
PART IV:
CASE STUDY
ON THE FIRST PHASE
OF DIN DAENG COMMUNITY AREA
REDEVELOPMENT MASTER PLAN

CHAPTER ELEVEN:

DESIGN CONDITIONS

11.1 OBJECTIVE AND SCOPE OF THE CASE STUDY PLAN

In the light of the Phasing Plan proposed in Part IV, a Case Study for redevelopment of the Din Daeng Housing Complex was worked out in the Study.

As about half of residents (49%) are pessimistic of the redevelopment and feeling uneasy about their future conditions that may result from the project, it is necessary to mitigate their uneasiness for successful implementation of the project. To this end, the following goals are set up:

- 1) specifically indicate the improvement image of the future living environment after the project, and
- 2) contribute to smooth implementation of future redevelopment.

Construction of the first phase is planned to be initiated in 2002. To meet this requirement, the following items are addressed in the Case Study:

- Detail Design;
- Environmental Impact Assessment (EIA);
- Financial Analysis;
- Action Plan Formulation.

11.2 DESIGN CONDITIONS

11.2.1 Project Sites

(1) Land

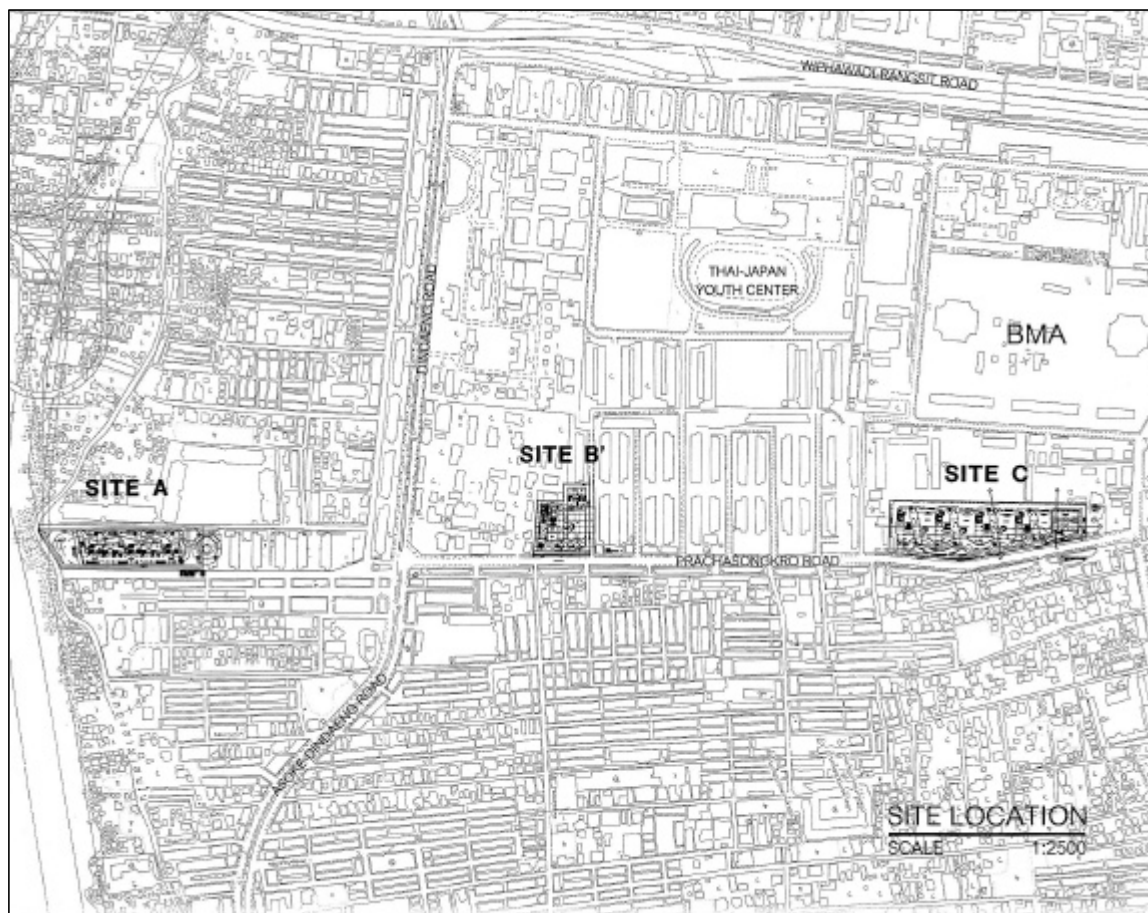
The sites for the first phase partly belong to NHAs Din Daeng Housing Complex, and partly to BMA. There are three sites to be redeveloped under the first phase implementation, namely-Site-A (Block A 1.1), Site-B' (Block K 1.3) and Site-C (Block C.1.5), lying from the south to the north in this order. Land area of each site is tabulated in table 11.1. The total area is 46,526 m².

