

## Chapter- 3

# Development Plan Proposal

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### 3.0 Introduction

In this Chapter of the Planning Report describes the development plan proposals. The Chapter starts with review upper level frameworks and ends with proposals set for development including some recommended policies.

### 3.1 Abiding by the Policy Frameworks of Higher Level Plans

In this section the upper level frameworks of the current plan that is DMDP Structure Plan and Urban Area Plan policy proposals have been discussed on sectoral basis.

#### Structure Plan Policies

The DMDP Structure Plan and Urban Area Plan (1995-2015) are the legally approved higher level planning frameworks of the current DAP project. In the following sections a brief review has been carried out on the policy guidelines of these two plans to establish a relationship between the higher level plans and the current detailed area plan.

#### Relevant Structure Plan Policies

- Rural and Special Area Policy RS/5 – Flood Retention Ponds control will be maintained over the areas in order to ensure that they remain capable of fulfilling their primary function of water storage at times of flooding.
- Urban Area Policy UA/7 Infrastructure Initiatives seek to promote, through the DMDP Structure Plan, an orderly sequence of new area development by means of mutually reinforcing and coordinated public sector investment programs, spearheaded by drainage, flood protection and transport development.
- Sectoral Policy SE/4 advocates for an integrated policy of the incremental environmental upgrading and relocation, where necessary, of Dhaka’s polluting industries, in a manner commensurate with sound environmental practice and cost-effectiveness.
- Infrastructure Policy IN/2 promotes for incremental network development in the transport sector in order to conserve resources and being responsive to proven demand for the service being offered.
- Land Resource Optimization Policy UA/1 advocates adjusting expected increase of population and the need to maintain and develop a healthy and stimulating urban living environment, it is necessary to optimize the use of limited land and more effectively utilize the existing flood free areas of, urbanized land.
- Community Based Development Initiatives Policy UA/3 suggests to enhance access to land with secure tenure, and to affordable and appropriate levels of infrastructure and social community services provision for an increasing majority of the population.

#### Urban Area Plan Recommendation

**SPZs** were designed by dividing the entire Structure Plan area for the purpose of planning. The current planning area of Location-2 falls in SPZ-04 of the Structure Plan. It is only a part of SPZ-04. Following are the DMDP observations an SPZ-04.

#### SPZ- 4: WESTERN SUBURB

Year	Population	Density (ppa)	Urban Area (acres)
1991	899,000	251	5270
2006	1,760,000	333	

*Source: DMDP Urban Area Plan, Vol-II, p#50*

#### Description

This zone is referred to as the western suburb of Dhaka and is divided into several sub-zones. North-east (Lalmatia and Mohammadpur) part of the zone may be considered as planned residential and mid-east (Rayer Bazar and Hazaribagh) as spontaneous residential. About 84 acres of land of Hazaribagh area is used for noxious tannery

industry. In the south, Kamrangir Char is a fast growing low income area with slum type development. The Sheorapara and areas of west Shamoli Ring Road are developing as spontaneous residential areas. There are large concentration of slums on the western embankment and north of Agargaon. BNP bustee is one of the city's largest.

### Major Issues and Problems

- The Western Suburb contains a number of slum squatter and spontaneous settlements.
- The areas are commonly referred to as Sheorapara, Rayer Bazar, Hazari bagh, BNP bustee, Kamrangir Char.
- Development west to Shamoli Ring Road (Adabar) in fact encroach into the Kallyanpur retention pond area, which reduces the affectivity of the pumping station and therefore may result in flooding elsewhere.
- Slum dwellers occupy the western embankment.
- Kamrangir Char is not protected against major external floods.
- Some construction, especially a private medical college, have been erected in the flood plain west of the western embankment.

### Opportunities

- There are patches of rural land in the zone which can be developed as planned urban area.
- Relocation of Hazaribagh tannery area would provide a substantial area for urban development and help to improve the environment.
- Kamrangir Char provides substantial land area close to existing urban core for development.
- Lalmatia, Mohammadpur and areas of new development have potential for densification.
- Sheorapara and Agargaon areas provide substantial land for future development.
- Upon implementation, the FAP-8B project will solve most drainage problem of the zone.

### Action Committed/Required/Recommended

- Development of Kamrangir Char should be regulated and steered to planned developments. A Detailed Area Plan to steer development in a prepared manner should be taken up and the area should be brought under Dhaka City Corporation. The Detailed Area Plan should include schemes to:
  - a) accommodated middle and low income people in planned residential neighbourhoods;
  - b) improve existing areas through community based development and government participation;
  - c) provide protection against external floods (embankments & retention pond).
- A Detailed Area Plan is needed for Hazaribagh tannery area and for development of this area when tanneries will be shifted to a new location.
- Action is needed to preserve the physical integrity of the Kallyanpur retention pond area. development in the area should be stopped and (unauthorized) construction be removed.
- Construction of a road on the western embankment should be considered to provide another access from the west to the old city area of Dhaka.
- Geneva camps should receive additional services to improve the living environment.
- The zone needs a sub area supplemented by a number of community action plans for the slums, the squatter settlements and new spontaneous areas. Detailed Area Plan should include access, assessment of utility requirements and their delivery alternatives.
- Development management mechanisms should be made effective to maintain flood plain west of the flood protection embankment free of development.

