9 FORT BONIFACIO GLOBAL CITY: A NEW STANDARD FOR URBAN DESIGN IN SOUTHEAST ASIA

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Introduction

> "Make no little plans; they have no magic to stir men's blood and probably themselves will not be realized. Make big plans; aim high in hope and work, remembering that a noble, logical diagram once recorded will never die, but long after we are gone will be living thing, asserting itself with ever-growing insistency. Remember that our sons and grandsons are going to do things that would stagger us. Let your watchword be order and your beacon beauty."
>
> (Daniel H. Burnham, 1907)

So wrote Daniel Burnham in the opening years of this century when he helped set the framework for the expansion of Old Manila (Fig. 1). As we approach the beginning of the next century we architects and urban designers are required to bring our expertise to bear in an entirely new environment. We are challenged by massive scale, fast pace and complexity of development projects in the economic boom of Southeast Asia.

Figure 1 Master Plan for Manila, Daniel Burnham

Figure 2 Fort Bonifacio Model

The master plan developed by Hellmuth, Obata & Kassabaum (HOK), provides a broad vision, as well as the detailed planning, urban design and landscape guidelines necessary to make it a reality (Fig. 2). Our objective, was defined through a collaborative team effort, involving a multi-disciplinary team which included architects, urban designers, landscape architects and engineers, to create the

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following:

- A design that optimizes the use of mass transit through an integrated transit strategy which is flexible and compatible with all phases of development.
- An integrated car parking strategy that minimizes the impact of the automobile by creating a pedestrian-friendly environment within the city.
- A series of definitive urban neighborhoods which focuses on distinct individual open spaces.
- A set of documents and a structure to ensure correct implementation of the master plan.
- A design sensitive to local culture, context, and climate.

The credo of the developer states that, "Land is not inherited from our forefathers, rather it is borrowed from our children." Underlying this statement is a recognition that it is in the long-term interest of everyone, including the developers, to create a sustainable city with a strong sense of place.

Figure 3 Metro Manila

Background

The rapid development of Manila in the last 10 years has outstripped the capacity of its infrastructure, resulting in a crowded, traffic-congested environment that is hostile to pedestrians (Fig. 3). There is little space and few trees, and pollution is a serious problem. The goal of the project was to create a new urban center that avoids these conditions through careful planning and skilled urban design.

Site

The site of Fort Bonifacio, the former Philippine Army Base, has intrinsic character and a wealth of natural surroundings. The American Memorial Park with its grand ceremonial circles is to the south. The fairways of the Manila Golf Club provide rolling green open space to the west. The C5 Expressway marks the eastern edge and provides access to the airport. To the north runs the Pasig River, and the R4 Roadway. The site also offers distant views of Manila Bay and the skyline of Makati, Manila's current business district, and the surrounding mountain ranges.

Program

The program for Fort Bonifacio Global City is to provide a high-density, mixed-use urban center with integrated open space, public transportation, distinct neighborhoods and pedestrian-oriented streets. Bonifacio's center, 9 million square meters of building space, will be developed on 250 hectares of land. The overall master plan covers an area of 440 hectares. Population projections are for half a million daytime occupants and 200,000 permanent residents. The master plan encompasses office, commercial, residential, institutional, recreational, open space, parking, utilities, and full supporting infrastructure.

Urban Systems

Before the design process began, project executives toured 13 cities in Europe, Asia and the United States to search for inspiration of both visionary and innovative city-building. Both positive and negative aspects of cities were carefully observed and analyzed.

The master plan for Bonifacio was created considering three system types: grid, geometric and organic patterns. Historic precedents and current city models were studied both for their positive urban qualities as well as inherent drawbacks.

The Grid System

The grid-system is dominant in American cities, which were built over comparatively short spaces of time. New York and Chicago are good examples of the grid-system. In historical terms Chicago sprang up almost overnight. This is of special interest to us because Bonifacio is developing very quickly. Grid-systems are not unique to America: early examples include the Japanese city of Nara, shown here, which dates from the 8th century AD (Fig. 4).