Table 11.1: Land Areas

Unit: M2

	Site-A (Block A 1.1)	Site-B' (Block K 1.3)	Site-C (Block C 1.5)	Total
Land area	14,584	8,418	23,524	46,526

Figure 11.1: Location Map of the Case Study Areas



(2) Existing Facility and Population

The current land use is of residential use. Outline of the existing facilities and current population in each site given below.

Table 11.2: Existing Facilities and Population

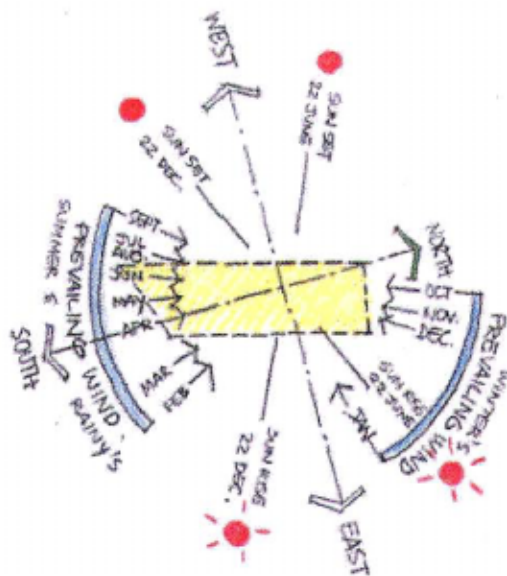
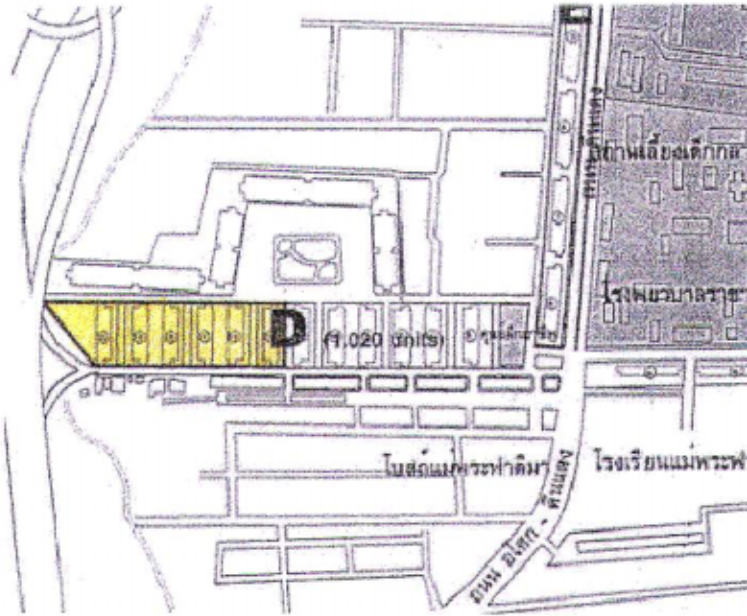
	Site-A	Site-B'	Site-C
Population	1,210	200	1,380
Number of building	6	1	8
Number of Stories	5	5	5
Number of residential unit	1,210	200	1,380
Total floor area (m ²)	21,900	3,650	25,400

Outline of existing apartment building is shown in Figures 11.2 to 11.5.

