

Chapter 11

***RELOCATION AND
RESETTLEMENT***

CHAPTER 11 RELOCATION AND RESETTLEMENT

11.1 Boundary of the Project

11.1.1 Boundary

There are some differences with regard to the boundary for the relocation, resettlement and the compensation between the Resettlement Action Plan (Nov. 1999) prepared by Land and Housing Department and the F/S Report of this project. The boundary of the project has been confirmed.

- Canal Improvement

The boundary for the relocation/resettlement around Tau Hu – Ben Nghe Canal is shown in Fig. 11.1 and is described below:

- The resettlement area for this project includes:
 - the southern bank of Tau Hu - Ben Nghe Canal (Phase I);
 - the western part of the northern bank of Tau Hu Canal (Phase I);
 - all the banks of Ben Me Coc (1) and (2) (Phase I);
 - the eastern bank of Channel 2 (Phase II); and
 - the both sides of Channel 1 (Phase II).

The relocation/resettlement for the northern bank of canal (district 1, district 5, and district 6) will be done in East – West Highway Project.
- Following the relocation policy of HCMC, the houses located from the bank of the canal to the road will be cleared in stead of the houses located from the bank to 5m distance indicated in F/S stage.
- One part of the waterway in Tau Hu – Ben Nghe Canal, which will be influenced by East – West Highway Project, is modified as shown in Fig. 11.2. Increased area is 6,215 m².

- Thanh Da Drainage Pumping Station

The boundary of Thanh Da Drainage Pumping Station and the dike construction is shown in Fig. 11.3. The necessary area of the dike is 375 m² and that of the pumping station is 765 m².

Relocation/resettlement will be carried out in Phase I.

- Ben Me Coc (1) Drainage Pumping Station

The boundary of Ben Me Coc (1) Drainage Pumping Station and the dike construction is shown in Fig. 11.4. The necessary area of the pumping station is 692 m².

Relocation/resettlement will be carried out in Phase I.

- Ben Me Coc (2) Drainage Pumping Station

The boundary of Ben Me Coc (2) Drainage Pumping Station and the dike construction is shown in Fig. 11.5. The necessary area of the pumping station and the retarding pond are 870 m² and 18,876 m², respectively.

Relocation/resettlement will be carried out in Phase 2 for the construction of the pumping station and retarding pond. Relocation/resettlement for the temporary dike will be carried out in Phase II.

- Wastewater Intermediate Pumping Station

The location of Wastewater Pumping Station is shown in Fig. 11.6. The necessary area of the wastewater.

The relocation/resettlement will be carried out in the phase I.

- Wastewater Treatment Plant

A wastewater treatment plant will be constructed in Binh Chanh District instead of in Nha Be District. The boundary of the wastewater treatment plant is shown in Fig. 11.7. The necessary area is 368,000 m².

The relocation/resettlement will be carried out in the phase I.

- Conveyance Sewer

A road is prepared in order to construct Conveyance Sewer. The area to be acquired for the conveyance sewer and the road is shown in Fig. 11.6.

The compensation for agricultural land will be done in the phase I and II.

A detail household survey will be done on the basis of the boundary of the Project in order to determined the exact affected area and affected household (house) number.

11.1.2 Land Area to be Acquired

Area of land to be acquired for the Project is shown in the following table, including one wastewater pumping station, 3 drainage pumping stations, and 1 wastewater treatment station, the southern edge and the northern edge (in ward 16 of district 8) of Ben Nghe – Tau Hu Canal, and a road for the conveyance sewer.

Location	Area (m ²)
Pumping Station at Ben Me Coc 1 (Ward 15 District 8)*	692
Pumping Station at Ban Me Coc 2 (Ward 15 District 8)	19,746
Pumping Station at Dong Dieu (Ward 4 District 8)	6,000
Pumping Station at Thanh Da (Binh Thanh District)**	1,140
Wastewater Treatment Station (Binh Chanh District)***	368,418
Road and sewer for Conveyance Sewer***	37,950
Ben Nghe – Tau Hu Canal Renovation (Southern edge: District 4 and District 8, Northern edge: Ward 16 District 8)***	70,073
Increased Area with the modification of Waterway	6,215
Total	510,234

* not including the existing retarding pond

** including dike (375 m²), and not including the existing retarding pond

*** agricultural land

The area of land to be acquired will be revised by the detailed household survey.

11.1.3 Number of Houses and Households to be Affected

The number of houses and households to be affected by the Project were surveyed and estimated by Land and Housing Department in July 1999. The result of the survey is summarized in the following table. These numbers will be revised after the detail household survey.

Location	Affected Housing Unit	Affected Households	Houses to be Removed/relocated
Ben Me Coc (1) Pumping Station	29	29	29
Ben Me Coc (2) Pumping Station	31	32	31
Wastewater Pumping Station at Dong Dieu	47	48	47
Thanh Da Pumping Station	96	98	96
Wastewater Treatment Station	60	60	60
Ben Nghe – Tau Hu Canal Renovation (Southern edge: District 4 and District 8)	1,774	1,827	1,774
Total	2,037	2,094	2,037

11.2 Present Situation and Plan of Relocation and Resettlement

11.2.1 Present Situation

The Draft Final Report of Resettlement Action Plan for Ho Chi Minh City Water Environment Improvement Project was prepared in Nov. 5, 1999. The boundary of the Project as shown in this definitive plan will have to be permitted by PC of Ho Chi Minh City, and then the practical procedure of relocation and resettlement will be started. The procedure of the relocation and

resettlement for this project is shown in the next section.

Several areas, in which houses have been already relocated in relation to other projects, are found along Tau Hu – Ben Nhge Canal for. Figure 11.8 shows the already-cleared-zones along Tau Hu – Ben Nhge Canal.

Resettlement sites related to this projects are shown in Fig. 11.9 and Table 11.11. The present condition of some projects is as follows:

- *C3 Building, ward 6, district 4 and B4 and B5 Buildings, ward 3, district 4*
These projects are under construction and will be completed by Aug 2000.
- *Phu My Residential Place*
This project has been approved by the government, and is mainly invested in infrastructure and used for exchanging of house foundations (425 house foundations are exchanged for 210 apartments).
- *Binh Dang Residential place, ward 6, district 8*
This project includes 140 apartments, 86 apartments of which have already built. The rest are under construction and the building work will be completed by Aug 2000.
- *Residential Place, ward 16, district 8*
This project includes 200 apartment. The infrastructure will be invested in the rest of the land.
- *A9 Building, Dinh Bo Linh, Binh Thanh district*
The apartments are under construction and the building work will be completed by Nov 2000.

11.2.2 Plan of Relocation and Resettlement

In this section, national policy, Ho Chi Minh City policy, and the organizations and procedure of relocation and resettlement for this project are shown below.

(1) National Policy

Key to the policy of relocation is that all people who are using land legally, are entitled to compensation for their land and property if the State claims their land for national defense, security or national and public interest. Businesses will be entitled to compensation if they have paid the land use tax from non-State budgets. However, illegal users of land will not be compensated for their land and property.

Decree No. 90/CP was displaced by Decree No. 22/ND-CP issued in 24 April 1998. Decree No. 22 is the base for determination of region's area to be cleared for national and public purposes. According to this decree, all transportation and infrastructure projects allow government to appropriate land required. Also, Land Law (1993) and Civil Code (1996) that stipulate the rights and obligation of land users are base of the decree. The new decree highlights further compensation entitlements and subsidies compared to the previous one. The higher prices for urban land is set and the definition of land for public use is broadened.

Decree No. 60/CP issued in 1994 defines the requirements necessary to establish full legal title over property, including residential housing and the residential land use right. Article 10 of this decree specifically describes the legal requirements of land users to receive compensation. This decree is the basis for the legal entitlement to compensation.

Compensation costs of land and property are based on minimum and maximum prices determined for five types of land as specified in Decree No. 87/CP. Provinces and cities governed by central government are allowed to set their own land values according to the local conditions, as they fall within the limited ranges. The local district PC is responsible for confirming the land and structure areas affected and the entitlements to compensation.

(2) HCMC Policy

PC of HCMC is responsible for determining a compensation plan including those with who are eligible for compensation and the compensation rates within national policy. There are several provincial regulations that set the procedures for compensation within the national framework. Major projects require special legislation.

In Decision No. 05/UB-QLDT, PC of HCMC has further specified the prices of urban land in the city, and also mentions percentage rate of land compensation price concerned to legality of land. The price, however, do not necessarily conform to market values. In addition, further regulations have been issued by PC of HCMC to specify in more detail, the compensation costs for property, business loss and damage, and moving fees for the affected people.

Decisions No. 4755/QD-UB-QLDT and No. 6377/QD-UB-QLDT are stipulation of compensation policy, specifically unit price of house and assets. It is noted that these decisions stipulate the subsidization for relocation to illegal land users and houses under the limited conditions.

Decision No. 5787/QD-UB-QLDT is for management of resettlement apartment by the government and relocatees. Additionally, duties and rights of project owners, selling and transferring apartment are regulated. Households who have permanent registration in HCMC and who cannot afford to find new accommodation in other places shall be entitled to purchase one apartment unit or a house in new areas of relocation on the bases of deducing prices of the house and land. Housing prices in the new sites are based upon the floor area of the building. If they buy a new house, the buyers can choose one of the following 4 options.

- Payment of the entire cost at a time: 10% discount
- Payment at least 30% of total price at the first and the remainder paid every 3 months within 1 year: 2% discount
- Payment within 10 years, each year of which pays 1/10 of the cost.
- Rent

(3) Organization and Procedure of Relocation/Resettlement

i) Organization Related to Relocation/Resettlement

● Steering Committee

Decree No. 22 stipulates the organization responsible for relocation/resettlement. Under Decision No. 4964/QD-UB-VX (1998), PC of HCMC has established a Steering Committee for Urban Planning, Compensation and Resettlement. Compared with previous Decree No. 90, the city authority has a larger power and can cover all projects related to relocation.

Members of Steering Committee are listed below. In case that religious facilities are to be relocated, Father Land Front will be added as a member of the Steering Committee.

- Department of Land and Housing
- Department of Transportation and Public Works
- Department of Finance and Pricing
- Department of Planning and Investment
- Chief Architect Office
- Department of Science, Technology and Environment
- Department of Labor, Invalid and Social Affairs
- Father Land Front

At the district level, there is also a steering committee. The tasks of Steering Committee are to co-ordinate compensation and resettlement activities including consultation, advice, monitoring for

compensation and relocation of district level, enforce HCMC policy and assist in the establishment of District Committee.

- PC of HCMC and District PC

PC of HCMC decides lands to be confiscated, and has the overall responsibility for determining the compensation plan, setting its own land values within the broad national range. Within this set of local values, PC of HCMC also has the right to apply an adjustment coefficient. District PC is responsible for confirming the land and structure areas affected and the entitlements to compensation. PC of district shall be responsible for an option to compensate and relocate people in areas to be cleared when there is a decision of PC of HCMC.

- Project Management Unit (PMU)

The HCMC People's Committee is the responsible agency for the implementation of land acquisition and compensation. Since many departments of the People's Committee are related to the Project, PC of HCMC will establish a Project Management Unit (PMU) with a general director who has full responsibility to supervise and manage all the activities relating to the Project implementation and coordinate with other agencies concerned.

- Department of Land & Housing

Work concerned with relocation and resettlement is handled by Department of Land & Housing. This department is responsible for coordinating the relocation plan at city level. This includes planning, funding and arranging transfers of funds. This department handles the City Housing Development Fund whose source mainly comes from the sale of state-owned housing. Funds are used for supporting relocation, such as development and repair of housing for the people without enough money.

- Others

The work concerning dredging of canals and drainage is handled by Department of Transportation and Public Works. Chief Architect's Office manages projects, supported by Urban Planning Institute (UPI). UPI conducts research on urban planning, being responsible for setting the boundaries for relocation, and proposes projects to Chief Architect's Office. Actual implementation is responsibility of the districts, with Department of Land & Housing providing technical support, managing and constructing of housing and building, and being also able to move funds between districts.

Department for Labor and War Invalids, Social Affairs is a part of the Steering Committee. It is mainly concerned with implementing the policy of resettlement to New Economic Zones -rural development at some distance. The social aspects of the inhabitants in resettlement sites should be covered mainly by this department, but this activities have not been implemented yet. Also, Department of Education is responsible for the school registration, transfer of school children during the construction of new school, of children after relocation.

ii) Procedure

Based on the governmental decree on compensation for lost property in the case where the state recovers land for use in national defense, security, national interest, and public interest in Decree No.22/1998/NC-CP and the HCMC PC's policy and instruction in Document No.2553/1999/CV-UB-QLDT, the following steps are proceeded by relevant agencies.

- Flow of relocation and resettlement procedure is shown in Fig. 11.10.
- Schedule for the land acquisition, compensation, and resettlement is shown in Table 11.2.

(a) Detailed Household Survey

In order to examine socioeconomic situation and legal status of land and structures (mainly houses), and to determine the boundary of the project to be acquired, a household survey for each household affected by the land acquisition of the project will be conducted by relevant district offices under supervision of the Steering Committee. As soon as the approval of the boundary of this project, the survey will be conducted.

By conducting the household survey, social aspects such as culture, religion, and people's feelings in the Project area should be grasped and be reflected to the implementation of the compensation and resettlement plan.

(b) Set up of Compensation rate for Concerned Items

The Decree 22/1998/ND-CP is used to determine the compensation rates for items to be compensated such as land, house, structures, and transport costs. Houses of private ownership are compensated at relevant unit price, multiplied with coefficient K, that is land price index, which will be decided by PC's approval of HCMC. Although

many households without legal title to the land are living mostly along the canal, the decree prescribed compensation to those households. In this stage, public hearing will be organized.

(c) Establishment of the Steering Committees on Compensation and Resettlement

In the case of the resettlement in HCMC, a steering committee for the compensation and resettlement is established at city and district level as shown in Attachment 9. The Project Management Unit (PMU) cooperates closely with the Land and Housing Department to make procedures smooth and efficient since the resettlement caused by the Project is at a rather large scale.

(d) Dissemination of Decision of the PC of HCMC on Land Acquisition and Compensation

Based on the detailed household survey, boundary of the project is determined with preparation of detailed land acquisition map prepared by the Land and Housing Department after the determination the boundary of the project, PC of Ho Chi Minh City will disseminate to public, especially to households to be relocated, on the land acquisition plan through the public meeting and/or explanatory booklet.

(e) Preparation of Land Acquisition

Based on the results of the household survey and the public hearings, the compensation and resettlement action plan is revised with detailed estimation of the compensation costs. Based on the detailed estimation of the compensation cost described in the report approved by PC of Ho Chi Minh City, PMU receives budget for compensation from the Department of Finance. Notice of the compensation amount to households is made by relevant district offices.

(f) Preparation of Relocation

The housing units in resettlement sites before housing construction starts are checked for relocatees. Relevant districts finalize the list of households by way of resettlement, which are to move to proposed resettlement sites and to resettle by themselves.

(g) Purchase of Land and House in Resettlement Site

The site visit in the resettlement sites for households to be relocated is organized in order to choose and prepare contract of housing purchase with housing development companies with the following four modes of payment. If the price of land and house is covered by the compensation amount, the household can pay at once with 10% discount of the price of land and house. In the case where households prefer to buy a housing unit that costs more than the compensation amount, the household has the options to pay later in installments, or changes into rent.

- ☐ Pay at once with 10% discount
- ☐ Pay after one year with 2% discount
- ☐ Pay by installments within 10 years without interest
- ☐ Rent

Household who wishes to buy new house in the resettlement sites chooses a house qualified to buy based on the application approved by HCMC. Procedures for the purchase of new house in the resettlement site are shown in Fig. 11.11.

(h) Move to Resettlement Site

After the negotiation for compensation and resettlement is completed, relocatees sign a house purchase or a rent contract with the House Management Company and decide the time for moving. Then relocatees move into the resettlement site under the agreement with HCMC. Moving expenses into the resettlement site are subsidized for relocatees as part of the compensation cost under the Decree No. 22/1998/NC-CP.

(4) Compensation

i) Schedule of Compensation

Schedule of compensation is shown in Fig. 11.9.

ii) Cost Estimation For Compensation

Compensation will be provided in cash, by land or by house according to Decree No. 22. Scope of compensation is;

- ☐ Loss of the whole area of confiscated lands stated in Decree No.22
- ☐ Loss of properties on confiscated land, including infrastructure
- ☐ Subsidizing people and factories that have to be relocated
- ☐ Paying fees to confiscated land-owners who have to change their jobs

- Paying the cost of site clearing, moving and allowance

Categories for compensation and unit rates come from variety of decrees, as shown in Table 11.3.

Based on the Decree 22/1998/ND-CP, Land and Housing Department prepared the land acquisition and compensation costs by items with unit costs prescribed by both central and HCMC governments. The results are shown in Table 11.4.

However, 382,418 m² as area of agricultural land (in the table at a page 11-2) is used for calculating the compensation cost of agricultural land and loss of crops. After the detailed household survey, the compensation costs will be revised.

(5) Special Consideration for Religious Facilities

According to the preliminary survey, five (5) temples/pagodas are to be wholly or partly affected by the project. From its past experience, HCMC pays special considerations to religious facilities to be allocated and following policies will be applied to them although there is no official regulations regarding these policies.

- The land acquisition and compensation are conducted based on religious policies of the government and in accordance with current laws and regulations, which are applied for households and business, to avoid discrimination in the community.
- The relocation of religious structures is not based on the ownership as applied to households, but on the registration status of the structures in the list of religious facilities of the City Religion Board. In practice, relocation of religious structures is considered in case by case taking into account the specific features of those structures.
- In case of wholly affected, district PCs together with the Father Land Front consult with monks on the land-to-land compensation.
- In case of religious facilities, whose area to be affected over 2/3 of the total, want to relocate wholly, they can enjoy the current policy on compensation as the case of wholly relocation.
- If the religious facilities are listed as historic and/or architecture structure, the City will consider in case-by-case to adjust the road alignment to preserve the facilities.
- In regard of compensation, for structures with complicated design and decoration, they can propose the compensation to restore the similar design and decoration.

(6) Resettlement Sites Development

Based on the HCMC Housing Development Program, housing development projects are planned and ongoing in many sites. Among those sites, 10 resettlement sites were designated for the Project. Locations of the resettlement sites are shown in Fig.11.9 and in Table 11.1.

