bordering the streams and rivers, and a man-made park forming a semi-circle, 200 meters wide, patterned in order to distribute the green through the different neighborhood districts. It covers a total area of 210 hectares.

E. South and West Parks

Considering that the Central Park is easily accessible to the west and south neighborhood districts, the south park is a small strip, covering an area of 36 hectares, while the park system in the west, mostly along San Juan River, have a total area of 43 hectres.

The Capital City, in fine, will be a garden city.

III. GOVERNMENT BUILDINGS

A. Location of Six Government Centers

In favor of a plan of centralized grouping of practically all of the offices of the national government, within an area of around 250 hectares in Constitution Hill, it was argued that greater efficiency in inter-governmental relations could be achieved by grouping the buildings in one Government Center. It has also been pointed that the government offices if all grouped together would be more accessible to the general public.

After a mature deliberation, the Commission, however, decided to adopt a policy of decentralization for different government activities, for the reasons hereinafter mentioned.

Six different government units are provided in the Master Plan, as follows:

1. **Constitution Hill** (already described in Chapter I.4).

2. **The Executive Center** located in the periphery of the north-east corner of Diliman Quadrangle.

On the very oval where the Capitol building was to be located under the old plan, we recommend the construction of a big building to house most, if not all, of the Executive Departments, using as much as possible the foundations already laid at this site, which has cost the government about half of a million pesos.

Portions adjoining both sides of the oval fronting the quadrangle, with a total area of 50 hectares are the site selected for the different non-scientific bureaus of the government.

The following considerations have prompted the Commission to recommend this site for the Executive Center.

(a) The distance of 6.5 kilometers between this site and the Constitution Hill is but a matter of six minutes' drive by car on the proposed Commonwealth Avenue linking these sites.

(b) The government already owns this site and all the land adjoining it, covering a total area of 1,600 hectares. On the other hand, Constitution Hill and the surrounding

areas are not yet owned by the government.

(c) From the point of view of the convenience of minor employees, this location for the main bulk of the Executive Departments and Bureaus of the government has the added advantage of being nearer the City of Manila. In addition, this old capitol site is in the center of properties owned by an agency of the government, the People's Homesite and Housing Corporation, which has sold many lots to government employees.

(d) From the aesthetic point of view, it is advisable that all the land surrounding Constitution Hill be classified as first-class residential lots.

(e) The traffic and parking problems would be greatly reduced by separating the two government centers (constitutional bodies and the Executive Department) since the flow of traffic will be considerably diminished.

(f) The argument that a single government center would shorten distances between government offices loses its merits if one considers that—

(1) Only occasionally are a few employees of bureaus called upon to pay official visits to Constitution Hill. Generally, only Department Secretaries, Under-Secretaries and Directors of the bureaus have to visit Constitution Hill.

(2) A consideration more important than accessibility of the Constitutional offices to the personnel of the bureaus is to place governmental centers nearer the homes of the minor government employees..

3. **A Scientific Government Center**

Intended for the Bureau of Plant Industry, Bureau of Animal Industry, the Bureau of Science, the Bureau of Soils, and other scientific bureaus, this site covering an area of 100 hectares adjoins the Exposition Grounds. During exhibition periods the exhibits of the scientific bureaus may thus be easily accessible to the public attending the exposition. Furthermore, the site, bounded by important thoroughfares, namely, Liberation Avenue, Congressional Avenue and Katipunan Parkway, may become a showplace, always accessible to the general public.

4. **Metropolitan Police**

The present Camp Murphy and Camp Crame sites should be maintained as the site for the metropolitan police. For safety and strategic reasons, the General Headquarters of the Armed Forces should be transferred to a place outside Capital City.

5. **Government Enterprises Center**

The industrial activities of the government and its various corporations should be grouped together, within the industrial zone in the northeast section of the city. To this end, an area of 50 hectares has been reserved. This site may also be used for the terminal in Quezon City of the Manila Railroad Company.

6. **Government Business Center**

The government should reserve for itself enough area within the business center to house the business and financial activities of the government. While the warehouses of the government enterprises and corporations, should be located in the industrial section of the city as mentioned in the proceeding paragraph, these government cor-

porations and enterprises should have their offices in the business district. It should be noted that the Industrial Section is not very far from the business center (not more than 4 kilometers away) and directly connected by a major thoroughfare.

B. Housing Project of the Government

The Master Plan calls for a housing project for civil service employees of the government near the Diliman Quadrangle adjoining the main bureaus of the government, covering an area of 120 hectares. It should be noted that this area adjoins the medium density residential section of the metropolitan area. It is an ideal location, in that it will be adjoining the main bureaus of the government and the Central Park.

Another housing project for the government is provided for high government officials, near Constitution Hill in the low density residential section, covering an area of 50 hectares.

These two housing projects, for high dignitaries and for civil service employees, should be operated on a lease basis. Officers and employees who prefer to buy their own lots, should be given priority to acquire them from the Commission in the residential areas of the different neighborhoods.

Furthermore, 21 hectares are being reserved for the Manila Hotel north of Constitution Hill. The space reserved is ample enough to provide for a nine-hole golf course. The site has a commanding view of Constitution Hill, the San Mateo-Mariquina Valley and the Metropolitan Water Reservation.

C. City Hall

The City Hall will be located in the former site reserved for the Supreme Court in the old Plan. In the selection of the site, its proximity to the present populated section of Quezon City was a major consideration. The site is on the highest elevation of the south-east periphery of Diliman Quadrangle.

D. Veterans' Hospital

The site of the Veterans' Hospital, covering an area of 30 hectares, is located to the south of the exposition grounds separated from it by Liberation Avenue. The site for a hospital has the advantage that it will have the benefit of the open spaces provided by the Exposition Grounds on the north and by the golf course on the east. Furthermore, it will be constructed on property already owned by the government (People's Homesite Corporation) and very accessible not only to the City of Manila, but to the neighboring municipalities on the north.

E. Government Buildings in the Neighborhood Units

The exact location of government buildings in the neighborhood units, mostly municipal owned, are yet to be determined. They will be the subject of study, as the different neighborhood units are planned. However, a neighborhood district in the Master Plan, has already been the subject of a detailed study in Plan No. 5. In the said plan, the area reserved for government buildings are as follows:

1. In the neighborhood units
   - a. The elementary school 2.14 has.
   - b. For the civic center 1.25 "
   - c. Shopping center .88 "
2. In the neighborhood districts
   - a. For the high school 3.14 has.
   - b. For the public market 2.00 "
   - c. For the civic center 4.60 "
   - d. For the health center 2.50 "

V. CIVIC CENTERS

The civic centers provided in the plan are the following:

1. **Quezon Memorial**

The Quezon Memorial, covering an area of 10 hectares, has been located in the former site allotted for the Presidential Palace in the Quezon-Frost Plan. It is the highest elevation in the north-east periphery of Diliman Quadrangle and it will balance the City Hall to be erected on another side of the Diliman Quadrangle.

2. **Cultural Center**

A civic center of 20 hectares located near the City Hall. It should contain the City Public Library, an auditorium and a theatre.

3. **Exposition Grounds**

The exposition grounds continue in the same old site designated in the old plan. It has an area of 46 hectares. The foundations of several of the buildings were laid in the said site prior to the war. It is conveniently located, being easily accessibble from Manila and the north. It is served by Liberation, Congressional and Mindanao Avenues.

4. **National Sports Center**

It will cover one fourth of the Central Park, an area of 100 hectares, located in the south-east of the Diliman Quadrangle. This sports center could be developed to become the most modern and up-to-date sports center in the Far East. The site selected is ideal not far from the City of Manila and with fine approaches afforded by the Commonwealth Avenue, Liberation Avenue and Diliman Quadrangle.

5. **North Sports Center**

Another sports center in the north is provided adjoining the non-commercial airfield located near the Metropolitan Water Shed.

6. **A Medical Center**

A medical center of 40 hectares is recommended along Katipunan Parkway facing the San Mateo-Mariquina Valley.

7. **A Health Center**

A health center of 11 hectares is located near the Metropolitan Water Shed.

8. **Monument for War Heroes**

The circle on the western end of the Avenue of the Republic is the site selected for a war memorial. Said circle should be surrounded by a small park.

9. **General Hospital**

The Commission recommends that the present Quezon Preventorium on Espana Extension should be converted into a general hospital for the Capital City.

Quezon Preventorium was established many years before the establishment of Quezon City, in what was then the outskirts of the City of Manila. Today, Quezon Preventorium stands at one of the main entrances of the Capital City in a district bound to grow in population, being very near the City of Manila.

It would then seem proper that the premises of Quezon Preventorium be converted into a general hospital as the Commission does not favor the operation of a hospital for tuberculous patients within the limits of the Capital City.

Naturally, proper compensation will have to be paid to the Philippine Anti-Tuberculosis Society for the land and building of the present Quezon Preventorium.

10. **District Civic Centers**

There shall be a civic center in each district. Within these centers, there shall be located such buildings to house the following:

1. Small lending library
2. Community hall and auditorium
3. Police precinct and jail
4. Fire station
5. Clinic and health center
6. Recreational halls
7. Boy Scouts, Girl Scouts, etc.

III. Neighborhood Civic Centers

Lastly, there shall be a small center within each neighborhood unit.

Within these centers there shall be police outposts, and detention cells, fire stations, nurseries, health clinics and maternity centers, communal halls, arts and crafts centers, and such buildings as may be necessary to house other community interests inherent to a neighborhood unit.

VII. SEMI-PUBLIC USES

A tract of land on both sides of the Avenue of the Republic has been reserved for semi-public buildings such as the Red Cross, the Boy Scouts, the Girl Scouts, etc.

VIII. CHURCH SITES

Churches and other places of worship can be located in any of the residential zones and in the Business 1 zone. This goes for metropolitan areas and for neighborhood units.

In addition, the Commission has chosen ten choice lots in the metropolitan area, for church sites, to insure proper distribution of cathedrals and important places of worship of the different denominations. These ten locations are marked with a cross in the Master Plan. The government should acquire and sell these locations to the different religious denominations and congregations.

IX. EMBASSIES AND CHANCELLERIES

A section facing the Avenue of the Republic is reserved for embassies and chancelleries. It is advisable to locate the embassies as close possible to Constitution Hill.

This portion must be acquired by the government and sold in lots to the different governments accredited to the Republic.

X. EDUCATIONAL INSTITUTIONS

The elementary schools and high schools will be located in the centers of neighborhood units and neighborhood districts, respectively.

The center of high educational activity will be the U. P. site comprising approximately 600 hectares between the Quadrangle and Constitution Hill. The Ateneo de Manila already has a program for developing its own site near the U. P. site, and in all probability, other big institutions of higher learning will follow this lead.

The Commission does not wish to encourage a concentration of colleges and universities in that area and will allow the location of other educational institutions in the different parts of the city, subject only to the following restrictions:

1. Schools established within a low density residential district must provide ample campus for its students in the proportion of 10 square meters of open spaces for each square meter of land covered by buildings.
2. Schools established in medium density residential unit must provide open space in the proportion of 5 square meters of open space of every square meter of land covered by buildings.
3. Educational institutions in high density residential areas, in commercial or industrial sections, must provide a minimum open space of 3 square meters for each square meter of land covered by buildings.

These minimum requirements for open spaces answer amply the minimum requirements that must be demanded from an institution of learning for athletic grounds and campus.

XI. RESIDENTIAL ZONES

A. Kinds of Residential Zones

Residential zones in the metropolitan area and in the neighborhood units are classified as follows:

1. Villa type residential zone. This is a special residential zone found only in that strip of land north-east of Constitution Hill and east of the Metropolitan Water Reservation. Because of the broken nature of the land in this section, it is highly suited to villa type of residence with a minimum of 5000 square meters for each home. Being very near the water reservoir, hygienic considerations suggest that this area should be sparsely populated.
2. Low density residential zone. Lots must have a minimum of 2,000 square meters per building. The building should not occupy more than 15% of the area of the lot.

3. Medium density residential zone. Lots must have a minimum of 800 square meters per building and the same must not cover more than 25% of the area of the lot.
4. High density residential zone. Lots must have a minimum of 400 square meters per building and the same must not cover more than 40% of the area of the lot.
5. Multi-family dwellings. Multi-family dwellings are only allowed in certain areas reserved for this class of dwellings and in medium and high density residential zones.

In the low density residential zone of the neighborhood units, buildings constructed for residential purposes will be limited to one family detached dwellings.

In the residential zones of the neighborhood units, no house exceeding three stories will be allowed.

In the residential zones of the metropolitan areas buildings can be more than three stories high.

The above restrictions as to the area of the building refers to buildings that are not more than three stories high, including the basement, if any. The area of each additional story (including hotels and apartments) must be added to the area of the structure to determine whether the building area restrictions above mentioned are observed. This additional requirement for buildings higher than three stories will not obtain for educational institutions, except for dormitories.

B. **Other Uses for Residential Zones**

Churches, places of worship, and educational institutions may be located in any of the residential zones, both in the metropolitan areas and in the neighborhood units. In the medium and high density residential zones (both in the metropolitan areas and neighborhood units) hospitals and clinics for non-contagious diseases, club houses not conducted for business, orphanages and other welfare homes are allowed subject to the general building restrictions above mentioned.

C. **Location of Different Residential Zones**

In the metropolitan area. Mention has already been made of the location in the metropolitan area of the villa type residential zone. A low density residential zone is located around Constitution Hill to make this the most distinguished and most beautiful section of the city. A big residential zone of medium density (spotted with a few small residential zone of high density) adjoins the business center and the main bureaus and housing project of the government.

In thus locating the medium and high density residential sections, the mass of employees of the government and business firms could have their homes near their places of work.

In the metropolitan units, the different kinds of residential zones form large blocks of areas and the development should be more homogenous in character.

In the neighborhood units. Large homogenous development will not be possible or desirable in the neighborhood units. It is the aim of the Commission to sponsor a more democratic way of life in the neighborhood units to the extent that the low density, medium density and high density residential zones in the neighborhood units are small blocks intimately related to each other.

XI. BUSINESS ZONES

A. **Kinds of Business Zones**

Business zones in the metropolitan areas and in the neighborhood units are classified into Business 1, Business 2, Business 3, Business 4, and Public Market Places. In all these zones, the area of the building in relation to the lot it occupies must conform with the requirements prescribed for high density residential zones.

Business 1. These are apartment houses, hotels and office buildings built of concrete of three or more stories, the ground floor of which may be used for high class stories and restaurants.

An example in Manila of this zone is the Dewey Boulevard in those sections covered with high buildings. In the neighborhood units the buildings are limited to three stories high.

Business 2. These are two-story semi-commercial buildings where the upper story are used for residential purposes and the ground floor in used for business, restricted to the following: flower shops, beauty parlors, small drug stores, professional offices, candy shops, small first-class restaurants, and in general, small stores not specifically enumerated under Business 3 and Business 4 and which, by the nature of its business, do not attract great crowds. An example of this zone in Manila would be Taft Avenue.

Business 3. Any use permitted in Business 1 and Business 2; department stories and big stores, cinematographs and other recreations centers conducted for profit, not listed under Business 4. The building in this area must be of concrete and provided with an arcade.

Business 4. Any use permitted in Business 1 and Business 2 and Business 3, grocery stores and food shops, provided the food is kept in cooling units; gasoline and automobile stations; night clubs, billiards or pool rooms and bowling alleys unless in connection with clubs and hotels, dance halls and dancing academies. Buildings in this zones shall have an arcade.

Public Market Places. These are big establishments operated and controlled by the city for the sale of food and textiles.

B. Location of Business Zones

Metropolitan business center. A metropolitan business center of about 318 hectares is being provided in the metropolitan area. The zonification of this district into Business 1, 2, 3 and 4 has to be studied yet.