Figure 11.2: Layout of Existing Building at Site-A

SITE A (PHASE 1.2)

SITE ANALYSIS



1. ORIENTATION

- : DIRECTION
- : SUN ROUTE
- : PREVAILING WIND

2. TOPOGRAPHY

- : CONSIDERED FLAT CONTOUR
- : BARRIER
 - SOUTH BY EXPRESSWAY & CHATURATHIT ROAD (ELEVATED ROAD SYSTEM)
 - SOUTH BY MAKASAN RETENSION POND
 - EAST BY CHATURATHIT DISTRIBUTOR ROAD

Figure 11.3: Layout of Existing Building at Site-B'

SITE B' (PHASE 1.3)

SITE ANALYSIS

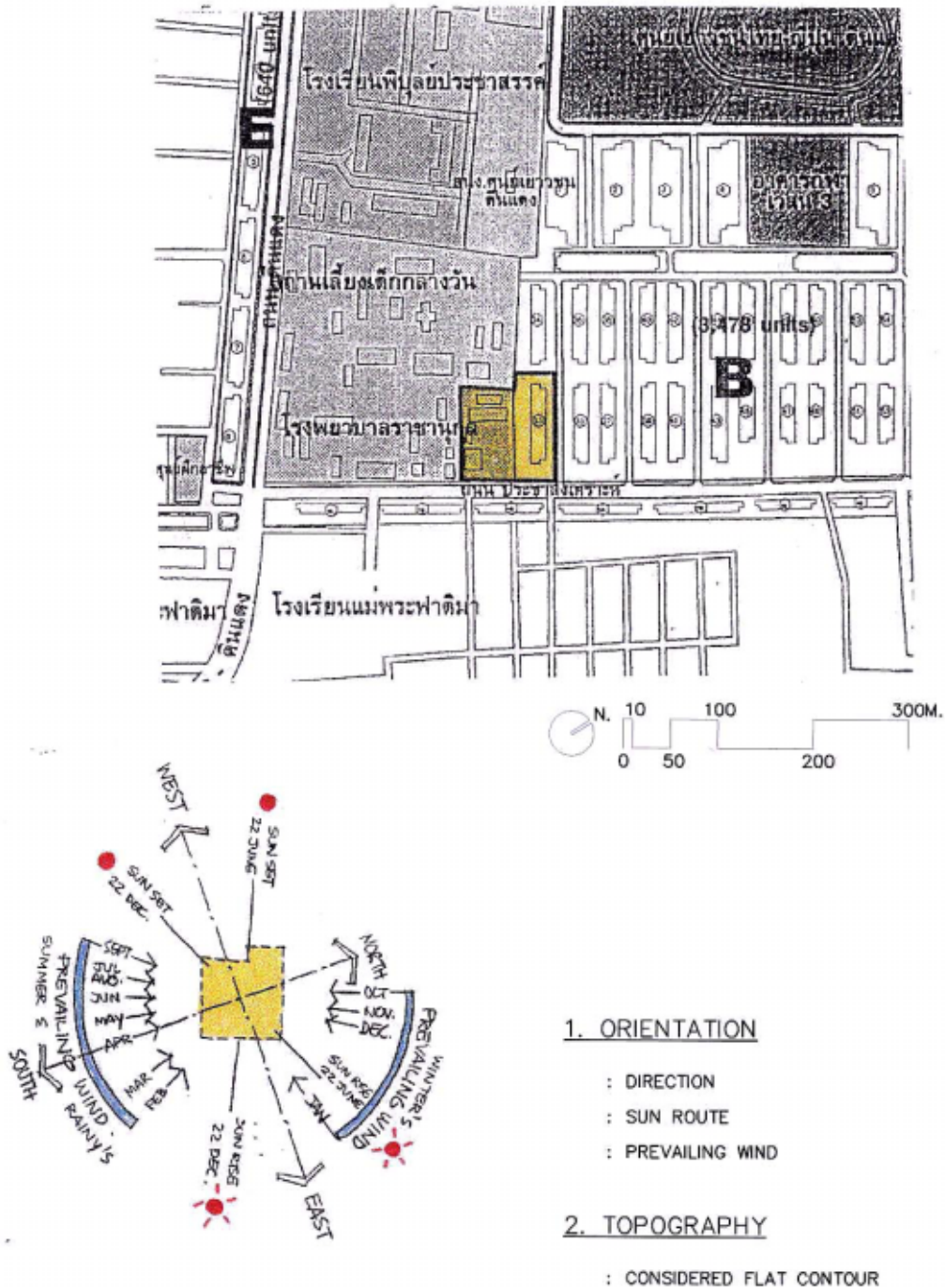
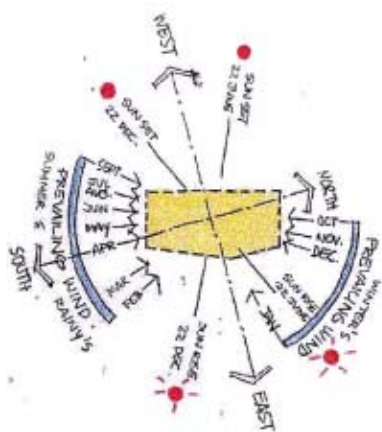
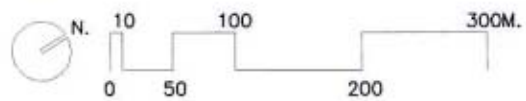
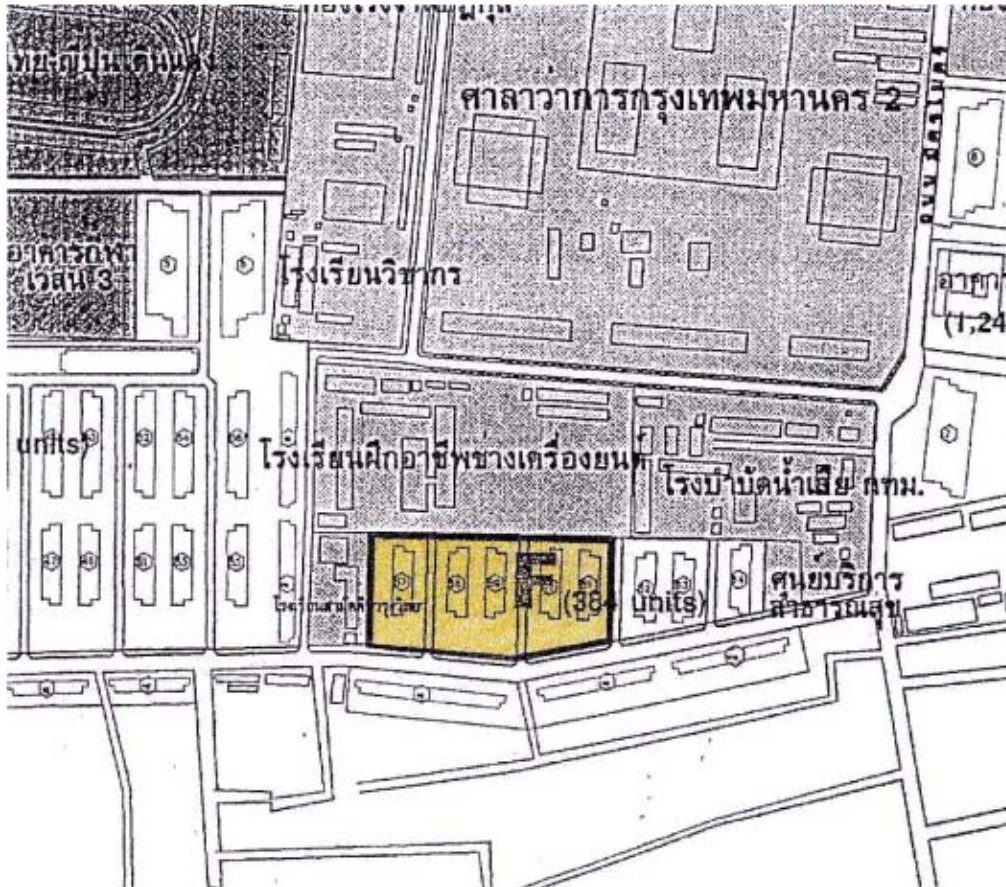


Figure 11.4: Layout of Existing Building at Site-C

SITE C (PHASE 1.1)