Intention of residents to be relocated are taken into account the resettlement site development, especially housing construction. For example, those who operate the restaurants and/or shops will prefer to remove to ground floor to operate their restaurant and/or shops at apartment in the resettlement site. In this case, custom arrangement of rooms for restaurants and/or shops are needed.

i) Cost Estimation for Resettlement Sites Development

Based on the results of the questionnaire to the housing companies, cost for the resettlement sites and its breakdown for the technical and social infrastructure and housing construction are shown in Table 11.5.

ii) Implementation Program on Construction of Resettlement Sites

Based on the results of the questionnaire to relevant housing development companies and of the Project schedule, construction schedule is shown in Table 11.2.

(a) Procedure of Resettlement Sites Development

The following procedure is done:

- a) Investigate the current situation of the land lot, estimate the scale of construction and agree on location.
- b) Preliminary negotiation with households in the proposed area on compensation and land acquisition is taken.
- c) Prepare the project to submit to relevant authority for approval, depending on the size of the project.
- d) After getting the approval, the compensation and land acquisition is proceeded in accordance with current regulations.
- e) Estimate the costs of construction
- f) Organize the bid of construction package
- g) Land leveling and construction of packages
- h) After the completion of housing construction, the developer coordinates with district PCs, where relocatees come from, to transfer houses

(b) Schedule of Relocation and Transfer to Resettlement Sites

After the negotiation and agreement is made between household and HCMC, the household moves to resettlement site. In principle, the resettlement site development will be completed before the relocation starts. In case that relocation needs to be started before the resettlement site development is completed, the relocatees will be moved to a temporary dwellings under the decision of People's Committee of HCMC and the agreement by relocatees at the city's own expense. In the case where household prefers to find resettlement place by himself, location where the household will move to will be confirmed by district office and payment of the compensation will be made after the confirmation.

(7) Public Involvement

i) Public Hearing Meeting

Right after the approval of the alignment of the project by HCMC People's Committee, detailed household survey will be conducted not only to know socioeconomic conditions of households to be affected, also to ask households' preference on resettlement.

The public hearing is organized by each district under supervision of the Department of Land and Housing to collect opinions and wishes from relocatees during preparation of detailed compensation plan.

ii) Public Consultation

In general, households to be relocated are not familiar with the compensation and resettlement issues such as purchase of new house in resettlement site, job opportunity after resettlement, and education for children in the resettlement site.

- Therefore, the public consultation service during and after the resettlement will be coordinated by relevant district under supervision of Land and Housing Department.
- Each affected household can express its ideas or opinions on questionnaire which is collected by district People's Committee and is reported to Land and Housing Department.

iii) Grievance Procedure

Opinions and grievance raised by affected households will be timely collected and carefully incorporated into the compensation and resettlement process.

- Opinions and grievances raised by affected households should be resolved directly by district People's Committee under the supervision of the Steering Committee.
- Mechanisms and manuals for frequent dispute and grievance resolution will be established based on the recent experiences of resettlement in HCMC, and then staff in charge of compensation and resettlement procedures will be trained in advance.

(8) Income Restoration

i) Principle

Importance of income restoration for the relocatees and affected people has recently become an international principle on the resettlement for both intentional donors and personnel in charge of the resettlement issues in developing countries as well as the requirement described in the JBIC Environmental Guidelines.

- The income restoration means that relocatees can continue previous job or find a new regular job to keep their income levels at least equivalent to their pre-project income levels. And if possible, it is desirable that income levels for the relocatees should be improved at the resettlement through the Project. In addition the income restoration after resettlement can be an important incentive for relocatees to settle down at the resettlement sites.
- The income restoration is not prescribed in the present laws and regulations relevant to the resettlement though equivalent cost of living for six months is subsidized based on the Decree 22/1998/ND-CP.
- To minimize the inconvenience for the relocatees, the land-use-right tax and register fees are exempted in case they purchase houses in the resettlement sites.

ii) Measures for Income Restoration

In the project area, there are many business and employment opportunities that depend on the present location. According to the Households whose livelihood fully depend on present living area are given priority to move the resettlement site near their present location in principle.

Means of income restoration will be paid attention and confirmed for each household to be relocated before the relocation based on the household survey results and public consultation held by relevant district offices. Department of Labor, Invalid and Social Affairs, and District People's

Committee will be involved in the steering committee of the Project to implement the following measures:

- a) Provision of Chance for Continuation of Previous Business and Job
In HCMC as well as other areas in Vietnam, same types of small shops and workshops tend to gather at the same location. And, same tendency is found in the Project area. Therefore, these kinds of small shops and workshops will be relocated to same resettlement sites near present place under their preferences.

There are many small restaurants and shops along the existing road. Those who operate the restaurants and the shops have a priority to remove to ground floor to operate their shops in the case where they prefer to move to apartment in the resettlement site.

Market facilities are prepared in most of the resettlement sites. Vendors in project site will have priority to operate their shops in the market of the resettlement sites.

- b) Provision of New Employment Opportunity
Most of those who engage in unskilled work such as unloading in the warehouse or market, work as temporary base. They can have job opportunity during construction period of the Project. HCMC provide training to them during construction period, then new regular job will be introduced to them after the training such as new industrial area in district 7.
- c) Introduction of Business Loan
During the application considering process, the priority will be preserved for those people affected by the Project being in need of Business Loan to restart or newly start their business after the relocation.
- d) Poor Alleviation Fund
The very poor households are listed according to the survey, and they receive support from The Poor Alleviation Fund when they move to the resettlement sites.
- e) Early Provision of Alternative Land for Agriculture

Alternative land for agriculture is provided as compensation under the Decree 22/1998/ND-CP. It is recommended that the alternative land for agriculture should be provided one year or some

compensation before the land acquisition because the land preparation for agriculture requires some period to grow crops in same condition.

(9) Supervision and Monitoring

HCMC recognizes the importance of the monitoring activity for the resettlement based on the recent experiences of resettlement programs.

- As soon as the procedures for compensation and resettlement start, the Steering Committee, headed by Vice Chairman of the HCMC People's Committee, supervises the progress of implementation with support of Department of Planning and Investment and Department of Land and Housing.
- Department of Land and Housing has responsibility to collect all the information related to relocation and resettlement, and reports to the Steering Committee.
- When any problems are found or reported, the Steering Committee gives instructions the district offices based on the relevant regulations and experiences of the recent resettlement programs.
- After the relocatees remove into the resettlement sites, monitoring activity will be implemented periodically by relevant district offices under supervision of the Land and Housing Department to check mainly following items:
 - ☐ Settle down at the resettlement sites
 - ☐ Relocation and rebuilt of facilities
 - ☐ Relationship in community
 - ☐ Any grievance and problem
- Monitoring activities are proposed to start from commencement of remove to the resettlement site.
- After the completion of the Project, relocatees who are employed in the Project should be monitored whether they find and engage in new job for 3 months.
- Duration of monitoring is supposed to be around 3 years in total to check the above monitoring items and any unexpected things in the resettlement sites.
- The PMU will report JBIC the situation of land acquisition and resettlement for the Project and progress of the Resettlement Action Plan periodically.

11.2.3 Social Condition along Canal Area and Recommendation for Relocation and Resettlement

(1) Social Condition

Relocation/Resettlement Program should be feasible for each household who will be affected by the Program. Some aspects, which are related to the social and socio-economic conditions of people who live along/on canals, are reviewed below.

i) Residential Status

For administrative purposes, Ho Chi Minh City authorities classify residents into four categories, KT1 to KT4, descriptions of each category are detailed below (from Child Labor in Ho Chi Minh City, Save the Children, 1998).

KT1: Permanent residents with official residence permits

KT2: (a) People with permanent residence permits in other parts of Ho Chi Minh City, but living in the locality

(b) People with permanent residence permits in the locality but who sold their house and moved elsewhere

KT3: Migrants from other provinces who have lived in the locality for more than six months and have permanent or stable work. People in this group are provided with temporary residence papers. This category also includes decommissioned army personnel whose residence permits have not yet been transferred back to Ho Chi Minh City after completing their military service.

KT4: Short-term migrants, seasonal migrants or relatives of official residents. This category also includes foreigners and overseas Vietnamese. This category of residents comprises of many unregistered migrants. Official figures are not accurate, since many of the seasonal migrants do not register and the figures change constantly.

Many social surveys for the households along and on canals indicate that the majority of household living in the areas affected by the relocation/resettlement are KT1, KT2, or KT3 now.

ii) Poverty Reduction in Vietnam

Poverty has declined in Vietnam between 1993 and 1998. This is represented quantitatively by rising per capita expenditures and improving social indicators and is also reflected by the perceptions of poor households that over recent years. Rapid, economic growth lies at the heart of these achievements. The incidence of poverty in the rural area has declined from 66 % to 45% between 1993 and 1998. On the other hand, that in the urban area has also declined from 25% to 9% during these years. Therefore, there is still a large discrepancy of social economic condition

between the urban and the rural areas (from Attacking Poverty, Vietnam Development Report 2000, Dec. 1999).

This socio-economic discrepancy induces the migration from the rural areas to the urban area.

iii) Internal Migration

The major concern of the authorities about the large number of migrants coming to the cities is that most do not have prior legal permission to move into the city. In HCMC immigrants without permission to move are accounted for only 37 percent of migrants in the period 1986-1990 but 80 percent in the period 1991-1995.

Most of those without permanent residence status had other forms of registration. Almost 27 percent of the Ho Chi Minh City migrants had long-term temporary residence while another 55 percent had short-term temporary residence.

There are clear rules for obtaining permanent residence.

- These rules favor those with higher levels of education and qualifications, and those working in the state sector.
- Permanent residence can also be obtained through marriage to a permanent city resident.

Therefore, those most likely to intend to apply were the more educated. Most had not yet applied because they still did not meet the conditions.

With the abolition of the subsidy system in the mid-1980s permanent residence became a much less important requirement for day to day living in the city. Theoretically a permanent residence permit is not required for access to basic services such as health and education.

Now, the young migrants from provinces enter into the new industrial zones, where there are many joint venture factories. There are a lot of low-paying jobs for non-skilled workers. However, these jobs are not attractive to the urban residents in the Ho Chi Minh City, because the dwelling condition is not good and it is far from the City Center (from The Dynamics of Internal Migration in Vietnam, Dec. 1998, UNDP).

iv) Urban Poverty

Although the incidence of poverty in urban areas is less than 10 percent, urban poverty was found to be a particularly harsh and complex phenomenon. Migrants are probably not fully captured in the poverty

statistics, with the result that urban poverty estimates may be underestimated by as much as five percentage points, so that urban poverty could be in the range of 10-15 percent.

The following characteristics are the most important and most commonly stated factors leading or contributing to poverty:

- Inherited poverty, i.e. being born poor;
- Low levels of education and early dropping out of school;
- Lack of marketable skills or business know-how;
- Unskilled and unstable jobs, with low and irregular pay;
- Lack of resources: capital, social and economic connections and contacts, house, land;
- Large families having many children and few breadwinners;
- Migration and/or a lack of permanent residence status;
- The chronic illness or disability of main breadwinner(s), or a serious illness of any family member;
- Indebtedness to private moneylenders;
- Alcoholism, gambling or drug use;
- Old age, inability to work and lack of family support;
- Social isolation, lack of supportive contacts, friends or relatives; and
- Low energy levels and passive or defeatist attitudes.

These poor people live on black canals, on boats, and in squatter areas. People living along black canals have difficulties to access to utilities, such as electricity and drinking water. People living on boats are not considered as part of the community and are excluded from government services.

Poor Households make a living as following jobs:

- Street vendors,
- Cyclo drivers
- Porters
- Selling Lottery Tickets
- Recycling papers and plastics
- Scavenging Garbage

(from Child Labor in Ho Chi Minh City, Sep. 1998, Save the Children)

- v) Hunger Eradication and Poverty Alleviation Program (HEPR)
Hunger Eradication and Poverty Reduction (HEPR) loans are reaching much households (e.g. 16% of households in district 8 have benefited from HEPR program). Poverty alleviation covers more than provision of credit and includes support for repairing or building house, free health care and education fee exemptions.

On the other hand, not all needy families are reached by the program. Credit is only available for income generating activities (not for consumption). Furthermore, too much paper work for applications, and lengthy loan approval process are necessary. People are mostly passive recipients and not active participants in shaping the program.

(from Child Labor in Ho Chi Minh City, Sep. 1998, Save the Children)

vi) Formal and Informal Sector

Informal private business are those that are not formally registered or regulated, do not follow existing labor laws or pay taxes. The informal private sector can make up a significant proportion of the overall economy of a particular district. Local authorities have some records pertaining to these establishments, although they often do not have details of number, age and payment of workers.

The informal enterprises generally use the cheapest available raw materials (recycled plastic, glass, paper etc.) and cheap, locally-made machines. They produce lower quality goods and sell at low prices for consumers with less purchasing power. Typical examples are factories producing goods made from recycled glass, plastic or paper, such as ball-point pen factories. These enterprises work in a very competitive market and profit margins are small, forcing enterprise owners to search for the cheapest available laborers, who are often children, women and/or unregistered migrants.

Formal manufacturing enterprises have certain legal requirements that they adhere to in their recruitment procedures, including the need to supply birth certificates and certification of technical skills. This makes it difficult for children, particularly migrants, to be selected for employment in the formal enterprises, as many do not have these papers or do not bring them to the city when they migrate.

(from Child Labor in Ho Chi Minh City, Sep. 1998, Save the Children)

(2) Analysis of Data from Household Surveys

In previous studies, two social surveys have been done. In addition to these surveys, a household survey, which has been conducted by District 4, is analyzed.

Compensation cost for relocation/resettlement of each household along Ben – Nhge Canal has been reported by District 4. The distribution of the

compensation cost is shown in Table 11.6.

The unit price of an apartment to be sold in resettlement area for district 4 is shown in Table 11.7. If the area of apartment is 40 m², the price of apartment is shown in the Table 11.7.

The income level of household in Canal System is shown in Table 11.8 (from the social survey in Master Plan Stage) .

The relocation/resettlement management should be operated under the condition where relocation for each family is feasible. The socio-economic condition of household depends on the following factors:

- Compensation
- Present Income Level
- Household number
- Workforce of Household
- Others

However, the compensation is selected as the only factor which categorizes households.

- Classification of Household

Category 1: their compensation is more than 200 million VND. They can buy a ground floor apartment with one payment.

Category 2: their compensation is from 80 to 200 million VND. They can buy higher floor apartment with one payment, or they can buy lower floor apartment by installment within 10 years.

Category 3: their compensation is from 20 to 80 million VND. They can buy higher floor apartment by installment within 10 years.

Category 4: compensation cost is from 10 to 20 million VND. They can rent the higher floor apartment.

Category 5: compensation cost if from 0 to 10 million VND. They can rent the lower cost apartment than those prepared in the resettlement sites.

Households which only consist of old persons or handicapped person.

(3) Mitigation Methods for Each Categories

Following mitigation items for each category should be considered.

- Category 1
 - Business chance
 - Loan for economic activity
 - Employment

- Category 2
 - Employment
 - Business chance
 - Loan for economic activity
 - Training for getting a new job which will bring them higher income.
- Category 3
 - Employment
 - Training or new job which will bring them higher income.
- Category 4
 - Training or new job which will bring them higher income.
 - Appropriate low cost housing.
 - Hunger Eradication and Poverty Alleviation Program
- Category 5
 - Appropriate low cost housing.
 - Training or new job which will bring them higher income.
 - Hunger Eradication and Poverty Alleviation Program
- Households which only consist of old persons or handicapped person.
 - Appropriate low cost housing
 - Community Participation System for helping them
 - Hunger Eradication and Poverty Alleviation Program

(4) Recommendation

Following items are recommended:

- Mitigation for each category of household
- Preparation of several options for each category of household
- Effective information system on relocation and resettlement for relocatees
- Community participation system in resettlement sites
- Effective monitoring system for each category of household

Table 11.1 Housing Projects for Relocation and Resettlement

	Projects	Investors	Area (m2)	Apartments	Exchanged House Foundation
	District 4		138,382	625	425
1	C3 Building, ward 6 District 4	Housing Management & Development of District 4	1,629	105	0
2	B4 and B5 Buildings, Ward 3, district 4	Housing Management & Development of District 4	3,753	310	0
3	Phu My residential Place, District 7	Housing Management & Development of District 4	133,000	210	425
	Binh Chanh District		50,000	0	60
4	Binh Hung Commune Residential	Binh Chanh District	50,000	0	60
	District 8		183,029	1,354	300
5	Binh Dang Residential Place, ward 6, district 8	Housing Developmental & Commercial Company	4,968	140	0
6	Bui Minh Truc Residential Place, ward 5, district 8	Housing Development Service Company/ Dist.8	66,713	544	0
7	Bui Minh Truc Residential Place, ward 6, district 8	Tan Binh Dong Company	9,348	120	0
8	Residential Place, Ward 16, District 8	Housing Development Service Company/ Dist.8	100,000	200	300
9	481 Ben Ba Dinh St., Ward 6, district 8/the storage	General Company of River-Ways	20,000	350	0
	Binh Thanh District		2,476	106	0
10	A9 Building, Dinh Bo Linh	Housing Development Company of Binh Thanh District	2,476	106	0

Table 11.2 Compensation and Resettlement Schedule

Activity	Year and month																							
	1999			2000												2001			2002			2003		
	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12									
Relocation and Resettlement Procedure																								
1. Making plan																								
2. Preparation of detailed household survey																								
3. Conducting the detailed survey																								
4. Data processing																								
5. Report from department of land-housing to People's Committee (PC) of HCMC																								
6. Approval of the report by PC of HCMC																								
7. Preparation of land acquisition map																								
8. Estimation of compensation cost																								
9. Announcement on land acquisition																								
10. Negotiation and agreement																								
- Package 1: Pumping stations, wastewater treatment plant																								
- Package 2: Tau Hu - Ben Nghe Canal																								
11. Payment to house owners																								
- Package 1:																								
- Package 2:																								
12. Monitoring and evaluation the resettlement																								
Resettlement Sites Development																								
1. Preparation of plan and estimated investment cost																								
2. Selection of Consultant for Design																								
3. Acquiring resettlement sites																								
4. Procurement of local consultants for detailed design																								
5. Approval of People's Committee of HCMC																								
6. Tendering and contract of local contractors																								
7. Infrastructure development in resettlement site																								
- Package 1																								
- Package 2																								
8. Resettlement site construction plan																								
- Package 1																								
- Package 2																								