## 3.2 Planning Principles and Standards

### 3.2.1 Guiding Principles

Proposed land uses for the project area has been prepared on the basis of following principles:

- Environment friendly sustainable development of the area.
- City function to develop as per major land use zones.
- Effective drainage through minimum hindrance to Flood Flow zones.

- Safe residential areas at proximity to place of work or major communication routes.
- Smooth and effective functioning of industries, specially export oriented industries.
- Safe yet faster connectivity.
- Develop to serve the surrounding hinterlands.

### 3.2.2 Design Principles and Standards

The DMDP the Urban Area Plan (UAP) report in its Section 1.2.8 (Page 12) recommended some planning standards and principles. These standards and principles have been recommended in conjunction with planning rules. The planning standards however, address only the community services, while the principles and rules cover wide areas of issues. In defining planning standard the UAP report states, " *Planning standards define the target levels of publicly funded community provision needed for achieving minimum public health, education, safety, leisure and cultural levels, plus a few other essential urban services.*" Before preparing the standards the DMDP experts considered the following issues:

- national goals, targets and practice;
- cultural practice;
- climatic conditions;
- resources likely to be available;
- competing demands for use of, and cost of land;
- flexibility to allow incremental improvement;
- simplicity of application and use.

### Standards for Community Services

The following are the recommendations of the DMDP Urban Area Plan (UAP) about community services:

**Table-3.1: Standards for Provisions of Community Services**

Type of Service	Number of Area Inhabitants served Per Unit	Surface Area Needed per Unit	Remark
Primary School	15000	1 acre	<ul style="list-style-type: none"> <li>• 'ideal' standard is 1 per 7000; present situation is 1 per 220000.</li> <li>• 16% primary schools are government schools;</li> <li>• the 1 acre surface includes playgrounds;</li> <li>• can also be double shift / dual use.</li> </ul>
Secondary School	23000	2 acres	<ul style="list-style-type: none"> <li>• the surface area includes playgrounds.</li> </ul>
College	-	-	<ul style="list-style-type: none"> <li>• Threshold number of students and area of land to be defined case by case</li> </ul>
Playground	Double usage of primary and secondary school yards.	-	-
Park	25000	4 acres	<ul style="list-style-type: none"> <li>• Larger parks may serve larger number of inhabitants.</li> </ul>
Graveyard	Ward basis	Minimum 5 acres	-
Neighborhood center	Ward basis	0.30 acre	-
Health post	Ward basis	-	-
Welfare centre	Ward basis	-	<ul style="list-style-type: none"> <li>• Also included in community center</li> </ul>
Hospital	-	-	<ul style="list-style-type: none"> <li>• To be determined in a case by case basis</li> </ul>
Markets	Ward basis	-	
Police/Fire Station	-	-	<ul style="list-style-type: none"> <li>• To be determined in a case by case basis.</li> </ul>

**Source:** DMDP Urban Area Plan, 1995.

Planned development ensuring community's active participation is the key to successful transformation of today's Dhaka into tomorrows adorned green Dhaka. Keeping that vision in mind, DAP Consultants developed an optimum standard for the amenities and community facilities that the city dwellers deserve (**Table- 3.2**).