South business center. A south business center of 45 hectares is provided not far from Camp Crame to serve the needs of the south community of the Capital City.

North business center. A north business center of about 80 hectares has been provided in the north district in an area north of the intersection of the Luzon and Mindanao Avenues. However, no business establishment will be allowed along the said thoroughfares.

Central public market. A central public market, to serve as a food distributing center, is provided at the entrance of the Capital City near the Avenue of the Republic. It has an area of 35 hectares.

Neighborhood shopping center. The neighborhood shopping center shall contain such shops, stores and recreational centers (Business 3 and 4) as are needed to fulfill the primary and immediate needs of families within the unit.

District commercial center. The district commercial center is to serve a group of neighborhood units. It should be centrally located. The district commercial center shall contain: a market, big stores, theatres, business and professional offices.

XII. INDUSTRIAL ZONES

A. Kinds of Industrial Zones

The industrial zones in the metropolitan areas and in the neighborhood units are classified into light and medium.

Light industrial zones: Light industries are small industries that do not use more than five laborers nor motors of more than five-horse power and do not constitute a source of nuisance and are not listed under Medium Industries. However, commercial garage, second-hand machinery, hand laundries, ice drop or ice cream factories will be considered light industries.

Medium industrial zones: Medium industries are the following: bakeries, blacksmithing and tinsmith shop, carrocerias, commercial stables, junk yards, coal or charcoal yard, ice plant and cold

storage, machine shop, motor vehicle repair shops, hollow-cement block factories, printing press using machinery of more than five horse power, furniture factory using more than five laborers, embroidery factory, warehouses, not located at the back of a store, soft drinks factories, alcohol manufacture including the brewing of liquor or spirits, candle manufacture using machineries of not more than ten-horse power, steam laundries, lumber yards and other medium industries which do not constitute a nuisance. All other industries are not permitted within the Capital City.

Location of the Industrial Zones

Although the Capital City is intended primarily for the activities of the national government, provisions are made in the plan for the allocation of sites for industrial purposes of the light and medium type. Heavy industries are not allowed in the Capital City to avoid noise and other obnoxious characteristics of factories in heavy industries.

The Commission favors the establishment in the City of light and medium industries because sources of livelihood should be made available to the families of government personnel and to other persons who may reside at the Capital City.

As the general plan indicates, the main industrial section is located almost at the outskirts of the Capital City where it will offer the least inconvenience to city residents. The plan also allocates certain small sections close to the high density neighborhoods of the district units for light industrial uses.

TERMINALS

The wise selection of bus terminals strategically located throughout the whole city will greatly contribute to the elimination of future traffic problems and to the easy distribution of traffic within the Capital City. It is suggested that bus terminals be located in the following places:

1. In the park near Constitution Hill.
2. In each of the four corners of the Diliman Quadrangle.
3. In the U. P. site.
4. In two places to be hereinafter selected in the Business Center.
5. In the North Business Center.
6. In the South Business Center.
7. In all public markets.
8. In each district commercial center, and
9. In the medium industrial zone.

XIV. PARKING AREAS

The Master Plan does not show any specific parking area. This will be the subject of further studies. Needless to say, suitable parking areas for all government offices must be provided when the location plans for the different buildings are prepared.

It is the policy of the Commission not to permit parking in any of the main roads of the city. Parking in these sections will only be permitted in off-street parking areas.

Theatres, churches, department stores, office buildings and apartment house should be required to provide their own parking areas.

XV. CEMETERIES AND FUNERAL PARLORS

The plan proposes the location of one national cemetery in the scenic hills of San Mateo across the Mariquina River from the Capital City. This national cemetery is intended to be developed along the lines of the Arlington National Cemetery near Washington D. C. where our great man will be buried.

To serve the future of the city, the Master Plan calls for a cemetery of about 100 hectares between the scientific bureaus and the industrial zone. This site is served by the Katipunan parkway on the west and south and by secondary roads on the north and east. Three major thoroughfares, namely, Liberation, Congressional and Mindanao Avenues, although purposely not made to adjoin the cemetery, will provide easy access to the same.

On the north, a big cemetery is recommended of not less than 200 hectares to serve the north district, in an area adjoining but not within the Capital City. This cemetery is made accessible by the Luzon and Visayas Avenue.

To serve the requirements of the people in the south district, another 100 hectare cemetery is recommended at the southeastern corner of the Capital City. This cemetery is surrounded on the north, east and south secondary roads and is made accessible by the Katipunan parkway and an avenue at the south boundary of the city.

The Commission recommends that all cemeteries be subject to a very strict architectural control. An effort should be made to develop the cemeteries along the lines of the Forest Lawn of Los Angeles.

Funeral parlors will not be allowed outside the radius of 500 meters from a cemetery and must be on land not less than one and a half hectares. With this plan the distance to be covered by a funeral cortege is reduced to a minimum, and funeral parlors will be built around a garden with ample parking grounds.

XVI. AIRPORTS

The Commission recommends one non-commercial airport within the Capital City, to be located in the Northern boundary of the city, adjoining the Metropolitan Water Reservation.

The Commission feels that there is need for a big commercial airfield North of Manila, which should be located somewhere in Polo. This commercial airport would be made accessible by the Avenue of the Republic.

The Commission feels that the ample spaces *for parks thtat are provided in* the Master Plan could, in time, serve as small landing fields for helicopters, should a demand arises for such landing fields in the future.

XVII. AIR RAID SHELTERS

The Commission proposes that appropriate facilities be provided for air raid shelters at strategic points of the city. This location should be determined after a more thorough study.

The Commission recommends the construction of a large vault in the Capitol Building as depository of priceless documents, art treasures and archives for permanent safekeeping and for protection in the event of air raids.

XVIII. OTHER SPECIAL USES

Race Track — The Commission favors the establishment of one race track within the Capital City and recommends a site to the North of Liberation Avenue at the entrance of the Capital City.

XIX. AGRICULTURAL BELT

Agricultural belts are one way of insuring against evercrowding in a city and also one way of providing more green and open spaces. For these reasons, and in order to protect the view from Constitution Hill of the San Mateo-Marikina Valley a strip of land along the Mariquina River, at present used for agricultural purposes, has been zoned in the Master Plan as an agricultural belt. But this is more easily said than accomplished. With the increase of population in the Capital City, the agricultural land will, in time, increase in value, and little by little they will be sold in small estates, and from small estates they will be converted into purely residential lots, and the pressure of vested interests will be such that the city authorities will be powerless to enforce the original plan of permanently maintaining this land as an agricultural belt. In justice to the owners, the Commission believes that the government should acquire these properties today at *their present value. By owning the pro*perties, the government will have full control over them and will therefore be able to keep the land indefinitely as an agricultural belt.

CHAPTER III

THE ENABLING ACT
RECOMMENDED AMENDMENTS TO THE ENABLING ACT
THE BUREAU OF LANDS SURVEY
LAND POLICY
HOUSING
PUBLIC UTILITIES
COST OF THOROUGHFARES
FINANCING
THE FIRST FIVE-YEAR PROGRAM
TWENTY MILLION PESO BOND ISSUE
ADMINISTRATIVE PROBLEMS
SUMMARY OF IMPORTANT RECOMMENDATIONS

CHAPTER III—EXECUTION OF THE MASTER PLAN

THE ENABLING ACT

Our Enabling Act, Republic Act No. 333, has been the subject of a careful study by this Commission and by the Secretary of Justice. At the request of the Commission, the Secretary of Justice rendered two opinions on the main provisions of the Act (Opinion Nos. 222 and 249 s. 1948).

Attached hereto as Appendix V is a summary of the powers of the Commission based on the opinion of the Secretary of Justice.

RECOMMENDED AMENDMENTS TO THE ENABLING ACT

The Commission recommends the following amendments to the law:

1. For a coordinated, expedient, economical and faithful execution of the Master Plan, that the Commission be entrusted with the duty to design and prepare plans and specifications of the national government buildings in the Capital City.

2. The levying of special assessments for municipal works in Quezon City comes under the jurisdiction of the City Council. Special assessments should be levied to help finance many of the public works to be undertaken by the Commission, the power to levy such assessments to be vested in the Commission. We recommend that the Enabling Act be amended, vesting on this Commission the power to levy such special assessments.

THE BUREAU OF LANDS SURVEY

The Enabling Act, Section 6, provides that the Director of Lands shall undertake the survey of the area defined in Section 2 of the Act and prepare a plan indicating the names of owners of the different lots, area, assessed value and improvements if any.

Section 2 of the Act defines the boundaries and limits of the entire Quezon City, new and old.

On February 24, 1949, the Director of Lands submitted to the Commission the complete results of the survey, limited, however, to the area added to Quezon City under Act 333, i.e. the new area of Quezon City.

A study of the report of the Director of Lands, limited to 168 information sheets only, shows the following:

1. There are 6699 lots with an area of 12,000 hectares in round number.
2. Assessed value as of 1946 of the said area **in not available.**
3. Total assessed value of 116,896.45 square meters as of 1947 and 1948 amounts to P18,000,022.44, at an average of P0.15405 per square meter.
4. There are 4719 lots less than one hectare.
5. There are 496 lots between one hectare and two hectares.
6. There are 846 lots between two hectares and ten hectares.
7. There are 241 lots between ten hectares and fifty hectares.
8. There are 9 lots between fifty hectares and one-hundred hectares.
9. There are 3 lots between one-hundred hectares and two-hundred hectares.
10. There are 5 lots more than two-hundred hectares.

IV. LAND POLICY

The Commission, in its meeting of January 8, 1949, adopted a resolution in regard to the acquisition of private estates. The Commission resolved that:

"The biggest problem confronting the Capital City Planning Commission in regard to the acquisition of private estates at the Capital City site is to prevent speculation in real estate which might force the government to purchase lands needed for public uses at prohibitive prices. For this reason, this Commission recommends the immediate acquisition, either by direct purchase or by expropriation of lands for the following uses:

1. The areas to be occupied or utilized for national and city government buildings, roads, parks, markets, and other essential public uses.

2. Lands allocated for the construction of housing projects for government employees.
3. Lands designated for industrial and commercial purposes which, according to Republic Act 333, should be leased to private users, with the permanent ownership retained by the government.
4. The agricultural belts designated on the Master Plan.
5. For subdivision and resale or lease to the public, 50% of the area of all private estates in excess of one hectare in area; provided, however, that estates dedicated exclusively to educational, charitable, sports and other recreational uses shall be exempt from expropriation; and provided further that no portion of land so exempted shall be used for subdivision purposes.

The Commission further resolved to make of record the following reasons for adopting paragraph 5 of this policy:

1. The "one-hectare" clause is inserted to protect small land owners who are encouraged to develop their own property.
2. Exemption is made of educational and charitable institutions due to their public service.
3. The "50 per cent formula" was a compromise designed to meet the following situations:
   a. Experience has shown that real estate development is generally faster and more economical under private operation.
   b. A monopoly by the state, of all subdivisions in the Capital City, with all its attendant evils is prevented, free enterprise, assured; and competition, allowed, with the expectation of bringing prices of lots down.
   c. The government, by acquiring the other 50 per cent of the big estates in the neighborhood areas, can help stabilize the price at reasonable limits.

HOUSING

A. Solving the Housing Problem

With the establishment of the new Capital City and the subsequent transfer of the public buildings outside of Manila, the government is afforded an opportunity to solve definitely the problem of "Housing" in Manila. Undoubtedly this will be a very propitious time for the government to exercise its mission not only to eliminate overcrowding in Manila but also to introduce models of development based on sound and wise policy that will redound to the benefit of the needy class and will serve as guide for other communities of the country.

B. **Kinds of government employees affected by the problem.**

1. The low-income group, composed mainly of laborers and workers.
2. The medium-income group.
3. The high-income group.

The provision of good houses and good sites for comfortable homes for all classes of employees is gaining acceptance as a government responsibility. Beautiful streets, parks, public buildings and other important features of a good city plan would lose the greater part of their beauties and grandeur if the residential homes in their midst are not made "decent, respectable, sanitary, cheerful livable dwellings for those who toil.

To make certain that blighted areas do not develop in this new Capital City, a model housing plan must be developed by the government at least for its employees, otherwise improperly designed houses would crop up in this beautiful city that will be. Slum areas, difficult and costly to rehabilitate and reclaim would develop if the government does not take the first step to prevent such an eventuality.

C. **Housing For Government Employees**

The Commission, as stated in another part of this Report, has reserved an area adjoining the Executive Center for the housing project for civil service employees, and another area adjoining Constitution Hill for the housing project for high government officials. The Commission recommends that houses in both localities be constructed by the government for lease and not for sale. However, if an employee or officer of the government profers to have his own home, he should be given preference in acquiring a lot in one of the residential areas or neighborhood units.

D.

E.

1. Housing for Laborers

It is estimated that more than 10,000 laborers will be needed in the construction of the new roads and public utilities of the city, based on the program of construction which the Commission recommends in this Report.

To this should be added the laborers needed for the construction of national buildings. If all the government buildings needed are constructed within ten years (at a total cost of ₱50,000,000), it is estimated that no less than 10,000 laborers will be needed to carry out the plan. In line with the idea of encouraging laborers to use their spare hours in the construction of permanent homes for themselves, we suggest the following working plan:

1. Laborers working in a public project in Quezon City will be given the privilege of a loan in the form of materials, provided he agrees to build his house in conformity with plans and specifications prepared by the housing corporation.
2. The government will give a subsidy to the laborer equivalent to a certain discount on the cost value of materials loaned to the laborer.
3. The laborer will pay for these materials, by deducting a certain percentage every week from his wages.
4. The house will be constructed on a lot acquired by this Commission subject to a contract of sale to the laborers; the price of the lot to be fixed in accordance with the provision of Republic Act 333.
5. The laborers will group among themselves so that they will help each other in the construction of their houses.

2. Materials

Another angle to be considered are the materials to be used in the construction of the houses. Should the government favor cheap materials that will not last long, or should the government favor the construction of substantial houses? Needless to say, the price factor has to be considered, but more so, we believe, preference should be given to the use of materials that are anufactured locally. For this reason, the Commission favors the use of hollow-blocks or wood for outside walls, and the use of asbestos corrugated sheets, or ceramic tiles for roofing

F. Government Financial Assistance

The Commission recommends the following financial assistance: The assistance to the medium class and to the well-to-do should be limited to loans granted by financial institutions of the government. However, where the financial institutions of the government cannot meet all the applications for loans, the government should give preference to the medium class rather than the well-to-do. It seems that our government financial institutions have not yet made this distinction by granting this priority t othe medium class and low-income class. For financial assistance, the well-to-do can look upon private banks and other financial institutions.

VI. PUBLIC UTILITIES

Under this heading we shall include only such services as water supply, sewerage, drainage, and refuse collection and disposal, which due to their clolse relation to public health and welfare, to say nothing of the safety they impart to the community, should be undertaken, operated and maintained by the government. With respect to the other municipal services, such as electric light, gas, telephone, telegraph, street railway, etc., this Commission is not prepared to recommend a definite plan at this time.

The Commission recommends the construction of "utility tunels" whenever possible, along important thoroughfares, as soon as the streets are marked on the ground prior to their construction and to install in those tunnels all the utilities that will be needed. In case the construction of such tunnels i snot possible due to local conditions, all the utilities shall be run along alleys for the sake of convenience and beautification. Branches will be provided to permit adequate distribution and service connection of the houses without the need of tearing up the street pavements, which shall be ab-

solutely prohibited once the streets are completed.

The first cost involved in such enterprise is quite heavy but will be shared proportionately by the different utilities so accommodated. This expense, however may be recovered by levying special direct benefit assessments against all the properties within the districts or areas served. Operation and maintenance costs shall be collected through service charges in the same way and amount paid for similar services in Manila.