Table 11.3 Categories of Compensation/Assistance and Unit Price in HCMC

Categories	Source of Unit Price	Notes
Compensation for Land	Decree No. 60/CP Decree No. 05/QD-UB-QLDT Decision No. 6337/QD-UB-QLDT	Occupied land with a land use right certificate following the Decrees is compensated at the rate of 100% of the applicable to urban land Residential land which is entitled to legalization but not be legalized yet shall be compensated by 80% of unit price People who had been using land without legal documents and not entitled to legalization from 18 Dec. 1980 to 15 Oct. 1993 shall be subsidized by 50% of the unit price for land area of less than 80m ² in inner city (land area of more than 80m ² shall not be subsidized). Illegal land since 15 Oct. 1993 shall not be subsidized
Compensation for House	Decision No. 4755/QD-UB-QLDT Decision No. 6337/QD-UB-QLDT	Those who have granted or rented State-owned houses shall not be compensated for loss of land and house. If they agree to move and not rent another State-owned house shall be subsidized 500.000 VND/m ² floor of the house in use (area of floor shall not exceed 30m ² for each household). Subsidizing each household with permanent residential permit shall be subsidized by 50% of land value. When the household has rehabilitated, upgraded or reconstructed more area of the house with permission, they shall be paid compensation of 100% of the preliminary construction cost. Those who legally own house shall be paid compensation 100% of the entire area of existing house based on construction unit cost regulated in Decision No. 692/QD-UB, multiplying by 1.2 coefficient. Houses which have been demolished under 70% of area of construction shall be compensated for the demolished area at the construction unit price, times 1.2 plus 10% of the compensated area dismantled. Houses which have been demolished more than 70% of the area shall be compensated as houses which have entirely been demolished. House on canals and rivers constructed before 15 Oct. 1993 shall be subsidized 50% of the value of construction materials. Houses after that date shall unconditionally be demolished.
Access to electricity, water and telephone	Decision No. 4755/QD-UB-QLDT	Electricity meter: 1.5 million VND each Water meter: 1.5 million VND each Bored well: 1.5 million VND each Telephone: Pursuant to the cost of installation of HCMC Telephone Company (new installation cost is 2.6 million VND)
Relocation Allowance	Decision No. 4755/QD-UB-QLDT	Depending on the amount of work to be done and to the distance of moving, those who have houses to be moved shall be subsidized. The level of assistance will be decided by District PC for each house. Minimum assistance is 4 million VND per family.
Stabilization Allowance/Life Settlement Allowance	Decision No. 4755/QD-UB-QLDT	Stabilization allowance is payable to each person (1 million VND each) with a permanent residential permit, with KT3 (returnee) registration or temporary registration for more than 2 years. Families with an invalid or dead war hero will be provided a additional 1 million VND.
Compensation for Production/Loss of Business	Decision No. 6337/QD-UB-QLDT	For houses which are scrapped 70% or more of the area of construction and house owner, dealer with effective permission or business. Allowance based on the average turn-over of the latest year, as determined by Tax Dept. of the District; (i)turnover is less than 5 million VND/month, the one-time compensation will be 3 million VND, (ii)turnover exceeds 5 million VND/month one-time compensation will be 4 million VND.
Compensation for Cemetery Structures	Decision No. 4755/QD-UB-QLDT	Simple earth grave: 6 million VND/grave Simple grave with some brick perimeter: 1.2 million VND/grave Cement/brick grave: 2.4 million VND Fancy concrete grave: 4 million VND Unclaimed grave: PC of district will make arrangement and pay for reburial at a different site.

Table 11.4 Land Acquisition and Compensation**Phase 1**

Compensation Items	Cost (million VND)
Land and house for dwellings	91,293
Agricultural land	23,785
Take down the old house and transport	3,000
Loss of income	8,000
Loss of crops	18,949
Cost for household survey	1,435
Total	146,462

Phase 2

Compensation Items	Cost (million VND)
Land and house for dwellings	1,550
loss of income, take down the old house and transport	
Agricultural land	744
Loss of crops	593
Cost for household survey	29
Total	2,906

- A certificate, which describes compensation cost for land and house, is given to households who prefer to move to the prepared resettlement site.
- By using the certificate, the household can buy land and house in the resettlement site.
- Procedures for the purchase of new house in the resettlement site are shown in Figure 6.
- According to recent resettlement programs in HCMC, it is expected that 80% of total households to be relocated prefer to resettle in the proposed resettlement site, and 20% of total household prefer to resettle by themselves.
- The proportion was applied for the following estimation.
- So the compensation cost for this 20% is budgeted.
- The land acquisition and compensation costs are covered by city budget.
 - Compensation cost in Binh Chanh District: 600 mil VND/ha
 - Subsidy for income loss: 1 mil VND/person
 - Subsidy for transport and take down the old house. Houses belong to grade 1, 2, 3: 2 mil. VND/unit of house
Houses belong to grade 4: 1 mil. VND/unit of house
 - Subsidy for crops loss: 478 mil. VND/ha
 - Subsidy for water counter: 2 mil. VND/unit
 - Subsidy for electricity counter: 1.5 mil. VND/unit
 - Subsidy for telephone: depends on the original cost in set-up-contract
 - Subsidy for business loss
 - Revenue <2 million VND/month: 1 mil. VND/household
 - Revenue 2 million to 4 million: 2 mil VND/household
 - Revenue 4 million to 6 million: 3 mil VND/household
 - Revenue 6 million to 8 million: 5 mil VND/household
 - Revenue 8 million to 10 million: 7 mil VND/household
 - Revenue more than 10 million is subsidized based on the real profit during 6 months but it is no less than 8 mil VND/household
 - The cost for survey, prepare to remove: 1%

Table 11.5 Cost for Resettlement Sites Development

(Unit: Million VND)

Proposed Resettlement Site	Land Acquisition And Compensation	Technical Infrastructure	Social Infrastructure	Housing Construction	Others	Total
District 4						
C3 Building, ward 6 District 4	2,700	2,392	1,500	9,377	1,027	16,996
B4 and B5 Buildings, Ward 3, district 4	1,488	2,000	1,000	23,923	2,540	30,951
Phu My residential Place, District 7	10,702	40,057	0	13,272	4,315	68,346
Binh Chanh District						
Binh Hung Commune Residential	3,390	11,971	0	0	1,037	16,398
District 8						
Binh Dang Residential Place, ward 6, district 8	1,190	1,700	0	13,332	558	16,780
Bui Minh Truc Residential Place, ward 5, district 8	4,299	8,115	2,292	54,076	5,745	74,527
Bui Minh Truc Residential Place, ward 6, district 8	692	1,300	369	8,706	925	12,000
Residential Place, Ward 16, District 8	2,807	5,299	1,496	38,446	652	48,700
481 Ben Ba Dinh St., Ward 6, district 8/the storage	5,560	4,925	3,090	19,316	2,109	35,000
Binh Thanh District						
A9 Building, Dinh Bo Linh	1,100	1,120	0	8,920	500	11,640
Total	33,928	78,879	9,747	189,356	19,408	331,338

Table 11.6 Distribution of Compensation Cost for households along/on Ben Nghe Canal in District 4

Compensation Cost (million VND)	Household Number
0 – 5	16
5 – 10	75
10 – 15	70
15 – 20	79
20 – 30	72
30 – 40	60
40 – 60	103
60 – 80	69
80 – 100	66
100 – 150	122
150 – 200	61
200 – 300	39
300 – 400	14
400 – 500	4
500 – 600	1
600 -	5

(Source: District 4, Feb 2000)

Table 11.7 Apartment Price to be Sold in Resettlement Site for District 4

Floor	Unit Price (1000 VND/m ²)	Price for 40 m ² apartment (1000 VND)
Ground Floor	3400 - 3,550	136,000 - 142,000
1 Floor	2,600 - 2,750	104,000 - 110,000
2 Floor	2,250 - 2,400	90,000 - 96,000
3 Floor	1,950 - 2,100	78,000 - 84,000
4 Floor	1,680 - 1,830	67,200 - 73,200

**Table 11.8 Monthly Income per Household on and along Canal
(Appendix I Table I.2.14 in Supporting Report on Urban
Drainage and Sewerage System for HCMC)**

Income level (million VND)	Households	%
<1	233	25.9
1 – 2	360	40
2 – 3	130	14.4
3 – 4	56	6.2
4 – 5	31	3.4
5 – 6	12	1.3
>6	27	3
Unknown	51	5.7
Total	900	100