SITE ANALYSIS



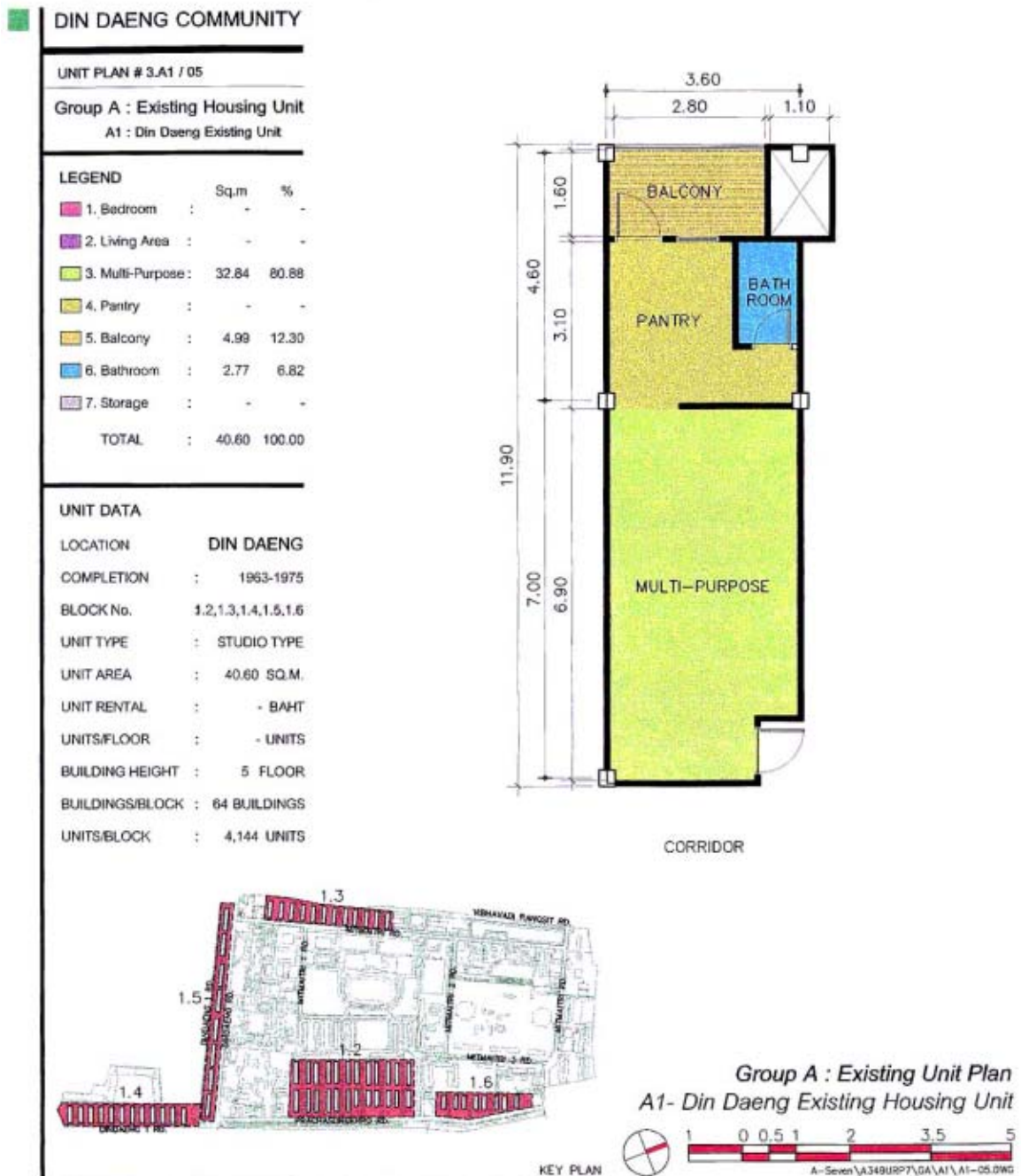
1. ORIENTATION

- : DIRECTION
- : SUN ROUTE
- : PREVAILING WIND

2. TOPOGRAPHY

- : CONSIDERED FLAT CONTOUR

Figure 11.5: Existing Unit Plan



All these existing buildings will be demolished and replaced with new apartment house buildings. Before start of the demolition, all residents will be moved out and accommodated temporarily in other NHA residences as discussed in Chapter 13.2.