The Commission has requested the Metropolitan Water District to take charge of the construction and operation of the water supply and sewerage systems and has voted an aid to the Metropolitan Water District for the construction of the aforesaid services of ₱ 2,000,000 for the first year and ₱1,000,000 for the second year.

A share of the cost of the sewerage and water systems corresponding to the benefit received by the lands under the control of the Commission, is a proper charge to the revolving fund. Sewerage is one of the items expressly mentioned in the Act as a proper investment for the revolving fund. Plan No. 10 is the water supply and sewerage system of the Capital City.

Plan No. 11 is the water supply and sewerage and storm drains system of a typical neighborhood district.

COST OF THOROUGHFARES

The Master Plan calls for the construction of a total of 171 kilometers of national roads with a total area of 1177 hectares, and 753 kilometers of municipal roads with a total of 1576 hectares. It is estimated that the national roads will cost a total of ₱45,800,000 while the municipal roads will cost a total of ₱74,600,000. (For a more detailed information, see Appendix VI).

FINANCING

Grant of Twenty Million Pesos

The problem of financing the development of the Capital City must follow the major plan prescribed in the Enabling Act.

The Act authorizes a bond issue up to ₱20,000,000 to constitute a revolving fund "for the acquisition of private estates, the subdivision of the area, and the construction of streets, bridges, waterworks, sewerage and other municipal improvements in the Capital of the Philippines."

Although the proceeds of the said bond issue are to be used as a revolving fund, the Act does not contemplate that the sinking fund for the payment of the bond should come out of the revolving fund. On the contrary, it clearly provides that the sinking fund (Section 10) will be met by a standing annual appropriation out of the general fund in the National Treasury (Section 11). The P20,000,000 fund is, therefore, a grant and not a loan made by the national government to the Capital City. It is however, understood that the said funds will only be invested in projects specified in the Act, which are revenue producing.

B. National Roads Should Be Ultimately Financed by the National Government

Was the intention of Congress to provide that all roads in the Capital City, including national roads be financed with the revolving fund? If the answer is in the affirmative, all of these expenses would have to be added to the price at which the lots acquired by the Commission are resold to the public. This would make the selling price of the lots prohibitive and would obstruct the purposes of the Act that the lots are to be sold to the public at the lowest price possible.

It should be noted that Section 9 of the Act that the lots are to be sold to the can be used "for the construction of streets .... and other municipal improvements" which seems to indicate that the construction of national roads, not being municipal improvements, should be financed by annual public works appropriations.

The Commission believes that it was not the intention of Congress to charge the entire development of the Capital Ci-

to the buyers of lots from the Commission. The Capital City is the show place of the nation, and towards its development and beautification as a modern and dignified city, the national government is expected to contribute in no small measure.

The Commission is, therefore, of the opinion that the cost of national roads should be ultimately financed by the national government. However, if work has to be started immediately before the necessary appropriations from the national government is obtained, in order not to delay the development of Quezon City, the Commission should advance the necessary funds for the construction of such portions of the national roads as may be necessary, with the understanding that these advances will be refunded by the national government.

Land for Government Buildings

We are of the opinion that the cost of land to be acquired from private owners to be used as sites for government buildings, should be ultimately borne by the national government. If the cost of the said land is taken from the revolving fund, the same would have to be added in determining the cost of the land to be used for subdivision purposes. Undoubtedly, this was not the intention of Congress.

The Commission, however, believes that it can make use of the revolving fund for the acquisition of land as sites for government buildings, with the clear understanding that the same will be ultimately reimbursed by the national government.

Compensation Due the People's Homesite Corporation

Under the Master Plan, the following properties owned by the People's Homesite Corporation are to be dedicated to public uses:

1. Government Housing	131	hectares
2. City Hall	40	"
3. Veterans' Hospital	31	"
4. National Stadium	100	"
5. Central Park	194	"
6. Central Golf Course	100	"

The first four items refer to land to be used for government buildings and, as already stated above, the same should not be financed with the P20,000,000 revolving fund.

Furthermore, title of the land to be used for the government housing project could remain with the People's Homesite Corporation which should be entrusted with the said project.

There remains 194 hectares for the Central Park and 100 hectares for the golf course. The Commission is also of the opinion that this being a national more than a municipal improvement, in that they will benefit not only the people of Quezon City but also the people of Manila, the obligation of reimbursing the cost of the same should fall on the national government.

E. Allocation of P20,000,000 Revolving Fund

It is proposed to allocate the P20,000,000 revolving fund as follows:

Aid to the Metropolitan Water District (for water system) first year	P 2,000,000
Aid to the Metropolitan Water District second year	1,000,000
For road construction, first year	3,500,000
For road construction, second year	3,500,000
For acquisition of lands	10,000,000
Total	P20,000,000

The Commission believes that with the proceeds of the sale and rental of lots, it will have sufficient funds to finance road constructions after the second year.

Appendix VII is a table of areas for government and public uses with recommendations for expropriation.

IX. THE FIRST FIVE-YEAR PROGRAM

It would, obviously, be impractical to map out a development program with the whole Master Plan as the target.

A plan of this nature will take several decades to carry through to completion, and has to undergo modifications from time to time as experience dictates.

The Commission, however, in this report, recommends the following five-year development program.

1. Government Building Program
   1. To start with the government buildings on Constitution Hill.
   2. To follow through with the Executive Center.

2. Road Construction

The Commission has allocated an annual expenditure of ₱3,500,000 for the first two years. The Commission favors the gradual construction of the total width of a road beginning only with two lanes.

Assuming that for the first two years only four lanes will be needed for the avenues (14 meters wide), it is estimated that the construction of one kilometer, of gravel macadam road, will cost ₱83,000.

On the other hand, assuming that for the first two years only two lanes will be needed for the secondary and local roads (7 meters wide) one kilometer of this road will cost ₱38,500.

These estimates include the cost of curbs and gutters but not the sidewalks.

Simultaneously with the construction of government centers, residential areas have to be developed. To this end the Commission has adopted a well-balanced program of road constructed to serve government sitios and residential areas.

This program calls for the construction of 40 kilometers of avenues, of 14 meters wide and 98 kilometers of secondary and local roads, 7 meters wide.

3. Topographic Survey

Since the preparation of the Master Plan requires accurate topographical data, one of the first projects undertaken by this Commission was to conduct a topographical survey, still in progress. To hasten the completion of the topographical survey, the Commission increased the number of survey teams from two to seven and purchased the necessary equipment for the use of the survey parties.

Based on the average daily accomplishment of these parties, the topographical survey is expected to be completed by March 31, 1949.

D. **Malaria Control**

One of the first action taken by the mission was to request Brigadier General Howard F. Smith, Chief of the U. S. Public Health Service, to take full charge of the Malaria control work in the Capital City. In conformity with the request of the Commission, since December 16, 1948, the U.S. Public Health Service has undertaken all malaria control work in the Capital City and the progress of the work accomplished is indeed encouraging. Attached hereto as Appendix VII is a progress report of the work done and accomplished by the United States Public Health Service.

X. TWI

E. **Geologic Survey**

The Commission is taking steps to undertake the geological survey of the Capital City, especially in places where important government buildings will be constructed.

XI. AD A.

F. **Soil Survey, Conservation and Nursery Project**

Soil survey and conservation work will be commenced at once by the Bureau of Soils. Through this project, the Commission hopes to make the entire Capital City site more adaptable for the landscaping so essential in developing the parks and open spaces contemplated in the general plan.

The Commission is fortunate in receiving the cooperation of the Metropolitan Water District which already has started a nursery project at its Novaliches property.

G. **Temporary Water Supply System**

Under a program outlined by the manager of the Metropolitan Water District, which has been accepted by this Commission, a temporary water supply system will be constructed at the Capital City site for the use of the construction teams during the period of development.

H. **Hydro-Electric Power Project**

Because the modern methods of construction require extensive use of electric power, the Commission took immediate steps to map out a program

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for the construction of a hydro-electric power plant to furnish power to the construction works and eventually for the illumination of the public buildings in the Capitol Hill.

In this project, the Commission has received the cooperation of the National Power Corporation whose detailed memoramdum on the subject is attached hereto, as Appendix IX.

TWENTY MILLION-PESO BOND ISSUE

From the foregoing, the imperative need for the P20,000,000 bond issue authorized by the Enabling Act to finance the development of Quezon City is evident. A resolution to this effect was approved by the Commission in its meeting of January 8, 1949 and transmitted to His Excellency, the President.

ADMINISTRATIVE PROBLEMS

A. Organization of the Commission

The importance of administration work which contributes to the efficiency of the preparation of the Master Plan and its execution has been recognized. To begin with, the work of the Planning Commission was divided into committees, as follows:

Committee on Architecture
Committee on Engineering
Committee on Finance & Inter-Governmental Relations
Committee on Administration and Public Relations
Committee on Health Sanitation
Committee on Legal Matters
Committee on Property Acquisition and Business Relations

Under the Commission are the Technical Staff, the Administrative personnel and the Field Force. The Technical Staff draws the plans as directed by the Commission.

The Administrative branch handles the office work anl all administrative routines; the field force undertakes mainly the topographical survey.

B. Future Administrative Problems

A good Master Plan would be of little use, if it is not faithfully executed. And the jurisdiction of the Commission in the matter of the execution of the Master Plan is limited to:

1. The opening of new roads under the Master Plan
2. The construction of public utilities
3. The acquisition of estates and their subdivision for sale or lease.

The Commission must rely entirely on the city authorities on the following matters that are under the exclusive jurisdiction of the city authorities:

1. Proper enforcement of the Zoning Ordinance and of the Building Code to be approved by the Commission.
2. Levying and collection of special assessments unless transferred to the Commission as recommended.

One problem to face in building a beautiful Capital City is the problem of squatters and illegal constructions. It is high time after four years since liberation that ilegal constructions were no longer tolerated within the city. But this is more easily said than executed. What will the city authorities do, if overnight shacks and barong-barongs mushroom in a section of the city? Laws should be enacted, if necessary, giving the city authorities the power to demolish the illegal constructions, and not be satisfied with the imposition of a fine, which may be paid or not.

But again, the government should not be satisfied with the enforcement of laws or ordinances. It must ever seek to discover the causes of the violations of the laws and ordinances — and to eradicate the causes. There is no question that to a great extent the problem of squatters is due to poverty and lack of proper inducements.

II. SUMMARY OF IMPORTANT RECOMMENDATIONS

In view of the foregoing, the Commission recommends to the President:

1. Approval of the Master Plan
2. The issuance of bonds in the amount of P20,000.000
3. Approval of the land policy of the Commission
4. The proposed amendments to the Enabling Act listed in No. II of this chapter

PPENDICES

I—BACKGROUND

II—THE SITE AND IMPORTANT CONTROLLING FACTORS

III—OBJECTIVES AND DIRECTIVES

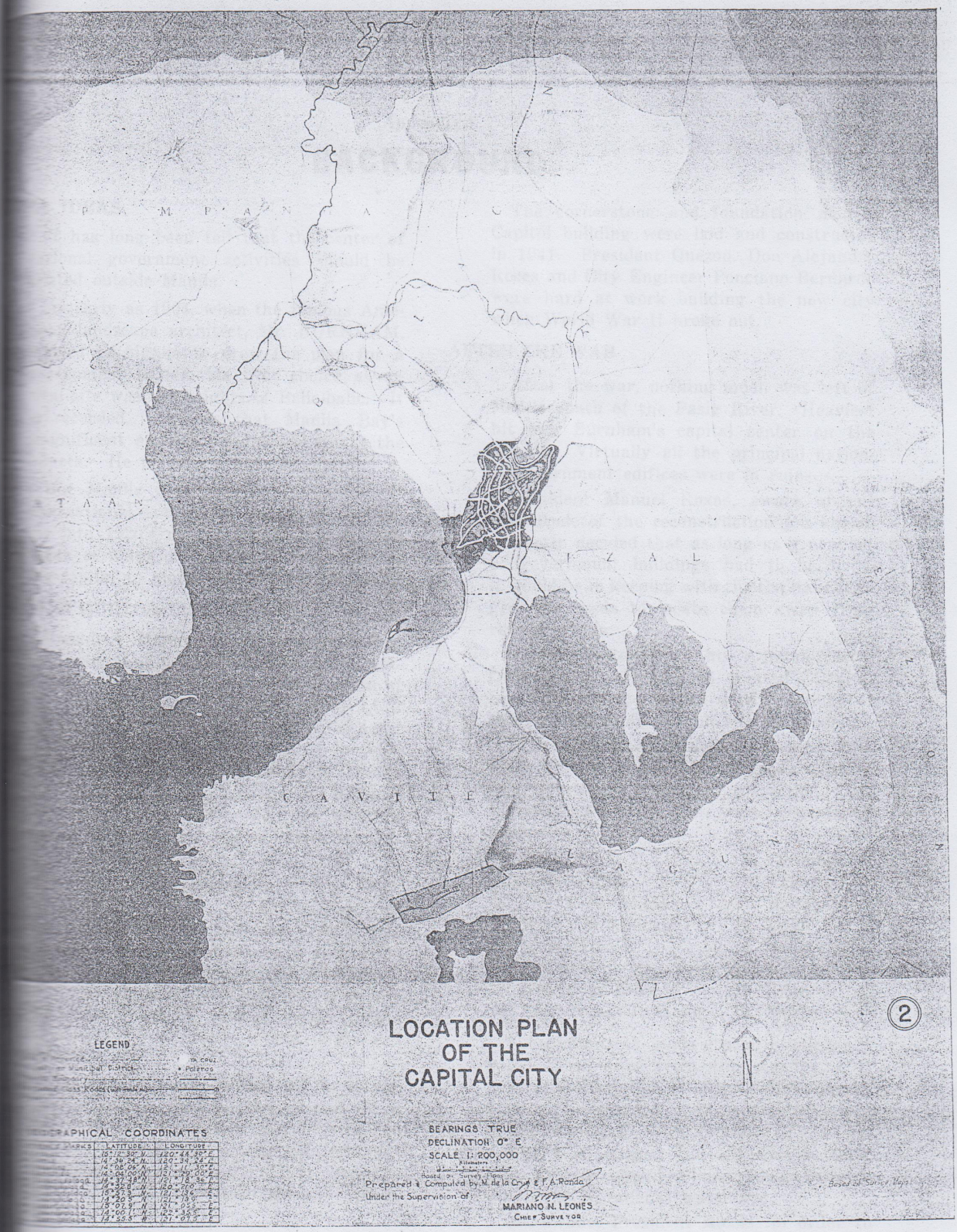
IV—ANALYSIS OF LAND USES

V—POWERS OF THE COMMISSION

VI—COST OF THOROUGHFARES

VII—REPORT OF THE UNITED STATES PUBLIC HEALTH SERVICE

VIII—REPORT OF THE NATIONAL POWER CORPORATION FOR THE HYDRO-ELECTRIC PROGRAM



LOCATION PLAN OF THE CAPITAL CITY

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LOCATION PLAN

Appendix I

BACKGROUND

EARLY IDEAS

It has long been felt that the center of national government activities should be located outside Manila.

As early as 1904, when the famous American landscape architect, Mr. BURNHAM, arrived in Manila to draw the plan for a government center, his first choice as an ideal site was the heights of Balic-balic. It is recorded, however, that Manila Bay's magnificent sunsets lured Burnham to the Luneta. He planned a bayside capital.

But Manila grew rapidly into a hub of international trade and commerce, and by the late 1920's many forward-looking men began seriously advocating the transfer of the capital to more desirable surroundings.

PRE-WAR QUEZON CITY

President Manuel L. Quezon made the first concrete move to build the capital outside Manila. He ordered the acquisition of the Diliman estate with an area of 1,572 hectares, a rolling country in the northeast of Manila. His main aim was to provide inexpensive lots for the landless of Manila and to carry out a government low-cost housing project mainly for the laboring class. Social Justice was his main interest at the time.