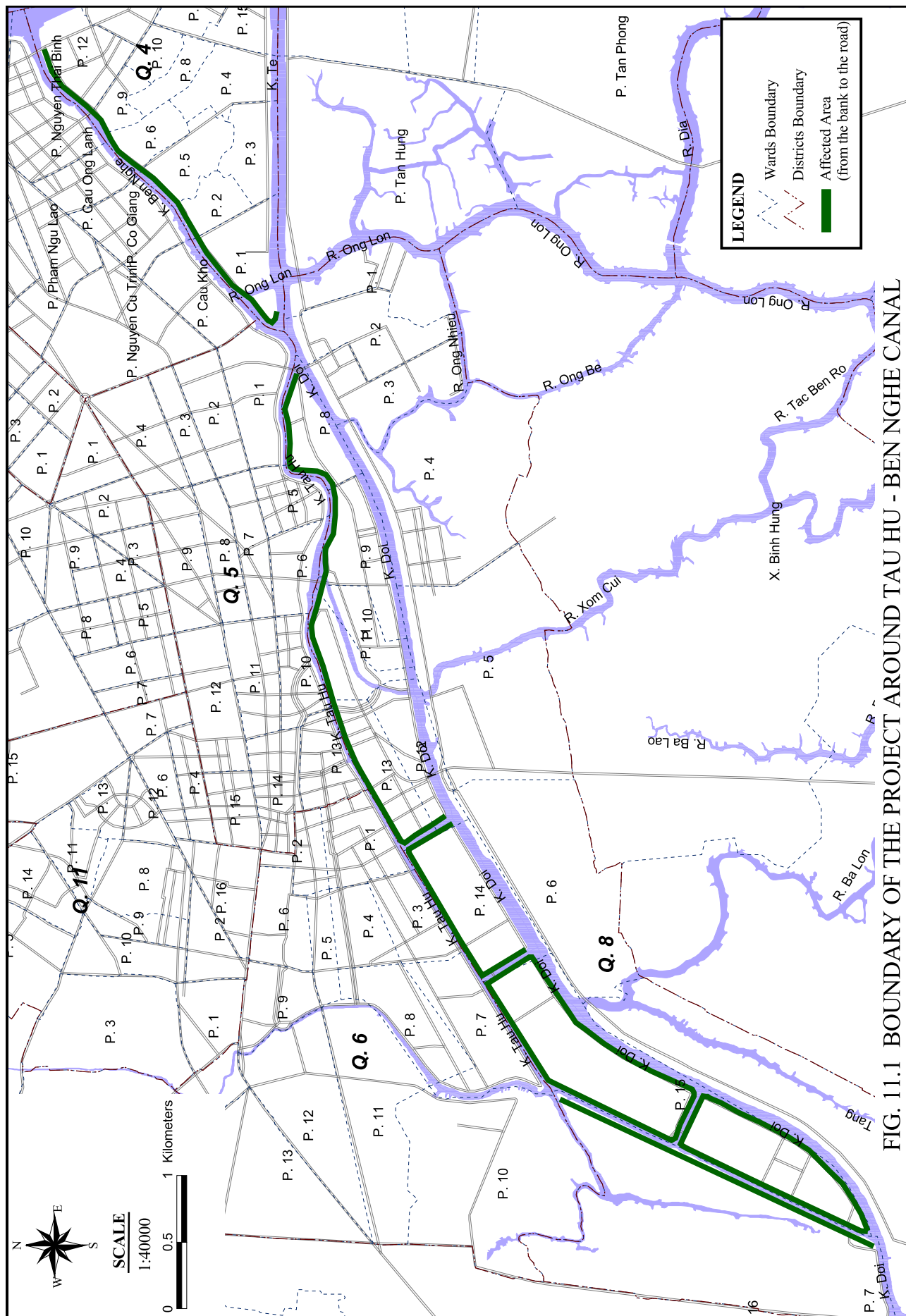


FIG. 11.1 BOUNDARY OF THE PROJECT AROUND TAU HU - BEN NGHE CANAL

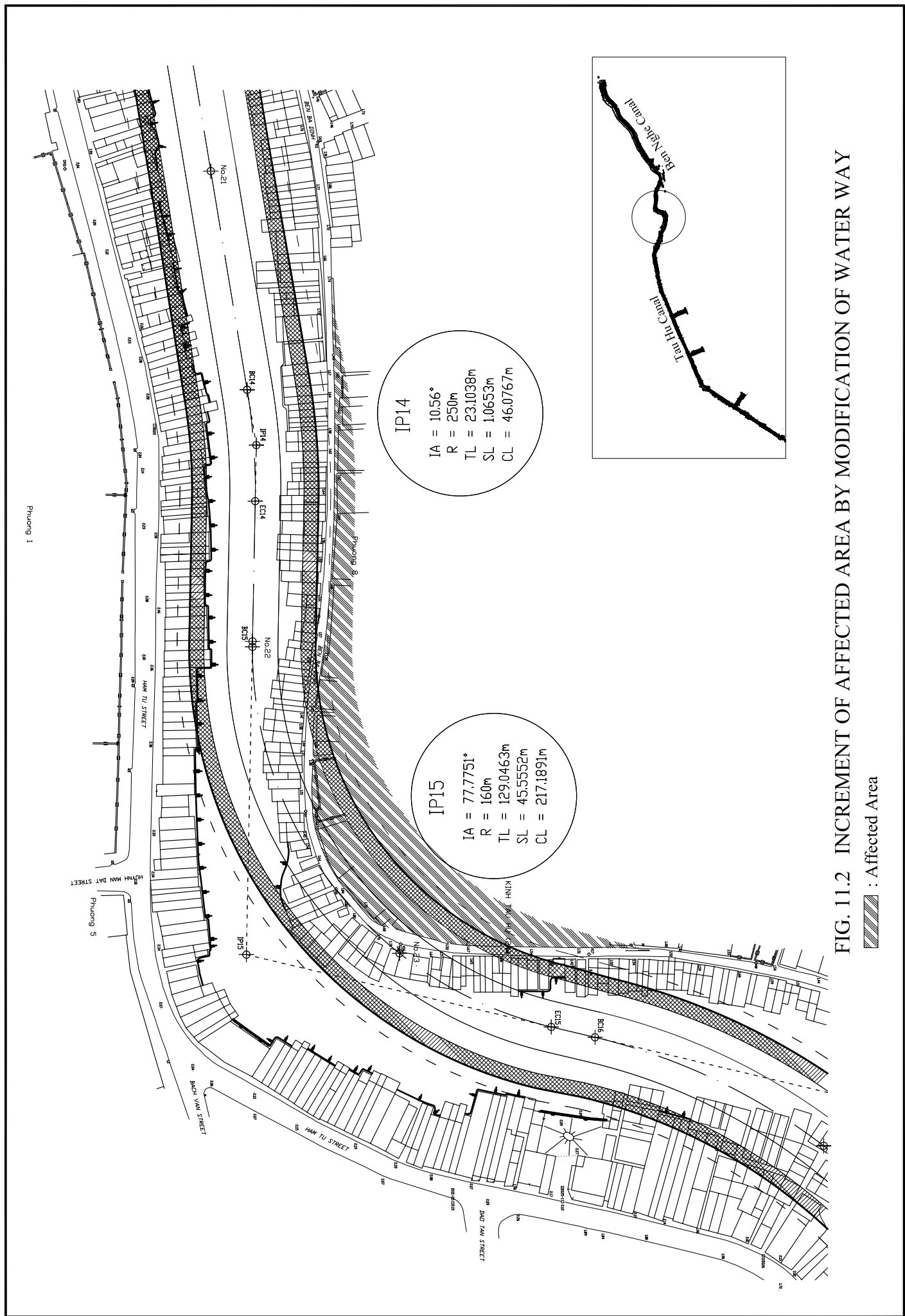


FIG. 11.2 INCREMENT OF AFFECTED AREA BY MODIFICATION OF WATER WAY

: Affected Area

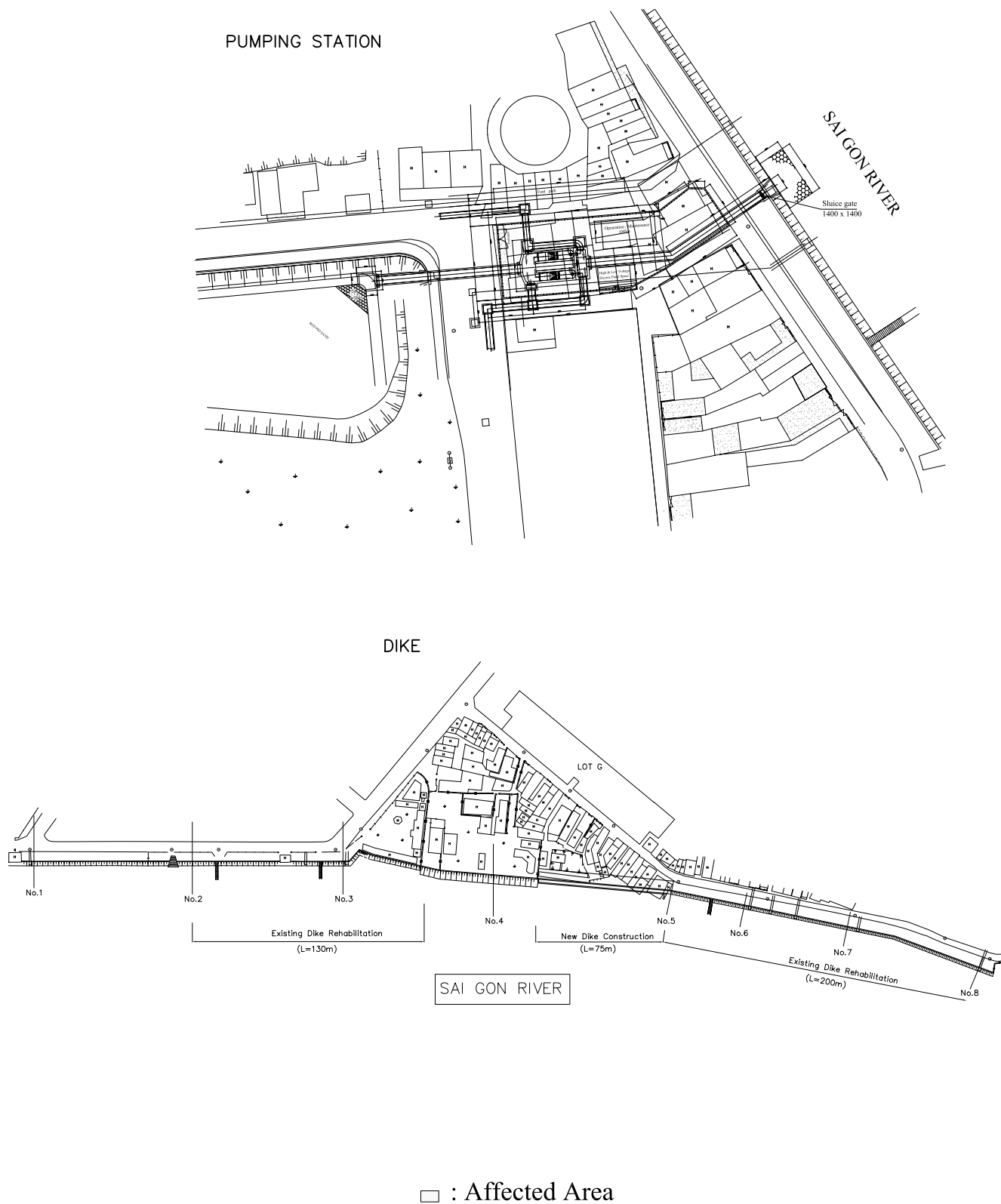


FIG. 11.3 BOUNDARY OF THANH DA DRAINAGE PUMPING STATION

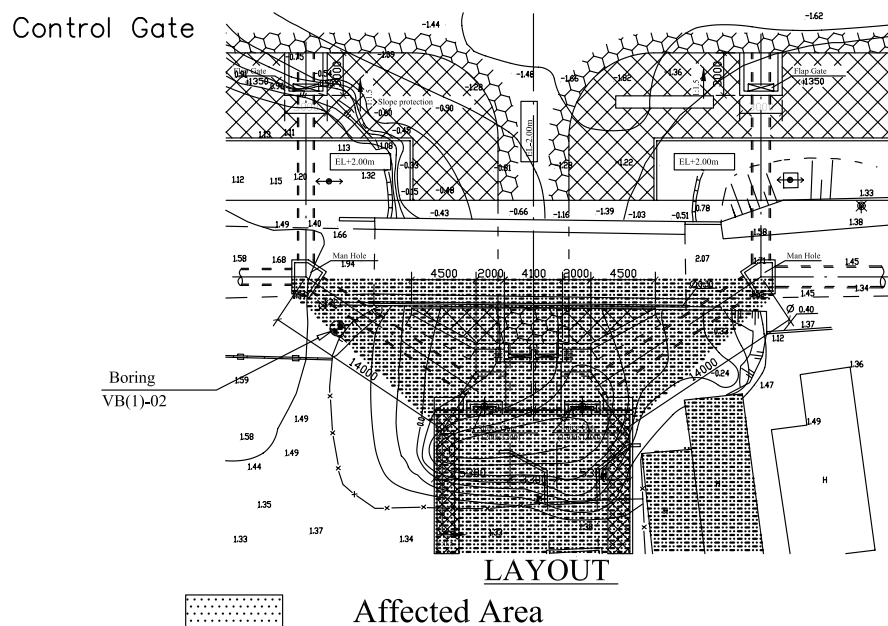
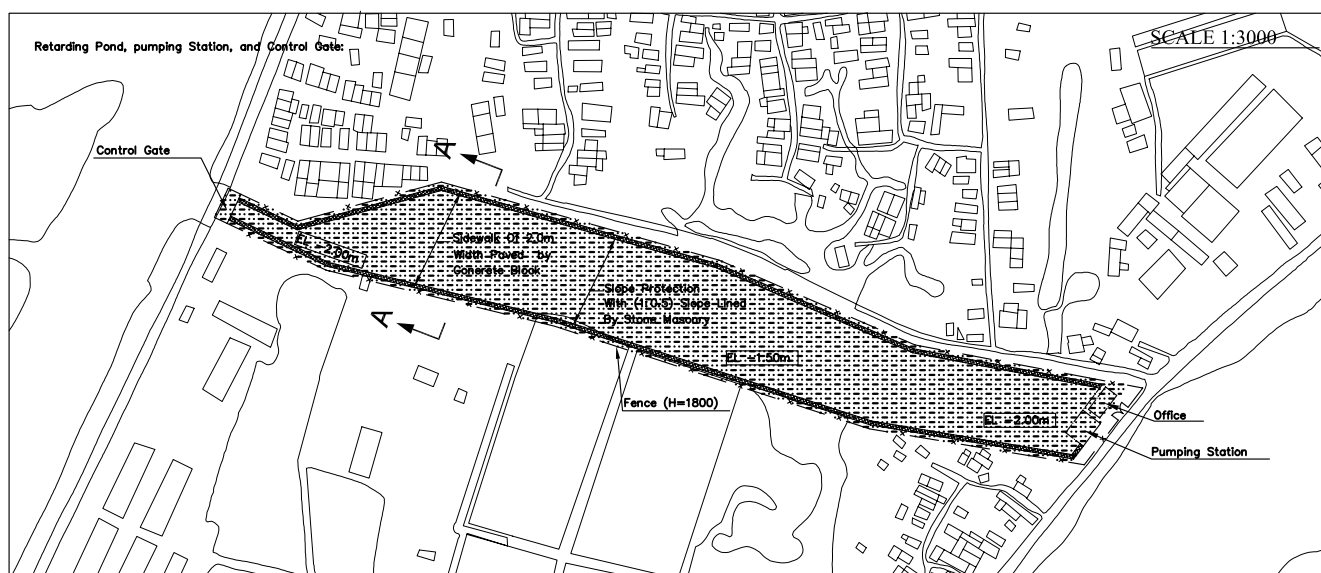
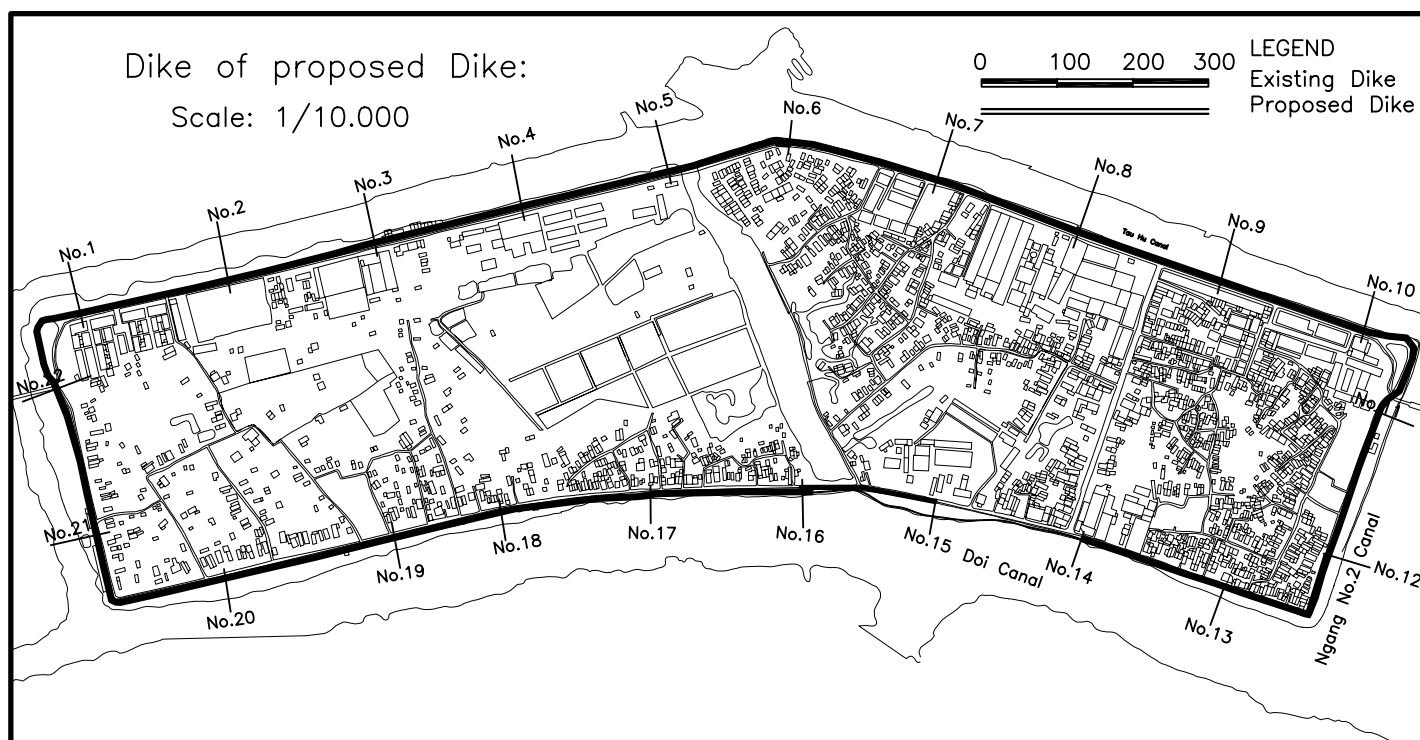
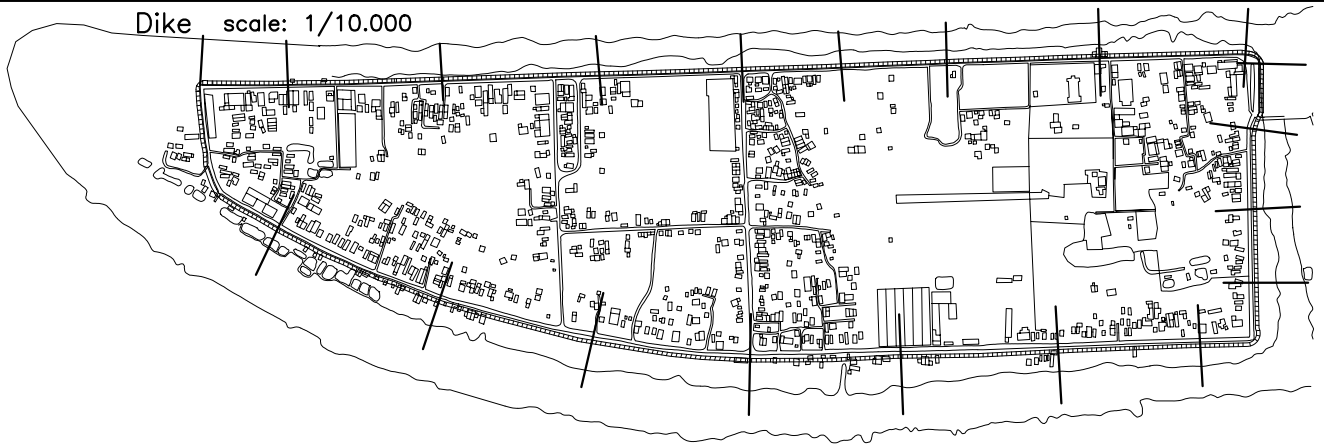
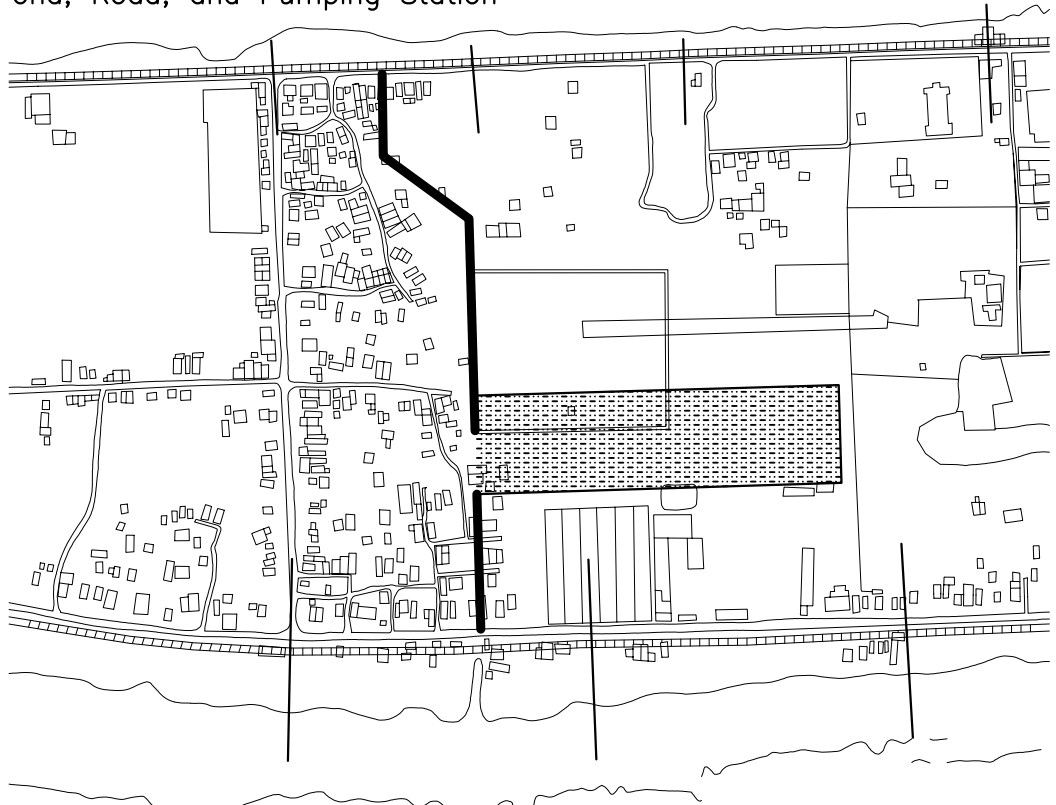


FIG. 11.4 BOUNDARY OF BEN ME COC(1) DRAINAGE PUMPING STATION

Dike scale: 1/10,000



Retarding Pond, Road, and Pumping Station
scale: 1/6000



Pumping Station and Road
scale: 1/500

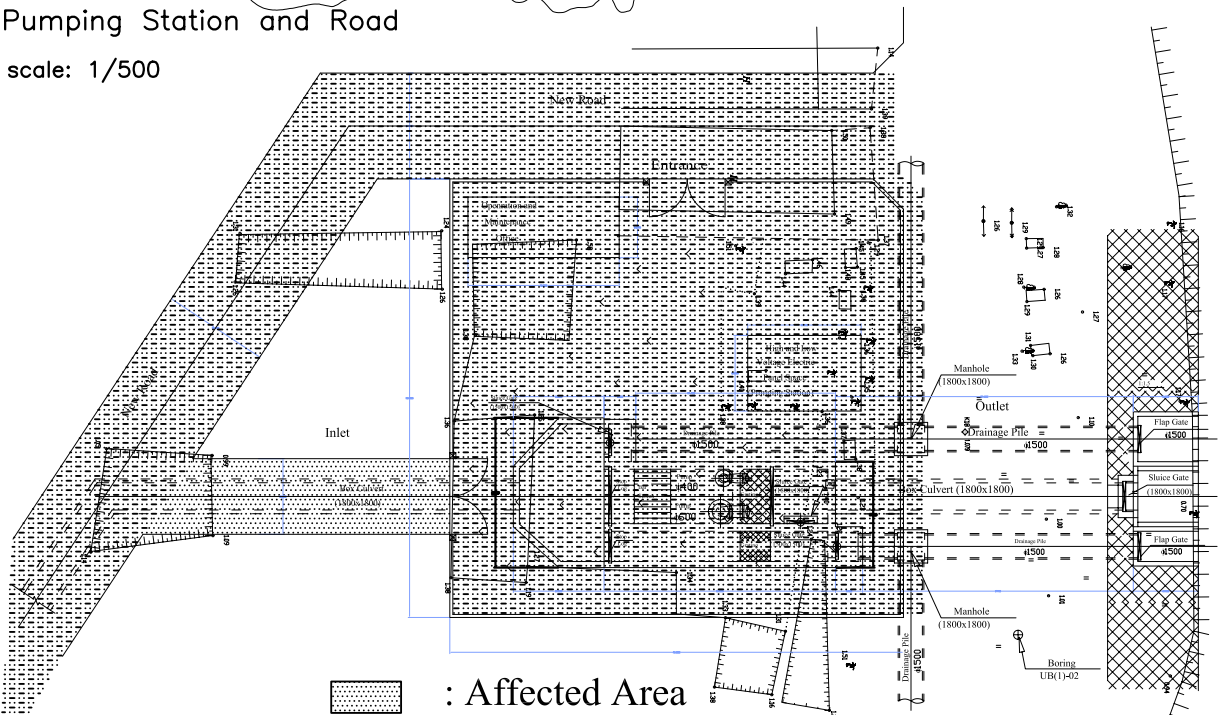
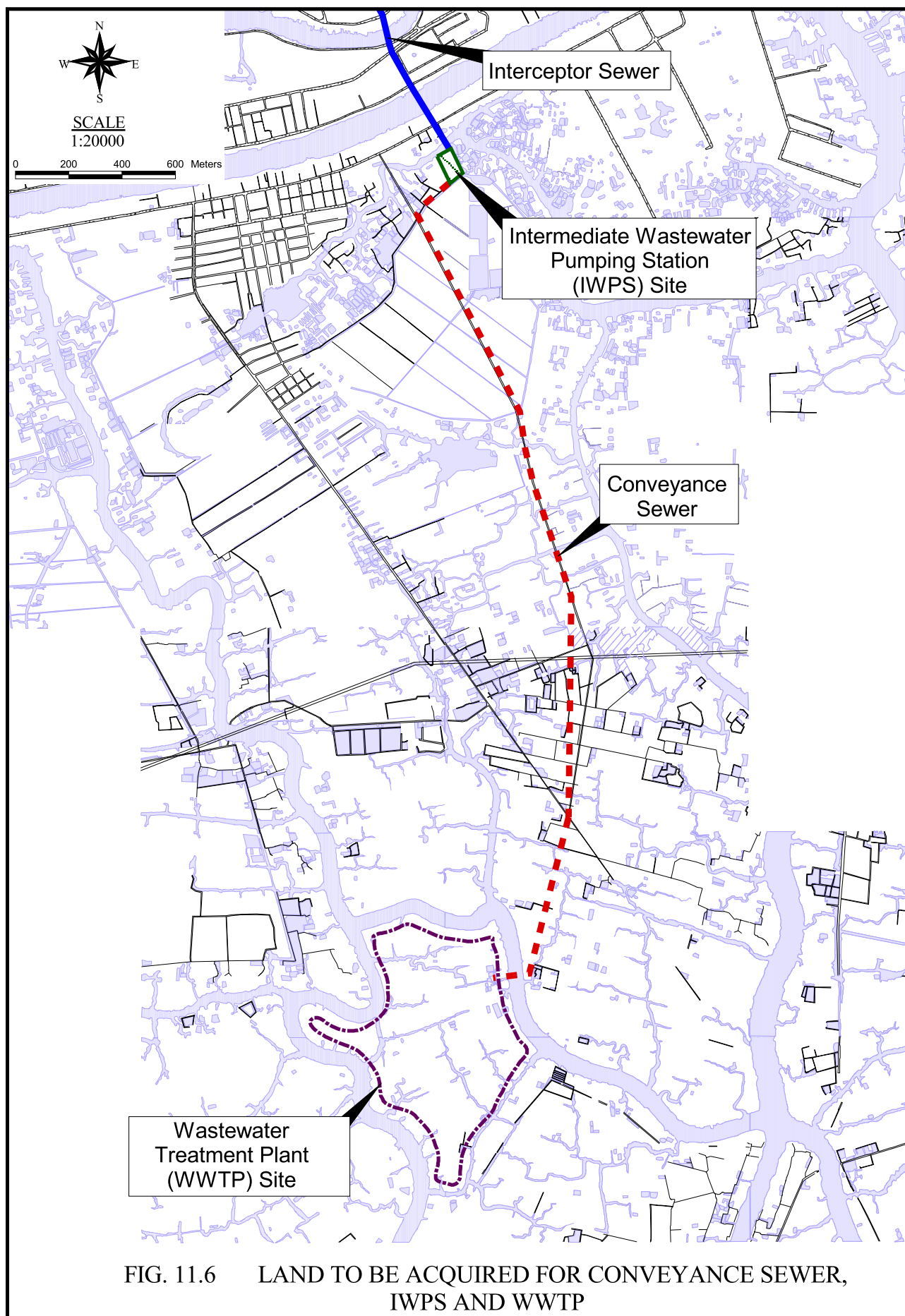