11.2.2 Target Number of Residential Units

The target number of residential units is set in the revised master plan as follows:

Site-A:	700 units;
Site-B:	300 units; and
Site-C:	1,200 units

The project aims to provide housing to returning residents from the entire area of the Din Daeng Housing Complex, mostly consisting of middle to low income households.

11.2.3 Basic Building Code Requirements

(1) Building Code and Regulations

For the design, the following code and regulations are referred.

- The Building Control Act (BCA)
- Ministerial Regulation (MR) under BCA (Nos. 1 ~ 58)
- By-law of BMA under BCA
- Town and City Planning Act
- The Second Bangkok General Plan

Major legal requirements providing spatial limitations are illustrated in Appendix VIII.

(2) Particular Design Criteria for the Project Facility

1) *Parking space:*

To comply with Ministerial Regulation, a car parking bay for every 120 m² floor area will be required.

However if car parks are provided complying with the building code, there will be excess of spaces over the residents requirement as the rate of car ownership is lower than 30%, among those mostly middle to low income households. Therefore, it is proposed to render the excess parking space for public use, thereby enhancing

revenue from the car park. This will reduce the number of roadside parking around the project sites, contributing to improvement of the environment.

2) *Fire engine maneuvering space:*

Internal roads with the width of 6m will be provided around the building for fire engines to access the building.

3) *Spatial setback line:*

Setback line in a slope of 1:2 (horizontal: vertical) from the opposite boundary of public road will be required.

11.3 BASIC DESIGN CONCEPT

11.3.1 Basic Design Philosophy

(1) Improvement of Living Environment

Improvement of living environment will be attempted by introduction of the following facilities as reasonably as possible:

- Improvement in safety, hazard prevention, security, hygiene aspect;
- Effective use of natural elements (cool wind, lighting);
- Consideration to the elderly, handicapped people and infants;
- Formation and enhancement of community activities (semi-private space, public welfare facility);
- Provision of education and employment opportunities (exchange of young and old generations) (vocational training facility); and
- Flexible design to allow future alteration of residential units.

(2) Reduction of Maintenance Cost

Emphasis will be placed on reduction of maintenance cost from the viewpoint of life cycle cost, combining initial cost and running cost (e.g., installation of piping separate from structural elements to enable easy maintenance or alteration)

(3) Preservation of Existing Livelihood

Attention will be paid to existing space and facilities, as well as everyday lives of the current residents, in order to identify those are worth preserving (e.g. existing spirit house). Following are major items taken into consideration.

1) Location of Wet Rooms (Kitchen, Bath, Toilet, etc.)

Installation of wet rooms (kitchen, bath, and toilet, where water is used) must be avoided on the entrance side, according to cultural superstition widely believed in Thailand. To cope with this, two options are prepared; 1) to install wet rooms at the balcony side for residents who care about such beliefs, and 2) to install wet rooms at the entrance side as commonly practiced in modern apartment buildings for residents who are not superstitious.

Mortar is used for the finishing of the floor in wet rooms.

Mortar is used for the finishing of the floor in wet rooms.

2) Separate Provision Partition Units

As residents needs widely vary, partition can be installed as they like.

3) Special Space in Corridors

A special space at the opposite side of the house entrance in each corridors is provided for small gardening purpose. The corridor will be quasi-exclusively use but no fee will be charged for this space.

4) Kitchen Placed at Balcony

Basically, kitchen is placed at balcony side to emit oil and odors.

5) Security Aspects

- Caretakers will be stationed all the time;
- Locking system, in which residents have to push PIN number, will be introduced as installed in some condominiums;
- Side wall will be constructed at each balcony to protect invaders.

(4) Induction Devices for Better Community

Devices or contrivances will be worked out actively in order to induce desirable activities among the residents. The following facilities are introduced at the project site:

1) Community Center

To enhance the community's cultural activity, the following facilities are introduced in the building:

- meeting rooms;
- kitchen for common use; and
- small library.

2) Health Center

Health center will help residents' health through providing the following services.

- day nursery;
- garden for disability persons; and
- counseling corner.

3) Youth Center

Through installing the following facilities, disabled people, as well as pregnant women, aged people. will not face danger of colliding with playing children.

