



**Development Plan for Mirsharai Upazila, Chattogram
District: Risk Sensitive Land Use Plan (2017-2037)**

VOLUME-II: URBAN AREA PLAN

June 2020

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রেজিস্টার্ড নং ডি এ-১

বাংলাদেশ



গেজেট

অতিরিক্ত সংখ্যা
কর্তৃপক্ষ কর্তৃক প্রকাশিত

রবিবার, এপ্রিল ৩০, ২০২৩

গণপ্রজাতন্ত্রী বাংলাদেশ সরকার
গৃহায়ন ও গণপূর্ত মন্ত্রণালয়
পরিকল্পনা শাখা-৩
প্রজ্ঞাপন

তারিখ : ২০ চৈত্র ১৪২৯ বঙ্গাব্দ/০৩ এপ্রিল ২০২৩ খ্রিষ্টাব্দ

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Preface

Urban Development Directorate (UDD) under the Ministry of Housing and Public Works, Government of the People's Republic of Bangladesh prepares Development Plan at the Upazila level. This is a great pleasure for all concerned that the “**Preparation of Development Plan for Mirsharai Upazila, Chattogram District: Risk Sensitive Land Use Plan**” project was completed by June 2020 under the supervision of Urban Development Directorate (UDD).

This Development Plan for 20 years (2017-2037) will serve as a guideline for the future Infrastructure Development together with risk sensitive land use control, effective development, and management of Mirsharai Upazila. Development plan for the entire Upazila contains

Structure Plan, Urban Area Plans and Rural Area Plan. Structure Plan zones guide development covering the whole project area for 20 years. Urban land zones in two Paurashavas and Rural Plan zones in sixteen unions for duration of 10 years indicating spatial distribution of functions.

The objective of this Development Plan is integrating the rural area with the urban area in both physical and socio-economic terms to implement rural-urban development. Therefore, the main purpose of preparing this Development Plan for Mirsharai Upazila is to ensure the rational use of scarce land resources for concentrated development at the rural and urban scale considering disaster risk.

Several essential tasks such as Physical Feature Survey; Socio-economic Survey; Transportation Survey; Hydro-Geological Survey; Geological Survey and baseline survey of Flora and Fauna has been conducted. Along these tasks Participatory Rural Appraisal (PRA) and a series of consultation meetings with stakeholders also been conducted. Finally, a formal public hearing has been made to register public complaints and awareness through a participatory planning approach with the Upazila and related stake-holders. During the implementation period if needed any change of the development plan may be allowed with the approval of the appropriate authority.

Urban Development Directorate (UDD) acknowledges the full support and cooperation of Member of Parliament, Mirsharai Upazila Authority, Mayors of both Baroarhat and Mirsharai Paurashava, Chairman of the all Union Parishad, Stakeholders and Member of Civil Societies, and the people of locality with the deepest gratitude.

Dr. K. Z. Hossain Taufique

Director (Current Charge)

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Ministry of Housing and Public Works

Government of the People's Republic of Bangladesh

Executive Summary

The Urban Area Plan is prepared as a part of the requirement laid out in the Terms of Reference (ToR) of the Project, “Development Plan for Mirsharai Upazila, Chattogram District: Risk Sensitive Land Use Plan (2017-2037)”. The policies, strategies, and planning standards adopted in the Structure Plan have guided the process of preparing the Urban Area Plan for Mirsharai Upazila.

In preparing the Urban Area Plan, both Mirsharai and Baroiarhat Paurashava of Mirsharai Upazila have been considered. The existing two Paurashava area of the Upazila is considered as the area of Urban Area Plan which is 2389.47 acres of land. According to the BBS, 2011, Baroiarhat Paurashava had a population of 11,602 and Mirsharai Paurashava had a population of 16,218 in 2011. By the end of the plan period (2037), population of Baroiarhat Paurashava will be 14,163 and Mirsharai Paurashava will be 19,797. Urban Area Plan is constructed to guide the physical development of Baroiarhat and Mirsharai Paurashava including all the economic and social activities.

Baroiarhat Paurashava is dominated by residential land use covering about 42.63% of the total area. Agricultural land use is the next major type of land use covering 28.42% of the total area. Existing land use of Mirsharai Paurashava is still dominated by agricultural activities covering 54.96% of the total area. Residential land use is the next major type of land use covering 30.33% of the total area.

After analyzing the existing conditions of services and facilities of Mirsharai Upazila and considering the local demand form urban PRA and planning standard by UDD, future proposals for urban area have been made. To develop the mental and physical growth, two playgrounds have been proposed at Baroiarhat Paurashava and four playgrounds and one Children Park have been proposed at Mirsharai Paurashava. To improve this road network situation about 17.62 km. and 32.48 km. road are proposed respectively for Baroiarhat Paurashava and Mirsharai Paurashava. To manage the huge amount of human excreta, two fecal sludge treatment plants has been proposed at Baroiarhat Paurashava and Mirsharai Paurashava

It should be kept in mind that this development plan is a guideline for the development and control of growth in a systematic manner. The existing Local Government Acts for Paurashava have provided authorities, responsibilities, and scope of planned development in their respective areas. The Paurashava authority has legal responsibilities and opportunities for coordinating development within the urban area.