FIG. 11.5 BOUNDARY OF BEN ME COC (2) DRAINAGE PUMPING STATION



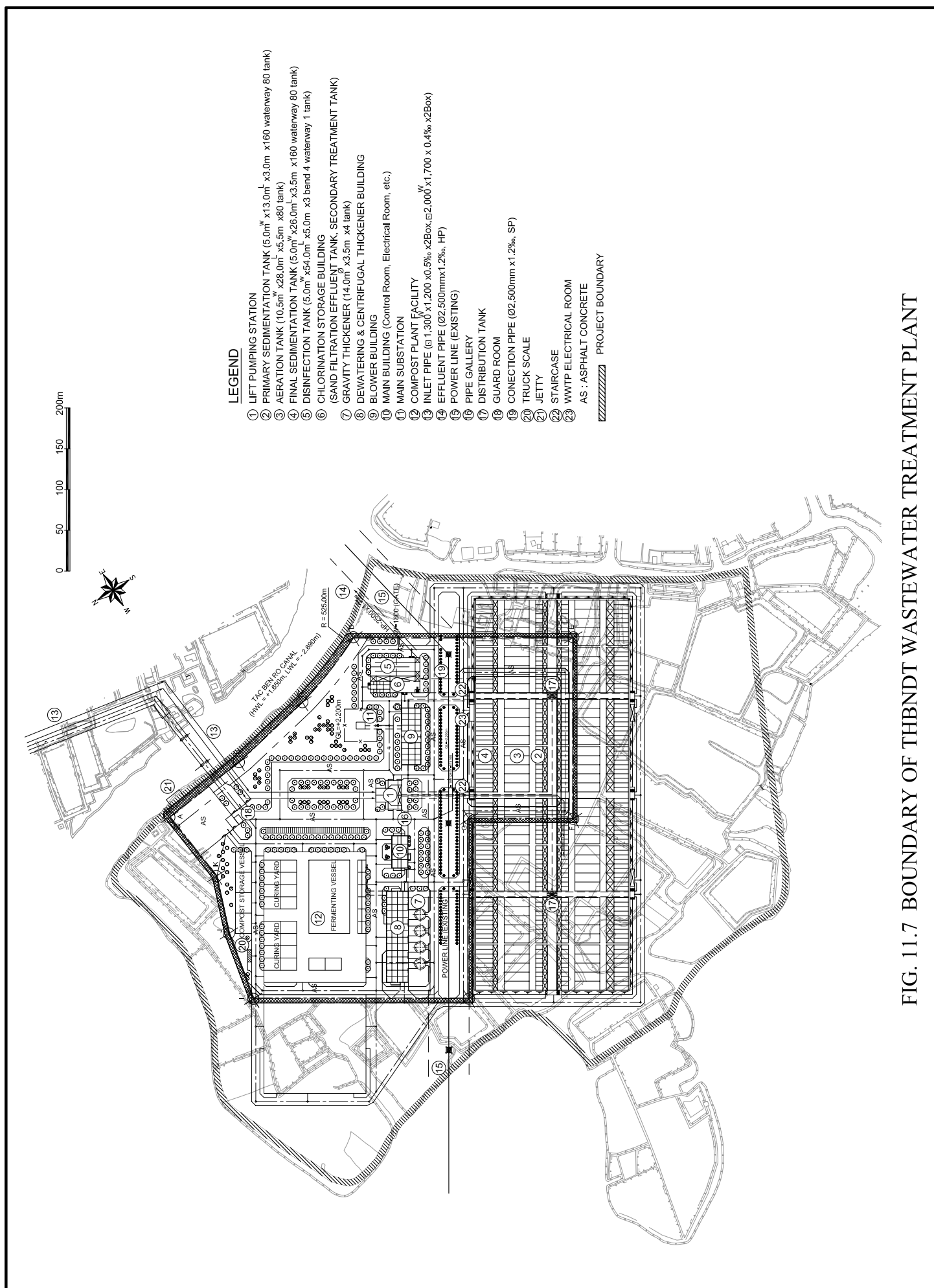
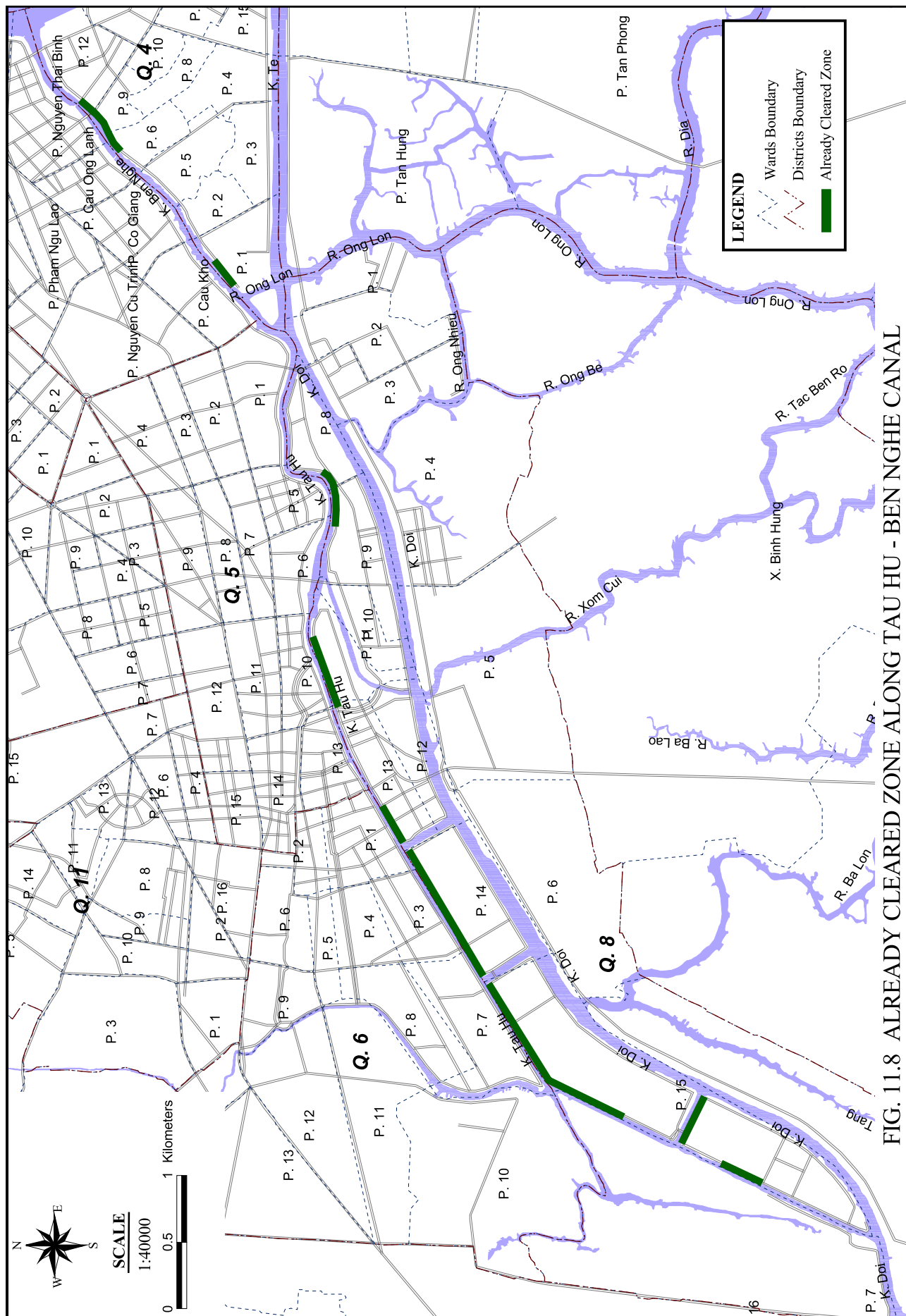


FIG. 11.7 BOUNDARY OF THBNDT WASTEWATER TREATMENT PLANT



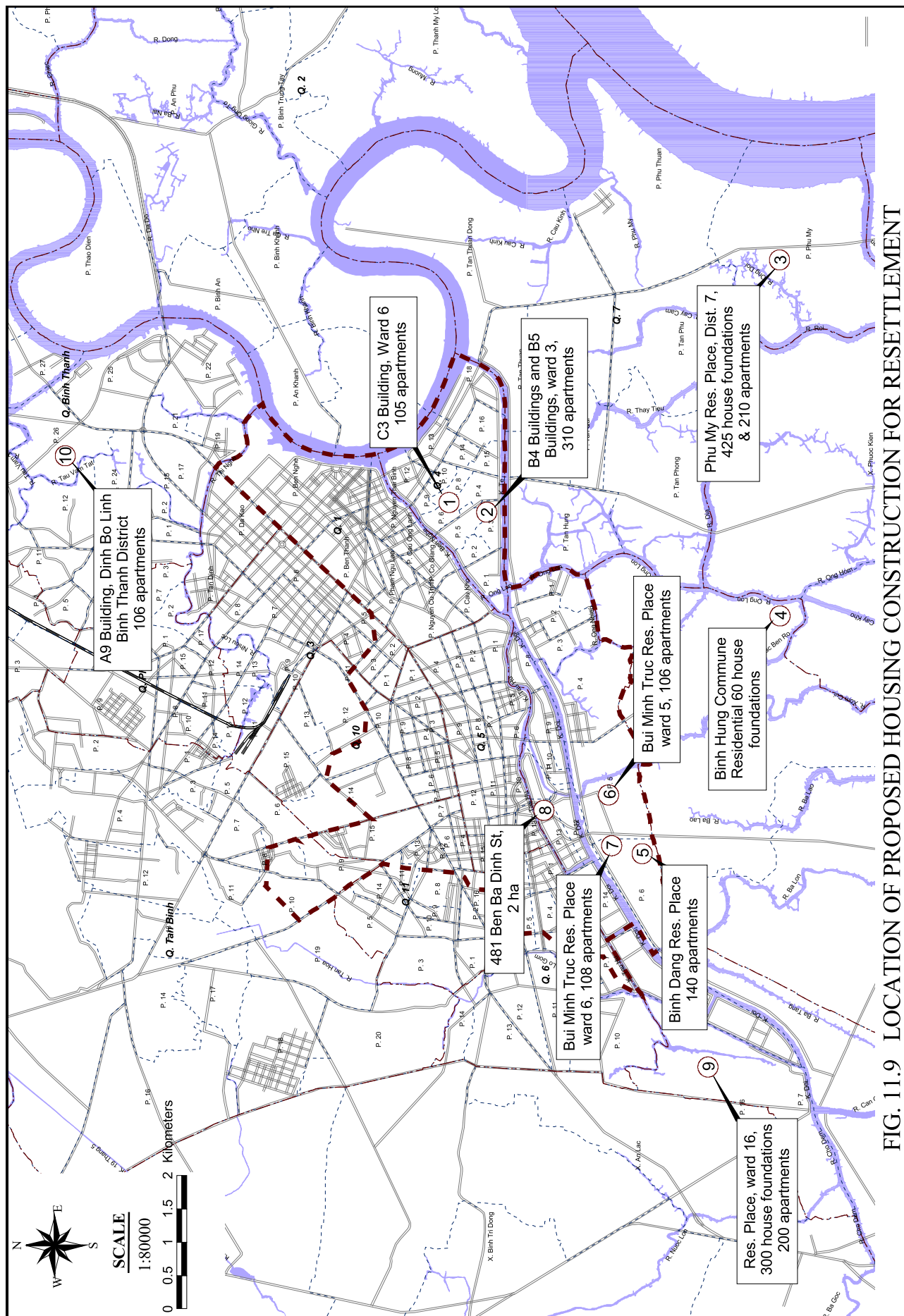


FIG. 11.9 LOCATION OF PROPOSED HOUSING CONSTRUCTION FOR RESETTLEMENT

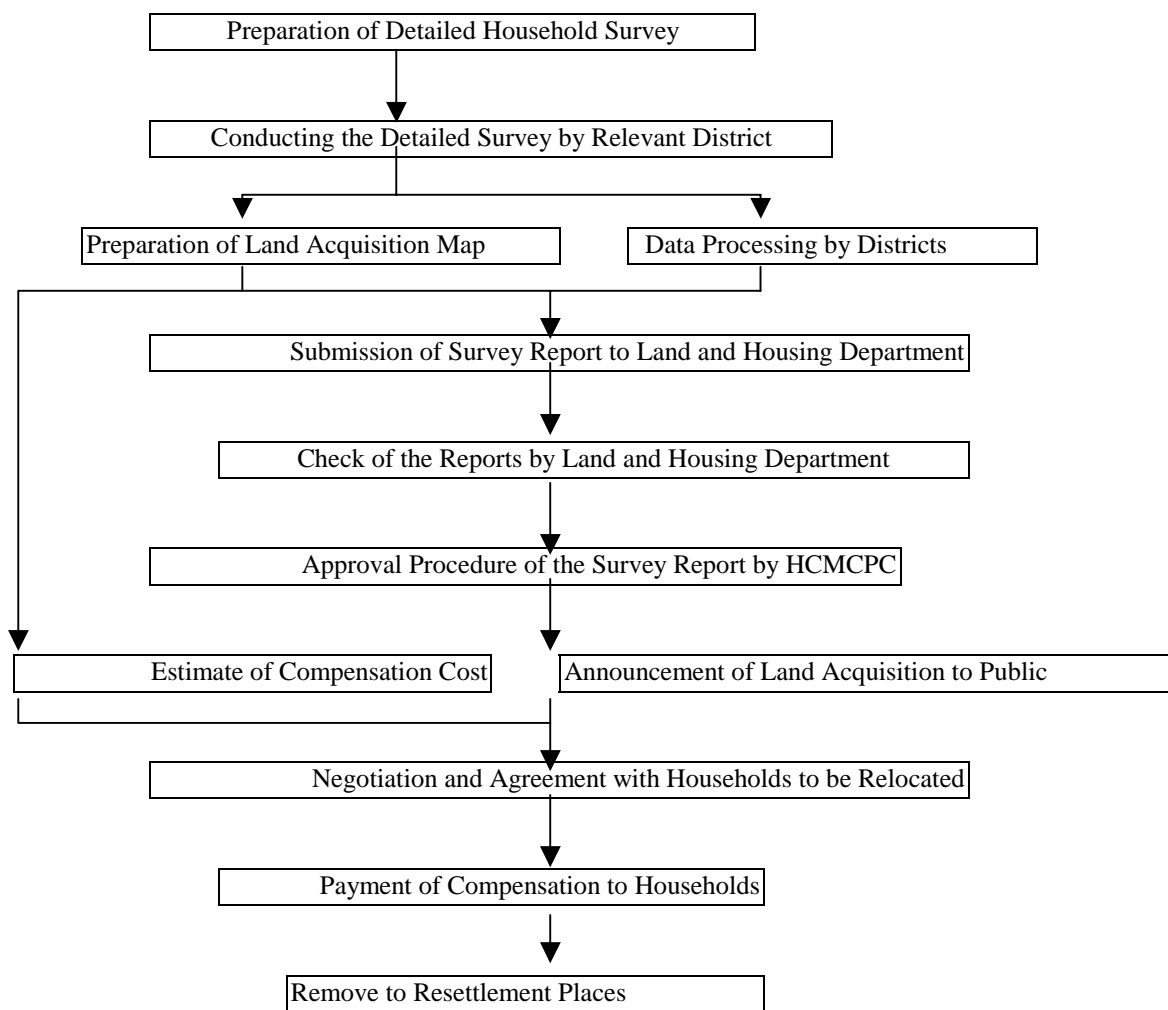
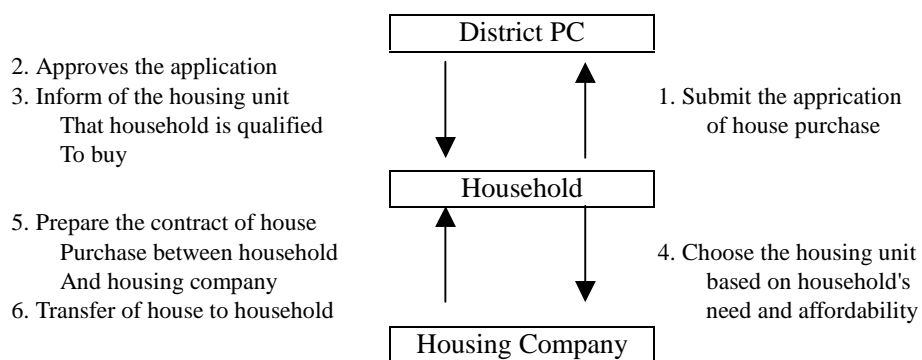


Fig. 11.10 Flow of Relocation and Resettlement Procedure



District PC: District People's Committee in Ho Chi Minh City

Household: Households to be relocated, who prefer to remove to proposed resettlement site

Housing Company: Housing development company in charge of the resettlement sites development

Fig. 11.11 Procedure for Purchase of New House in Resettlement Site

Chapter 12

INSTITUTIONAL

DEVELOPMENT PROGRAM

CHAPTER 12 INSTITUTIONAL DEVELOPMENT PROGRAM

12.1. Present Situation of Operation and Maintenance

12.1.1 Sewerage and Drainage System

(1) Operation and Maintenance Works

The existing sewer systems of drainage and sewerage in Ho Chi Minh City (HCMC) are composed of Level 1 to Level 4 sewers and are maintained as follows:

- Systems of Level 1, 2 and 3: by Urban Drainage Company (UDC) under Department of Transportation and Public Works (DTPW) of HCMC
- Systems of Level 4 and smaller: by Urban Public Works Enterprises (UPWE) at a district level

Therefore budgetary allocations are made through DTPW for Level 1, 2 and 3 Systems while through PC District for Level 4 and the smaller.