**Table-3.2: Facility Standard at Neighborhood Level**

Sl.	Name of the Facility	Quantity		Area		
		Min.	Max.	Minimum for Unit Facility	Sub Class Total	Class Total
		(No.)	(No.)			
1	Primary School(Public or private)	2	3	1 Acre		3
2	High School(Public or private)	1	2	1.5 Acre		3
3	Open space			10 Acre		12
	i) Park/children's park	1	2	0.3 Acre	1 Acre	
	ii) Water body/ Canal/Pond	As per Planner		1.5 Acre	6 Acre	
	iii) Play field	2	3	1 Acre	3 Acre	
	iv) Green/Vegetation/Water Front	As per Planner		0.5 Acre	2 Acre	
4	Mosque and Maktab/ Worship Places	2	3	0.2 Acre		0.6
5	Library(central)	1	1	0.1 Acre		0.2
6	Services			0.3 Acre		0.5
	i) Dentist/Doctor's Chamber	2	3	40 sq.m	120 sq.m	
	ii) Beauty Parlour	1	2	50 sq.m	100 sq.m	
	iii) Laundry	2	3	16 sq.m	50 sq.m	
	iv) Hair Dresser	2	3	12 sq.m	40 sq.m	
	v) Cyber Café/Internet service provider	1	2	50 sq.m	100 sq.m	
	vi) Photocopy / mobile / land phone / fax	2	2	12 sq.m	40 sq.m	
	vii) Computer based (word processing, printing etc) services	1	1	30 sq.m	30 sq.m	
	viii) Motor bike Repair, vulcanising etc.(optional)	1	1	50 sq.m	50 sq.m	
	ix) NMT repair service (Rickshaw, bicycle etc)	1	2	30 sq.m	60 sq.m	
	x) Post Office / Courier Services	1	2	20 sq.m	40 sq.m	
	xi) Sports / Recreational facilities(games, indoor games etc)	1	2	50 sq.m	100 sq.m	
	xii) Rickshaw/Auto stand (General)	2	4	100 sq.m	400 sq.m	
	xiii) Restaurant, Tea bar, Fast food	2	4	10 sq.m	100 sq.m	
	xiv) Tailoring	1	2	20 sq.m	40 sq.m	
7	Solid waste transfer station(may also small scale processing)	1	1	0.5 Acre		1
8	Utility Facilities					1*
9	Neighborhood Co-operative Office Complex			0.33 Acre		0.5
	i) Offices	2	4	15 sq.m	60 sq.m	
	ii) Committee rooms	2	3	40 sq.m	120 sq.m	
	iv) Community Club including indoor games (male and female)	2	2	200 sq.m	400 sq.m	
	v) Cultural Facilities (Rehearsal, Music room etc)	1	2	30 sq.m	60 sq.m	
	vi) Community Police Barrack	1	1	40 sq.m	50 sq.m	
	vii) Technician Service (Electrical, Plumber, AC, Freeze etc.)	2	4	25 sq.m	100 sq.m	
10	Community Hall	1	2	0.33 Acre		0.5
11	Shops			0.33 Acre		0.5

Sl.	Name of the Facility	Quantity		Area		
		Min.	Max.	Minimum for Unit Facility	Sub Class Total	Class Total
		(No.)	(No.)			(Acre)
	i) General store	3	4	25 sq.m	100 sq.m	
	ii) Grocery	4	6	25 sq.m	150 sq.m	
	iii) Stationery	2	3	25 sq.m	150 sq.m	
	iv) Confectionary / Bakery	2	3	25 sq.m	80 sq.m	
	v) Department Store**	1	2	100 sq.m	200 sq.m	
	vi) Medicine Shop	2	3	25 sq.m	80 sq.m	
	vii) Sweet Meat Shop	2	3	25 sq.m	80 sq.m	
	viii) Book / Newspaper Stall	2	3	10 sq.m	30 sq.m	
	ix) Fresh Corner (Vegetable, fish, meat, egg, chicken etc.)	2	3	12 sq.m	40 sq.m	
	x) Fruit Shop	2	3	10 sq.m	30 sq.m	
	xi) Flower Stall	2	2	10 sq.m	30 sq.m	
	xii) Gift shop	1	2	10 sq.m	30 sq.m	
<b>Total Area for the Neighborhood Facilities</b>				<b>22.8 Acres (approx.)</b>		

**Source:** Proposed by the Consultants

\* May be added as per decision of the Nagar Unnayan Committee under New use category

\*\*Area under Departmental Store shall be calculated on the basis of the spaces allocated against one of the corresponding services in this table (cumulative area)

Urban residential zone shall be developed in neighbourhood concept with following approximate standard that will be free of thorough traffic.

Gross area of neighbourhood : 50 acres [approx.]. It may vary depending on the population density of the planning area.

Gross density : 225 to 250 persons per acre.

### Dhaka Metropolitan Building Construction Rules, 2008

For control of building construction the Building Construction Rules 2008 (under Section 18 of EBBC Act 1952) and the Building Code 2006 will be followed.

### Standards for Road

On review of Structure Plan and other standards DAP consultants proposes the following revised road standards for Detailed Area Plan:

**Table - 3.3: Proposed Road Standard for DAP Area**

SL No.	Road Category	Type	Built-up Area	Less Built-up Area
			ROW (Ft)/M	ROW (Ft)/M
1	Primary Road	Type-1	80 (24.39)	170 (51.83)
2	Primary Road	Type-2	80 (24.39)	130 (39.63)
3	Primary Road	Type-3	80 (24.39)	100 (30.49)
4	Secondary Road	Type-1	60 (18.29)	80 (24.39)
5	Secondary Road	Type-2	40 (12.0)	60 (18.29)
6	Tertiary Road	Type-1	40 (12.0)	40 (12.0)
7	Tertiary Road	Type-2	30 (9.19)	40 (12.0)
8	Access Road	Type-1	24 (7.32)	30 (9.19)
9	Access Road	Type-2	20 (6.10)	24 (7.32)