- sports facilities
- play grounds

4) Herb Yard

Herb yards will provide the place where all generations can enjoy planting herbs together.

5) Vocational Center

To help the means of livelihood, a vocational center is to be introduced. Only the skeleton of building would be constructed so that the room can be flexibly arranged.

6) Stream

A stream will be created to enjoy Loi Krathong, playing, swimming, etc. This will also provide a lovely townscape.

11.3.2 Design Concept by Facility Components

(1) Residential Unit Design

- 1) Total floor area of residential unit will be 41m² uniformly based on the following reasons:
 - The size is equivalent to most of existing size of housing unit in Din Daeng Housing Complex; and
 - The size is requested by residents and NHA
 - 2) Two types of floor plans will be provided:
 - One having wet rooms (bath room, kitchen) on corridor side (proposed by the Study Team); and
 - The other having wet rooms on balcony side (strong request by the current residents)
 - 3) Slightly different floor plans will be considered at corner of building as having the following merits:
 - wider space; and
 - three-sided opening.
 - 4) Design will comply with the unique way of living of the current residents as much as possible:
 - Adjust the building structure and service systems for installation of split type air-conditioning unit by the residents on their own at their convenience (electric capacity, sleeve for piping, support for outdoor unit)
 - Provision of hanging space for drying clothes
 - Preparation of space for washing machine (electric, supply water and drain outlet)
 - Layout for securing natural ventilation (north-south wind path)
 - Rain shedding and sun shade feature
 - Burglar-proof feature (partition wall to balcony, steel grill to corridor side opening)
 - 5) Layout plan for easy maintenance such as:
 - Allowing inspection and maintenance without necessitating removal of covers ; and
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- Avoiding embedding of pipe in concrete structure. Introduction of wall hung water closet to avoid drain pipe from encroaching upon downstairs.
- 6) Consideration to avoid penetration of water conducting pipes through living space, except at the balcony, by the following:
 - riser pipe will be encased in shaft; and
 - no piping under floor slab
 - 7) Introduction of post tensioned concrete floor slab eliminating beams for effective use of vertical space and securing smooth construction.
 - 8) Creation of semi-private space (transitional space between public and private space, 50cm extra space in corridor) contributing to improvement of living space and enhancement of community activities.

(2) Commercial Space

All commercial spaces will not be fully finished and serviced, except exterior walls. Interior will be bare skeleton and connections of utilities will be up to valves, terminals, and joints at connection points. Finishing the interior and furnishing building service systems such as electricity, water, drainage, and telephone will be carried out by the tenants themselves according to their requirement.

(3) Design of Building Configuration

- 1) Standard floor of building (residential portion) will be made in single side corridor plan, considering natural ventilation and lighting in corridor.
 - 2) Two buildings will be coupled face to face in V-shape plan from the viewpoint of community formation.
 - 3) Height of the coupled buildings will be staggered to secure natural lighting and privacy among the residents.
 - 4) Configuration of building will be checked both from cityscape and community's view point.
 - 5) Direction of building setting will be in such a way that west sun light in the afternoon can be avoided and natural ventilation by north-south wind is unobstructed.
 - 6) Existing trees which are tall and nice looking will be preserved in place as much as possible.
 - 7) Continuity with the existing surrounding facility and trafficability through the site will reasonably be maintained (bus stop, square, pathway, transportation and commercial facility)
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- 8) Provision of elevator for fire brigade (accommodating stretcher)
- 9) Elevator stops at every 3 floors

(4) Outline of Building Facility

Overall building profile will be a combination of 15 and 22 storey buildings, consisting of the following:

- First floor: Commercial space, mainly shops;
- Second floor Education, medical facilities;
- 3rd floor: Public welfare space for the residents;
- 4th -22nd floor: Residential units; and
- Others: Car parks.

(5) Appurtenant Facility Planning

- 1) Appurtenant facilities will be planned individually site by site.
- 2) Common public space on the 3rd floor will include assembly hall, elders club, day nursery, kindergarten, playground, vocational training center, athletic square)
- 3) Provision of spirit house, village shrine, and places of worship (Buddhist, Islamic, and Christian) will be provided.