URBAN AREA PLAN REPORT

Table of Contents

Preface.....	iii
Executive Summary	v
Table of Contents	vii
List of Tables.....	x
List of Figures	xiii
List of Maps	xiv
Acronyms.....	xv
Glossary of Terms.....	xvii
CHAPTER 01: INTRODUCTION.....	1
1.1 Introduction.....	1
1.2 Background of the Urban Area Plan	1
1.3 Objectives of the Urban Area Plan.....	1
1.4 Coverage Area of the Urban Area Plan	1
CHAPTER 02: URBAN AREA PLAN	3
2.1 Introduction.....	3
2.2 Demography of the Urban Area.....	3
2.3 Types and Patterns of Existing Land Use	4
2.3.1 Existing Land Use of Baroiarhat Paurashava	4
2.3.2 Existing Land Use of Mirsharai Paurashava	6
2.4 Critical Issues Based on Public Participations	8
2.5 Future Land Requirement Estimation.....	9
2.5.1 Land Requirement for Housing	9
2.5.2 Land Requirement for Administrative Use.....	9
2.5.3 Land Requirement for Commercial Use	10
2.5.4 Land Requirement for Industrial Use	11
2.5.5 Land Requirement for Educational Use	11
2.5.6 Land Requirement for Health Care Facilities.....	12
2.5.7 Land Requirement for Community Facilities.....	12
2.5.8 Land for Open Space and Recreational Facilities	13
2.5.9 Land for Utility Services	14
2.5.10 Land for Transport Facilities.....	15

2.6	Planning Strategies for Urban Area Plan.....	15
2.7	Land Use Plan for Urban Area.....	16
2.7.1	Proposed Land Use for Baroiarhat Paurashava.....	16
2.7.2	Proposed Land Use for Mirsharai Paurashava	18
2.8	Proposed Facilities for Urban Area	20
2.8.1	Proposals for Administrative Use.....	20
2.8.2	Proposals for Residential Use.....	23
2.8.3	Proposals for Commercial Use	28
2.8.4	Proposals for Education and Research.....	31
2.8.5	Proposals on Health Care Facilities	34
2.8.6	Proposals for Open Space and Recreational Facilities.....	37
2.8.7	Proposals for Community Facilities.....	40
2.8.8	Proposals for Other Utility Services	44
2.8.9	Proposals for Transport Facilities.....	48
2.9	Transport Development Plan.....	51
2.9.1	Existing Condition of Road Network	51
2.9.2	Road Design Standard.....	51
2.9.3	Plan for Road Network Development	52
2.9.4	Proposed Road Network.....	54
2.9.5	Proposal for Improvement of the Existing Road Networks	57
2.9.6	Proposals of New Road Network	57
2.10	Drainage Network Development Plan	59
2.10.1	Existing Drainage Condition	59
2.11	Water Supply	60
2.11.1	Assessment of the Existing Condition	60
2.11.2	Future Scenarios for Water Demand and Supply.....	61
2.11.3	Potential Risks for the Future Sources of Supply	63
2.11.4	Recommendations for the Supply Sources and Water Use.....	64
2.12	Solid Waste Management.....	65
2.12.1	Existing Condition	65
2.12.2	Proposals on Sanitation	65
	CHAPTER 03: PERMITTED AND CONDITIONAL USE	67
3.1	Introduction.....	67
3.2	Development Control in Urban Area	67

3.3	Land Use Zoning	67
3.4	Classification of Land Use Zoning.....	68
3.4.1	Administrative Zone.....	69
3.4.2	Agriculture Zone	70
3.4.3	Commercial Zone.....	71
3.4.4	Flood Flow Zone.....	74
3.4.4	Growth Center	75
3.4.5	General Industrial Zone	78
3.4.6	Mixed Use Zone	81
3.4.7	Open Space	83
3.4.8	Urban Residential Zone.....	85
3.4.9	Waterbody	87
3.4.10	Water Retention Area.....	88
CHAPTER 04: CONCLUSION.....		89
4.1	Concluding Remarks	89
ANNEXURE-A: PROJECT TEAM		90
ANNEXURE-B: PHOTOGRAPHS		91
ANNEXURE-C: PUBLIC HEARING COMMENTS		93

List of Tables

Table 1. 1: Administrative Area of the Urban Area Plan	2
Table 2. 1: Ward-wise Projected Population of the Urban Area	3
Table 2. 2: Existing Land Use Scenario of Baroiarhat Paurashava	4
Table 2. 3: Existing Land Use Scenario of Mirsharai Paurashava	6
Table 2. 4: List of Major Problems Identified from PRA	8
Table 2. 5: Planning Standard and Land Requirement for Housing	9
Table 2. 6: Planning Standard and Land Requirement for Administrative Use	10
Table 2. 7: Planning Standard and Land Requirement for Commercial Use	10
Table 2. 8: Planning Standard and Land Requirement for Industrial Use	11
Table 2. 9: Planning Standard and Land Requirement for Educational Use	11
Table 2. 10: Planning Standard and Land Requirement for Health Care Facilities	12
Table 2. 11: Planning Standard and Land Requirement for Community Facilities	13
Table 2. 12: Planning Standard and Land Requirement for Open Space and Recreational Facilities	13
Table 2. 13: Planning Standard and Land Requirement for Utility Services	14
Table 2. 14: Planning Standard and Land Requirement for Transport Facilities	15
Table 2. 15: Proposed Urban Land Use Categories of Baroiarhat Paurashava	16
Table 2. 16: Proposed Urban Land Use Categories of Mirsharai Paurashava	18
Table 2. 17: New Development Proposals for Administrative Use	20
Table 2. 18: New Development Proposals for Residential Use	24
Table 2. 19: New Development Proposals for Commercial Use	28
Table 2. 20: List of Proposals for Education and Research	31
Table 2. 21: List of Proposals for Health Care Facilities	34
Table 2. 22: List of Proposals for Open Space and Recreational Facilities	37
Table 2. 23: List of Proposals for Community Facilities	40
Table 2. 24: List of Other Proposed Utility Services	44
Table 2. 25: New Development Proposal for Transport Facilities	48