**Source:** Proposed by Consultants

### 3.3 Preferred Development Strategies

Hydrological issues predominated the reasoning regarding the ways to develop the study area so near to the heart of the vibrant capital city. All the higher level plans and studies carried out at varying point of time converged to the same conclusion that the vital contribution of this low lying area bounded by rivers as main Flood Flow and Sub-Flood Flow zones allowing excess flood water to pass over it, must not be obstructed by any development. Despite this unanimous expert cautions, the area is experiencing a tremendous development pressure. DAP consultants for the study area has tried to work out an effective strategy to address the later with acceptably low obstruction to the flood water to pass through. The strategies adopted for current planning exercise are as follows:

#### 3.3.1 Drainage

- Non-continuous smaller rural settlements above flood level surrounded by ample low lying areas (agriculture, sub-flood flow, main flood flow) allowing uninterrupted flow of water to pass through.
- Minimize obstruction of flood water as is practicable.
- Appropriate connectivity by roads having sufficient openings to ensure needful flow of water across them as well as uninterrupted traditional water based connectivity by keeping appropriate navigation clearance at the bridges. This would help maintain the biodiversity of the area and contribute to sustainable environment in turn.

#### 3.3.2 Residential Development

- Subdivide Residential Landuse Zone based on the potentiality, trend and opportunity.
- Adopt Neighborhood concept for new residential developments and for need assessment of community facilities.
- Avoid through traffic and heavy vehicles within the neighborhoods.
- Provision of adequate footpaths should be ensured for ease movement of residents.
- Ensure community facilities and services of appropriate scale at neighborhood level.

#### 3.3.3 Industrial Development

- Ensure provision of central effluent treatment plant in case of industrial clusters.
- Ensure own treatment plant in case of individual facilities.
- Prohibit high hazard industries within the area.
- Relocate industries from predominantly residential zones in phases.
- Heavy and Polluting industries which are already located in urban residential zone have been shifted to the proposed industrial zone and its use would be shown as non conforming.

#### 3.3.4 Mixed Use Development

- Relocate Noxious and heavy industries [red category as per DoE] to Heavy Industrial Zone within as soon as practicable, if any.
- Allow the red industries to maintain their status under strict abiding conditions until shifting.
- Ensure adequate safety and security of the people especially of the families residing in such mixed zones.
- Provide sufficient quantity of wide and safe footpaths to use.
- Provide zebra crossing for road crossings instead of over bridge to ease the lives of major portion of low income workers likely to traverse on foot to reach their likely abode in the busy town.
- Ensure adequate utility services to ensure uninterrupted production.

#### 3.3.5 Transport and Connectivity

- Provide safe, adequate and comfortable pedestrian paths.
- Provide appropriate and effective public transport routes with sufficient number of quality public transport to carry passenger.
- Grade separation of National and Regional Highways from the local main roads, the latter being at grade and other two above grades.

**3.3.6 Flood Flow Zones**

- Strictly preserve the zone area as per the higher level plans and DAP.
- Promote agricultural and passive recreational use of the area during dry season.

**3.3.7 Non-urban Areas**

- Strictly preserve agriculture land from conversion into non-agricultural use.
- Promote traditional waterways in the low lying areas by constructing sub-merged road for dry season connectivity.
- Promote rural characteristics in the isolated homesteads keeping mandatory buffer to make way for the flood water pass through.

**3.3.8 Water Body and Open Spaces**

- Strictly protect canal networks as per DAP.
- Make Provision for open spaces and water body at the neighborhood level.
- Strictly protect the riverfronts and open it to city dwellers for serene passive recreation.
- Make city scale open space with easy accessibility especially for people of densely populated areas with meager scope for open space.

**3.3.9 Amenities and Community Facilities**

- Consider neighborhood concept of residential development for estimating community facilities and amenities requirement.
- Prohibit construction of religious structure unless built on its own land.
- Relocate unauthorized religious structures from road right of way to safe guard greater interest of the people specially the city dwellers.
- Evacuate unauthorized structures and uses from road right of way to safe guard greater interest of the people specially the city dwellers.
- Close/relocate existing schools with highly inadequate class rooms, play field and essential facilities and gradually replace with standard one, one per 12000 populations per acre [approx. 50 acres].