The National Assembly on June 8, 1939, passed Commonwealth Act 457 "authorizing the construction of National Government and other public buildings on a site to be selected by the President of the Philippines within a radius of 30 kilometers from the Rizal monument of Manila, including the acquisition of privately owned lands and buildings".

Diliman, Quezon's dream of a happy "barrio obrero", became the nucleus of a city. The city received a charter from the National Assembly on October 12, 1939, under Commonwealth Act 502. It was fittingly named after the President—Quezon City.

Plans for the new city were drawn up by A. D. Williams and Harry T. Frost, planning advisers to President Quezon.

The cornerstone and foundation of the Capitol building were laid and constructed in 1941. President Quezon, Don Alejandro Roces and City Engineer Ponciano Bernardo were hard at work building the new city when World War II broke out.

AFTER THE WAR

After the war, nothing much was left of Manila south of the Pasig River. Heaviest hit was Burnham's capital center on the Luneta. Virtually all the principal national government edifices were in ruins.

President Manuel Roxas, aware of the magnitude of the reconstruction job ahead, promptly decided that as long as a new set of government buildings had to be built, it would be in keeping with the Capital City's growing needs to locate them away from ruined Manila.

President Roxas, in his Administrative Order No. 5, July 23, 1946, created a Capital Site Committee, charged with the duty of selecting the most suitable site for a capital.

This committee, headed by Senator Melencio Arranz, put in a whole year's work of investigations, hearings, inspection and research. Sixteen sites were considered, namely:

1. Bataan
2. Quezon City
3. North Novaliches
4. North Montalban
5. San Mateo
6. Antipolo
7. Nagcarlan-Lilio
8. Sto. Tomas-Tanauan
9. Canluban
10. Tagaytay
11. Baguio
12. Iloilo
13. San Pablo
14. Los Banos
15. Sibul
16. Mckinley

Sub-committees made special studies and rated these sites from the standpoint of general sanitation, public works development, strategic considerations, scenic resources and administrative coordination.

The final choice: the old Quezon City, plus the undeveloped hill and plateau country up to the Novaliches watershed.

Meanwhile, President Roxas, in order to build the capital city that would conform with the latest trends in construction and architecture, decided to send, in the sum-

mer of 1947, a mission of Filipino architects and engineers on a study tour of the United States and South America. The mission came back with fresh ideas for a modern capital city.

The death of President Roxas in April, 1948, did not diminish the official or public interest in the capital city project. President Quirino carried on where the late President Manuel Roxas left off. On July 17, 1948, President Quirino signed Republic Act 333 creating the new capital city of the Philippines and the machinery for the preparation of the Master Plan of that capital city. (For a detailed discussion of the powers of the commission law, see Appendix V of this report.

Appendix II

THE SITE AND IMPORTANT CONTROLLING FACTORS

Boundaries

The northern boundary of the Capital City site is formed by a straight line 4.0 kilometers long due East from a point about 2.2 kilometers north from the center of Novaliches. From this point, the boundary runs south in a rough arc following the western and southern rim of the Novaliches Reservoir and back northeast to a point crossing the Mariquina River near Montalban.

On the east, the boundary follows a southwesterly course between the Mariquina River and the provincial road Montalban-Mariquina and drops back west to the river in the vicinity of Balara. Thereafter is a section of 4.9 kilometers following the old boundary of Quezon City which is on the West side of Mariquina River, and from this end the eastern boundary follows the Mariquina river up to its intersection with the old Rosario road

The southern boundary runs along the old Rosario road westward to the Salapan Creek, south of Wack Wack Golf and Country Club, and follows this creek along the boundary of San Juan del Monte to a point in San Juan River near Sta. Mesa Road. From this point the boundary follows the Northeast boundary of the City of Manila up to the north cemetery.

The western boundary is the eastern boundary of the North cemetery followed by a line parallel to and about 100 meters west from the old Bonifacio Road, up to the circumferential road, followed by a line parallel to and about 400 meters west from Novaliches road to a point near Tuliajan river, where the said river begins to curve toward the north. From this point the boundary takes a north-western direction for 3.2 kilometers when it takes a north-eastern direction and after 4.1 kilometers it reaches the starting point.

The site is endowed with rich scenic resources. The panorama is exceptionally imposing to the north and to the east.

Rising from the Mariquina River Valley are the picturesque San Mateo Hills to the east, presenting a dramatic view especially at sunrise. To the north lies the Novaliches Water Shed and the rather massive chain of hills extending towards Ipo. To the west and southwest is a hazy view of Manila, almost hidden between the folds of the rolling topography of the site.

Old and New Areas Comprising the New City

The nucleus of the present Capital City is the former Quezon City which is composed mainly of residential suburbs. Among the most developed communities are: on the north center, the Diliman Estate of the People's Homesite Corporation and Bagong-Bantay; on the east, the University of the Philippines Site, the Payatas Estate and the Metropolitan Water District Reservation in Balara; on the south, Wack Wack, Bagong-Bayan, Ugong Norte, Camp Murphy including Zablan Field, and Cubao; on the west, Santa Mesa Heights, San Francisco del Monte, La Loma, San Jose and Balintawak.

To this area has been added a territory of approximately equal size comprising Novaliches, and small portions of San Mateo and Mariquina.

Topography

The topography of the Capital City site is gently rolling with a decided slope towards the south and west. On the northern ,and eastern portions are peaks and plateaus averaging from 200 to 300 feet above sea level. Attached hereto as Plan No. 3, is the topographic Map.

Along the eastern periphery is a sudden drop, at the base of which flows the Mariquina River. From this periphery, the view across the Mariquina Valley to the Sierra Madre ranges is imposing.

Directly south of the Novaliches water shed are three plateaus about 300 feet above sea level. This area known as "La Mesa" is the most prominent spot in the site and has such a commanding view of the surrounding countryside that it has been the unanimous choice as the location of the constitutional branches of the national government.

In this report, this particular spot is referred to as Constitution Hill.

Constitution Hill, serves as the central point of reference in determining the network of roads and the control of land uses.

Numerous rivers, creeks, and tributaries draining into the Mariquina River, the Salapan Creek, and the Tuliajan River interweave with the rolling hills throughout the City.

The general contours of the site lend themselves to the purpose of effective city design, the construction of highways and streets with scenic gradients.

Geologic Conditions

To ascertain the geologic features of the site, this Commission has consulted with expert geologists and is at present undertaking a diamond drilling project in order to obtain rock samples for further study.

Findings from available data indicate that the nearby Mariquina Valley is along a "fault line". This would indicate that ages ago this territory was susceptible to earthquakes.

A technical account of geologic conditions is attached hereto as Annex "A".

Weather conditions in the Capital City site are more or less the same as those prevailing in Manila as far as the seasons of the year are concerned.

The main difference lies in the fact that since the greater portion of the Capital City site has a higher elevation than Manila, the temperature at the site is generally lower while the relative humidity and wind velocity are proportionately higher.

This means that the Capital City offers relatively more favorable weather conditions for living purposes than the City of Manila.

Attached hereto as Annex "B" are data and drafts, as well as other technical reports on the weather conditions at the Capital City site.

Soil Conditions

The Soil Survey Report of Rizal Province, published in 1938, gives a generalized description of the soils of Quezon City Area. Because the nature of the work was purely reconnaissance, the classification of the soils conducted on the map with the scale of 1:100,000 give very generalized information.

The soils in this area are technically called Novaliches series. The following is the description of this series.

Novaliches Series

The Novaliches soils are light reddish brown, reddish brown to bright reddish brown in color. The surface and subsoil are friable in consistency and granular in structure. Spherical iron concretions are present, especially in the sub-soil. They are underlain by tuffaceous material of varying degrees of disintegration and weathering. This series occurs both in upland and lowland rolling and hilly topography.

In the upland area the lower subsoil has a horizon of light gray clay, which is sticky and plastic. The soil is covered by cogonal (Imperata exaltata) vegetation with occasional trees. The alibangbang tree is very common in this area.

In the lowland area the lower subsoil is a horizon of light yellowish brown, highly weathered, tuffaceous material, and just below this is a massive and compact material. In some cases, this tuffaceous material is exposed by extensive erosion. The soil is partly planted to lowland rice, which is dependent upon rain for water, and partly covered with shrub and trees of various species. In spite of the soil conditions, the land has been utilized for mango plantation. The plantations range from a few hectares to 500 to 600 hectares. In general, mangoes are not as productive in this type of soil as in other types, because the trees are easily uprooted by strong winds. The commonest soil types found in this region are loam, clay loam, and clay loam adobe.

Novaliches Loam

The surface soil of the Novaliches loam is reddish brown, friable and fine to coarse granular loam with the depth ranging from 20 to 40 centimeters. Concretions are present. The soil is comparatively poor in organic matter. Being friable, the soil easily eroded. The subsoil down to a depth of 60 centimeters is brownish red, friable and granular clay loam with concretions and gravel. As the depth increases, the color changes from light brick red to rusty red. The substratum from a depth of III centime-

ters downward is tuffaceous material of varying degrees of weathering.

liches Clay Loam Adobe

The upper surface soil ranging from 20 to 30 centimeters is brown heavy clay loam to clay with concretions. It is sticky when wet but friable when dry. The subsoil from a depth of 25 to 45 centimeters is light gray to brownish gray clay and compact. Concretions and gravel are present. Just below this is a compact volcanic tuff. The volcanic tuff in many places is exposed, or nearly so, making the surface soil very shallow. The level areas are planted to rice. This type occupies about 19,820 hectares.

liches Clay Loam

The upper 12 to 29 centimeters of surface soil is brownish red to light reddish brown clay loam, granular and friable when seemingly dry and alightly sticky when wet. Reddish brown concretions are present in a considerable amount. The subsoil to a depth of from 54 to 81 centimeters is brick red clay loam to clay with gravel and reddish brown concretions. The substratum to a depth of from 100 to 150 centimeters downward is highly weathered tuffaceous material. A large portion of the area in Novaliches is planted to mango trees. The area covered by this type is about 16,940 hectares.

le of the Novaliches Clay Loam Adobe

Depth of soil cms.	Characteristics
0 to 5	Brown loose and friable loam to clay loam
5 " 20	Dark-brown granular clay loam with gravel and concretions
20 " 35	Adobe clay loam with concretions and gravel; highly weathered tuff
35 " 60	Weathered adobe rock, slightly compact
60 plus	Compact and massive adobe rock

Physical Aspects of the Site

In designing the plans for the new Capital City, this Commission took into account the existing man-made as well as natural features with a view to utilizing them to best advantage. These features include:

1. The Diliman Quadrangle
2. Novaliches watershed to the north
3. The Mariquina River to the east
4. The water pipeline from the Novaliches watershed to the Balara Filters
5. The water pipeline from Montalban through Balara to Manila
6. The Botocan transmission line
7. The U. P. site
8. Balara Filters
9. The other developed areas of Quezon City
10. Highway 54 and other existing highways
11. District of San Francisco del Monte
12. Town of Novaliches
13. Wack Wack Golf and Country Club
14. Camp Murphy and Camp Crame
15. Exposition ground
16. The housing projects under the People's Homesite and Housing Corporation in Diliman

THE PEOPLE'S HOMESITE CORPORATION

The boundaries of the Diliman Estate Subdivision of the People's Homesite Corporation are: On the N., the Kuliat Creek; on the E., property of the University of the Philippines; on the S., the Diliman Creek; and on the W., the San Juan River and Mariablo Creek.

This Estate contains a total of 1,572 hectares. It was acquired by the Corporation in October of 1938 from the Tuazon Estate.

The present development of the Diliman Estates is as follows:

	Hectares	Percentage
Area subdivided and/or set aside for Sale and/or already sold	285	18.17%
Lease and being leased	22	1.43%
Withdrawn from sale for development purposes and possible improvements other than roadways	183	11.68%
Roadways, opened and to be opened in areas already subdivided	198	12.61%
Set aside for 3 low-cost housing projects with ample provisions for		

roads, parks, and other public improvements	113	7.24%
I South	39	computed
II Kamias	37	"
III Bagobantay	36	estimated
Area still to be subdivided for subsequent sale with ample provisions for roadways, parks and other possible improvements	768	48.87%
	1,572	100.00%

The sections already subdivided for sale are located in the southern half of the Estate. The Corporation is now disposing by sale the rest of the subdivided sections in order to raise funds for the operation of said Corporation, particularly that of low-cost housing projects.

Properties are now being sold from ₱3 to ₱15 per square meter.

REGIONAL RELATION OF THE CAPITAL CITY TO ITS ENVIRONS

The Capital City is bounded on the north by the Municipality of Caloocan, Rizal; on the east, by the municipalities of Montalban, San Mateo, and Mariquina, all of the province of Rizal; on the South, by the municipalities of Pasig, Mandaluyong and San Juan del Monte; and on the southwest, by the municipality of Caloocan, Rizal.

The population of these municipalities and of the City of Manila are:

1. Montalban	5,257
2. San Mateo	6,811
3. Mariquina	23,358
4. Pasig	35,407
5. Mandaluyong	26,309
6. San Juan del Monte	31,493
7. Manila	983,906
8. Caloocan (including Novaliches)	58,208
9. Meycauayan	21,695

It will be noted that the surrounding communities on the south and southwest are more heavily populated than those on the northwest, north and eastern boundaries.

For foodstuffs and other products essential to the subsistence of any community, the Capital City must depend on the Central and Southern Provinces and the more immediate seaside communities to the west.

In relation to the concentration and distribution of staple food products the Commission envisions the eventual development of a Food Center in the vicinity of Malinta, Bulacan, where meat, poultry and vegetables can be processed and distributed. The choice of this particular locality is recommended in view of its centralized location in relation to the fertile country around it, from which it will draw its raw products.

Furthermore, the Commission recommends the Navotas region as a center for the development of the fish industry. This section has always been one of the largest sources of sea foods for Manila and the neighboring communities.

Since Manila will always retain its importance as an astral city, due to its port facilities and its geographic relation to the entire Pacific area, it is easy to conceive that the bulk of business will remain in Manila; whereas a few that are not so dependent on foreign trade may be attracted to move to the Capital City where they can be offered better sites, free from the daily turmoil of traffic and inconvenience so prevalent in Manila.

THE ECONOMIC BASE OF THE CITY

The nucleus of the new Capital City already exists in the old Quezon City, with a population of 107,900 permanent residents, the great majority of whom have Manila as their economic base. The location of the University of the Philippines in the Capital City, which will undoubtedly be followed by other educational institutions, will make the Capital City not only a government center but a cultural and educational center as well.

The economic base of the Capital City will, therefore be:

(a) The National Government;

(b) The University of the Philippines and other educational and cultural institutions;

(c) Its proximity to Manila; and

(d) Business-recreational centers, light and medium industries necessary to provide goods and services to the residents and transients in the Capital City.

POPULATION TRENDS

Every facility and service in a city must be scaled to the population it is intended to serve. Estimates for the size and capacity of facilities which are to serve the whole community must be predicated on realistic prognostications of the probable increase in the population of the entire community.

It should be said at the outset that it is impossible accurately to predict several decades ahead the growth in population of a new city. Much will depend on the rate of physical development which this Commission might be able to push thru. Assuming that the building program of roads and offices for the National Government, as recommended in the Report is started without delay, and that the offices of the National Government are transferred to Quezon City within an average of five years, we have attempted to figure out the approximate trend of the population of the city for the next 20 years.

The present population growth of Quezon City cannot be used as a criterion for the rate of growth within the Capital City. According to figures in 1939, Quezon City had a population of 39,103 people; and in 1948, a population of 101,904, people, excluding Novaliches, i.e. an average annual increase of 7,000 people.

Whereas a graphical projection of these figures might give an expected population figure for the next twenty or forty years, still, such a figure would fall below the expected growth in view of the accelerated growth of the City with its conversion into the Capital City.