Table 2. 26: Existing Road Network Status of Urban Area	51
Table 2. 27: Proposal for Road Standard in the Urban Area	51
Table 2. 28: Proposed Road Network Category of Urban Area.....	54
Table 2. 29: Summary of Road Widening Proposal in Urban Area.....	57
Table 2. 30: Summary of New Road Proposal in Urban Area.....	57
Table 2. 31: Summary of Number of Affected Structures by Proposed Road	58
Table 2. 32: Summary of Number of Affected Water Bodies by Proposed Road	58
Table 2. 33: Existing Natural Water Bodies in the Urban Area	59
Table 2. 34: Existing Man-made Drainage Network in the Urban Area	59
Table 2. 35: Status of Water Source of DPHE in Mirsharai Upazila.....	60
Table 2. 36: Risks for the Potential Water Supply Sources of Mirsharai Upazila	63
Table 2. 38: Fecal Sludge Treatment Options (Every 150,000 people)	66
Table 2. 39: Proposals of Fecal Sludge Treatment Plant	66
Table 3. 1: Permitted Land Use for Administrative Zone	69
Table 3. 2: Conditionally Permitted Land Use for Administrative Zone	70
Table 3. 3: Permitted Land Use for Agricultural Zone.....	71
Table 3. 4: Conditionally Permitted Land Use for Agricultural Zone	71
Table 3. 5: Permitted Land Use for Commercial Zone	72
Table 3. 6: Conditionally Permitted Land Use for Commercial Zone	74
Table 3. 7: Permitted Land Use for Flood Flow Zone	75
Table 3. 8: Conditionally Permitted Land Use for Flood Flow Zone	75
Table 3. 9: Permitted Land Use for Growth Center	76
Table 3. 10: Conditionally Permitted Land Use for Growth Center	77
Table 3. 11: Permitted Land Use for General Industrial Zone.....	79
Table 3. 12: Conditionally Permitted Land Use for General Industrial Zone	80
Table 3. 13: Permitted Land Use for Heavy Industrial Zone	Error! Bookmark not defined.
Table 3. 14: Conditionally Permitted Land Use for Heavy Industrial Zone.....	Error! Bookmark not defined.
Table 3. 15: Permitted Land Use for Mixed Use Zone	82

Table 3. 16: Conditionally Permitted Land Use for Mixed Use Zone	83
Table 3. 17: Permitted Land Use for Open Space	84
Table 3. 18: Conditionally Permitted Land Use for Open Space	84
Table 3. 19: Permitted Land Use for Urban Residential Zone	86
Table 3. 20: Conditionally Permitted Land Use for Urban Residential Zone	87
Table 3. 21: Permitted Land Use for Waterbody	88
Table 3. 22: Conditionally Permitted Land Use for Waterbody	88
Table 3. 23: Permitted Land Use for Water Retention Area	88
Table 3. 24: Conditionally Permitted Land Use for Water Retention Area	88

List of Figures

Figure 2. 1: Cross Section of Primary Road	52
Figure 2. 2: Cross Section of Secondary Road	53
Figure 2. 3: Cross Section of Tertiary Road	53
Figure 2. 4: Sanitation Value Chain	65

List of Maps

Map 2. 1: Existing Land Use of Baroiarhat Paurashava.....	5
Map 2. 2: Existing Land Use of Mirsharai Paurashava	7
Map 2. 3: Proposed Land Use of Baroiarhat Paurashava.....	17
Map 2. 4: Proposed Land Use of Mirsharai Paurashava	19
Map 2. 5: New Proposals for Administrative Use of Baroiarhat Paurashava	21
Map 2. 6: New Proposals for Administrative Use of Mirsharai Paurashava	22
Map 2. 7: New Proposals for Housing Area of Baroiarhat Paurashava	26
Map 2. 8: New Proposals for Housing Area of Mirsharai Paurashava	27
Map 2. 9: New Proposals for Commercial Use of Baroiarhat Paurashava	29
Map 2. 10: New Proposals for Commercial Use of Mirsharai Paurashava	30
Map 2. 11: New Proposals for Educational Use of Baroiarhat Paurashava.....	32
Map 2. 12: New Proposals for Educational Use of Mirsharai Paurashava	33
Map 2. 13: New Proposals for Health Facilities of Baroiarhat Paurashava	35
Map 2. 14: New Proposals for Health Facilities of Mirsharai Paurashava.....	36
Map 2. 15: New Proposals for Recreational Facilities of Baroiarhat Paurashava	38
Map 2. 16: New Proposals for Recreational Facilities of Mirsharai Paurashava	39
Map 2. 17: New Proposals for Community Facilities of Baroiarhat Paurashava	42
Map 2. 18: New Proposals for Community Facilities of Mirsharai Paurashava.....	43
Map 2. 19: New Proposals for Utility Services of Baroiarhat Paurashava.....	46
Map 2. 20: New Proposals for Utility Services of Mirsharai Paurashava	47
Map 2. 21: New Proposals for Transport Facilities of Baroiarhat Paurashava	49
Map 2. 22: New Proposals for Transport Facilities of Mirsharai Paurashava.....	50
Map 2. 23: Proposed Road Network Plan of Baroiarhat Paurashava.....	55
Map 2. 24: Proposed Road Network Plan of Mirsharai Paurashava	56

Acronyms

BBS	Bangladesh Bureau of Statistics
BEZA	Bangladesh Economic Zone Authority
BIWTA	Bangladesh Inland Water Transport Authority
BM	Bench Mark
BRTC	Bangladesh Road Transport Corporation
BSCIC	Bangladesh Small and Cottage Industries Corporation
BTCL	Bangladesh Telecommunications Company Limited
BWDB	Bangladesh Water Development Board
CBOs	Community Based Organizations
CFS	Country Freight Service
DFI	Direct Foreign Investment
DoE	Department of Environment
DoF	Department of Forest
DPHE	Department of Public Health Engineering
EPZ	Export Processing Zone
EZ	Economic Zone
FWC	Family Welfare Center
GED	General Economics Division
GDP	Gross Domestic Product
GIS	Geographic Information System
HSC	Higher Secondary Certificate
HQ	Head Quarter
ICD	Inland Container Depot
ICT	Information and Communication Technology
IMTP	Integrated Multimodal Transport Policy
LGED	Local Government and Engineering Department

MoA	Ministry of Agriculture
MoDMR	Ministry of Disaster Management and Relief
MoI	Ministry of Industry
MoHFW	Ministry of Health and Family Welfare
MoHPW	Ministry of Housing and Public Works
MoL	Ministry of Law
MoWR	Ministry of Water Resources
NGO	Non-Government Organization
NHA	National Housing Authority
O-D	Origin - Destination
PDB	Power Development Board
PPP	Public Private Partnership
PRA	Participatory Rural Appraisal
REB	Rural Electrification Board
RHD	Roads and Highways Department
SLR	Sea Level Rise
SSC	Secondary School Certificate
STS	Secondary Transfer Station
TMC	Technical Management Committee
ToR	Terms of Reference
UDD	Urban Development Directorate
UHC	Upazila Health Complex