(2) Planning and Construction Works

The capital funds required are made as follows on the systems:

- Systems of Level 1, 2 and 3: by Project Management Units (PMUs) under DTPW or UDC, and;
- Systems of Level 4 and smaller: mainly by UPWE.

UDC, PMU or UPWE does not own any assets of the system while HCMC holds direct title to the system assets.

12.1.2 Related Organs or Agencies

Drainage and sewerage services should be discussed together with those for piped water supply and solid waste management because they are of fundamental services in the living. The following services and agencies are related to the drainage and sewerage as illustrated in Fig. 12.1:

- Piped water supplied mainly by Water Supply Company (WSC) under DTPW,
- Solid wastes collected from households by UPWE,
- Septage collected by City Environment Company (CITENCO) under DTPW and UPWE, and;
- Disposal of solid wastes made by HCMC Wastes Disposal Company (HOWADICO) under DTPW.

The following organs or agencies are related to the drainage and solid-waste management:

- (1) Department of Transportation and Public Work (DTPW) responsible for:
 - Water Supply and Sewerage / Drainage
 - Public Works and Environmental Services
 - Engineering and Management
 - Surface and Water Transportation
 - Administration thereof
- (2) Lower organs or agencies belonging to DTPW
 - (a) Urban Drainage Company (UDC): UDC is of a Class 1 State Owned Enterprise (SOE) and responsible for provision and maintenance of the drainage system of Level 1 to 3.
 - (b) Water Supply Company (WSC): WSC is the largest public utility company under management of DTPW and is responsible for supply of tap water that covers about 70% of all the population of the Inner City of HCMC.
 - (c) City Environmental Company (CITENCO): CITENCO has the functions of collection, transportation and damping of solid wastes and of collection of septage with a vacuum truck
 - (d) HCMC Waste Disposal Company (HOWADICO): HOWADICO is responsible for management of the landfills and the ultimate disposal of solid wastes.
- (3) People's Committees

Local government system in HCMC has the following layers: the city, the district, and the wards / communes.

 - (a) PC HCMC: PC HCMC provides to UDC the budget for all maintenance and some portion of construction activities through DTPW, while to UPWE through PC District.
 - (b) PC District: PC District manages the small diameter Level 4 sewers in use of enterprises, funding the costs of construction and maintenance through budgetary allocations.
 - (c) PC Ward / Commune: The districts are subdivided into wards in the Inner City and into communes in suburban districts whose number reaches 281.
- (4) Lower organs or agencies belonging to PC District

- (a) Urban Public Works Enterprises (UPWE): UPWE is responsible for capital works and maintenance for the level 4 sewers, and for the upgrading, management, and servicing of septic tanks, and for collecting and transporting solid wastes.
 - (b) Urban Construction Company (UCC): UCC is in charge of management and maintenance of the smaller drainage systems.
- (5) Other Departments under PC HCMC
 - (a) Department of Pricing and Finance (DPF): DPF prepares and manages the state budget, and serving as the city's treasurer.
 - (b) Department of Agriculture and Rural Development (DARD): DARD is responsible for monitoring and controlling exploitation of groundwater.
 - (c) Department of Science, Technology and Environment (DOSTE): DOSTE is responsible for formulating and enforcing environmental regulations.
 - (d) Department of Planning and Investment (DPI): DPI checks the Annual Production Plan of UDC.
- (6) Ministries of the Central Government:
 - (a) Ministry of Construction (MOC): MOC is the line ministry in urban water supply, drainage and sanitation, and responsible for overseeing and providing guidance and management assistance to DTPW for design and construction of public works.
 - (b) Ministry of Finance (MOF): MOF distributes the state budget finance to the sectors and projects, and responsible for supervising the application of the tax by provincial and municipal government authorities.
 - (c) Ministry of Science, Technology and Environment (MOSTE): MOSTE is responsible for promulgating the environmental regulations.
 - (d) Ministry of Planning and Investment (MPI): MPI is responsible for planning activities at national level.
- (7) Agencies or Companies belonging to the Departments
 - (a) HCMC Capital Management Department (HCMC CD): HCMC CD is responsibility for the examination and approval of UDC's financial statements.
 - (b) HCMC Tax Department (HCMC TD): HCMC TD supervises UDC's activities on

the financial statements.

- (8) Project Management Units (PMU): PC HCMC funds larger capital works projects of the level 1 to 3 sewers through PMU outside UDC. PMU is responsible for accounting, recording, reporting, and disbursement of the project funds in addition to obtaining of approvals and permits.
- (9) Steering Committee (PSC): PSC provide guidelines, control, supervise and appreciate all aspects concerning the implementation of a project through PMU's activities.

12.2 Proposed Operation and Maintenance System

It is planned at present that reorganized Urban Drainage Company (Sewerage and Drainage Company, called as "SDC" hereinafter) would be in charge of the sewerage and drainage activities for the operation and the maintenance.

12.2.1 Principles on Setting Operation and Maintenance System

(1) Introduction

(a) Maintenance of sewers

In addition to monitoring of inflow of illicit discharges, the scheduled inspection, cleaning and repairing are required as prevention against troubles such as clogging with earth and sand introducing flooding, offensive odor and caves-in in the road. Some of the residents have sometimes criticized that it is not good to split such maintenance between the Systems of Level 1, 2 and 3 and the Level 4, because one system is maintained good while the other are not. This being the situation, it might be ideal that all the systems be managed by a sole entity.

(b) Operation and maintenance of facilities

Routine works for the maintenance activities are conducted in the daytime, while the nighttime has works of monitoring the operation and taking actions against the troubles. The routine works include the scheduled inspection, the operation monitoring and repairing and adjusting the troubled equipment whose works have difficulty in the nighttime.

(2) Functions to be newly required

The Project would construct newly the following facilities required for the operation and maintenance:

- Pumping Stations at Thanh Da and Ben Me Coc (Drainage Pumping Stations)

- Intermediate Wastewater Pumping Station for Tau Hu, Ben Nghe – Doi, Te Basin (THBNBDT Wastewater Pumping Station)
- Construction of wastewater treatment plant for THBNBDT (Wastewater Treatment Plant)

In addition, the World Bank would construct the following:

- Wastewater Pumping Station for Nhieu Loc–Thi Nghe Canal (NLTN Wastewater Pumping Station)

We name the above-mentioned facilities “Facilities” including NLTN Wastewater Pumping Station.

In addition to the operation and maintenance, the following should be considered:

- Expansion of the capacities of the Facilities in order to satisfy the future demands
- (3) Functions to be improved in maintaining the existing drainage systems

The Project includes the following scope for the systems (Systems) in addition to the Facilities:

- Improvement of the drainage systems targeting the central part* of HCMC through improvement of Tau Hu-Ben Nghe Canal and the existing combined sewer,
* District 1, 3, 4, 5, 6, 8, 10 and 11.
- Construction or lying of interceptor sewer, and conveyance sewer connecting the sewerage system, THBNBDT Wastewater Pumping Station and the Wastewater Treatment Plant, and;
- Provision of a high compressor car, a vacuum car, a bucket-type sewer-cleaning car, a van, and a set of checking and repairing tools in order to improve the performance of the cleaning works.

(a) Integrated maintenance service

The maintenance activities are currently conducted by many agencies as mentioned above: UDC, UPWE and CITENCO. Procedures should be integrated under the sole management of SDC. SDC should utilize such existing agencies as much as possible with the smooth coordination.

(b) Activities for the Level 4 and smaller systems

The Level 4 and smaller systems may be more complicated than the systems of Level 1 to 3, and may require much knowledge of the systems in the maintenance activities. This being the situation, it would be realistic in the future that SDC

commits such activities to UPWE in a contract base on condition that SDC supervises the UPWE activities to report the PC HCMC.

12.2.2 Contents of Works required for Operation and Maintenance

(1) Routine Works of Operation and Maintenance

- 1) Maintenance of Drainage and Sewerage Sewers, including the following:
 - Activities to prepare and maintain ledgers related to the sewers
 - Activities requiring the public authority in order to perform properly
 - Activities of maintenance of drainage and sewerage sewers
 - Monitoring of the water quality at the public waters
- 2) Maintenance of Facilities, including the scheduled inspection, repair of trouble, and maintaining of safety and hygiene.
- 3) Operation of Facilities composed of the patrol inspection, the monitoring and the routine works.
- 4) Water quality control activities including the scheduled inspection, and the instruction or guidance to revise the process or handling

(2) Reporting

Management of the system requires grasping correctly the current state by sorting out and analyzing data of the records and taking actions for preventing the troubles or the abnormal. The recording and reporting should be timely and promptly performed.

(3) Planning

- 1) Present annual production plan: UDC serves currently as a service provider budgeting on an annual basis, which is compliance with the Annual Production Plan (APP) established as follows:
 - Prepare a proposed APP describing the details of maintenance and capital works.
 - Submit the proposed APP to DTPW for the review.
 - The proposed APP is forwarded to Department of Planning and Investment (DPI).
 - PC HCMC will establish an Annual Plan for HCMC based on such APPs that are submitted from all the departments under the PC.
- 2) New requirements for APP: the following are newly required in the preparation of APP: planning for expansions of facility capability, planning for facility operation, and supervision of design and construction works of the level 4 sewers.

- 3) Projection of volume and qualities of influent: Volume and water qualities of influent should be continuously forecasted also after the hand over of the facilities.
 - (a) Present basis for designing the system: The system is currently planned and designed based on the basis of volume handled by Wastewater Treatment Plant, and on the quality basis of the sewage influent to Wastewater Treatment Plant
 - (b) Projection of volume of the influent to Wastewater Treatment Plant: The projection requires collection, classification and analysis of data on the kind of the users and on the discharge volume.
 - (c) Projection of water qualities of the influent to Wastewater Treatment Plant: The projection should be performed also in view of the above mention as well as the economic trends such as industrial outputs, production of agriculture and forestry, tourism growth.
- 4) Planning of facility expansion or improvement
 - (a) Planning of expansion: The following should be paid attention to in planning of the expansion:
 - Establishment of PMU to manage the expansion in financing, tendering, supervision of engineering, procurement and construction works
 - Establishment of legislation to supplement running of the facilities, such as total pollutant load regulation
 - Establishment of notification system of pretreatment facility registers and private sewer registers
 - (b) Planning of improvement: In the case the Wastewater Treatment Plant does not achieve the goals, the troubles should be analyzed to prepare a report, which should be utilized in planning and improvement of the facilities.
- 5) Promotion of connecting to the sewer system

In the activities of maintenance of drainage and sewerage sewers, SDC will instruct to connect between private sewers or discharges and the sewerage system to those who improve or make newly the building. It is important to grasp or forecast volume of such connection works through communication with the related authorities.

12.2.3 Utilization of Other Companies

- (1) Activities under management requiring the public authority

The following activities require the public authority in order to perform properly; therefore, they cannot be entrusted to the third party:

- Instruct or control the connection between private sewers or discharges and the sewerage system,
- Control water quality of illicit discharge,
- Levy the service charge,
- Permit treating the influent discharged from the outside of the project area,
- Use exclusively the sewerage and drainage system, and;
- Keep and register the sewerage ledger.

(2) Future consideration on the outsourcing

The following activities may be committed in a contract base to the third party under instruction and planning by SDC like Japan in the future when the infrastructure and the supporting industries fully develop in Vietnam:

- Scheduled inspection of the facilities,
- Operation and maintenance of the facilities, and;
- Assistance in inspection or analysis of the water quality and the sludge.

However, this is the first time in HCMC to operate the sewerage system; therefore, the following is important to HCMC:

- Bringing up the Technical Staff required, and;
- Technology transfer among the Technical Staff.

It is desired that SDC might be able to manage the activities mentioned above.

12.2.4 Employment Requirements and Development

(1) Qualifications required

The following works for SDC would require permits or approvals authorized by the Government if in Japan:

- To manage and control a wastewater treatment plant and the related pump stations,
- To use electric power generator (s) or receive electricity from the outside,
- To handle and store inflammables such as heavy oil used as a fuel,
- To enter the inside of tanks or vessels in order to inspect where oxygen may be short,
- To handle radioactive isotope, gas chromatography mass spectrometer or radioactive sludge densitometer for analysis of the water quality,
- To analyze liquids in order to find organic phosphorus in use of poisonous chemical or medicine,

- To handle chlorine or ammonia for the wastewater treatment,
- To use crane machinery in order to maintain heavy equipment,
- To make preparation works for the crane use with rope or wire, and;
- To weld some parts with gasses such as acetylene.

Some of the works mentioned above require permits or approvals also in Vietnam. Training or recruiting / hiring of such persons would be planned in such qualifications.

(2) Educational experience required

(a) Consideration of educational requirements

The following educational experience is required for the engineers:

- Civil Engineering: for the Planning Staff and the Construction,
- Mechanical Engineering: for the Planning Staff, the Operation and the Maintenance,
- Electrical Engineering: for the Planning Staff, the Operation and the Maintenance, and;
- Chemical or Environmental Engineering: for Laboratory Staff.

Several schools in HCMC can supply SDC with such graduates. It is important to grasp how many of the graduates can be annually gathered for the above-mentioned experience.

(3) Training and Technology Transfer

1) Training

(a) Introduction

It might be considered to use private sector contractors to operate the facilities in the future; however, there is no such contractor in Vietnam at present. Services by oversea contractors would be expensive. Most of the staffs working for the facilities would be new hires or transfers from the other organs or agencies. In view of the budget limitation, it is realistic that the training services should be as a part of the contractor's bid package to be specified

(b) Procedures of Training

The following procedures might be realistic in the training:

- PMU would select the candidates, who would be a core member in charge of the operation and maintenance,
- PMU would settle the budget for the training, together with number of the trainees and the period length of the training,

- PMU would send core members to the existing training center for sewerage engineers neighboring Vietnam,
- The requirements and conditions would be specified in the Tender Documents,
- The Contractors should supply the training services specified, in the construction period, and;
- The persons who received the training course would make the technology transfer to other persons at the Facility site, after the training course finished.

2) Technology Transfer

The persons who would receive the training course mentioned above could give the following knowledge or know-how to the other staff:

- Basic knowledge on wastewater treatment,
- Relation between water pollution and wastewater treatment, and;
- Interrelation among processes forming the sewerage treatment.

12.3 Sewerage Tariff and Collection System

12.3.1 Sewerage Tariff

(1) Sewerage Tariff Settled

The following have been settled as the sewerage tariff:

(Decision of No: 10/2001/QD-UB)

- Calculated to be 12% of the water bill of Water Supply Company (WSC).
- WSC is in charge of the charge collection.
- Applied from the first of July 2001.

(Decree of No. 90/1998/ND-CP)

- Not necessary, it is interpreted, to cover the initial project cost by the charge revenue. Subsidy would be allocated from the budget of HCMC or the Central Government in order to make up the charge revenue.

(2) Conditions on Setting Sewerage Tariff

1) Legislation for setting tariff is:

- Decision of No. 10/2001/QD-UB dated February 9, 2001
- Decree of No. 90/1998/ND-CP

2) Affordability to pay from household expenses and subsidy

The fee level of the charge should be settled depending on the affordability, and combined with those for tap water supply and solid waste management in view of percentages to the household income. The World Bank says that the cost of the services for both the median and low-income groups is considered to be affordable, as they do not exceed 5% of monthly income. The tariff would satisfy the limitation of the affordability.

3) Sewerage charge based on water bill

The sewerage charge would be calculated on metered water consumption and collected on a monthly basis by the WSC. It may be necessary to pay the commission to WSC for the collection and billing, where it should be deducted directly from the gross collections of WSC prior to the remittance in order to directly benefit WSC.

(3) Consideration on Sewerage Tariff

1) Collection of Charge

It would be difficult to do from the area that WSC does not cover or the sewerage is not furnished in. A detailed plan and procedures should be studied on the collection.

2) Revision of Sewerage Tariff

The following should be considered in revision of the sewerage tariff:

- Future workload on wastewater treatment and user charge collection.
- Cost in operation of wastewater treatment
- Ability to pay
- Difference from other public utilities

12.3.2 Commercial Activities

(1) Collection and related commercial activities

The following works are considered to be required in the collection and related commercial activities:

- Calculate user charges by using computer system.
- Issue the billing and receipts.
- Issue notice of fees in order to inform the users before payment.
- Over-the counter service for collection of the user charge

The above-mentioned activities would be performed by WSC; however, it is necessary for SDC to conduct the following activities:

- Form the database of the customers utilizing the existing data of WSC's.
- Correspond to complaints and discrepancies to the sewerage and drainage
- Force the users to pay in the case of non-payment.

(2) Location for commercial activities

Calculating the charge, issuing the billing and receipts, and issuing notice of fees out of the above-mentioned activities are performed at the head office of WSC. The over-the-counter service for collection is conducted at the head office or the branches.

(3) Type of payments

Payment of the sewerage charge would be made as follows:

- As for private uses, directly made to the collectors at private houses or at the branches of WSC.
- As for the use of companies or enterprises, directly to the collectors at the companies / enterprise or to the registered bank (transfer).

(4) Number of collectors and efficiency thereof

According to the calculation results, even if the manpower for the collection is increased by 33%, WSC could get the revenue more by only 6%. WSC has now 196 collectors as of the year 1999. It is strongly requested to enlarge number of customers per collector further in the future.

12.3.3 Utilization of Commercial Function of Other Companies

WSC would be in charge of collection of the sewerage charge decision of No 10/2001/QD-UB. In order that SDC might verify that the transaction amount collected by WSC is correct, SDC needs to confirm the contents of the billing, receipts and the notice of fees that are issued by WSC. It might be necessary to conclude with WSC an agreement for such verifying.

Under the agreement, WSC would be responsible for the collection of the charges on the best effort. In addition, it is required to establish the legislation where the following would be stipulated:

- Punishment or penalties against the non-payment case
- The collection staff of WSC could collect the fees and fines for the non-payment case.