With the establishment of the National Government and the University of the Philippines within the Capital City, the curve will have a sudden rise. The population growth of Quezon City which in the past has been largely due to its attractive and healthful conditions, not to mention the overpopulation of Manila, will be tremendously stimulated.

The expected growth of the Capital City could be based on a rate parallel to that of the population increase of Manila during the last 20 years. Although Manila drew its population notably as a port city and an industrial and commercial center, besides being the center of government and of educational and culture, Quezon City, on the other hand, because of its proximity to Manila and the natural tendency of Manila to expand northeastward, is destined to absorb residential population fleeing the congested, inadequate and expensive living conditions in Manila, besides those persons who will naturally move to Quezon City to be near their places of occupation either in government offices, or in the University of the Philippines and other educational institutions that will be located in the city. Families will be attracted by the inducements of better facilities made possible by planning and applied government funds.

From a population of 37,013 in 1929 the population of Quezon City jumped to 107,977 in 1948. The increase derived from two causes: normal increases and annexations About 7% (4716) of the increase was due to annexations of outlying barrios, namely part of Novaliches, Bagbag, San Bartolome, Talipapa and adjacent places, Sangandaan, Banglat, Pasong Tamo and Kulyat.

The population of Manila in the past has increased as follows:

From 1903 to 1910.....234,400) 20% over
From 1910 to 1918.....285,306) 20 years
From 1918 to 1939.....623,492) 110% over
From 1939 to 1948.....983,906) 20 years

We have reason to believe that the population growth of the Capital City will follow the pattern of Manila.

After consultations with the Census Bureau the Comission has found it reasonable to expect an artificial increase or boom, of 10% over the natural 2.2% per year for the first ten years after 1950 in the population of Quezon City. On the eleventh year the artificial increase will gradually diminish by 1% each year for the succeeding years until the population rate falls into the normal 2.2%.

By 1969 it is expected therefore that the Capital City will have reached a population peak of 664,927. After which, barring other developments, its population is expected to follow the normal rate increase per year of 2.2%.

For further information and data please see Annex "C".

Appendix III

OBJECTIVES AND DIRECTIVES

ERAL OBJECTIVES

The objectives of the Master Plan for the apital City are broadly outlined in Section 4, paragraph (e) of Republic Act 333 hich says in part:

"he general plan, the proper zoning and ubdivision of the Capital City of the Philipines, pursuant to this Act, shall have as heir general purposes:

To guide and accomplish a coordinated, adjusted harmonious construction and future development of the said Capital City.

In accordance with present and future needs, to best promote health, safety, morals, order, convenience, prosperity and general welfare.

To promote efficiency and economy in the process of development."

The Act also specifies that the Master lan shall include:

Adequate provisions for light and air.

The promotion of healthy and convenient distribution of population.

The promotion of good civic design and arrangement.

An economic, wise, efficient and equitable expenditure of public funds.

Adequate provisions for public utilities and other public requirements.

IFIC DIRECTIVES

In order to carry out the broad objectives utlined in the Enabling Act, the Commission has adopted the following specific directives:

A. To create a city with a soul, a Filipino soul, the Commission recommends the following:

1. Construction on Constitution Hill, connecting the two houses of Congress, of a Hall of Fame where Filipino heroes and patriots will be enshrined. This Hall of Fame shall house the Library of Congress and serve as depository for the priceless historics and cultural collections that shall be exhibited for the edification of future generations.
2. Use of dignified and appropriate names for our thoroughfares, government centers, public buildings, and parks, giving preference to names that represent a functional organ of our Republic, a historical event or a name of a patriot, a region or a province of the Philippines.
3. *Creation of a restrained Filipino-Malay-Spanish style of architecture, along modern and functional lines.*
4. Encouragement of the building of dignified places of worship by the selection of suitable sites for churches in the City.
5. Early establishment of a forest reserve and a Philippine botanical garden, and the propagation throughout the city of palms and typical tropical trees.

B. To bring about an effective social planning fostering life founded on sound and progressive social and economic basis — a city without blighted areas, the Commission prescribes the following:

1. Construction of government housing projects for lease to government employees.
2. Acquisition of large areas of land in the residential zones, especially in high density residential zones, for resale or lease to the public.
3. Acquisition of all lands in the commercial and industrial zones for lease to business or industrial establishments.
4. Financing the construction of houses in the high density residential zones.
5. Architectural control of buildings to be prescribed in all contracts of sale or lease to the public.
6. Prescribing 400 square meters as the minimum area for high density residential lots.
7. Providing an architectural assistance to low cost housing at no cost to the builder.

8. Prohibiting the construction of so-called temporary structures.
9. Providing all streets and avenues with shade trees as protection against tropical heat.
10. Prohibiting the establishment of billboards within the Capital City.
11. Financing the construction of roads, as much as possible, with special assessments.
12. Construction of public air raid shelters wherever feasible.

C. To prepare a plan of organic order and harmonious scale, the Commission prescribes:

1. Whenever practical and advisable, decentralization of the different activities, governmental, educational and commercial. Thus, there will be six main government centers — Constitution Hill, Executive Center, Scientific Government Center, Metropolitan Police, Government Enterprises Center and Government Business Center. Educational institutions, in addition to the U.P. site, may be established most anywhere in the City. In addition to the commercial sections in the neighborhoods and in the districts, there should be a business center and one food distributing center to serve the needs of the entire city.
2. Division of the city into one metropolitan area and three neighborhood districts. The metropolitan area will cover roughly about one-half of the area of the city divided into governmental, residential, commercial and light industrial zones. It will minister to the needs of the entire city and even the nation, rather than the needs of a neighborhood.
3. Neighborhood units, of approximately 100 hectares each, a group of which form a neighborhood district are self-contained with a local shopping center, public elementary school, a park, a civic center, a religious center and an athletic center as the nucleus.
4. No heavy industry, military objective or hospital for contagious diseases will be permitted within the city limits, and the conversion of Quezon Institute into Quezon General Hospital is further recommended.
5. Two cemeteries will be located within the city limits, one in the west and another in the south of not less than 100 hectares each, while a big cemetery of not less than 200 hectares is recommended on the northwest adjoining, but outside the Capital City limits, and a national cemetery of not less than 100 hectares is recommended on the east in San Mateo hills.
6. Funeral parlors will not be allowed outside the radius of 500 meters from a cemetery and must be on a lot not less than 1 1/2 hectares.
7. One non-commercial civilian air field will be provided on the north within the Capital City, while a big commercial airfield is recommended outside the city limits, to the west.
8. No railroad lines will be allowed within the city limits, except a railroad terminal in the northwestern boundary of the city within the industrial zone.
9. All public services, such as telephone, telegraph, water, drainage and sewer systems requiring maintenance repair or replacements shall be extended throughout the Capital City in a "utility service tunnel".
10. Medium industries should be confined as much as possible to the boundary of the city and screened with green belts.
11. The high density residential zones should be located close to places of work.
12. The immediate construction of a civic center, to be known as the

Quezon Memorial, to include a museum and a public library.

13. Entrances and approaches to the city contribute to lasting impressions and should measure up to high aesthetic standards.

14. Public monuments should only be located in parks, plazas and open spaces.

15. The valley of Mariquina and San Mateo should be kept as a permanent agricultural non-industrial belt.

D. To make it possible for the people, particularly those with limited means, to acquire lands at reasonable prices, the Commission prescribes or recommends:

1. A land policy of expropriating about one-half of the residential area of the city to prevent speculation in land values and provide ample land for resale or lease.

2. The initiation of all expropriation proceedings as soon as possible.

E. To plan with foresight for the present and future generations, the Commission prescribes:

1. A sufficient number of wide avenues, as provided in Directive G and ample areas for present and future government buildings as provided in Directive I.

2. Ample provision for parks and green belts for future unforseeable and unanticipated uses.

3. Requiring in the zoning code adequate frontyards for residential, commercial and industrial zones to make possible the eventual widening of streets if later found necessary.

F. To the end that the plan will be big enough to attain major objectives and yet be within the limits of our ability to finance, the Commission prescribes:

1. To construct wide thoroughfares to meet future needs and only the width corresponding to two lanes without prejudice to gradually widening the thoroughfares by the addition of more lanes as the city grows.

2. The Master Plan should provide the following percentages for land use:

	Metropolitan Area	*Neighborhood Districts*
For roads	15.7%	9.37%
For parks & playgrounds	9.0%	4.45%
For government buildings, public uses	18.24%	12.23%
For private use	51.24%	73.95%
Agricultural green belts	5.82%	

G. To differentiate distinctly the various functional organs of the city, the Commission prescribes that:

1. There should be five kinds of residential zones or classes; villa type, low density, medium density, high density and multi-family dwellings. (See Chapter V.9 for more details)

2. There should be five kinds of business zones, namely Business 1, Business 2, Business 3, Business 4 and Market Places.

3. There should be two kinds of industrial zones—light and medium.

4. Government buildings should be located in a separate and distinct locality.

5. The areas reserved for big public markets should have bus terminals and parking lots.

6. Areas along parkways should be assigned to low density residential zones.

H. To provide an efficient and safe circulation system, the Commission prescribes:

1. A well-planned decentralization of activities which will not only effect a sound distribution of population, but also to curtail unnecessary movement of people and traffic, thereby avoiding traffic congestion and unnecessary waste of fuel and vehicle wear and tear.

2. A system of regional highways made up of direct arteries between important points, with radials, diagonals and auxiliary routes to reach out to the surrounding re-

gions, supplemented by circuits that serve as cross connecting links. The system should not be a tangled network of indirect, broken narrow ways. To this end, there will be avenues not less than 95 meters wide, circumferentials and radials not less than 78 meters wide.

3. Sufficient roads should be provided for the segregation of traffic and streets should be laid out in a way that will make for efficient and simplified routing of mass transportation throughout the different sectors of the city.
4. All limited access avenues and thoroughfares will be provided with service roads.
5. All avenues should have an island strip of not less than six meters.
6. Roads should intersect each other at right angles as nearly as practicable.
7. All major thoroughfares, when intersecting each other, should be provided with a street grade separation, or at least with a central island or circle.
8. Requiring minimum radius of curvature of 300 feet for main thoroughfares, 200 feet for secondary thoroughfares and 50 feet for minor and local streets.
9. Corners of major street intersections should be either champered or rounded.
10. Dead-end streets or culs-de-sac should be used only when absolutely necessary and should not be more than 100 meters long.
11. Isles of safety should be provided for pedestrians at intersections.
12. Bus terminals should be provided at the main metropolitan business center, the Executive center, the park fronting Constitution Hill, all public markets and all district business centers.
13. Parking should not be allowed in any of the major thoroughfares of the city. It is understood, however, that off-street parking lots may be provided adjoining a thoroughfare. The zoning and building code should require owners of buildings which cater to the public, especially movie theatres, churches, department stores, office buildings and apartment houses, to provide parking spaces. Suitable parking places should also be provided near national and city government buildings and market places.
14. Business 3, Business 4, Public Markets and Educational Institutions should not be located aloni major thoroughfares of limited access.

I. To provide ample parks and recreation facilities, the Commission prescribes:

1. A central park of about 400 hectares in the Diliman Quadrangle, one-half for a Park and Botanical and Zoological Gardens and one half for Athletic Grounds including a golf course and a stadium.
2. A North Park of about 80 hectares in the north section of the city and another of about 8 hectares in the south.
3. Parks and green belts along the side of creeks and rivers within the City.
4. The system of block interior playgrounds in some neighborhood units.
5. At least one athletic field in addition to the public school playground, for each neighborhood unit, and a bigger one for each district.

J. To provide for a metropolitan area that will fully answer the role of the city as the Capital of the Nation, the Commission prescribes:

1. The allocation of approximately one-half of the area of the Capital City to the metropolitan area which the Commission considers proportionate to the size and character of the tributary regions.
2. The allocation of a choice area along the Avenue of the Republic for embassies and chancelleries.

3. A low density residential zone around Constitution Hill.
4. A medium density residential zone near the Executive Center and the Business Center.
5. A main Commercial Center of about 318 hectares.
6. A main food distributing center of 35 hectares.
7. A Constitution Hill of about 160 hectares.
8. An Executive Center of about 30 hectares.
9. Fifty hectares in Diliman Quadrangle for government bureaus.
10. Fifty hectares for the government enterprises center within the Industrial Section in the north district.
11. One hundred sixty four hectares for the government housing projects. (One hundred twenty hectares near the bureaus in Diliman Quadrangle and 44 hectares in Constitution Hill)
12. About one hundred hectares for the scientific bureaus
13. Forty three hectares for the Exposition grounds.
14. About forty hectares for the medical center.
15. About eleven hectares for the health center, in the northern east portion adjoining the water shed.
16. Twenty hectares for the City Hall.
17. Twenty hectares for the Civic Center.
18. One hundred seventy-eight hectares for camp Murphy including Zablan Field.
19. Twenty-one hectares for the Manila Hotel Co., north of Constitution Hill.
20. Thirty one hectares for Veteran's Hospital.
21. Ten hectares for Quezon Memorial
22. One hundred hectares for embassies and chancelleries.
23. About fifty hectares for semi-public institutions such as Red Cross, Boy's Scouts, etc.
24. Fifty hectares reserved for government buildings.

K. To locate the future government buildings on the most ideal and prominent places, the Commission prescribes:

1. The offices of the Constitutional Bodies on the highest promontory which is Constitution Hill.
2. The Executive Center of the government at the northeast corner of the Diliman Quadrangle.
3. Reservation for government building alongside the mall in Commonwealth Avenue.

L. To provide self-contained and integrated neighborhood units with all the conveniences and compactness of a city, combining the hygenic advantages of the open suburbs with the social advantages of a big city, the Commission prescribes:

1. Each neighborhood unit should have an approximate area of 100 hectares.
2. Major thoroughfares or secondary roads should constitute as much as possible the physical boundary line of neighborhood unit so that the entire neighborhood unit will be surrounded but but not intersected by major roads.
3. Density of the population in the neighborhood units should be controlled to a figure consistent with the main idea of neighborhood.
4. No building more than three stories high will be permitted in the neighborhood units.
5. The elementary school, the civic center, the church, and the main shopping section shall be located in the center of the neighborhood.
6. Neighborhood units must be spacious in their character and be separated from one another by tenerous green belts to prevent the merging of neighborhood in an amorphous urban mass.
7. A group of neighborhoods will form a district. In each district, there shall be located a high school, a commercial center, a civic, sports and recreational centers.

APPENDIX IV

ANALYSIS OF LAND USES

DISTRIBUTION OF LAND USES

I. **Gross Area of Capital City, as per report of the Bureau of Lands**		14,459.5 Ha.	. %
Less: Existing reservations		1,089.9 "	7.53%
1. U.P. Site	(640 Ha.)		
2. Camp Murphy & Camp Crame	(178 Ha.)		
3. Balara reservations	(130 Ha.)		
4. Wack-Wack Golf Club	(125 Ha.)		
5. Quezon Institute	(16.9 Ha.)		
NET AREA		13,369.6 Ha.	92.47%

LAND USES IN NORTH NEIGHBORHOOD DISTRICT

Percent of North Neighborhood Area with respect to Net Area of .... 13,369.6 .... 19.3%)

I. **Government & Public Uses**		285.75 Ha.	10.22%
1. Govrenment Enterprise Center	50 Ha.		
2. North Airfield (Non-Commercial)	105 "		
3. Commercial Zone	18.75 "		
4. Industrial Zone	112.0 "		
	285.75 Ha.		
II. **Roads & Parkways**		355.0 Ha.	12.75%
1. 17.12 Km. Radial & Circumference	133.5 Ha.		
2. 13.25 " Parkways	79.5 "		
3. 37.275 " Secondary Roads	142.0 "		
	355.0 Ha.		
III. **Parks & Open Spaces**		210.0 Ha.	7.55%
IV. **Residential Areas**		1,934.25 Ha.	69.48%
1. Areas reserved for Neighborhood Units	1934.25 Ha.		
Total Area for North Neighborhood District		2,785.00 Ha.	100.00%

LAND USES IN WEST NEIGHBORHOOD DISTRICT
(Area .... 1766 Ha. .... 12.2%)

I. **Government & Public Uses**		105.5 Ha.	6.03%
1. Commercial Zone	32.5 Ha.		
2. Industrial Zone	73.0 "		
	105.5 Ha.		
II. **Roads & Parkways**		210.20 Ha.	12.02%
1. 16.28 Km. Radial & Circumferential	132.30 Ha.		
2. 6.25 " Parkways	37.50 "		
3. 10.625 " Secondary	40.40 "		
	210.20 Ha.		