Glossary of Terms

Baor	:	The term “baor” means any kind of ox-bow shaped lake where water course has become stagnant in course of time.
Bazaar	:	Bazaar is a Market Place almost synonym of hat with some advanced facilities in comparison to hat. Generally, in a hat, there may not be any permanent business/trading house, shops. However, in a bazaar, there are some permanent trading houses, shops, these shops are open every day, and buyers and sellers attend the bazaar from morning till late evening.
Haor	:	The term “haor” means any saucer shaped large shallow depression created naturally in-between two separate rivers.
Hat	:	The term ‘hat’ is very much known to all from time immemorial throughout the country which is a temporary rural market place. In rural area, farmers and other producers used to sit with their surplus products in a suitable place having comparatively better communication system with adjacent villages to exchange these goods. This suitable place is called hat where generally on fixed days sellers and buyers get together and exchange goods and services. This gathering place is developed gradually by the local people at the beginning. The Hat is a rural trading center.
Katcha	:	Temporary in nature
Khal	:	Any passage of inflow and outflow of water.
Mauza	:	Mauza is the smallest unit of Land Survey system with a unique number called Jurisdiction List Number (J.L. No.).
Paurashava	:	Paurashava is the local name of Municipality. The incorporated area administered by the government as urban area under the Paurashava Ordinance 2008 is considered as the Paurashava.
Pucca	:	Permanent in nature
Semi-pucca	:	Semi-Permanent in nature
Tempo	:	Human Hauler
Union	:	Smallest local administrative unit of rural area which is composed of Mauzas and Villages.
Upazila	:	Sub-District administrative area.

- Village : Smallest geographic area of rural area. A village may be same as mauza or there may be more than one village in a mauza.
- Ward : Smallest local administrative unit of urban area. For the operational convenience, Municipalities are divided into nine or more wards. The Ward boundaries are specified by gazette notifications.
- Zila : District administrative area

CHAPTER 01: INTRODUCTION

1.1 Introduction

Urban Area Plan is prepared as per the Terms of Reference (TOR) of the project. The policies, strategies, and planning standards adopted in the Structure Plan have guided the process of preparing the Urban Area Plan for Mirsharai Upazila.

1.2 Background of the Urban Area Plan

Urban Area Plan is the second stage of the current plan package. Urban Area Plan has been prepared following the guidelines prescribed in structure plan. As stated earlier, structure plan is a strategic plan that lays down the sectoral policies. However, these policies need to be spatially translated. This part of the report serves that purpose. This plan is mainly developed for two Paurashava of the project area- Baroiarhat Paurashava and Mirsharai Paurashava. The plan assumes that more and more people will settle in the project area in the near future to enjoy better income and better living environment. The Urban Area Plan follows the traditional planning approach prevalent in the country that designates plot-to-plot use of land. Thus, it will also serve as a tool for development control or management.

1.3 Objectives of the Urban Area Plan

Urban Area Plan will be a statutory guide and control for development of the two Paurashava of Mirsharai Upazila. The key objective of the Urban Area Plan is to spatially translate the policies of the higher-level framework (Structure Plan). This plan is prepared on mauza map with sectoral development proposals. The Urban Area Plan is aimed to determine the present and future functional structure of the Paurashava, including land use and provide infrastructure proposals for improving and guiding development of future urban area of Mirsharai Upazila. The objectives of the plan will be attained through orderly location of urban land uses and location of services and facilities.

1.4 Coverage Area of the Urban Area Plan

Urban Area Plan is prepared for urban part of the Upazila. The existing two Paurashava area of the Upazila is considered as the area of Urban Area Plan. Therefore, the total planning area will be 2389.47 acres that is the area of both Mirsharai Paurashava and Baroiarhat Paurashava. Table 1. 1 shows the administrative boundary of the Urban Area Plan.

Table 1. 1: Administrative Area of the Urban Area Plan

Ward No.	Area (Acre)	Ward No.	Area (Acre)
Baroiarhat Paurashava		Mirsharai Paurashava	
Ward-01	89.06	Ward-01	195.13
Ward-02	131.77	Ward-02	149.16
Ward-03	54.70	Ward-03	417.28
Ward-04	47.77	Ward-04	97.46
Ward-05	54.82	Ward-05	270.09
Ward-06	59.13	Ward-06	197.92
Ward-07	25.15	Ward-07	179.54
Ward-08	42.89	Ward-08	214.97
Ward-09	13.41	Ward-09	149.32
Sub-Total	518.70	Sub-Total	1870.77
Total Urban Area		2389.77	

Source: GIS Database, MUDP (2017-2037)

CHAPTER 02: URBAN AREA PLAN

2.1 Introduction

The current chapter of the report is about Urban Area Plan covering its development plan proposals. This chapter also describes the patterns of existing land use scenario of urban area, list of major problems compiled from the urban PRA (both Baroiarhat and Mirsharai Paurashava), future required land for different facilities of urban area, transportation plan, drainage plan and proposed facilities for urban area of Mirsharai Upazila.

2.2 Demography of the Urban Area

Using the population growth rate of the Upazila, ward-wise population of the two Paurashavas has been projected. According to the BBS, 2011, Baroiarhat Paurashava had a population of 11,602 and Mirsharai Paurashava had a population of 16,218 in 2011. By the end of the plan period (2037), population of Baroiarhat Paurashava will be 14,163 and Mirsharai Paurashava will be 19,797. Table 2. 1 shows the ward-wise projected population scenario of the urban area.