The principal advantage of the grid-system is that it is easily comprehensible, providing an immediate sense of orientation. Traffic circulation is simple, alleviating potential congestion. The drawbacks are twofold. From a functional standpoint, the grid must be skillfully managed or it will encourage ever

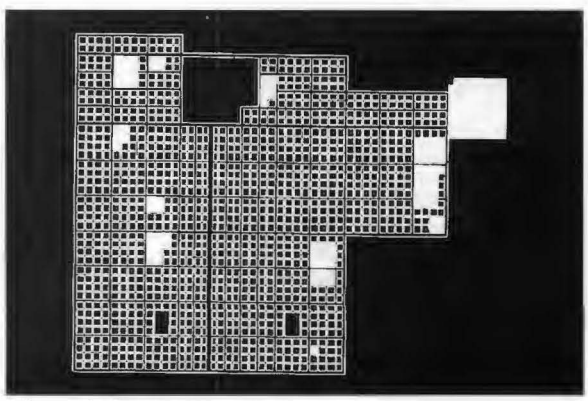

Figure 4 Plan for Nara, Japan

increasing through traffic. Aesthetically, a grid system can be tiring on the eye as well as dulling on the spirit.

The Geometric System

For developed examples of the geometric system we can cite Washington, and Paris as great examples. The radial patterns usually developed around an earlier architectural core with subsequent development emanating from the center. A powerful example is the 1593 plan for Palmanova in Italy, where pure geometry creates a timeless appeal. Palmanova remains remarkably unchanged to this day. As a diagram for transit routing within a city, this system has much to offer to planners and designers (Fig. 5).

Figure 5 Photograph of Palmanova, Italy

The Organic System

Many of the older European cities and towns have developed over centuries according to topography, boundaries and natural pathways. Examples of the organic system are found in the Italian town of Sienna, and in Hong Kong, which is recognized as the urban center of Asia. The garden cities of the United States are another form of freer organic patterns (Fig. 6).

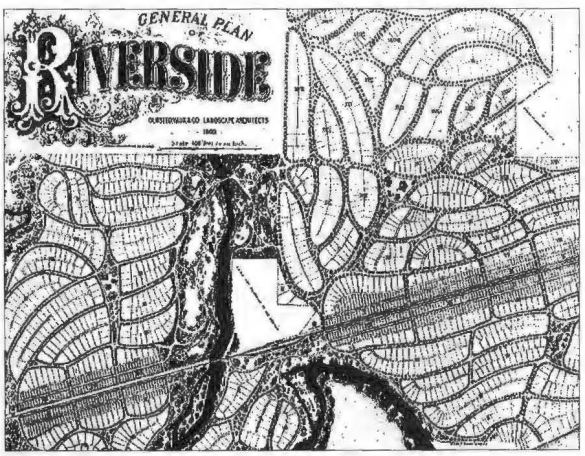

Figure 6 Plan for Riverside, Illinois

Concept/ Synthesis

The organic system is certainly the most *'human-friendly"* and potentially the most sensitive to the environment, but has also been viewed in the past as least efficient when having to cope with late-20th century traffic conditions. With the current trends towards traffic calming and the discouraging of auto traffic within cities, the organic system is one which warrants attention.

The Bonifacio Master Plan concept takes its inspiration from the best elements of cities, gardens and monuments from around the world, synthesizing them into a unique plan (Fig. 7).

Figure 7 Fort Bonifacio Illustrative Plan

The density and street grid of New York City, the broad axial boulevards of Paris, the skywalks of Hong Kong, the transit systems of Frankfurt and London, the parking arrangements of Barcelona and Minneapolis, as well as the picturesque landscapes of English gardens and American parks all show the breadth of design issues considered and the commitment of those involved to learn from the past.

The Bonifacio Design Framework is an overlay of grid, geometric and organic patterns (Figure 8). The grid system establishes the main framework of north-south and east-west axes. The major public open spaces are created by overlaying the geometric circular patterns, creating the green, open spaces

Figure 8 Fort Bonifacio Concept Sketch

throughout the plan. The larger concentric circles emanating from the center form the spaces of the neighborhoods and districts of the plan. Both the grid and the circular overlays become key elements in the development of the transit system for Fort Bonifacio. The Crescent West neighborhood takes its form by responding to the circular geometry, as well as to the organic edge adjacent to the Manila Golf (Fig. 9). The planning structure thus yields to existing edges, topography and special conditions adding the *"organic"* richness to the plan.

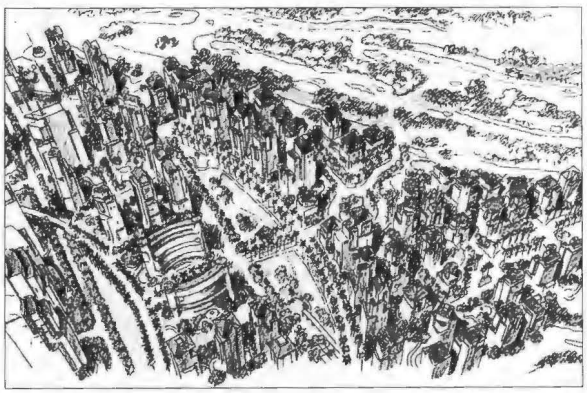

Figure 9 Sketch of Crescent West Neighborhood

Neighborhoods & Districts

The Bonifacio plan is an integration of comprehensible districts. In the spirit of the Baranghay, the Philippino word for community, the livability of a plan ultimately lies in the way it creates distinct neighborhoods in which people can lead their daily lives and relate to the amenities of the larger community (Fig. 10).