III. **Parks & Open Spaces**		43.85 Ha.	2.50%
IV. **Residential Areas**		1,389.55 Ha.	79.45%
1. Areas reserve for Neighborhood Unit	1389.55 Ha.		
Total		1,749.10 Ha.	100.00%
V. **Existing Reservations**		16.9 Ha.	
1. Quezon Institute	16.9 Ha.		
Total Area for West Neighborhood District		1,766.00 Ha.	100.00%

LAND USES IN SOUTH NEIGHBORHOOD DISTRICT

(Area .... 2281.5 Ha. .... 15.8%)

I. **Government & Public Uses**		,214.7 Ha.	10.82%
1. Commercial Zone	45.6 Ha.		
2. Industrial Zone	50.6 Ha.		
3. South Cemetery	118.5 Ha.		
	214.7 Ha.		
II. **Roads & Parkways**		255.6 Ha.	12.80%
1. 16.24 Km. of radial & circumferential	127.0 Ha.		
2. 9.00 " parkways	54.0 "		
3. 19.62 " secondary roads	74.6 "		
	255.6 Ha.		
III. **Parks & Open Spaces**		36.3 Ha.	1.83%
IV. **Residential Areas**		1,471.9 Ha.	74.55%
1. Area reserve for Neighborhood Units	1471.9 Ha.		
Total		1,978.5 Ha.	100.00%
V. **Existing Reservations**		303.0 Ha.	
1. Camp Murphy & Camp Crame	178 Ha.		
2. Wackwack Country Club	125 "		
	303 "		
Total Area for South Neighborhood District		2,281.5 Ha.	100.00%

LAND USES IN THE METROPOLITAN AREA

(Area .... 7627.0 Ha. .... 52.7%)

I. **Government & Public Uses**		1,248.37 Ha.	18.24%
A. National Government (452.87 Ha.)			
1. Constitution Hill	158.5 Ha		
2. National Gov't. Building-Constitution (along Commonwealth Avenue)	50.0 "		
3. Dept. Sec. Bldg. (Qua.)	30.0 "		
4. Government Bureaus (Qua.)	50.0 "		
5. Scientific Bureau	100.0 "		
6. Exposition Grounds	46.87 "		
7. Quezon Memorial (Qua.)	10.0 "		
8. Bataan Memorial (Com. Ave.).	7.5 "	452.87 Ha.	

B. Municipal Government (40 Ha.)

1.	Quezon City Hall	20.00 Ha.	
2.	Municipal Civic Center	20.00 "	40.00 Ha.

C. Semi-Public Buildings (277.50 Ha.)

1.	Embassies & Chancelleries	50.00 Ha.	
2.	Semi-Public Institutions	50.00 "	
3.	Medical Center	41.25 "	
4.	Health Center (NE of Watershed)	11.25 "	
5.	Veterans Hospital	31.25 "	
6.	West Cemetery	93.75 "	277.50 Ha.

D. Commercial & Industrial Zones (478 Ha.)

1.	Commercial Centers	319.4 Ha.	
2.	Distribution Center (Commercial)	35.6 "	
3.	Light Industrial Zones	123.0 "	478.0 Ha.

Total Area Reserved for Gov't. & Public Uses ..... 1,248.37 Ha.

Residential Areas ..... 3,538.78 Ha. 51.50%

1. Low Density (High Class Res. Zone)
   Min. Lots @ 2000 sq. meters ..... 545.0 Ha.
2. Medium Density
   Min. Lots @ 800 sq. meters ea. ..... 1,087.26 "
3. High Density
   Min. Lots @ 400 sq. meters ea. ..... 1,616.52 "
4. Multiple Dwellings ..... 290.00 " 3,538.78 Ha.

a.	Manila Hotel (N.E. Watershed)	21.25
b.	Gov't. Housing for Gov't. Officials	43.75
c.	Gov't. Low Cost Housing (Qua.)	131.25
d.	Res. for Private Hotels and Apartments	50.00
e.	Res. for Government uses (Expansion area for Gov't Bldg.)	43.75
		290.00

Total Area Reserved for Residentials ..... 3,538.78 Ha.

Roads & Parkways ..... 1,053.84 Ha. 15.44%

1.	Two Main Avenues	W-95 mts	14.16 Kms.	146.02 Ha.
2.	Radials & Circumferentials	W-78 "	48.55 "	384.60 "
3.	Parkways	W-60 "	30.62 "	183.72 "
4.	Secondary Roads	W-38 "	89.315 "	339.50 "

Total Area for Roads & Parkways ..... 1,053.84 Ha.

Parks & Open Space with Diliman Quadrangle ..... 9.00% ..... 616.38 Ha.

Agricultural Green Belts ..... 5.82% ..... 399.63 Ha.

Existing Reservations ..... 770.0 Ha.

1.	U.P. Site	640 Ha.
2.	Balara MWD	130 "
		770 Ha.

VII.

LAND USES OUTSIDE CAPITAL CITY

I. North Cemetery	259.56	Ha.
II. National Cemetery	168.50	"
III. West Airfield (Commercial)	197.00	"
IV. Novaliches Watershed & Forest Reserve	2,711.00	"
Total Land Uses Outside Capital City	3,336.06	Ha.

GENERAL SUMMARY OF LAND USES

Gross Area of Capital City, as per report of the Bureau of Lands				14,459.5	Ha.
Less: Existing Reservations					
1. U. P. Site	640.0	Ha.			
2. Camp Murphy and Camp Crame	178.0	"			
3. Balara Reservation	130.0	"			
4. Wack Wack Golf Club	125.0	"			
5. Quezon Institute	16.9	"		1,089.9	Ha.
Net Area				13,369.6	Ha.
I. Government & Public Uses (1,854.32 Ha.)					
1. North District	285.75				
2. West District	105.5				
3. South District	214.7				
Neigh. District	605.95	Ha.	4.54%		
4. Metropolitan District	1,248.37	Ha.	9.34%	1,854.32 Ha.	13.88%
II. Roads & Parkways (1,874.64 Ha.)					
1. North District	355.0				
2. West District	210.2				
3. South District	255.6				
Neigh. District	820.8	Ha.	6.15%		
4. Metropolitan District	1,053.84	Ha.	7.87%	1,874.64 Ha.	14.02%
III. Parks & Open Spaces (906.53 Ha.)					
1. North District	210.0				
2. West District	43.85				
3. South District	36.3				
Neigh. District	290.15	Ha.	2.16%		
4. Metropolitan District	616.38	Ha.	4.62%	906.53 Ha.	6.78%
IV. Residential Areas (8,334.48 Ha.)					
1. North District	1,934.25				
2. West District	1,389.55				
3. South District	1,471.90				
Neigh. District	4,795.70	Ha.	35.90%		
4. Metropolitan District	3,538.78	Ha.	26.43%	8,334.48 Ha.	62.33%
V. Agricultural Green Belts Metro. Area					
Total				13,369.6 Ha.	100.00%
VI. Existing Reservations (1,089.9 Ha.)					
1. Metropolitan District	770.0				
2. South District	303.0				
3. West District	16.9			1,089.9 Ha.	

Other Land Uses Outside the Capital City

1.	North Cemetery (N. Dist.)	259.56	
2.	National Cemetery (San Ma.)	168.50	
3.	Commercial Airfield	197.00	
4.	Nov. Wat. Shed. & For. Res.	2,711.00	
			3,336.06 Ha.
	GRAND TOTAL		17,795.56 Ha.

TABLE

...ary for Areas, Metropolitan & Neighborhood District

	METRO-POLITAN	%	NEIGHBORHOOD UNITS N	W.	S	TOTAL	%
...t. and Public Uses	1,248.37 Ha.	18.24	285.75	105.50	214.70	605.95	9.37
...idential Areas	3,538.78 "	57.50	1,934.25	1,389.55	1,471.90	4,795.70	75.36
...ds and Parkways	1,053.84 "	15.44	355.0	210.20	255.6	820.80	12.62
...es and Open Spaces	616.38 "	9.00	210.00	43.85	36.30	290.15	4.45
...cultural Green Belts	399.63 "	5.82					
TOTAL	6,857.0 Ha.	100.00	2,785.00	1,749.10	1,978.5	6,512.6	100.00
...ing Reservation	770.0 Ha.		0.	16.90	303.0	319.90	
...D TOTAL	7,627.0 Ha.		2,785.0	1,766.0	2,281.5	6,832.5	
							14,459.5

...rative Studies

	Areas in Ha.	%	Acres	%
...rnment and Public Uses	1,854.32	13.88%	4,809	17.9%
...idential Areas	8,334.48	62.33%	13,940	51.6%
...ds & Parkways	1,874.64	14.02%	4,410	16.3%
...s and Open Spaces	906.53	6.78%	3,641	13.5%
...cultural Green Belts	399.63	2.99%		
Total	13,369.6	100.00%	27,000	
...ing Reservation	1,089.90		10,920 Ha.	100.00%
...AND TOTAL	14,459.50			

Comparative studies based on table 9, page 165, Sub-Community Land Use Summary from A. J. Rabuck, New City Patterns.

Appendix V

POWERS OF THE COMMISSION

1. To prepare and, with the approval of the President, adopt the Master Plan of the Capital City (Section 4 (a). The Master Plan for the entire city, including the territory of the original Quezon City. It should be finished and submitted to the President within the period of one year. Adoption requires the approval of the President (Section 7).

2. To prepare and adopt the ZONING PLAN of the city (Section 4 (b). It does not need the approval of the President. The present zoning plan of the territory of the original Quezon City may be amended by the Commission. The City Council of Quezon City has lost jurisdiction over this matter.

3. To prepare and adopt the BUILDING CODE of the city. (Section 4 (b)). The building code may determine the height of, and area covered by, buildings; business and advertising signs, in connection with which, restrictions regarding such factors as size and projection over street lines may be adopted; proportion of the lot on which buildings may be constructed; and sizes of lots, courts and other open spaces. The building code does not need the approval of of the President.

4. The Secretary of Justice is not sure if under paragraph (c) of Section 4 of the Enabling Act, the Commission is required to prepare and adopt a **Subdivision Code.** But there is no doubt that under said paragraph the Commission is empowered to adopt rules and regulations which shall govern (1) the acquisition of private lands, (2) their subdivision into small lots for sale or lease to the public, and (3) the form of development proposed and the uses of the surrounding land for streets; for light, air, and density of population; for water drainage and sanitary facilities; for lot sizes and shapes; for obligatory reservations of a reasonable minimum area for schools, parks, and other public purposes; and for the extent and manner in which these facilities shall be installed as a condition precedent to the approval of the plan.

5. To prepare and adopt rules and regulations for the acquisition of private estates (Section 4 (c)). They need the approval of the President.

6. To prepare and adopt the rules and regulations for the **disposal of government acquired land** (Section 4 (c)), excluding the land now under the Homesite Corporation. Public land within Quezon City continues under the jurisdiction of the Bureau of Lands. However, the use of lands now under the jurisdiction of the Homesite Corporation and the Bureau of Lands must conform to the MASTER PLAN and the ZONING REGULATIONS which the Capital City Planning Commission may adopt. Residential lots may be sold or leased. Industrial and commercial lots may only be leased.

   The price of each lot for sale is fixed in paragraph 2 of section 8 at cost plus 6% on cash basis with 4% interest per annum on installment basis. In the computation of the actual cost of the lots for sale to the public, the expenses incurred by the government in preparing the sub-division plan, including the cost of construction of streets, bridges, and other municipal improvements shall be added to the original purchase price of the private estate. Under this provision, the Commission cannot sell any lot for more nor for less than the price fixed. The proviso contained in the said paragraph "that award of lease or sale shall be made as far as practicable to the highest bidder", appears incompatible with the main provision insofar as the sale is concerned. The Secretary of Justice called attention to this incompatibility at a meeting of the Council of State during which the bill that became Republic Act 333 was discussed, and Senator Arranz explained

that the words "or sale" were inserted in said proviso by mistake. In view of such incompatibility between the text of the law and the proviso, I would interpret the latter to refer only to the award of lease and ignore the word "sale". With the approval of the President, the Commission may fix the minimum rate of lease for each meter, without prejudice to accepting a higher rate from the highest bidder.

To acquire private estates (Sections 8, 9 and 10)

a. Section 7 provides that the approval of the President is needed for "the allocation of lots for sale or lease and not the sale or lease itself. It would be absurd to require the President to approve every sale or lease of every lot, considering that the price of the sale has been fixed by law as already pointed above. The allocation of lots for sale or lease to the public in accordance with section 4 (c) refers to the determination of the location or zones to be designated as residential, industrial and commercial.

b. The Commission is authorized **but not in duty bound** to acquire all private estates included within the area described in section 2 of Republic Act No. 333. Considering that the amount authorized in section 9 for the acquisition of private estates, the subdivision of the area, the construction of streets, bridges, waterworks, sewerage, and other municipal improvements is only ₱20,000,000, it is evident that it would not be possible for the Commission to acquire all the private estates included within the area described in section 2. The Commission can acquire only such private estates as may be within its means to pay for.

Distinction should be made between lands to be expropriated for subdivision and resale to the public and those to be taken for some public use. In connection with the former, reference must necessarily be had to section 4, Article XIII, of the Constitution, which is the wellspring of the power delegated to the Commission. Under it and in harmony with its reason, which is to permit the breaking up of the big landed estates that have been the cause of agrarian unrest in the Philippines, a tract of land to be subject to expropriation must be of such size as to make it suitable for subdivision into lots. It is difficult to lay down any hard and fast rules in this matter. Much will depend on the character of the land, the uses to which it will be destined, and the funds available for the purpose.

The criterion laid down in the foregoing paragraph is inapplicable, however, where a private estate is to be acquired for public use. When this is the object, all lands regardless of size, as well as all interest in land may be taken. The Constitution and Republic Act No. 333 do not set any limit in regard either to the extent or nature of the property which may be condemned for public use.

The Secretary of Justice was requested to answer the following query:

Are the two modes of acquisition mentioned in section 8 exclusive? May the Commission acquire land by donation subject to certain conditions imposed by the donor?

A standard form of a contract in the development of subdivisions is one whereby the owner of a subdivision entrusts to a capitalist all the expenses of subdividing and developing the property, including the construction of streets and sale of the lots. Would it be within the powers of the Planning Commission to enter into a similar contract with owners of private estates? The owner of a private estate donates to the government say, one-half of the estate, in consideration of the benefits derived by him over the half of the property which will not be expropriated by the government and which will be bene-

fitted by the development of the Capital City, and the construction by the Planning Commission of the necessary roads on the said half and the cost of subdividing the same?

The Chairman of the Planning Commission has also suggested the study of whether or not, it would be within the powers of the Commission to organize the owners of private estates within the Quezon City into a corporation, the owners to receive shares in the corporation in proportion to the present relative value of their respective properties, while the government will receive a certain interest in the corporation, say 50%, in consideration of the benefits derived by the private owners by the development of the Quezon City, and the development and subdivision by the government of the private estates included in the Capital City?