Table 2. 1: Ward-wise Projected Population of the Urban Area

Ward No.	Area (Acre)	Existing Population (BBS, 2011)	Projected Population (2037)
Baroiarhat Paurashava			
Ward-01	89.06	1390	1697
Ward-02	131.77	2573	3141
Ward-03	54.70	1572	1919
Ward-04	47.77	927	1132
Ward-05	54.82	1627	1986
Ward-06	59.13	1139	1390
Ward-07	25.15	1209	1476
Ward-08	42.89	639	780
Ward-09	13.41	526	642
Sub-Total	518.70	11,602	14,163
Mirsharai Paurashava			
Ward-01	195.13	471	575
Ward-02	149.16	1684	2056
Ward-03	417.28	3154	3850
Ward-04	97.46	1073	1310
Ward-05	270.09	3591	4384
Ward-06	197.92	2116	2583

Ward No.	Area (Acre)	Existing Population (BBS, 2011)	Projected Population (2037)
Ward-07	179.54	2075	2533
Ward-08	214.97	1219	1488
Ward-09	149.32	835	1019
Sub-Total	1870.77	16,218	19,797
Total	2389.77	27,820	33,960

Source: Physical Feature Survey, 2018

2.3 Types and Patterns of Existing Land Use

2.3.1 Existing Land Use of Baroiarhat Paurashava

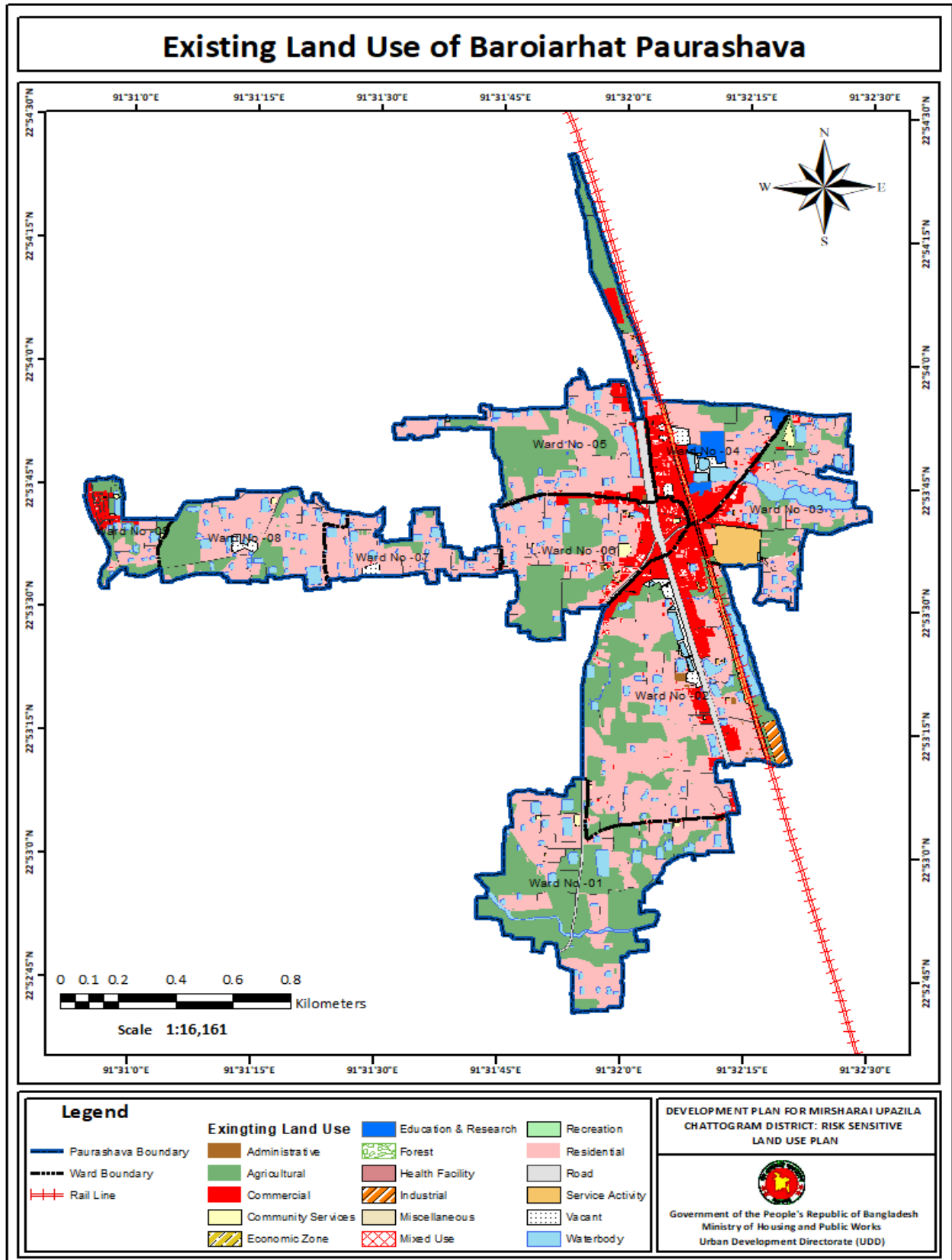
Baroiarhat Paurashava is dominated by residential land use covering about 42.63% (223.45 acres of land) of the total area. Agricultural land use is the next major type of land use covering 28.42% (148.97 acres of land) of the total area. The existing land use composite of Mirsharai Paurashava is showed in Table 2. 2. Map 2. 1 displays the existing land use scenario of Baroiarhat Paurashava.

Table 2. 2: Existing Land Use Scenario of Baroiarhat Paurashava

Serial No.	Land Use Category	Area (Acre)	Percentage (%)
1	Administrative	0.74	0.14
2	Agricultural	148.97	28.42
3	Commercial	41.46	7.91
4	Community Services	2.52	0.48
5	Education and Research	4.70	0.90
6	Industrial	2.15	0.41
7	Mixed Use	3.47	0.66
8	Residential	223.45	42.63
9	Circulation Network	23.40	4.47
10	Service Activity	8.02	1.53
11	Vacant	6.06	1.16
12	Waterbody	59.17	11.29
	Total	518.70	100.00

Source: MUDP, 2018

Map 2. 1: Existing Land Use of Baroiarhat Paurashava



2.3.2 Existing Land Use of Mirsharai Paurashava

The existing land use of the Mirsharai Paurashava was classified into 15 categories with the provision of further division and sub-division to elaborate each category of use as per requirement of the planning process. The existing land use composite of Mirsharai Paurashava is showed in Table 2. 3.