**3.3.10 Water Supply**

- Private extraction by tube wells may continue in non-municipal areas where there is no piped water supply.
- In the long run, to make the supply sustainable projects may be undertaken to procure river water and supply after treatment.
- Restriction on private extraction may strictly be imposed in municipal areas.
- Recycling of treated wastewater with separate lines for potable water and recycled water. For this, dual pipe supply system has to be introduced in a phased manner in all the areas.
- Ground water recharging through rain water harvesting, conserving water bodies and controlling groundwater extraction. Groundwater extraction is to be controlled through registering boreholes and recharging according to test yields. Ground water management is to be enforced by concerned agency.
- Focused planning and action will be required to be taken to prepare and implement rain water as roof water harvesting schemes both with the aim of optimizing water use and ground water recharge. For this suitable mandatory provision is to be made for planning and construction of various schemes.
- The planning should fit together watershed management, and arrest the run-off. It should ensure the conservation of natural valleys, water bodies and aquifers. The concepts of 'zero run-off drainage', with retention ponds, sediments traps and balancing lakes should be adopted, with a segregated wastewater disposal system. A green network overlapping the blue network would protect the ecology of aquifers, and also provide a pleasant environment. Simple methods of site planning, which incorporate porous/semi permeable paving, drop inlet/down pipe, sediment trap, retention ponds, etc. will contribute in maintaining ground water table.
- One of the prime objectives of development should be to improve the quality of river-water, to secure its continuous flow and to encourage the return of aquatic life. This needs improvement of drainage, waste

water treatment and pollution abatement by sewerage improvement. The surplus water during the monsoons should be retained in balancing ponds along the riverbed rather than allowing it to the downstream areas.

- Where the hazard of pollution exists, the minimum charge for operating permits should cover the expenses of adequate policing and controls. Mandatory performance bonds and liability insurance should pay for all damages plus any corrective measures, which might be needed. As a governing rule, no new development, manufacturing, process or operation of any polluting activity should be permitted, which may result in the significant degradation of any water resource.
- The drains and waterfront can be landscaped in the form of interconnected parkways. There is no need for elaborate gardening of the greenways, but wild, simple and natural stretch by itself would be ecologically important. Such trails could be one of the cheapest forms of drainage and recreation.
- Water supply in new areas should incorporate separate lines – one for washing, water coolers and garden taps, the second for supplying potable water. All non-residential buildings having a discharge of over 10,000 litres a day should incorporate a wastewater recycling.

#### **3.3.11 Electricity**

- For all establishments with floor area of more than 500 sq m, solar energy should be encouraged.
- Compulsory Solar Panels for public advertising, lighting in open areas, public utilities, streets, etc.
- As alternate mandatory arrangement during power cuts to replace generators/inverters etc.
- Adoption of Load Management Technique.
- Tariff restructuring and improved metering arrangement to minimize power thefts/losses.
- Private Sector Participation in different stages of Power generation, transmission and Distribution;
- Incentivising energy savings and use of energy efficient gadgets.
- Public awareness, capacity building and training.

#### **3.3.12 Gas Supply**

- Explore possibility of use of gas in cylinder for domestic purposes

#### **3.3.13 Conservation of Monument and Heritage**

Built heritage of planning area needs to be protected, nourished and nurtured by all citizens and passed on to the coming generations. It is suggested that with the aim of framing policies and strategies for conservation, appropriate action plans may be prepared by all the agencies. These should include promotion of conservation of the civic and urban heritage, architecturally significant historical landmarks, living monuments, memorials and historical gardens, riverfront, city wall, gates, bridges, vistas, public places, edicts and the ridge. Listing of Heritage Buildings based on the following criteria:

- (a) The age of the building;
  - (b) Its special value for architectural or cultural reasons or historical periods
  - (c) Its relevance to history
  - (d) Its association with a well-known character or event
  - (e) Its value as part of a group of buildings
  - (f) The uniqueness of the building or any object or structures fixed to the building or forming part of the land and comprised within the cartilage of the building.
- Prepare guidelines for development, redevelopment, additions alterations, repairs, Renovations and reuse of the heritage buildings.
  - These places of interest must be marked in the map for preservation by the Department of Archaeology, Tourist Corporation and RAJUK for national interest.

#### **3.3.14 Environmental Management**

- Grouping of Hazardous Industries
- Establishment of Common Effluent Treatment Plant

- Adoption of Neighborhood Concepts for New Residential Development
- Waste Water Treatment Plant

### 3.3.15 Supporting the Surrounding Hinterland

- Easy accessibility from the surrounding hinterlands especially to the growth centers.
- Ensure facilities such as cold storage, wholesale/retail market facilities for needful commodities (fertilizer, insecticide, agro-machineries etc.) and shopping centers of regional standards to support population living in the surrounding hinterlands.

## 3.4 Major Infrastructure Proposals

Among the vital infrastructure supports required for the smooth functioning of urban life, the foremost is the accessibility. The physical interpretation of this requirement is an effective road network having a range of roads with proper hierarchy starting with major traffic arteries, connectors, distributors and finally down to access roads. Almost always these road networks physically house other vital utilities of urban life – electricity, tap water, gas, sewerage disposal, storm water drainage and so forth so that the households and their facilities can be brought under their services. This calls for careful planning of the road sections off-setting the perennial cutting of urban roads causing tremendous misery which every citizen is aware of.