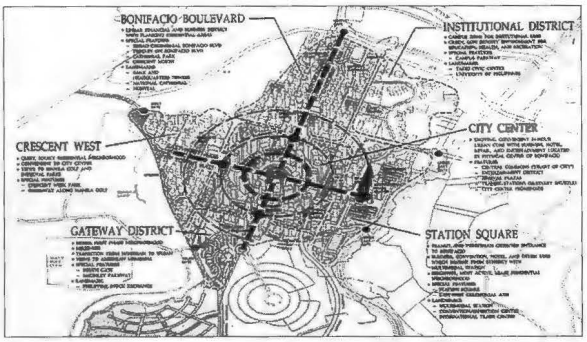

Figure 10 Neighborhood Concept Plan

City Center

The City Center is the 24-hour urban core with business, hotel, retail and entertainment uses located at the physical center of Bonifacio City. The public commons and the activity of the uses set the character of this district.

Crescent West

The Crescent West neighborhood is predominantly residential with convenient links to the activity of the city center and broad views across the Manila Golf Club to the west.

Station Square

This multi-modal hub will be the new transit center for Bonifacio and metro-Manila. This rail, bus, taxi and auto interchange will ease the traffic load within the city center. The station will also generate commercial activity, enlivening the plan with convention, exhibition and international trade facilities.

Institutional District

The Institutional District has the least density of all neighborhood districts within Fort Bonifacio. Anchored by a meandering parkway, land uses within this district are reserved for institutions which enrich the lives for the entire community; these include health care, education, research and religion.

Bonifacio North

Conceived as the final phase of Fort Bonifacio, the Bonifacio North neighborhood will become the financial center of the Philippines.

Transportation

Transit and transportation systems are key components of the Master Plan. Fort Bonifacio has been designed to reduce the impact of personal vehicles, with the added benefits of cleaner air and a great reduction in traffic congestion and noise-related stress. The following elements are key components of Fort Bonifacio's transportation system.

- The multi-modal station, Bonifacio's transit hub is strategically located adjacent to the newly completed 45 Expressway. It will ultimately connect different transit networks, providing easy transfer to local and regional transit lines (Fig. 11).

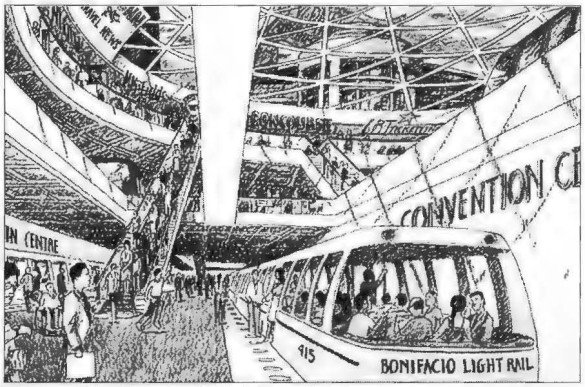

Figure 11 Sketch of Multi-modal Station

- Parking for private development will be supplemented with additional high-turnover perimeter parking facilities and an underground garage beneath public open spaces. This unique parking system has been designed to get people out of their cars, minimizing traffic on local streets. Public parking will be distributed between more affordable periphery parking facilities (as in Minneapolis) and underground garages beneath open spaces (as in Barcelona). These parking facilities will be close to transit systems. High parking fees and limited on street parking will discourage driving into the city center district. These measures aim to lessen the environmental impact caused by automobiles in the city.
- Shuttles and a light-rail system will serve strategically-located routes within the plan. To accommodate Fort Bonifacio's future growth, the master plan designates routes for the future development of below-grade transit. As neighborhoods become dense, generating a demand for mass transit and city-wide transit systems are developed, these zones will ensure that the required areas will be available to build mass transit facilities.
- Land use guidelines for Fort Bonifacio are developed around a strategy for integrated mixed use development which will reduce the dependency on the automobile. Developing office, residential, and retail within the same block also helps to create vibrant urban neighborhoods and reduce the need for cars. Land use guidelines in the Bonifacio plan allow flexibility through the mixing of uses. Additionally, this ensures that the plan is responsive to the demands of the market, both present and future (Fig. 12).