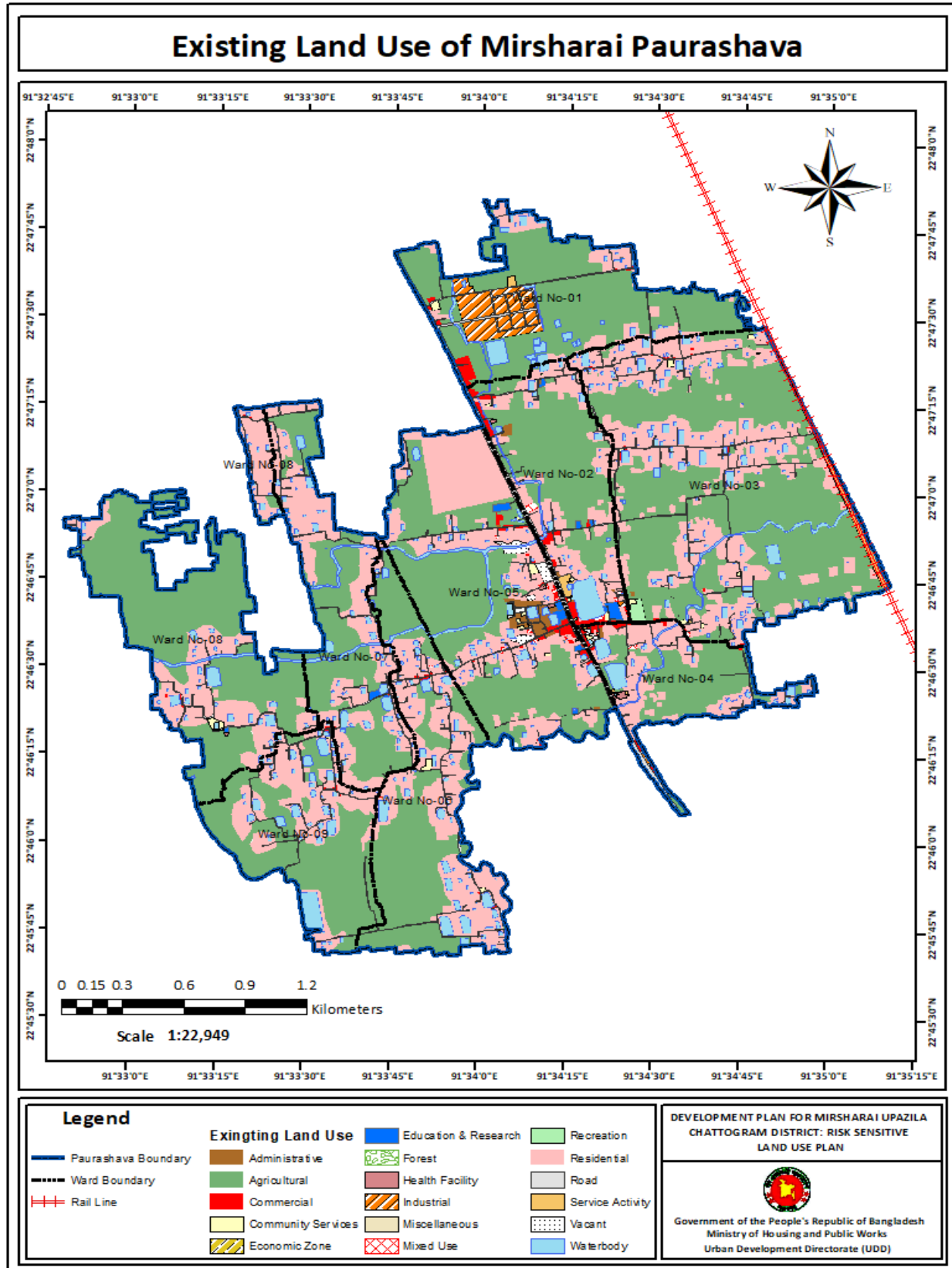
Table 2. 3: Existing Land Use Scenario of Mirsharai Paurashava

Serial No.	Land Use Category	Area (Acre)	Percentage (%)
1	Administrative	7.05	0.38
2	Agricultural	1031.36	54.96
3	Commercial	17.80	0.95
4	Community Services	5.91	0.31
5	Education and Research	6.02	0.32
6	Health Facility	1.09	0.06
7	Industrial	23.74	1.26
8	Miscellaneous	0.06	0.00
9	Mixed Use	2.41	0.13
10	Recreation	2.38	0.13
11	Residential	569.11	30.33
12	Circulation Network	46.97	2.50
13	Service Activity	9.71	0.52
14	Vacant	5.46	0.29
15	Water body	147.40	7.85
	Total	1870.77	100.00

Source: Physical Feature Survey, 2018

Existing land use of Mirsharai Paurashava is still dominated by agricultural activities covering 54.96% (1031.36 acres of land) of the total area (vide Table 2. 3). Residential land use is the next major type of land use covering 30.33% of the total area (569.11 acres of land). Water body including river, cannels, ponds, ditches, etc. covers about 7.85% of the total area. Map 2. 2 displays the existing land use scenario of Mirsharai Paurashava.

Map 2. 2: Existing Land Use of Mirsharai Paurashava



2.4 Critical Issues Based on Public Participations

Extensive ward wise PRA was conducted in the Paurashava with local level people. There were open discussions about local problems, potentials, and expectations of the people. Open discussion revealed the ward wise problems and issues of the Paurashava. Table 2. 4 shows the major problems compiled from urban PRA.