In the current section the consultant sets down the approach to providing major infrastructure and services in the project area in the light of policies expressed in the DMDP and other relevant documents. Apart from review of the Structure Plan and Urban Area Plan it also considers Strategic Transport Plan (STP) Project proposals and makes evaluation of the existing conditions about infrastructure and services in the project area

### 3.4.1 Transport

Seven secondary roads have been proposed for the planning area linking its various parts and with the main city. These roads will also be linked with the embankment cum road.

**Map-3.1** shows the new road development proposal and widening of existing narrow roads.

### 3.4.2 Utility Services

#### Sewerage and Drainage

For storm water drainage and household wastewater drainage Dhaka WASA needs to extend its services to the project area through extension project. It is expected that on site septic tank system will continue for sewage disposal, but DWASA should initiate project to integrate the larges areas of the city into its existing sewerage system, that covers only about 20% of the city area presently.

Though the watercourses in the project area are the paths of discharging flooding water accumulated in the core areas of the city, the natural water courses are important resources and therefore, must be protected them from destruction. Land grabbers in many areas fill Khals indicated in CS mauza map. Attempts must be taken to re-excavate those khals by them. **Map-3.2** indicates the proposed natural drainage network of the project area that needs preservation.

## 3.5 Amenity and Urban Facility Proposals

Urban basic services in the project area are to be provided by the service giving agencies engaged in Dhaka city. The services like, water will be task of Dhaka WASA, and power will be provided by the DESCO, Gas by TITAS Gas Co. There are several private sector telephone companies (including mobile) to provide telephone services including the new reorganized public sector telephone company, the Bangladesh Telecommunication Company Ltd. The public sector service agencies will promote services in the new areas through extension projects.

#### Parks and Playground

Two playgrounds and a large water based recreational park have been proposed in the planning area. The water based park is located in Kalunagar and Enayetpur area. The playgrounds have been placed in Nabab Char and Dakshin Sonatangor. About 47.20 acres of land have been earmarked as open space.

### 3.6 Description of the Plan

**Table- 3.4** and **Map-3.3** shows the proposed land use zoning of Location-2 area.

#### a. Urban Residential Zone

About 914.07 acres of land which is 62.76% of the total area have been delineated as residential use (**Table-3.4**). This includes existing residential areas as well as potential residential areas to accommodate future population of the planning area with an average density of 440 persons per acre.

#### b. Open Space/ Recreational Area

The project area has extremely low level of formal recreational area. The proposed recreational area covers the parks, play fields and the existing open space areas like, graveyard etc. The total land use estimated under recreational area stands at 47.20 acre, which is 3.24% of the total area (**Table-3.4**).

#### c. Water body

Water body includes all categories of land that permanently hold water or are used for retention of water. These include pond, khal, river and other water bodies. The consultant has delineated 138.40 acres of land as water body, which constitute about 9.50% of the project area (**Table-3.4**).

**Table- 3.4: Proposed Land Use Statistics of the Study Area**

Sl. No	Landuse Category	Area in Acres	Area in Hectares	%
1	Urban Residential Zone	914.07	369.91	62.76
2	Water body	138.40	56.01	9.50
3	Proposed Road Network	118.35	47.89	8.12
4	Overlay Zone	86.20	34.89	5.92
5	Flood Flow Zone	72.74	29.44	4.99
6	Transportation & Communication	67.12	27.16	4.61
7	Open Space	47.20	19.10	3.24
8	Mixed Use Zone (Residential-Commercial)	12.51	5.06	0.86
9	<b>Total</b>	<b>1456.57</b>	<b>589.46</b>	<b>100.00</b>

*Source: Proposed by consultants*

#### d. Road and Transportation Facilities

Estimates show about 185.46 acres of land have been reserved under the existing and proposed road network. This constitutes about 12.73% of the planning area. About 118.35 acres of additional land would be required for the implementation of road development proposals.

#### e. Flood Flow Zone

Flood flow zone refers to areas that are subject to flooding during monsoon. Significant amount of land has been earmarked for flood flow zone to continue the flow of water in the project area. Areas of about 72.74 acres have been designated as flood flow zone, which is about 4.99% of the total project area (**Table-3.4**). All developments other than agriculture, fisheries, roads etc. are strictly restricted here.