In reply, the Secretary of Justice rendered the following opinion:

The Commission may acquire land by donation provided that the conditions imposed by the donor are not more onerous than the direct purchase of the land at the assessed value as of January 1, 1946, as prescribed in section 8.

The plan of the Chairman of the Commission to organize the owners of private estates within Quezon City into a corporation in which the Commission would be a share-holder will require new legislation.

The expropriation proceedings contemplated under Republic Act No. 333 should be instituted by the Solicitor General in the name of the Republic of the Philippines and not in the name of the Commission by the legal staff to be organized by it. Under Section 9 of the Act, it is the Republic of the Philippines, and not the Commsision, that assumes the obligations to pay for the land to be expropriated. Moreover, it is doubtful whether the Commission may be considered a body corporate with the power to sue and be sued. That is not one of the powers and prerogatives entrusted to it in section 4 of the Act. It acts merely as an agent of the Republic of the Philippines.

8. **To subdivide government acquired land and dispose of the same** (not lots of the Homesite Corporation and public lands).

9. To execute the Master Plan (Section 7) and to supervise all the work to be done and improvements to be made for the execution, improvement or extension of the Master Plan. However, it does not have the power to prepare the working plans of the buildings of the national government in the Capital City.

   The Commission cannot use any portion of the proceeds of the bond issue hereinafter to be mentioned in the construction of buildings for the national government.

   The Commission does not have the power to supervise the construction of the buildings of the national government

10. To supervise the construction of streets, bridges, water works, sewerage and other municipal improvements, if the same are financed from the proceeds of the bond issue and the revolving fund (section 12 in conjunction with Section 9).

11. To supervise all the work to be done and improvements to be made for the maintenance and operation of public service (Section 12).

12. To appoint, subject to the approval of the President, technical employees and consultants (Section 4 (d)). To prescribe the duties of all of the employees and fix their salaries or compensation. Fixing of duties and salaries does not need the approval of the President.

Appendix VII

COST OF THOROUGHFARES

EXPROPRIATION & CONSTRUCTION OF ROADS

	Rt. of Way	Length Km.	Area Ha.	Expropriation/1000 per Ha.	Construction	Total Cost
nal Roads (To be undertaken						
Nat. Government)						
blic Avenue	95	7.66	72.77	₱72,770	₱2,590,500	₱2,663,270
monwealth Avenue with 60 m.						
3.125 Km.	95	6.50	74.25	74,250	2,197,000	2,271,250
gressional Ave.	78	11.62	90.75	90,750	3,930,000	4,020,750
gressional Ave. Ext.	78	2.37	18.50	18,500	800,700	819,200
r-Urban (South)	78	2.75	21.50	21,500	929,500	951,000
n Avenue	78	11.15	87.10	87,100	3,772,000	3,859,100
on Avenue Ext.	78	3.83	29.90	29,900	1,295,800	1,325,700
a Avenue	78	14.00	109.20	109,200	4,732,000	4,841,200
inao Avenue	78	11.62	90.75	90,750	3,930,000	4,020,750
gon (Const. Hill)	78	2.48	19.40	19,400	838,200	857,600
man Parkway	60	47.37	284.22	284,220	8,332,000	8,616,220
SUB-TOTAL		121.35	898.34	898,340	33,347,700	34,246,040
g Roads (To be widened &				Note: Existing road have approx.		
ved (20mts. Rt. of way)				area—100.24 & 34.53 Ha.		
			Area (National) to be expro.	279.56		
			Area (Municipal) to be expro.	32.87		
Main road	78	38.37	309.30			
Parkway	60	11.75	70.50			
SUB-TOTAL		50.12	379.80	279,560	11,284,000	11,563,560
NATIONAL ROADS		171.47	1,278.14	1,177,900	44,631,700	45,809,600
ipal Roads						
condary Road	38	139.21	529.10	529,100	23,105,000	23,634,100
cal Road (Approx.)	17	597.0	1,015.00	1,015,000	48,065,000	49,080,000
isting Roads (Wid.)	38	17.625	67.40	32,870	1,850,000	1,882,870
MUNICIPAL ROADS		753.835	1,611.50	1,576,970	73,020,000	74,596.970
TOTAL		925.305	2,889.64	2,754,870	117,651,700	120,406.570

Note: a. Total area to be expropriated — National Rd. ... 1177.90
Municipal Rd. ... 1576.97
2754.81 Ha.

b. Government Owned ... 134.77

c. Cost, expropriation at ₱1000 per Ha.

APPENDIX VII

COST OF THOROUGHFARES — (CONTINUATION)

CONSTRUCTION—GRAVEL MACADAM ROAD

	Rt. of Way	Length Km.	Area Ha.	Cost of Roadway	Cost of Side Walk	Cost Curb & Gutter	Total Cost of Construction
I. National Roads (To be undertaken by National Govt)							
A. Republic Avenue	95	7.66	72.77	1,840,000	337,000	413,500	2,590,500
B. Commonwealth Ave. w/60 m. Mall-3.125 kilometers	95	6.50	74.25	1,560,000	286,000	351,000	2,197,000
C. Congressional Ave.	78	11.62	90.75	2,790,000	512,000	628,000	3,930,000
C-1. Congressional Avenue Ext.	78	2.37	18.50	568,500	104,200	128,000	800,700
D. Inter-Urban (south)	78	2.75	21.50	660,000	121,000	148,500	929,500
E. Luzon Avenue	78	11.15	87.10	2,680,000	490,000	602,000	3,772,000
E-1. Luzon Ave. Ext.	78	3.83	29.90	920,000	168,800	207,000	1,295,800
F. Visaya Avenue	78	14.00	109.20	3,360,000	616,000	756,000	4,732,000
G. Mindanao Avenue	78	11.62	90.75	2,790,000	512,000	628,000	3,930,000
H. Octagon (Const. Hill)	78	2.43	19.40	595,000	109,200	134,000	838,200
I. Katipunan Parkway	60	47.37	284.22	4,970,000	2,082,000	1,280,000	8,332,000
Sub-Total		121.35	898.34	22,733,500	5,338,200	5,276,000	33,347,700
J. Existing Roads to be widened and improved (20 mts. Right-of-way)				NOTE: Existing roads have approx. area — 100.24 (National) area to expro. — 279.56 Ha. (Mun.) area to expro. — 32.87 Ha.			
1. Main Road	78	38.37	309.30				
2. Park Way	60	11.75	70.50				
Sub-total		50.12	379.80	7,597,000	1,930.000	1,775,000	11,284,000
TOTAL NATIONAL ROADS		171.47	1278.14	30,312,500	7,268,200	7,051,000	44,631,700
II. Municipal Roads							
1. Secondary Roads	38	139.21	529.10	13,220,000	6,125,000	3,760.000	23,105,000
2. Local Road	17	597.0	1015.	26,855,000	13,150,000	8,050,000	48,065,000
3. Existing Road (Widening)	38	17.625	67.40	1,059,000	490,000	301,000	1,850,000
Total Municipal Road		753.835	1611.50	41,144,000	19,765,000	12,111,000	73,020,000
GRAND TOTAL		925.305	2889.64	71,456,500	27,033,200	19,162,000	117,651,700

Appendix VIII

AREAS FOR GOVERNMENT AND PUBLIC USES RECOMMENDED FOR EXPROPRIATION

LAND USE	AREA	UNIT COST PER HA. ₱1000	TOTAL COST
METROPOLITAN AREA:			
1. Constitution Hill	158.50	1000	₱ 158,500
2. National Government Building (C. Hill)	50.0	1000	50,000
2a Reserve Area for Government Building	43.75	P. H. H. C.	43,750
3. Dept. Sec. Bldg. (Qua.)	30.0	—do—	
4. Government Bureau (Quadrangle)	50.0	—do—	
5. Scientific Bureau	100.0	—do—	100,000
6. Exposition Ground Quadrangle	46.87	—do—	
6a. Quezon Memorial (Quadrangle)	10.0	₱1000	
6b. War Memorial (Rep. Ave.)	7.50	P. H. H. C.	7,500
7. Quezon City Hall including Mun. Civic Center	40.0	₱1000	
7a. Govt. Housing for Govt. Offices	43.75	1000	43,750
8. Embassies & Chancelleries	50.0	1000	50,000
9. Semi-Public Building	50.0	1000	50,000
10. Medical Center	41.25	P. H. H. C.	41,250
11. Diliman Quadrangle (Central Parks)	394.48	₱1000	
12. Cemetery (Metropolitan)	93.75	P. H. H. C.	93,750
13. Veterans Hospital	31.25	₱1000	
14. Parks & Open Spaces	221.90	1000	221,900
15. Commercial Zones	355.00	1000	355,000
16. Industrial Zones	123.0	1000	123,000
17. Manila Hotel	21.25	1000	21,250
18. Health Center	11.25	1000	11,250
19. Government Low Cost Housing	131.25	P. H. H. C.	
	1370.90		1,370,900
	733.85	P. H. H. C.	733,850
	1370.90	Area for Expro.	1,370,900
		Total	₱2,104,750
NORTH NEIGHBORHOOD DISTRICT:			
1. Government Corporation Site	50.0	₱1000	₱ 5,000
2. North Airfield	105.0	1000	105,000
3. Parks & Open Spaces	210.0	1000	210,000
4. Commercial Zones	18.75	1000	18,750
5. Industrial Zones	112.0	1000	112,000
Total North Neighborhood District	495.75		₱ 495.750
WEST NEIGHBORHOOD DISTRICT			
1. Parks & Open Space	43.85	₱1000	₱ 43,850
2. Commercial Zones	32.50	1000	32,500
3. Industrial	73.00	1000	73,000
Total West Neighborhood District	149.35		₱ 149,350
SOUTH NEIGHBORHOOD DISTRICT			
1. South Cemetery	118.5	₱1000	₱ 118,500
2. Parks & Open Spaces	36.3	1000	36,300
3. Commercial Zones	45.6	1000	45,600
4. Industrial Zones	50.6	* 1000	50,600
Total South Neighborhood District	251.0		₱ 251.000
LAND USES OUTSIDE THE CAPITAL CITY			
1. North Cemetery	259.56	₱1000	₱ 259,560
2. National Cemetery	168.50	1000	168,500
3. Commercial Airfield	197.00	1000	197,000
Total Land Uses Outside the Capital City	625.06		₱ 625,060
TOTAL EXPROPRIATION	2892.06		₱2,892,060
Government Owned	733.85		733,850
GRAND TOTAL	3625.91		₱3,625,910

Appendix VIII

REPORT OF THE UNITED STATES PUBLIC HEALTH SERVICE

By H. F. SMITH
Brigadier General, USPHS

Organization and objectives of surgery

(a) Three (3) USPHS Malaria Control Units, each with the necessary personnel, equipment, supplies and vechicles, were assigned to operate in the capital city site on 16 November, 1948, in response to Resolution No. 3 of the Capital City Planning Commission.

(b) The current objectives of these units are to conduct an intensive survey of the capital site, to determine the overall breeding and adult density of malaria vectors, and the current incidence of actual malaria cases among the population in the area as it is surveyed. This data, pertaining not only to actual breeding locations, but also with reference to the relative density of such breeding in various areas of the site, together with the actual regional incidence of malaria among the current population which act as reservoirs of infection for such vectors as exist, is essential and mandatory for the activation and application of efficient eradicative and control measures.

(c) Following the completion of the field survey, activation of eradicative and control measures will be inaugurated and coordinated with the program of the Planning Commission.

Progress and findings of survey

(a) As of 8 January, 1949, approximately 50% of the total area included in the overall capital site has been surveyed for vector breeding and the malaria infection rate among the population in the area so surveyed determined.

(b) The area reported as the actual site selected for the erection of the capital buildings and the area within a two-mile radius of this site has been included in the area surveyed as of 8 January, 1949.

(c) 134 stream dipping stations have been established along the streams so far surveyed. Seventy-eight (78), or approximately 58% of such streams, were found to be breeding places of the malaria vector **Anopheles minimus flavirostris,** with densities ranging from .014 to 7.36 larva per dip.

It is felt pertinent to state that **minimus** larva densities of one (1) larva per dip have theretofore been found to cause a high malaria incidence among communities in the Philippines adjacent to such breeding areas.

(d) Blood examinations of children conducted concurrently with the entomological survey show parasite indices ranging from 0 to 12.8% in different communities, which variation depends on the proximity of the community to breeding streams and the density of the larvae breeding in such streams.

(c) Spleen examinations of children conducted concurrently with blood examinations and entomological surveys of streams show a mild incidence of the disease in the surveyed area as a whole.

(f) Fifty (50) of the 134 dipping stations established are located on 40 streams of various sizes within a two-mile radius of the planned site for the major capital buildings. These streams are all tributaries of the San Mateo and Lipid Rivers. All of these 40 streams show breeding of malaria vector larvae in high density.

(g) The highest breeding densities so far found in the 50% of the total area surveyed to date lie within the two-mile radius of the capital building site.

3. Conclusions based upon findings

(a) The current survey reveals the area so far covered as being unquestionably malarious and at present presenting a potential danger to persons who might be working or residing therein prior to the activation of actual control meaasures.

(b) While the area surveyed to date is unquestionably malarious and existing conditions do present a potential danger to persons residing therein, it is the opinion of this office that these conditions can be totally eradicated or controlled and the area rendered malaria free, provided adequate funds are made available for the development and maintenance of the malaria control projects which will in the near future be undertaken by this office in coordination with the program of the Planning Commission.

Map of the Capital City Site, showing **Anopheles minimus flourostris** larva densities in streams so far surveyed and other findings, is attached.

H. F. Smith
Brigadier General, U.S.P.H.S.

Appendix X

REPORT OF THE NATIONAL POWER CORPORATION FOR THE HYDROELECTRIC PROGRAM

Purpose

The purpose of this study is to investigate the feasibility of developing power at a point along the Novaliches-Balara aqueduct of the Metropolitan Water District by utilizing the head available at Novaliches Reservoir.

Novaliches reservoir and Novaliches-Balara Aqueduct

The Novaliches reservoir of the Metropolitan Water District has a useful capacity of 26,000,000 cubic meters and a full pond elevation of 78.00 meters. At elevation of 78.00 meters the area of the reservoir is about 5,000,000 square meters. In 1947, the reservoir experienced the lowest drawdown on record of the Manila water supply, the demand being 80 million gallons per day or 3.52 cubic meters per second. During this critical year the reservoir water surface went down to elevation 69.00 meters, only 1 meter above the invert of the outlet conduit.

Water is diverted to Balara by means of a cylindrical intake tower provided with 24 hand-operated, .80-meter diameter, circular gates placed at different elevations on the wall of the tower. The top of the intake tower is at elevation 80.00 meters. A hand-operated rectangular sliding gate with bottom elevation at 68.00 meters connects the intake with the Novaliches-Balara aqueduct. The reservoir is fed by the Novaliches River flow supplemented by the deliveries from the Ipo system. To allow Ipo water to flow directly to the Balara filters without passing the Novaliches reservoir, a by-pass aqueduct with a capacity of 80 million gallons per day is provided, conducting the Ipo aqueduct and the Novaliches-Balara aqueduct.

The Novaliches-Balara aqueduct consists of a series of tunnels, cut and covers and syphons with a designed capacity of 80 million gallons per day or 3.52 cubic meters per second. The by-pass aqueduct referred to above connects with the Novaliches-Balara aqueduct at a point near the outlet portal of Tunnel No. 1. The tunnels and cut and covers are designed for a gravity flow (not under pressure) and the syphons are designed as pressure conduits.