Table 2. 4: List of Major Problems Identified from PRA

Serial No.	Problems	Ward No.
1	Problem of road (narrow road and reconstruction)	Baroiarhat Paurashava- Ward No. 01, 02, 03, 04, 05, 06, 07, 08, 09 Mirsharai Paurashava- Ward No. 01, 02, 03, 04, 05, 08
2	Drainage and water logging problem	Baroiarhat Paurashava- Ward No. 01, 02, 03, 04, 05, 06, 07, 08, 09 Mirsharai Paurashava- Ward No. 01, 02, 03, 04, 05, 06, 07, 08, 09
3	Problem of pure drinking water	Baroiarhat Paurashava- Ward No. 02, 03, 04, 05, 06, 07, 08, 09 Mirsharai Paurashava- Ward No. 01, 02, 04, 05, 06, 08, 09
4	Sanitation problem	Baroiarhat Paurashava- Ward No. 01, 02, 03, 04, 05, 06, 07, 08, 09 Mirsharai Paurashava- Ward 02,
5	Problem of solid waste management	Baroiarhat Paurashava- Ward No. 02, 03, 04, 05, 06, 07, 08, 09 Mirsharai Paurashava- Ward 01, 02, 03, 05, 06
6	Recreation center and park	Baroiarhat Paurashava- Ward No. 01, 03, 04, 06, 07 Mirsharai Paurashava- Ward 01, 05, 08
7	Community center	Baroiarhat Paurashava- Ward No. 01, 03, 06
8	Ward counselor office	Baroiarhat Paurashava- Ward No. 01, 02, 03, 04, 05, 06, 08, 09 Mirsharai Paurashava- Ward No. 01, 02, 03, 08
9	Community clinic/Health center	Baroiarhat Paurashava- Ward No. 01, 02, 03, 04, 05, 06, 08, 09 Mirsharai Paurashava- Ward No. 01, 02, 03, 04, 05, 06, 07, 08, 09
10	Primary school	Baroiarhat Paurashava- Ward No. 01, 03, 04, 05, 06, 07, 08, 09 Mirsharai Paurashava- Ward 02, 03, 04, 07
11	Graveyard/Cremation ground	Baroiarhat Paurashava- Ward No. 03, 04, 05, 06, 07, 08, 09 Mirsharai Paurashava- Ward 01, 02, 03, 08, 09
12	Kitchen market, Central market	Baroiarhat Paurashava- Ward No. 06, 07, 08
13	CNG stand	Baroiarhat Paurashava- Ward No. 03, 04, 06, 08, 09 Mirsharai Paurashava- Ward 03, 05
14	Fire service	Baroiarhat Paurashava- Ward No. 01, 02, 03, 05, 06, 07, 08
15	Eidgah	Baroiarhat Paurashava- Ward No. 01, 07, 08 Mirsharai Paurashava- Ward 08,
16	Post office	Baroiarhat Paurashava- Ward No. 04, 05, 08
17	Gas connection	Baroiarhat Paurashava- Ward No. 02, 05, 06, 08, 09 Mirsharai Paurashava- Ward 01, 09
18	Unplanned housing	Mirsharai Paurashava- Ward 01, 06

Source: PRA, 2019

2.5 Future Land Requirement Estimation

Planning standards are required for systematic allocation of space for physical infrastructure and services. Usually, the projected population size is considered as the basis of determining the land requirement for proposals. Some planning standards are designed according to need. The standards have mostly been taken from earlier master or development plans of different development authorities or governmental organizations and the development plans under the UDD. Following are the standards suggested for the current planning exercises.

2.5.1 Land Requirement for Housing

Housing is the most significant segment of urban development scenario. The future housing area needs to be based on a recommended planning standard of 100 persons per acre. With this standard, the estimation shows, the maximum land required to accommodate the total projected population in the year 2037 will be 197.97 acres in Mirsharai Paurashava and 141.63 acres in Baroiarhat Paurashava. Existing residential land of Mirsharai and Baroiarhat Paurashava are respectively 569.11 acres and 223.45 acres. So, there exists enough extra land for residential purpose in the Paurashava. Table 2. 5 shows the estimation of the land requirement for the housing of the urban area.

Table 2. 5: Planning Standard and Land Requirement for Housing

Facilities	Recommended Standard Provision	Land Requirement (acre)	Existing Land (acre)	Required Additional Land in acre
Baroiarhat Paurashava				
General Housing	100 persons/acre	141.63	223.45	Existing land is more than required
	150 persons/acre	94.42		
Mirsharai Paurashava				
General Housing	100 persons/acre	197.97	569.11	Existing land is more than required
	150 persons/acre	131.98		

Source: Physical Feature Survey, 2018

2.5.2 Land Requirement for Administrative Use

Administrative zone covers all kinds of government offices and non-government offices including existing and proposed uses in Baroiarhat and Mirsharai Paurashava. PRA analysis reveals that, local people demanded for establishing Ward Counselor office at every ward. Currently respectively 0.25 acres and 0.01 acres of land is already been used for Paurashava office purposes in Mirsharai and Baroiarhat Paurashava. Table 2. 6 shows the planning standard and land requirement for administrative use of urban area.

Table 2. 6: Planning Standard and Land Requirement for Administrative Use

Facilities	Recommended Standard Provision	Land Requirement (acre)	Existing Land (acre)	Required Additional Land in acre
Baroiarhat Paurashava				
Paurashava office	3-5 acres/Paurashava	3.00	0.01	2.99
Ward counselor office	0.25 acre/Office	2.25	0.00	2.25
Total		5.25	0.01	5.24
Mirsharai Paurashava				
Paurashava office	3-5 acres/Paurashava	3.00	0.25	2.75
Ward counselor office	0.25 acre/Office	2.25	0.00	2.25
Total		5.25	0.25	5.00

Source: Physical Feature Survey, 2018

2.5.3 Land Requirement for Commercial Use

Commercial facilities are usually provided privately on commercial basis depending on the trend of the sale of goods. Therefore, it is not possible to fix a standard or project actual area for these services. The standard for commercial use can only be applied if ever these facilities are provided by the Paurashava. The current land under commercial use in Mirsharai and Baroiarhat Paurashava are respectively 17.84 acres and 41.09 acres of land including business areas of shopping and bazaar areas. However, for the sake of current planning, the land requirement can be estimated as per recommended standard and earmarked at an appropriate location, while commercial facilities may be privately or publicly developed. Table 2. 7 shows the planning standard and land requirement for commercial use of urban area.