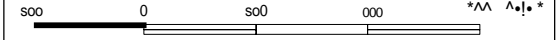
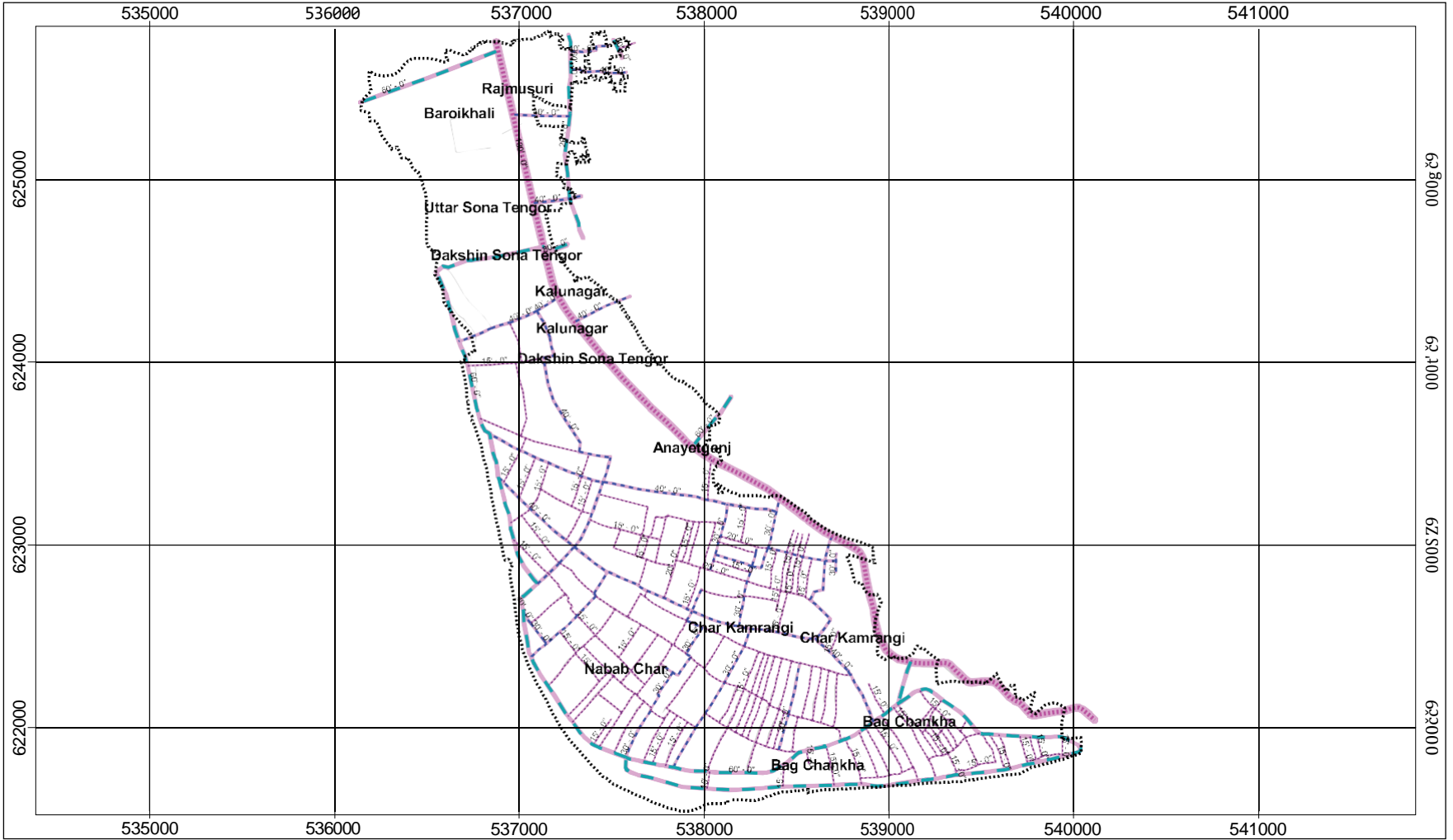
#### f. Overlay Zone

The total land under overlay zone has been earmarked as 86.20 acres which is about 5.92% of the project area (**Table-3.4**). Proposed Sewerage Treatment Plant of Dhaka WASSA in Uttar Sona Tengor mauza with an area of 68.01 acres have been shown as overlay zone in planning map, while Sikhder Medical College has also been earmarked as overlay zone. Besides, overlay zone includes graveyard, pump station, electricity supply establishments, etc.

### **3.7 Integrated Planning Map**

All development proposals have been integrated in this planning map. This planning map gives a picture of the integrated plan with various development proposals of the project area. The proposals include urban residential area, mixed use and industrial zone, water retention area etc. Integrated plan map has been presented in **PART-X** in separate **Folder**.