12.3.4 Employment Requirements and Development

(1) Requirements on staff

WSC has the following procedures for hiring the staff: (i) Advertisements in newspaper; (ii) Interviews; (iii) Training as per WSC's requirements; (iv) Probation; (v) Employment.

(2) Educational experience required

The following educational experience is required as a core member for the above-mentioned activities:

- Commercial Science: for the Commercial Staff
- Economics or Accounting: for the Finance / Accounting Staff
- Law: for the Legal Staff. The lawyer position requires bachelor degree in law.

In WSC the bill collectors are required to graduate high school, have the faithful quality and capacity of accurate calculation. Besides the above requirements, inspectors have to have justice level to deal with complains and illegal cases.

(3) Training

In WSC the bill collectors are annually re-trained together at least one time per year. In addition, the collectors have to take the annual examination to raise their skill levels to higher ones. Furthermore, Key persons of the Staff should possess vocational training.

12.4 Accounting / Financing System

12.4.1 Control of Cash Flow

(1) Present accounting system of UDC

(a) Responsibilities of Accounting, Financial and Statistical Division (AFSD)

The AFSD of UDC is currently responsible for the following: to record financial or accounting transactions, to analyze data of the transactions, to manage the assets, to make internal reporting, to prepare the financial statements, to coordinate with external agencies, and to make forecasts, plans, and budgets.

(b) Accounting standards and reporting

UDC should report the activities to PC HCMC in compliance with the accounting standards promulgated by the Ministry of Finance (MOF) with Balance Sheet, Income Statement, and Cash Flow Statement.

- (c) Financial or accounting transactions recorded and analyzed such as raw material costs, direct labor costs, and enterprise administration expenses.
- (d) Key performance indicators

UDC reports the performance results in use of indicators of “Key Performance Indicators” composed of the following: Operating Ratio, Gross Margin Ratio, Days Worth of Cash Obligations, Receivables, Current Ratio. However, the indicators may change in the future because SDC will be of a semi-commercial agency:

- (2) Proposed accounting system

The following financial or accounting transactions should be newly added.

- Transactions related to connection works between private sewers and the sewer system
- Transactions related to the facilities that are newly constructed.

12.4.2 Financing System

Capital works are required in expansion and improvement of the sewers and the facilities. It is necessary to finance the capital funds for the activities. The following are considered as a resource of the financing: allocations of the government budget, a subsidy, and a public loan in addition to the revenues of the charge.

12.4.3 Assistance in Planning

The AFSD assists the Planning and Technical Division (PTD) of UDC in preparation of the Annual Production Plan (APP), which describes details of maintenance and capital works in the upcoming year to be proposed

12.4.4 Employment Requirements and Development

The Accounting Staff should be trained for the International Accounting Principles, to calculate reasonably service costs at the reputed institutions abroad. The Financial Staff should be trained on the flow of funds. Core members should be familiar with operating and maintaining computer software.

12.5 UDC Reorganization

Urban Drainage Company (UDC) should be the core organ in establishment of the new organization because UDC is currently responsible for maintenance of the systems and has accumulated knowledge to run the systems through the activities thereof.

12.5.1 Existing Organization of UDC

UDC is composed of four management units and six enterprises as shown in Fig. 12.2. The existing organization has the following characters:

- UDC has not a function of collection of the charge.
- UDC has not currently a function of operation of sewerage facilities such as wastewater treatment plants.
- UDC requires strengthening the financing function to handle the debt.

The four units of UDC are:

- Planning and Technical Division (PTD): is in charge of preparation of the APP, planning of improvements and implementation proposed by the CCS or others.
- PMU of UDC,
- Accounting, Financial and Statistical Division (AFSD)
- Administration and Human Resources Division

The six enterprises of UDC are:

- Construction Consulting Services Inc. (CCS) responsible for planning, engineering and development of the systems handled by UDC.
- Drainage Enterprise No.1 in charge of District 5, 6, 11 and Binh Chanh,
- Drainage Enterprise No.2 for District 1, 2, 4, 7 and Nha Be,
- Drainage Enterprise No.3 for District Binh Thanh, Phu Nhuan, Tan Binh and Go Vap,
- Drainage Enterprise No.4 for District 3, 8 and 10, and;
- Construction Services Inc. (CSI) responsible for construction of new sewerage and drainage systems of UDC / Drainage Enterprise No.5 for District 9,12, Hoc Mon, Thu Duc and Cu Chi

UDC will reclassify the above-mentioned areas of HCMC at the year of 2001, increasing number of the drainage enterprises from 5 to 6. The present administrative classification is based on the district level, but which will be changed into that based on the drainage basins.

- No.1: Basin of Tan Hoa-Ong Buong-Lo Gom and Tan Hu Canal composed of District 6, District 11, and part of District 5
- No.2: Basin / catchments of Doi-Te-Tau Hu composed of District 4, 7, 8, Binh Chanh, Nha Be and part of Tan Binh
- No.3: Basin of Nhieu Loc-Thi Nghe composed of part of District Phu Nhuan, part of District 1, part of District 3, and part of Tan Binh
- No.4: Basin of Tau Hu-Ben Nghe composed of District 10, part of District 3, part of

District 5 and part of District 1

- No.5: Basin of Tham Luong - Ben Cat-Vam Thuan + part of Nhieu Loc –Thi Nghe composed of District Go Vap, Binh Thanh, part of Tan Binh and part of Phu Nhuan
- No.6: North and east of the city composed of District 2, 9, 12, Thu Duc, Hoc Mon and Cu Chi

12.5.2 Sewerage and Drainage Company (SDC)

In the middle of October 2000, the PMU of the Project explained as follows their implementation program to the JBIC Appraisal Mission on the Project:

- As the results of the Feasibility Study, it is proposed to build a Sewerage and Drainage Company (SDC) through reorganization of UDC with the following new functions:
 - * Operate and maintain the new facilities,
 - * Plan the expansions of the facility capacity, and;
 - * Supervise the maintenance works of the systems of Level 4 and smaller.
- SDC has the following departments as shown in Fig. 12.3 for the newly added technical functions:
 - * Department of Technical Operation (DOTO)
 - * Department of Planning (DOP)

It is necessary for the Project to prepare the institutional program harmoniously with the other projects such as the Nhieu Loc – Thi Nghe (NLTN) Project by the World Bank. The appraisal mission of the NLTN Project reveals in November 2000 the memorandum of understanding, in which the following are the outlines:

- (a) UDC will not employ more staff to operate and maintain the wastewater pumping station and related infrastructure, but will instead enter into a contract with a management company that will be appointed on a competitive base.
- (b) UDC will also restructure itself by establishing the five maintenance groups as separate self-financing internal business centers, that will be required to operate within agreed internal operating contracts by 2002. By 2004, the maintenance group responsible for the NLTN basin will be separated from the company in order to compete for the work on a competitive basis. Two of the other four maintenance groups will be separated in a similar way by 2006 while the other two will remain in the company.

As for the above-mentioned outline, we prepare the following plan on the Project:

- (a) The Project will construct a large scale of a wastewater treatment plant with pumping stations while the NLTN will do a primary treatment facility such as the pumping station. We consider, the organization of the above-mentioned departments

in UDC is indispensable in the early years of the Project to operate and maintain such facilities.

The PMU of the Project also explained as follows to the JBIC Appraisal Mission their implementation program on the training and technology transfer:

- The following package for the training is now recommended to be optimal to the Project:
 - * Send core members to the existing training center for sewerage engineers neighboring Vietnam, for example to the Ayutaya center in Thailand, in addition;
 - * Rationalize the working procedures of the new company under experienced supervisors sent to SDC.
- As for the technology transfer:
 - * The persons who would receive the training course mentioned above could give the knowledge or know-how to the other staff.

We regard that it is more realistic to the Project in the early years in Vietnam to conduct the above-mentioned training and the technology transfer than the competitive-base management.

- (b) The sewer cleaning machines will be supplied to UDC in the Project. This supply could improve largely efficiency of the maintenance work thereof. It is realistic to plan the separating of the drainage enterprises on the self-paying basis said by the World Bank after enlarging or improving the capability thereof.
- The SDC is also demanded to manage maintenance of the level 4 sewers, which the District is now in charge of. Realistic procedures on the sewer maintenance would be further studied in the period of Detailed-Design Review (Review of D/D) starting at June 2001.

12.5.3 Organization of Head Office of SDC

SDC requires the organization to perform the following functions:

- Operation and Maintenance of New Facilities
- Planning for Expansions of Facility Capacity
- Supervision of Maintenance Works of Drainage and Sewerage Systems
- Related Commercial Activities
- Accounting and Financing
- Public Relation and Socialization, Administration, Placement, Development and Promotion of Human Resources

- (1) Department of Technical Operation (DOTO)

DOTO has staffs in charge of the following: Operation, Maintenance and Repair, Procurement and Storehouse, Laboratory and Management of Design and Construction.

- (a) Core members in charge of Operation, the Maintenance and Repair and the Laboratory are located at the head office in order to manage and plan the activities.
- (b) As for the Management of Design and Construction, the section would be responsible for management for the Facilities, the activities of CSI in the systems of Level 1 to 3, and the construction works of Level 4 by UPWE or CSI.

(2) Department of Commercial Operation (DOCO)

DOCO has staffs in charge of marketing, customer registration, and verifying the transaction amount and securing the database.

(3) Department of Planning (DOP)

DOP has staffs in charge of planning the Facilities, and the drainage and sewerage systems. It is not realistic that SDC has immediately the function of engineering, procurement and construction (EPC) of the expansions; therefore, the EPC activities might be committed to other companies in a contract base. The supervision of the maintenance works of the drainage and sewerage systems would be made in the procedures similar to that of UDC; therefore, DOP would be charge in the supervision.

(4) Department of Financial Control (DOFC)

DOFC has staffs in charge of the financial administration and cost control, and the accounting, handling the cash flow in the operation and maintenance activities.

(5) Department of Administration Support (DOAS)

DOAS has staffs in charge of the public and customer relations, the human resource administration and development, the supply and asset administration, and the general administration.

12.5.4 Organization located at New Facilities

SDC should arrange persons required for the operation and maintenance of the Facilities, under management of DOTO. Such persons are classified into the Drainage Group and the Sewerage Group as shown in Fig. 12.4. Fig. 12.5 illustrates number of staffs located at the new facilities for the Project.

(1) Drainage Group

The group would be responsible for Drainage Pumping Stations in Ben Me Coc (Ben Me Coc 1 and 2) and Thanh Da. The following plan is proposed:

- The Ben Me Coc 1 Station should be a main pump station.
- A senior station manager would be located at the Ben Me Coc 1.
- Each pumping station would have an operation team composed of a mechanical technician and an electrical technician.
- A maintenance team composed of a mechanical technician and an assistant would conduct the activities for all the stations in a patrol-inspection manner.
- The Ben Me Coc 1 Station would have an assistant manager in charge of administration works together with secretaries.

(2) Sewerage Group

The group would be responsible for the Wastewater Treatment Plant, THBNDT Wastewater Pumping Station and NLTN Wastewater Pumping Station.

1) Wastewater Treatment Plant

The plant would have the following sections under management of a plant manager and two deputy managers, one of which would manage technical groups and the other would administration.

(a) Operation Section would have the following members:

- The following members should continuously perform the tasks even in the nighttime: the sludge treatment / centrifugal thickening engineers, the dewatering engineers, the composting engineers, the water treatment engineer, and the sludge treatment engineer. Four teams are formed for the tasks and three batches out of the four run per day.
- In addition, a water treatment engineer and a sludge treatment engineer serve to watch and report the operation only in the daytime.
- Mechanical technicians would take measures or action against problems.
- Electrical technicians would take measures or action against problems.

(b) Maintenance Section is composed of mechanical technicians, electrical technicians, civil engineers, architectural engineers, and workers.

(c) Water Analysis Section is composed of analytical specialists and laboratory workers.

(d) Administration Section is composed of secretaries, drivers, and guardians. The staffs other than the secretaries are to be served by the third party on a contract base.

2) THBNDT Wastewater Pumping Station

The station would have the following sections under management of one station manager and one deputy station manager:

- (a) Operation Section is composed of the following:
 - Five operation teams are formed in three batches per day, where two teams would conduct the activities in the daytime and one team is in charge of operation of the glove bucket and removing the screenings.
Note: Transportation and disposal of the sludge by truck would be committed to the other companies.
 - Ten teams in three batches per day are arranged to be located at each water level alarm in order to control the inflow volume into THBNDT Wastewater Pumping Station.
 - (b) Maintenance Section is composed of a mechanical technician, an electrical technician, a civil / architectural engineer and workers.
 - (c) Water Analysis Section is composed of an analytical specialist.
 - (d) Administration Section is composed of secretaries, a driver, a guardian, and a janitor.
- 3) NLTN Wastewater Pumping Station

The World Bank would show the organization in detail in the future.

12.6 Activities during Construction, Required for Operation and Maintenance

This section describes the Vietnamese-side activities that are required during the construction period, aiming at securing the operation and maintenance.

12.6.1 Activities Required as Preparation for Running SDC

In the construction period the following activities should be prepared or performed. This paragraph does not mention the activities of the Contractors that are not related to the operation and the maintenance:

- Establish the organization for the operation and the maintenance
- Make preparation for smooth promulgation of the decision on the decision of No: 10/2001/QD-UB on implementation of sewerage-charge collection in HCMC, through the following:
 - * Review of real network of the sewerage that UDC should maintain
 - * Survey of some main areas to identify real problems that UDC should solve
 - * Survey of water-meters of objectives that connects to the common sewerage.

- * Survey of factories on the qualities and volumes of the discharge thereof
- * Survey of use of the underground water

DTPW will prepare a plan to implement the decision with WSC.

- Draw up the annual budget of UDC.
- Make up the policy to guide the following and preparing of a plan to promote it:
 - * Connection of private sewers and the sewerage system
 - * Installation of on-site / pretreatment facilities
- Forecast volume and qualities of the influent into the sewerage system.
- Prepare ledgers and manuals / inspections: the following paragraph explains the contents.

12.6.2 Preparation of Ledgers and Manuals / Instructions

It is necessary to maintain suitably the sewerage and drainage system with daily or scheduled inspection in order to prevent from deterioration of the performance or functions. Ledgers and reports are important for grasping fully the actual conditions of the system and for managing reasonably and effectively the system.

(1) Preparation of Ledger Forms

- Sewerage Ledgers: It is understood that UDC and UPWE carry out such activities in use of some kinds of the existing ledgers, which should be compiled for the use with a computer in the future. Such compiling will be helpful in a complaint procedure, conference with related authorities and collection of data required in the future troubles, by easier search and revision on the electronic data of the ledger. Historical data of each facility should be also compiled in sewerage ledgers for the future development plan.
- Pretreatment Facility Register: A pretreatment facility register should be furnished for each business establishment.
- Private Sewer Register: This register is prepared for grasping the private sewers.
- Register of Equipment / Facilities: This register is utilized for their management of office supplies, machinery, electric equipment and laboratory equipment are used in the system. Format of such register may exist.
- Register of Oiling: Proper and scheduled oiling secures the facility performances. The register is used for controlling of consumption of grease and lubricant and for management of the procurement.

(2) Preparation of Manuals or Instructions

SDC should rationalize the activities by preparing the manual or instruction for maintenance of the sewerage and drainage system, and the instruction or guideline for safety and hygiene

(3) Documents Supplied by Contractors or Consultants

(a) Manuals or Forms Supplied by Contractors or Consultants

Contractors or Consultants will prepare and supply the following whose contents should be completely studied by the Vietnamese side in the construction period:

- Operation Manual for Sewerage System
- Manual for Maintenance Cleaning Activities using New Equipment
- Manual for Scheduled Inspection
- Standard Table for Maintenance and Inspection
- Table for Scheduled Inspection
- Table for Inspection of Equipment / Facilities
- Tables or Lists for Use in Water Analysis
- List of Tools for Mechanical Use or Electrical Use

(b) Training Manual: describing procedures on how to conduct the training together with schedule sheet, training items, etc.

12.6.3 Public Relation and Socialization

(1) Introduction

It is the first time for the Ho Chi Minh City (HCMC) people to possess the wastewater treatment facilities and systems. The people are apt not to care how the discharge from their household is treated, since they consider that the sewerage is not indispensable to them in comparison with supply of water. In line with the Project promotion, the Project may include the following:

- Education of conservation of the city environment
- Advertisement of the performance and significance of SDC
- Evocation of willingness to pay for better environment
- Enlightenment on importance of conservation and protection of the valuable facilities and systems of the Project
- Education of the next generation for recognizing importance on citywide care for the environment

(2) Circumstances to Implement Activities

The Decision of No. 10/2001/QĐ-UB stipulates that DTPW is responsible to cooperate with Department of Pricing-Finance to organize the propagation to people.

DOSTE is currently in charge of the public relation and education on the environments and performs the activities every year for propaganda as a sanitation campaign to emphasize to the local people the importance to keep water qualities, on sanitary

activities.

(3) Organizations to Implement Activities

According to the interview meeting with PMU, the following are expected:

- PC HCMC will make decisions to instruct the people in the goals, the target audiences as well as to assign agencies to implement.
- PMU will make up a detail program on the procedures, places, fund and supervision.
- SDC and CITENCO will keep the human resources and the facilities and equipment to clean, transport of wastes.
- PC District's level also will jointly hold campaigns every moth for cleaning up.
- Training Education Department will make education in schools.

It would be necessary for DTPW to plan the above-mentioned activities harmoniously with the DOSTE activities.

(4) Functions of SDC

SDC could undertake the works only on the conditions clarifying the contents of the activities and the costs thereof. SDC should propose the propaganda program to DTPW if DTPW asks SDC to perform the works clarifying the contents.

(5) Target Audiences

It is important that the themes and messages be delivered to appropriate audiences- groups and individuals. The following table illustrates our evaluation on the target audiences in HCMC.