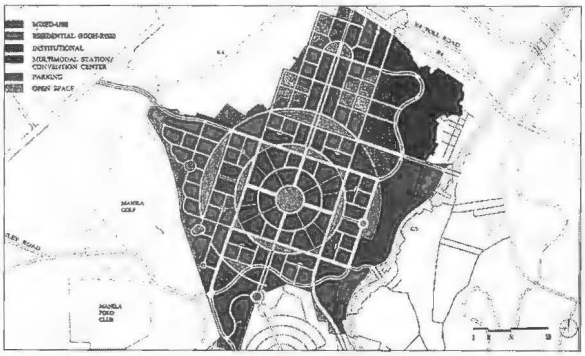

Figure 12 Land Use Plan

Streetscape & Open Space System

To create a sense of city, memorable street and open space framework have been conceived ranging from grand ceremonial Boulevards to winding parkways and pedestrian-scaled streets.

Figure 13 A Pedestrian-Scaled Street

People-Friendly Streets

The streetscape and open spaces account for about 40% of the land. Public open spaces, parks and gardens, integrated throughout the city fabric will provide gathering places, landmarks, visual interest, a sense of place for each neighborhood, and places of repose and refreshment.

A pedestrian-friendly environment is essential in creating a viable urban place. One of the main goals of the project was to create a city that encourages people to walk and use transit instead of driving. Prescribed first floor uses, such as street-level detail, create an interactive environment between the architecture and the street. In order to create a comfortable walking environment, sidewalks are shaded by canopy trees and other generous landscaping. In addition many buildings have arcade requirements. Throughout most of the development, pedestrians will also have the choice of traveling through a network of 2nd level sky-walks.

The hierarchical structure of the street framework–from grand, ceremonial axes of Bonifacio Boulevard to winding parkways of McKinley Boulevard and neighborhood streets–strengthens the sense of place by differentiating areas and helping people to orient themselves (Fig. 14).

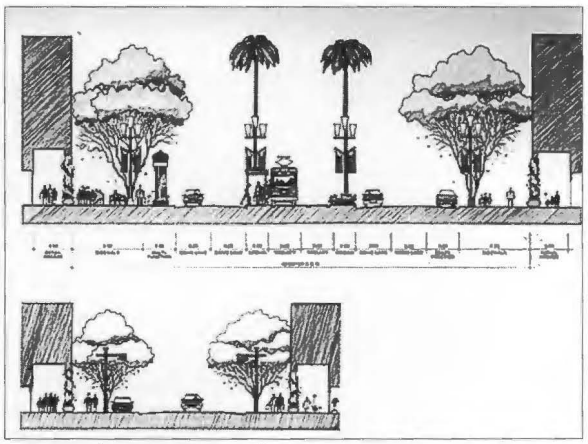

Figure 14 Typical Street Sections

Landscape treatments which were developed simultaneously with the plan support this notion. In difference to nature, a native plant palette has been incorporated into the design; many of the existing trees on the site are being saved for replanting along streets and gardens.

Street trees are incorporated into all streets of Bonifacio to create a green city and respond to the following goals:

- Encourage pedestrian circulation by providing shade, reducing solar glare, and providing a barrier between sidewalk areas and vehicular traffic
- Introduce a human scale into the streetscape
- Give unique identity to each neighborhood and district

Public Spaces

Each of the neighborhoods have their own public parks, plazas and greenways (Fig. 15). In addition to providing a natural setting that will complement the city's urban character, these places serve social and recreational functions. They also highlight the geometry of the plan and give each neighborhood a sense of place.

Historically, the town square has always held an important place within the traditional Philippino town. Events focus here, families gather, fiestas and religious observances are held and local news is exchanged. Too often the importance of these places is ignored in the development of new communities. The design effort of Fort Bonifacio creates a series of discrete open spaces which will provide a focus and sense of community for each neighborhood.