PKlgPOSEBgDBABB€Bg f€ Ig1 ¥B ¥ CEQOA¥10@N2 2 AREA



1:30000

LEGEND

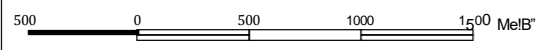
- Study Area Boundary
- Proposed Road (ROW in Feet)
  - 12 - 24
  - 30 - 50
  - 60 - 80
  - 130
- Existing Road
- Proposed Road

Detailed Area Plan for DMDP Area (Location - 2)

535000 536000 537000 538000 539000 540000 541000



535000 536000 537000 538000 539000 540000 541000



1:30000

LEGEND

Study Area Boundary

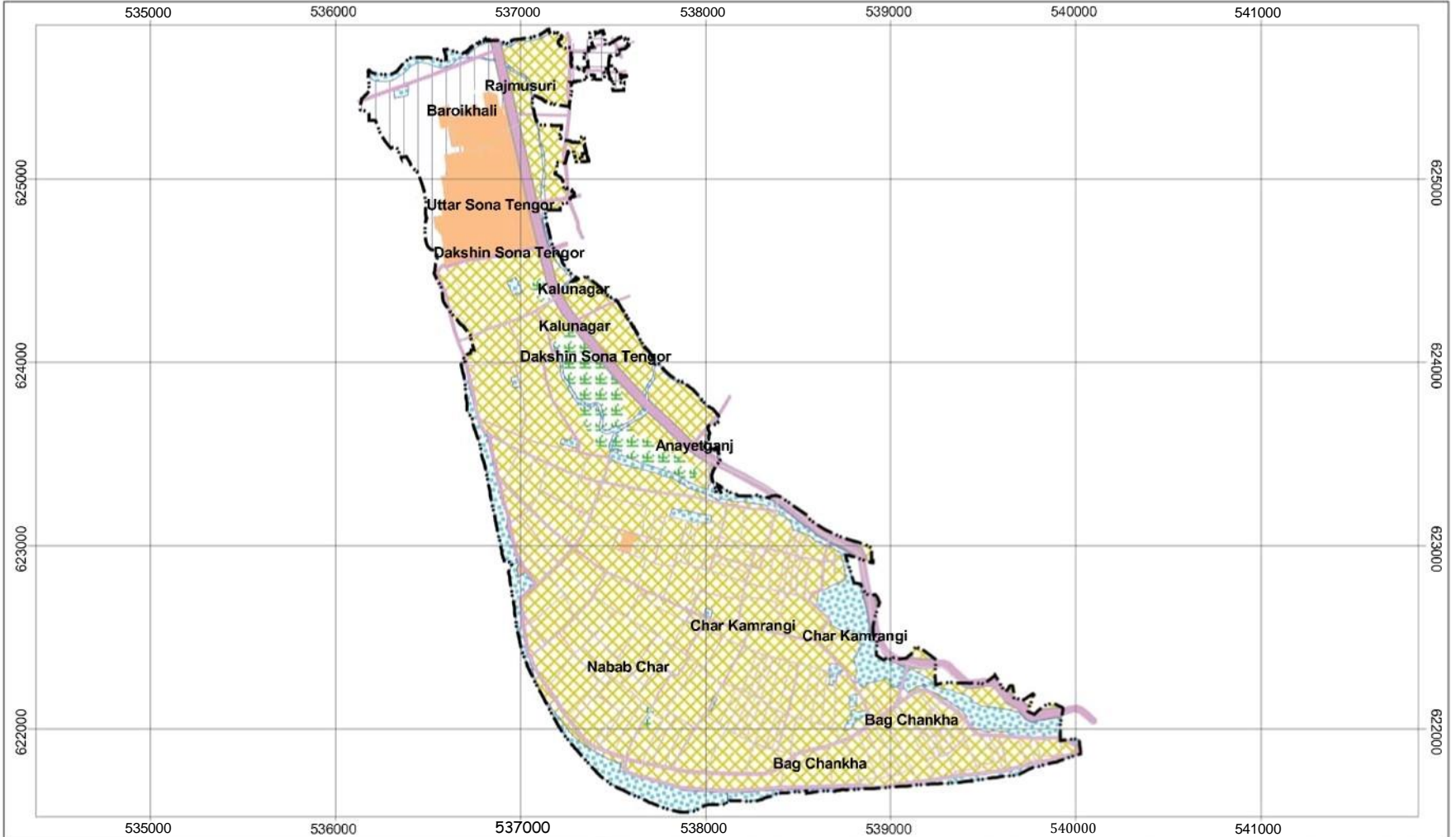
Existing Road

Proposed Road Network


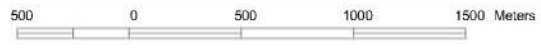
Waterbody

Detailed Area Plan for DMDP Area (Location - 2)

MAP-3.3: LANDUSE ZONING OF LOCATION - 2 AREA







34



4:30000

Detailed Area Plan for DMDP Area (Location - 2)

**LEGEND**

fi. Study Area Boundary	Overlay Zone	 Transport & Communication
	Proposed Road Network	 Flood Flaw Zone
	Urban Residential Zone	 Institutional ZONE
	Waterbody	 Open Space