TARGET AUDIENCES OF PUBLIC RELATION AND SOCIALIZATION

	Target Audiences	Approx. No. of Audiences	Expected Effects or Explanation
1	District Leaders	10	Powerful – influencing. Very busy
2	Heads of Department and Agencies	100	Some of them are popular only.
3	Technical Specialists	80	Not very powerful by now
4	University Professors	100	Some are very popular, influencing.
5	Medical Doctors	200	Some are very influential, prestigious.
6	Business Leaders	200	Not very powerful
7	Construction managers and Developers	200	Not quite powerful
8	Environment Organization	20	Fairly popular
9	Public Health Organization	30	Popular
10	Community Association - Women Union - Elderly People Union - Veteran Union	100	Close relation with people Positive and active in the social affair and environment Ditto
11	Media Repetitive	20	Very popular and influential, reliable, having concerns for environment.
12	Civic Group	10	Partly popular
13	NGOs	10	Partly popular
14	Advisory to the Project		

(6) Physical Elements

The following table illustrates our estimation on costs for the physical elements:

OUR ESTIMATION ON COSTS FOR PHYSICAL ELEMENTS

Physical Elements	Specification thereof	Unit Price In VND
Brochures	A brochure composed of several colored pages	80,000
Newspapers	A description of a boxed item	1,500,000
A Logo	Metallic, painted with strong frame and columns, area of about 2 square meters.	2,000,000
Television Broadcasting	A short film of 20 minutes without skilled actors / actress	15,000,000
Radio	A broadcast of 15 minutes including reporter fee	3,000,000
Newspaper Reports	One article of 3,000 words	1,000,000
Incentive Course (Short)	A one week course including teacher's fee and miscellaneous stationary	2,000,000
Subsidizing for Volunteers to do Some social job	This is not the salary but only some expense like transportation, lunch, etc. per day	30,000

Note: Videocassette can be used for education to the people at the special events.

(7) Proposed Implementation

It is important to assign a talented person in charge of the Activities in the Project.

The following are our idea on implementation of the activities:

- Newsletters: Produced monthly, starting one year before collection of the charge,
- Brochures: Prepared by the commencement time of the facility operation (Operation Starting),
- Guideline for Water Quality Monitoring: Aiming at incentive to conserve water or control water use, prepared two month before the Operation Starting,
- Visiting Tours to the Facilities: Conducted monthly, starting at the Operation Starting, and;
- Media such as Newspaper, Radio and TV: Released at the charge collection, and at the Operation Starting.

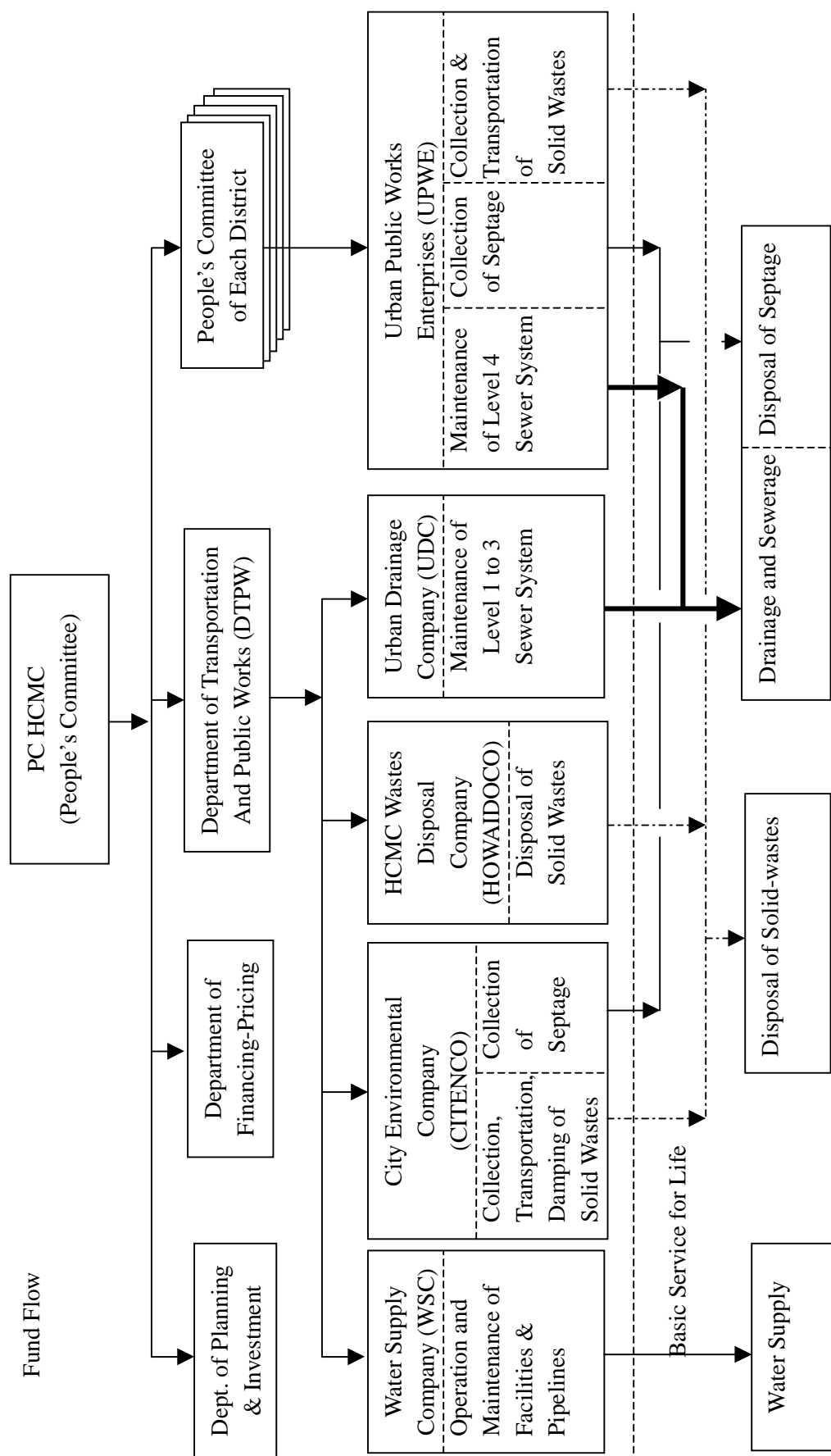


FIG. 12.1 FLOW OF BASIC SERVICES

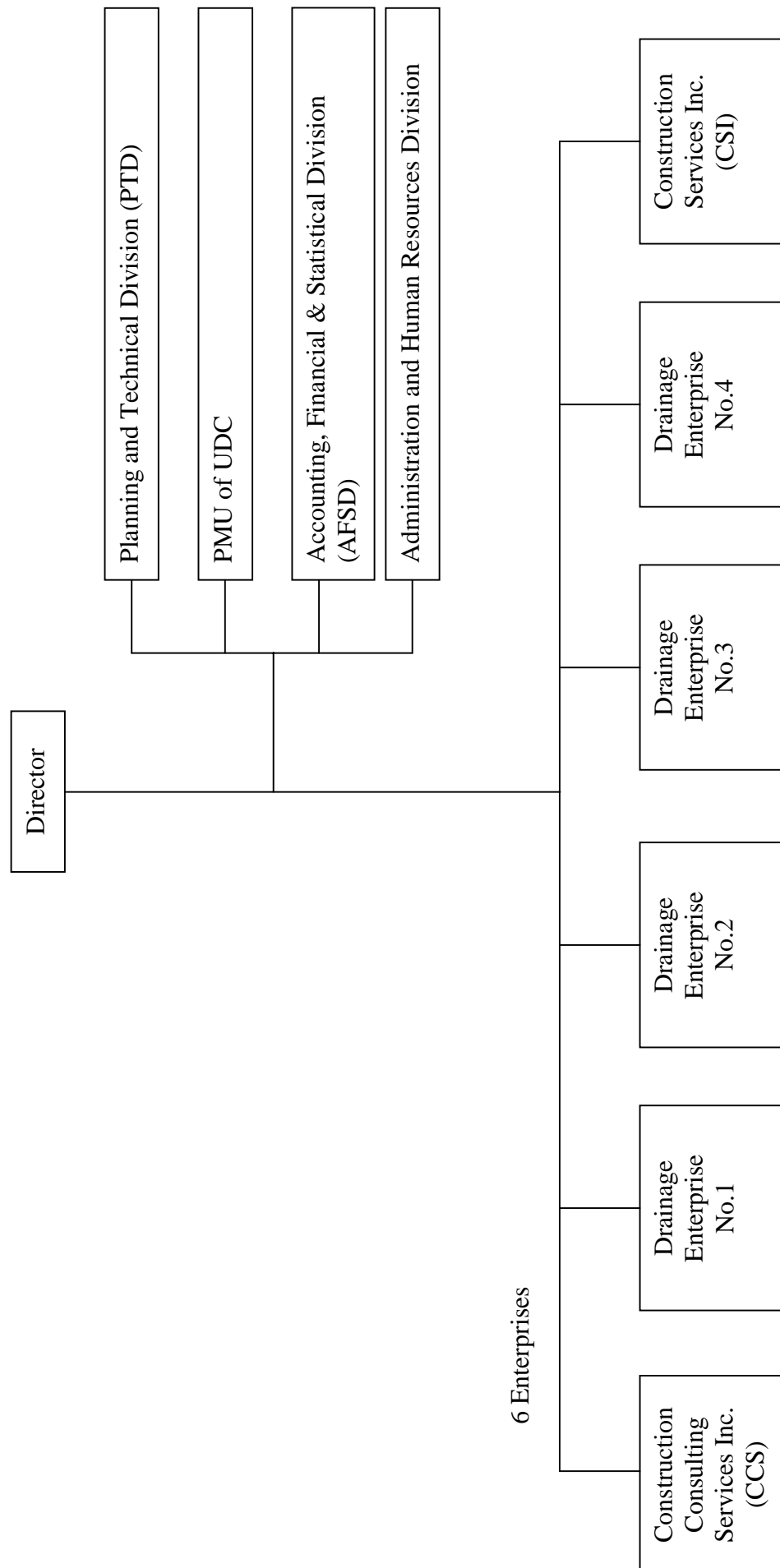


FIG. 12.2 ORGANIZATION OF URBAN DRAINAGE COMPANY (UDC)

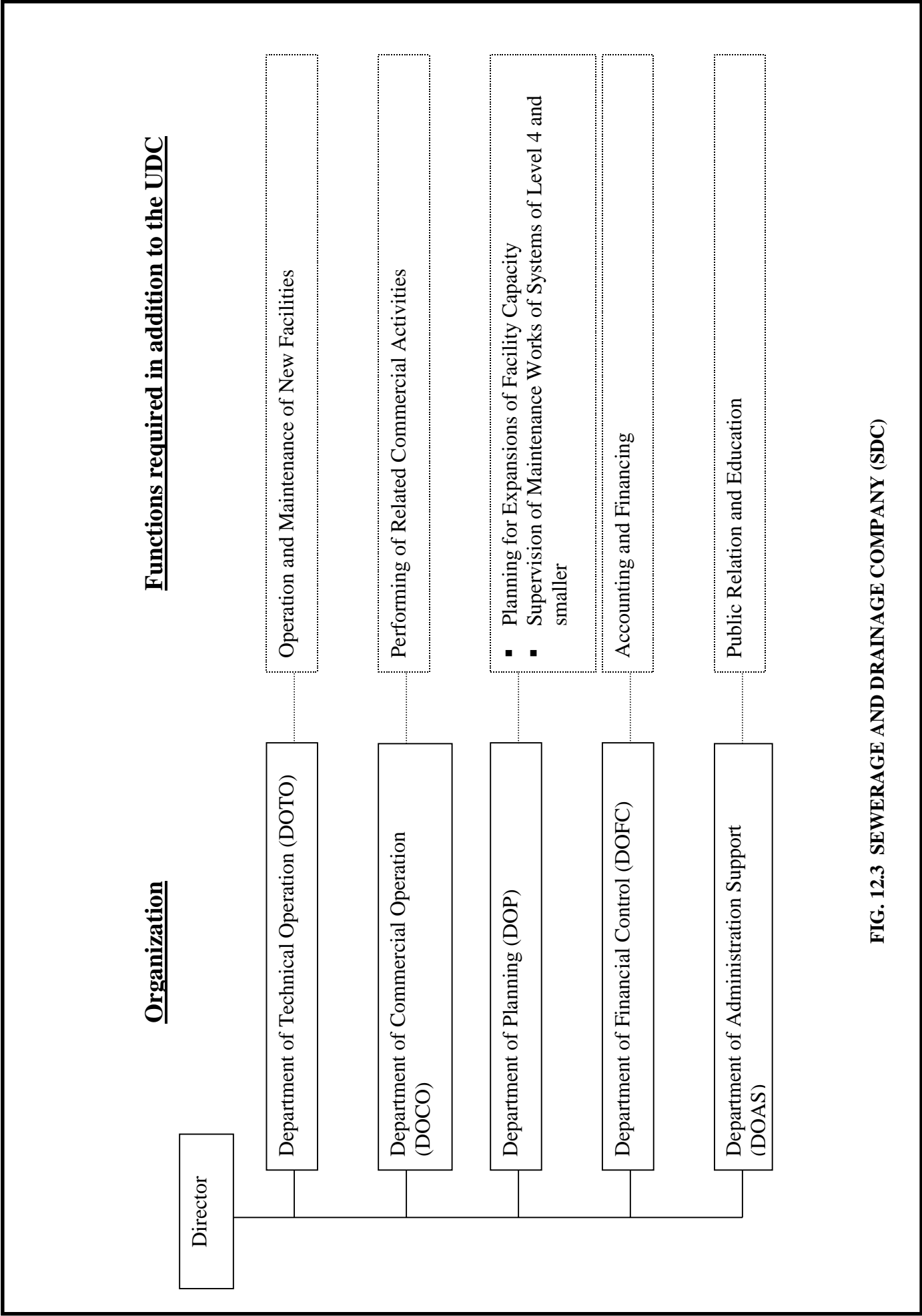


FIG. 12.3 SEWERAGE AND DRAINAGE COMPANY (SDC)

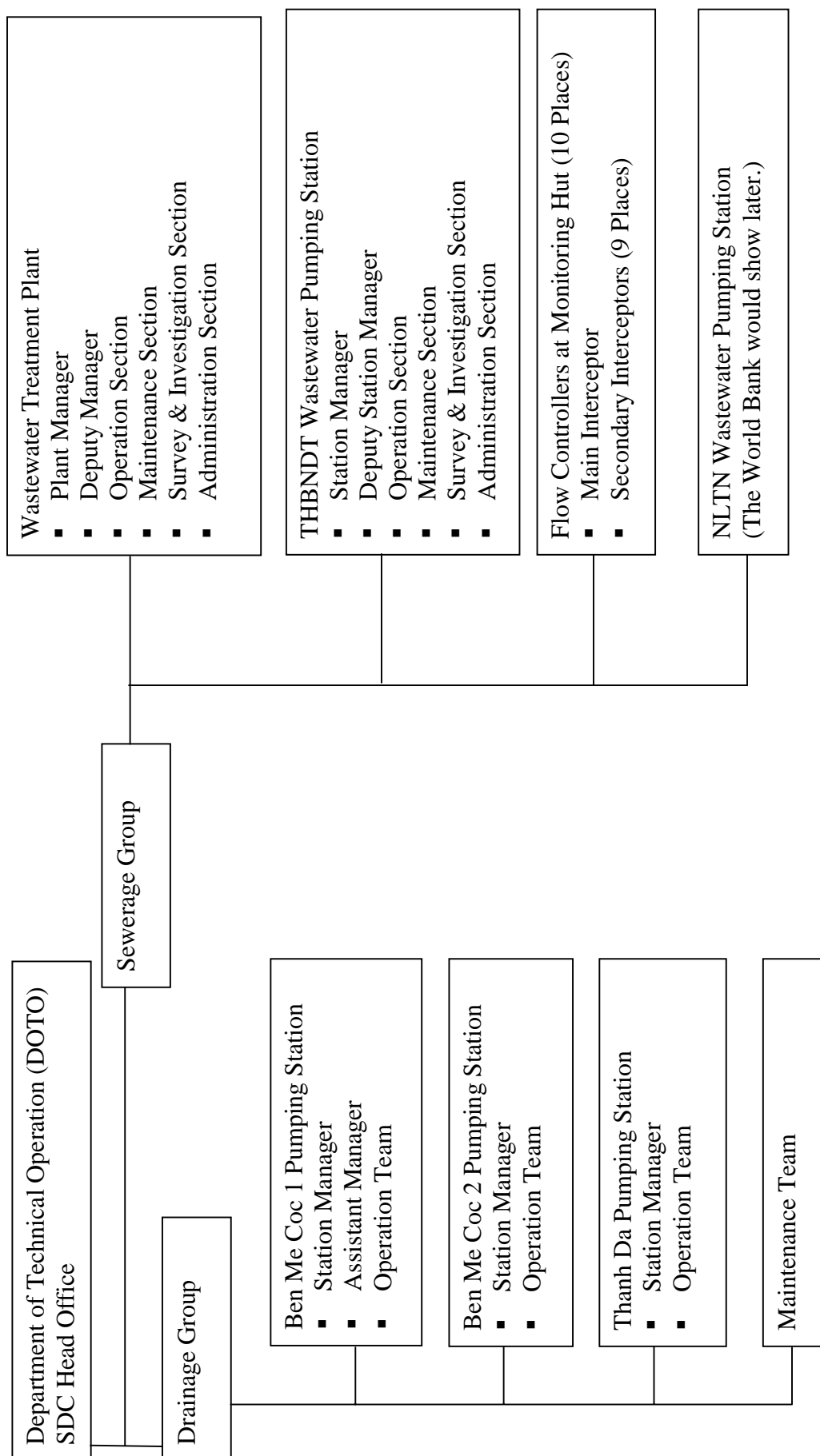


FIG. 12.4 ORGANIZATION FOR NEW FACILITIES

Note: This figure dose not include number for the NLTN Wastewater Pumping Station.

Department of Technical Operation (DOTO) SDC Head Office		Sewerage Group	
		Phase I	Phase II
		107	128
Drainage Group			
		Phase I	Phase II
		14	17
Ben Me Coc 1 Pumping Station		Phase I	Phase II
Station Manager		1	1
Operation Team		2	2
Administration Team		6	6
Subtotal		9	9
Ben Me Coc 2 Pumping Station		Phase I	Phase II
Operation Team		0	2
Janitor		0	1
Subtotal		0	3
Thanh Da Pumping Station		Phase I	Phase II
Operation Team		2	2
Janitor		1	1
Subtotal		3	3
Maintenance Team (Patrol)		Phase I	Phase II
Maintenance Team		2	2
Wastewater Treatment Plant		Phase I	Phase II
Plant Manager		1	1
Technical Dept. Manager		1	1
Operation Section		31	48
Maintenance Section		25	25
Water Analysis Section		6	9
Administration Section		9	9
Subtotal		73	93
THBNTD Wastewater Pumping Station		Phase I	Phase II
Station Manager		1	1
Operation Team		3	4
Subtotal		4	5
Flow Controllers at Monitoring Hut (10 Places)		Phase I	Phase II
Flow Controller		30	30

FIG. 12.5 NUMBER OF STAFFS FOR NEW FACILITIES