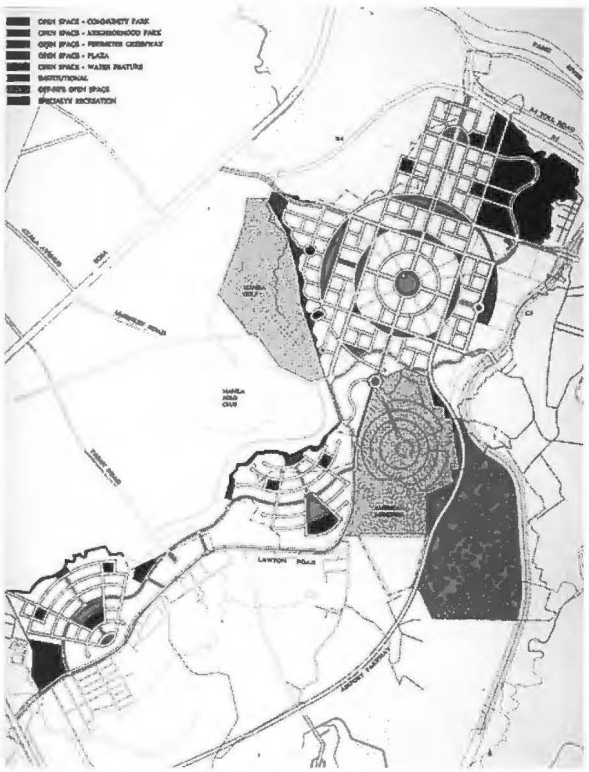

Figure 15 Open Space Plan

Engineering

On a more detailed, engineering level, there are plans for a grey-water system for use in flushing, irrigation and fire services. Solid waste will be reduced by a mandatory recycling program. Storm water retention basins will reduce adverse run-off effects. A district cooling system is being considered as an efficiency/cost saving measure. Regulations within the project's design guidelines will govern the reflectiveness and energy efficiency of glass used in the towers.

Follow-Through

HOK's master plan calls for five phases of development during the next 20-25 years. Since the ground breaking in March 1996, infrastructure and roads have been built as part of the 50 hectare Phase 1 development (Fig. 16). HOK has worked with the developers to respond to issues as they arise, and has developed more detailed urban design guidelines. With help from a team of legal consultants, these items have been translated into a set of Codes, Covenants and Restrictions that become part of every property deed. Subjects covered include easements and set-backs, signage and lighting restrictions, FAR and height regulations, etc (Fig. 17).

Figure 16 Fort Bonifacio Construction Photo 1996

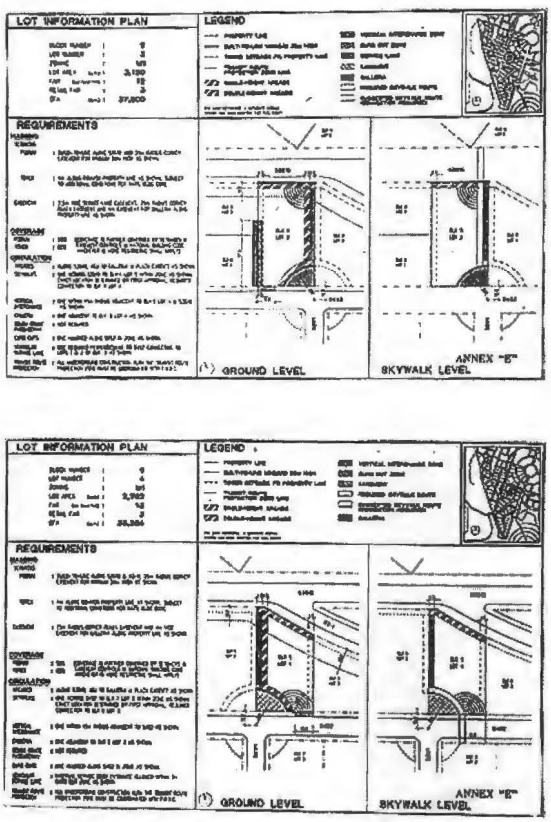

Figure 17 Urban Design Guidelines

Significance of the Results

We believe the Bonifacio Master Plan is unmatched in its depth, breadth and thorough attention to detail. From its design philosophy and development guidelines to the planting of trees and the lighting of buildings, this project represents a new standard in comprehensive urban design.

It is worth noting that any project of this size and scope needs more than a good design to succeed. It needs a dedicated, visionary client—someone who is not afraid of long-term commitment, and who wishes to create something more than just a profit. Everyone involved—from the banks and developers to the architects and engineers—has to understand and be willing to participate in a collaborative process.

Figure 18 Model Photo

The developers/investors of the project have experienced a good return as property prices have risen beyond their original investment. The project has been widely published in a number of business magazines for this reason. The initial financial success of the project has been significant, because it can influence other developers to take a look at what we are doing. With the current challenges faced by Asian economies many projects in the region have been halted. Only developments which have been carefully planned and well thought out will still grow during these difficult times. This is demonstrated at Fort Bonifacio where construction of the new city is continuing, albeit at a more modest pace. As time goes on, we can expect that the most successul ideas of the design will be repeated elsewhere. Developers are beginning to appreciate the benefits of good urban design in a region previously cha-racterized by overly rapid, and somewhat haphazard, growth.

Figure 19 Greenbelt Mall, Manila

All of this bodes well, both for cities *and the environment*.