Scheme of development

The proposed power development is located a few meters downstream of the outlet portal of tunnel No. 1 and upstream of the point of connection of the by-pass aqueduct with the Balara aqueduct. The reasons for selecting this location are twofold:

First, to effect the connection of the proposed powerhouse with the Novaliches-Balara aqueduct without interrupting the water supply service when utilizing the Ipo system delivery thru the by-pass aqueduct; and second, to locate the powerhouse as near the reservoir as possible in order to reduce the length of the development waterway (originally designed not to withstand pressure) that will be subjected to water pressure.

In order to ensure the delivery of 80 million gallons of water per day in spite of the destruction of head at the proposed site of power development, a hydraulic study of the entire length of the aqueduct to Balara was made. This study showed that, with an assumed coefficient of roughness of .014, the aqueduct is capable of delivering 80 million gallons per day. To determine the head available for power development, a study of a proposed operation of the Novaliches reservoir was made, taking into consideration the total delivery from the Ipo system of 80 million gallons per day after the completion of the parallel aqueduct now under construction. The year 1947, when the reservoir experienced the lowest drawdown, was made the basis of the study. The study disclosed that the supplementary flow of the new aqueduct of 40 million gallons per day from Ipo is more than sufficient to meet the present demand of 80 million gallons per day without lowering the water surface in the reservoir, a most favorable condition for power development. A variation in head, for an efficient operation of the power unit, is estimated to be about 25 percent of the total head, or an oscillation of the reservoir water surfaces between 76.30 and 78.00 meters. It is calculated that in order to lower the water surface elevation to 76.30 meters, the delivery will have to be

increased to about 99 million gallons per day which is expected to occur in 1956 at the present rate of increase of the Manila water supply demand.

The existing intake tower with little alterations will be utilized after providing the inlet opening located at the bottom of the intake tower with trash racks to catch floating debris, except the small ones that will readily pass thru the water wheel. That portion of the aqueduct between the reservoir and the powerhouse, which was originally made not to resist water pressure, will be strengthened by grouting.

The power plant will consist of an open well with two control slide gates, a surge tank and the powerhouse.

The well will be of reinforced concrete construction, rectangular in shape, 3.0 meters by 2.5 meters and 12.35 meters high. It serves as a transition chamber between the tunnel, the surge tank and the tailrace chamber, and also it houses two 1.70 meters slide gates whose operating mechanism are installed on the top floor of the wall. One of the slide gates controls the floor of water to the surge tank through a 1.5-meter square opening, while the other gate controls the flow of water directly to the tailrace chamber through a 1.5-meters square opening.

A reinforced concrete circular surge tank, 9.0 meters inside diameter by 9.50 meters high, will be provided to serve as a forebay to the turbine and improve its regulation with changes in load. The top is at elevation 80.00 meters.

The powerhouse will be of reinforced and concrete construction, 6.0 meters by 6.2 meters inside dimension including the switchboard space. From the surge tank, water will flow to the turbine plate steel pressure casing through a plate steel taper section and short pipe which are all embedded in concrete. The centerline of the turbine distributor is at elevation 71.9 meters, and the bottom of the turbine casing rests at elevation 70.9 meters. The generator floor is at elevation 73.0 meters. The turbine discharges into a tailrace chamber which is 6.0 meters wide by 8.35 meters long by 2.90 meters high. The normal water surface at this chamber is at elevation 7030 meters. A 12-inch diameter steel vent pipe extending to elevation 80.0 meters from this chamber allows air to enter the latter in case vacuum is created as will occur when the turbine wicket gates are suddenly closed. A plate steel elbow whose lower end extends to the tailrace chamber and whose upper end is tapped to one side of the turbine casing houses a butterfly valve which is operated by the turbine governor. The operation of this valve is mechanically interlocked with the opening and closing of the turbine wicket gates through the governor, such that when the wicket gates are fully opened, this valve is fully closed and vice versa. When the turbine carries part load, both wicket gates and butterfly valve will be opened at the same time by an amount directly proportional to the load for the wicket gates and inversely proportional to the load for the butterfly valve such that the flow to the tailrace chamber will be maintained practically constant at full discharge at all times. This scheme shall be met in order not to interfere with the delivery of potable water for the Manila water supply system.

The turbine shall be of the fixed blade propeller type, vertical shaft, single runner, set in a plat steel pressure casing and provided with a plate steel straight tapered draft tube. It shall be capable of developing at least 280 HP at 7.10 meters effective head and 3.52 cubic meters per second normal discharge. Maximum efficiency is desired at the above rating. The turbine shall be designed so that the wicket gate control shaft will be inside the plate steel casing.

The turbine shall be provided with a hydraulically operated governor for speed regulation, starting and stopping the turbine and also for opening and closing the butterfly valve in conjunction with the operation of the turbine as previously mentioned.

The butterfly valve, or any other suitable type of valve to serve as a by-pass for the turbine discharge including the plate steel elbow, shall be considered a part of the turbine. A manhole will be provided in the generator floor to provide access for a man to go around the elbow for the purpose of servicing the butterfly valve.

The generator shall be one AC synchronous type, vertical shaft, and directly connected to the turbine shaft, 250 KVA capacity, 3 phase, 60 cycle, 2400 volt, 80% PF and provided with a direct-connected, self-excited

shunt-wound exciter, 125 volt.

It shall be elevated at least 80 centimeters from the generator floor to facilitate easy access to its underside and also to provide a passage for a man to go down the turbine pit of purposes of servicing and maintenance. The generator and turbine including the butterfly valve, shall be designed with a view to having one self-contained and compact unit.

A metal-clad switchgear manually operated consisting of one generator panel, one exciter panel and whether one or two feeder panels depending upon the connected load shall provided control and instrumentation for the unit. A motor-generator set with switchboard will be installed for charging the powerhouse battery cells for supplying DC power to the control equipment during normal operation and emergency power to various accessory equipments and for lighting when the turbine is shut down.

If the power generated in this plant is intended to be used at the Balara Filters which is about 4 miles away, the power will be transmitted at the generated voltage of 2400 volts through 3- No. 0 bare copper wire on creosoted apitong poles following approximately the aqueduct line. At Balara, the voltage will be stepped down to 240/480 volts through 3-75 KVA single phase transformers. AC supply for the powerhouse use will be obtained through 3-10 KVA single phase 2400/240/480-volt station service transformers. The same transformer ratings minus the transmission line will be used in case the power generated is intended to be used at the powerhouse site.

tion of the plant

During normal operation of the plant, the slide gate (Gate No. 1) located along the center line of the aqueduct will be fully closed and Gate No. 2 separating the surge tank from the waterway will be fully opened. The velocity of the water passing through Gate No. 2 is practically destroyed and stabilized as the water reaches the surge tank. From the surge tank the water approaches the turbine at a low velocity, discharges through the turbine to the tailwater chamber at decreasing velocity until same is retained to normal value at the aqueduct.

When the turbine is carrying full load, the wicket gates will be fully opened and the butterfly valve will be fully closed. When a fault occurs causing the turbine wicket gates to suddenly close, the butterfly valve will automatically be opened by the governor and will remain opened until the turbine is re-started. In the meantime, Gate No. 1 will be opened followed by the closing of Gate No. 2 to make the water pass directly to the tailrace chamber and the aqueduct.

Gates Nos. 1 and 2 will normally be operated by DC motors supplied from the station battery, but will also be provided with manual drive for emergency use.

Capacity of development

It is estimated that 200 KW. could be generated continuously with the regulated flow of 3.52 cubic meters per second or 80 million gallons per day provided by the Ipo deliveries and the storage capacity of the Novaliches reservoir. No secondary power will be available inamuch as the flow is restricted by the designed capacity of the tailrace aqueduct, and to the needs of the Manila water supply. The total annual energy available which are all primary is estimated at 1,730,000 KWH.

Estimate of cost and unit cost of power and energy

The following construction estimate includes only the proposed structures and the improvements to be made on the existing structure incident to the proposed development.

1.	Surveys and design	₱ 2,000.00
2.	Intake trash rack	1,600.00
3.	Surge tank and powerhouse	50,000.00
4.	Powerhouse equipment, switchboard, transformers, valves, etc.	100,000.00
5.	Transmission line to Balara	36,000.00
6.	Miscellaneous	10,400.00
	Sub-Total	200,000.00
7.	Add: 20% for engineering, contingencies, contractor's profit, etc.	40,000.00
	TOTAL	₱240,000.00

Installed capacity	280 HP
Cost per horsepower	₱ 860.00
Annual operation cost	28,800.00
Interest and depreciation (30 years) 6.14%	₱ 14,736.00
Taxes, insurance, ad., etc. 2.5%	6,000.00
Operation and maintenance 3.36%	8,064.00
Annual energy output	1,730,000 KWH
Unit cost per KWH w/transmission line to Balara (10% line and power losses) 100% utilization	₱ 0.019
90% utilization	0.021

Annex A

GEOLOGIC REPORT

Republic of the Philippines

UNIVERSITY OF THE PHILIPPINES
Manila

COLLEGE OF LIBERAL ARTS

Department of Geology and Geography

December 6, 1948

Professor C. H. Concio
Executive Secretary
Capital City Planning Commission
Manila

Dear Prof. Concio,

I received your letter dated November 8, 1948 regarding the location of the fault in the Marikina Valley. In compliance with your request I take pleasure in submitting the following:

The major fault is located east of Novaliches and Diliman and runs almost parallel to the Marikina River and can be well appreciated by the difference of elevation. We find that west of said fault the Guadalupe tuff is well exposed. The same formation can be found along the banks of the Pasig River especially at Fort McKinley. Careful examination of said formation reveals that it is bedded and the texture differs from one bed to another.

The fault scarp of the upthrow block of the river reached a maximum displacement of about 250 ft. from the original level (probably mean sea level) before the diastrophic movement took place.

This formation, as can be inferred from its fossil content, is either upper Pliocene or Pleistocene. It has an estimated thickness of about 200 meters, dipping southwest with an angle of 2° to 4°.

In the Marikina Valley at Pasig, by an artesian well log, at a depth of 800 ft. no tuff has been encountered. This is interpreted to mean that, by reason of difference of elevation and lithogic correlation, the Marikina Valley represents the block that went down.

TABLE I
MANILA EARTHQUAKES WITH
INTENSITY VII TO X
(Rosi-Forrel Table of Intensities)

Intensity VII:		
1.	— —	1585
2.	— —	1589
3.	Jan. 16,	1601
4.	Dec. 5,	1645
5.	July 12,	1665
6.	Aug. 24,	1684
7.	Mar. 10,	1750
8.	Nov. 13,	1767
9.	Dec. —	1770
10.	Feb. —	1797
11.	Nov. 9,	1828
12.	Dec. 7,	1829
13.	Aug. 14-15,	1881
14.	Aug. 20,	1937
Intensity VIII:		
1.	June 21,	1599
2.	— —	1699
3.	Sept. 24,	1716
4.	Nov. 28,	1728
5.	Feb. 2,	1771
6.	Oct. —	1796
7.	Oct. 26,	1824
8.	July 13,	1862
9.	Oct. 1,	1869
Intensity IX:		
1.	Jan. 1,	1601
2.	Aug. 20,	1658
3.	Dec. 7,	1677
4.	Jan. 18,	1830
5.	Sept. 16,	1852
Intensity X:		
1.	Nov. 30,	1645
2.	June 3,	1863
3.	July 18,	1880

S U M M A R Y

Intensity VII	— — — 14
" VIII	— — 9
" IX	— — 5
" X	— — 3
TOTAL	— — — 31

References:

La Seismologia Filipina and Seismological Bulletin of the Weather Bureau, 1585 to 1941; Philippine Geologist, Volume II Number 2. (Probable epicenter in one of the faults in Novaliches-Marikina region).

The age of the fault from evidences obtainable from the region shows that the major tectonic movements took place after the deposition of the Guadalupe tuff, probably during the later part of the Pleistocene time.

The epicenter of the destructive earthquake of 1863 was reported east of Manila, possibly in the Marikina fault. The number of earthquakes that have affected Manila from 1585 to 1948 (see Table I and Graph I) with intensity VII to X, Rosi-Forrel Scale were 31 for a period of 363 years.

This will average **one earthquake** for every 11.7 years. Tremors of such intensity are considered to be more or less destructive; and as a matter of fact, the said earthquakes had done some damage to Manila and its immediate environs.

The 1937 earthquake which destroyed and damaged some buildings in Manila and neighboring provinces including the form Heacock Building at the Escolta was rated to have an intensity VII. The epicenter of said earthquake was located in Alabat Island, province of Tayabas (Quezon).

On the basis of studies on epicenters of Manila earthquakes, it seems that the faults in the Marikina and Antipolo region are still in the active stage. It is also possible that minor faults, perpendicular to the major tectonic line, are present.

It is admitted by seismologists and other students of the subject that regions at or near the epicenter of tectonic earthquakes are more susceptible to damage and destruction than those located with greater distance therefrom. It does not mean, however, that buildings and structures can not be built in said region. Modern architecture and engineering sciences have undoubtedly solved these problems.

It is suggested that a more thorough geologic study be made on the Diliman-Novaliches region. The checking of all the bench marks should be undertaken so that it may be ascertained as to which portion is going up or down.

The rock formation of the Quezon City and Novaliches regions is more stable than the present alluvial and delta deposits of Manila.

Very sincerely yours,

JOSE M. FELICIANO
Head

Annex B

REPORT FROM THE WEATHER BUREAU

Republic of the Philippines
Department of Commerce and Industry
WEATHER BUREAU
Manila

Dec. 9, 1948

Juan M. Arellano
tal City Planning Commission
ce of the Executive Secretary
U.P. Architect
ersity of the Philippines
e Faura St., Manila

r:

In compliance with your request dated December 1, we are sending attached hereto data in graphs and table on the temperature, relative humidity, rainfall, and wind direction and velocity for Manila, and rainfall for Novaliches and Balara. We cannot send those for the exact Capital City site as requested, as we have none of those available. The site has a slightly higher latitude and elevation than Manila, which would mean a proportionate difference in weather conditions between the two: a slight decrease in temperature values and a slight increase in those of relative humidity and wind velocity for the Capital City site. Mean values shown in the data are deduced from as long periods of observations as are available at hand to make them representative.

We hope that these data we are sending will suffice to meet your purpose.

Respectfully,

CASIMIRO DEL ROSARIO
Director

Annex C

POPULATION DENSITY

1. The Capital City is divided into a Metropolitan Area and three Neighborhood Districts. While the population density should be strictly controlled in the neighborhoods so that they will never lose their true character of real neighborhoods, population density control measures in the Metropolitan Area will have to be more flexible. The Metropolitan Area will be a metropolis, where the people can not expect to live in a country environment.

2. Population of Manila base census of the following years:

Years	Census
1903	219,928
1918	285,306
1939	623,492
1948	983,906

3. The density of population of the neighboring cities and municipalities are as follows:

1948 Census	Population	Density 1000 Total Area 1 Sq. Km.	Sq. Kms.
Manila	983,906	26,563.3	37.04
Polo	116,740	286.6	47.0
San Juan del Monte	31,493	706.7	26.7
Mandaluyong	26,309	1,529.4	11.9
Montalban	5,257	24.2	264.1
Caloocan	58,208	327.0	118.7
San Mateo	6,811	82.7	74.2
Malabon	46,455	2,484.0	13.4
Mariquina	23,353	426.0	35.6
Rizal City (Pasay)	88,728	3,727.1	14.8
Meycawayan	2,695	576.4	27.9
Quezon City	107,977	528.6	73.8

4. The density of population in some of the main cities of the United States are as follows:

Cities	*Population*	*Area in square miles*	*Population Density*
Washington D.C.	663,091	69.2	9,582.2
New York City	7,459,995	299.0	24,932.7
Chicago	3,396,808	211.3	16,075.8
San Francisco	634,536	93.1	6,815.6
Los Angeles	1,507,277	452.2	3,326.5

Note:—Based on World Almanac 1948
(Census 1940)

QUEZON CITY
COMMITTEE
N