Table 2. 7: Planning Standard and Land Requirement for Commercial Use

Facilities	Recommended Standard Provision	Existing Land (acre)	Land Requirement in 2037 (acre)	Additional Required Land (acre)
Baroiarhat Paurashava				
Retail sale market	0.50 acres/10,000 pop	41.09	0.71	0.71
Wholesale Market	3-5 acres/Upazila		3.00	3.00
Cattle Market	1-1.5 acres/Upazila		1.00	1.00
Neighborhood market	1 acre/Neighborhood market		1.00	1.00
Mirsharai Paurashava				
Retail sale market	0.50 acres/10,000 pop	17.48	0.99	0.99
Wholesale Market	3-5 acres/Upazila		3.00	3.00
Cattle Market	1-1.5 acres/Upazila		1.00	1.00
Neighborhood market	1 acre/Neighborhood market		1.00	1.00

Source: Physical Feature Survey, 2018

2.5.4 Land Requirement for Industrial Use

According to recommended standard provision, it is estimated that for the projected population in 2037 of Mirsharai and Baroiarhat Paurashava, in total an amount of 24.90 acres and 22.08 acres of land will be required for industrial use purpose. At present, there are only 23.89 acres and 2.15 acres of land occupied as small-scale industry purpose respectively in Mirsharai and Baroiarhat Paurashava. Table 2. 8 shows the planning standard and land requirement for industrial use of urban area.

Table 2. 8: Planning Standard and Land Requirement for Industrial Use

Facilities	Recommended Standard Provision	Required Land (acre)	Existing Land (acre)	Required Additional Land in acre
Baroiarhat Paurashava				
General Industry	2-5 acre/10,000 pop.	7.08	2.15	4.93
Heavy Industry	15 acre/Paurashava	15.00	0.00	15.00
Total		22.08	2.15	19.93
Mirsharai Paurashava				
General Industry	2-5 acre/10,000 pop.	9.90	23.89	Additional land is not required
Heavy Industry	15 acre/Paurashava	15.00	0.00	15.00
Total		24.90	23.89	15.00

Source: Physical Feature Survey, 2018

2.5.5 Land Requirement for Educational Use

Under the category of educational use all institutional uses like education and research institute have been included. According to the standard, for nursery/ kindergarten, 1 unit with 0.40 acres of land is to be provided for every 5,000 population and for primary school, 1 unit with 1 acre of land is to be provided for every 2,000 population. Considering the projected demand, new 5 nos. and 7 nos. primary school will be required for Mirsharai and Baroiarhat Paurashava up to the year 2037. As per standard, there is no extra secondary school and college needed at Mirsharai and Baroiarhat Paurashava. Table 2. 9 presents the planning standard and land requirement for educational use of urban area.

Table 2. 9: Planning Standard and Land Requirement for Educational Use

Facilities	Recommended Standard Provision	Required Number	Existing Number	Additional Number	Required Additional Land (acre)
Baroiarhat Paurashava					
Nursery	0.40 acres/Nursery; 1 Nursery/5000 pop.	3	0	3	1.20
Primary School	1 acre/primary school; 1 primary school/2000 pop.	7	0	7	7.00

Facilities	Recommended Standard Provision	Required Number	Existing Number	Additional Number	Required Additional Land (acre)
Secondary School	2 acres/Secondary School; 1 secondary school/8000 pop.	2	3	0	0.00
College	4 acres/1 college, 1 college/20,000 pop.	1	1	0	0.00
Others	3 acres/20,000 pop.	1	0	1	3.00
Mirsharai Paurashava					
Nursery	0.40 acres/Nursery; 1 Nursery/5000 pop.	4	1	3	1.20
Primary School	1 acre/primary school; 1 primary school/2000 pop.	10	5	5	5.00
Secondary School	2 acres/Secondary School; 1 secondary school/8000 pop.	2	2	0	0.00
College	4 acres/1 college, 1 college/20,000 pop.	1	1	0	0.00
Others	3 acres/20,000 pop.	1	9	0	0.00

Source: Physical Feature Survey, 2018

2.5.6 Land Requirement for Health Care Facilities

Health care facilities are included diagnosis, treatment, and prevention of disease, illness, injury, and other physical and mental impairments in human beings. There are 3 nos. of govt. clinic and 2 nos. of private clinic in Mirsharai Paurashava and 3 nos. private clinics in Baroiarhat Paurashava. Table 2. 10 presents the planning standard and land requirement for health care facilities of urban area.

Table 2. 10: Planning Standard and Land Requirement for Health Care Facilities

Facilities	Recommended Standard Provision	Required Number	Existing Number	Additional Number	Required Additional Land (acre)
Baroiarhat Paurashava					
Health Center/ Maternity Clinic	0.6 acre/5000 pop., within 2 km. distance of residents.	3	0	3	1.80
Mirsharai Paurashava					
Health Center/ Maternity Clinic	0.6 acre/5000 pop., within 2 km. distance of residents.	4	3	1	0.60

Source: Physical Feature Survey, 2018

2.5.7 Land Requirement for Community Facilities

Community facilities include community center, graveyard/cremation ground, police outpost, eidgah, mosque/church/temple, club, etc. According to the PRA participants from the urban area, eidgah, graveyard/cremation ground, community center, etc. is their basic demand. Existing land under community

facilities under Mirsharai and Baroiarhat Paurashava are respectively 2.77 acres and 1.85 acres. Table 2. 11 presents the estimation of the land requirement for community facilities of urban area.

Table 2. 11: Planning Standard and Land Requirement for Community Facilities

Facilities	Recommended Standard Provision	Land Required (acre)	Existing Land (acre)	Required Additional Land (acre)
Baroiarhat Paurashava				
Mosque/Temple/Church	0.2 acre/10,000 pop.	0.28	0.29	Additional land is not required
Eidgah	0.5 acre/20,000 pop.	0.35	0.00	0.35
Community Center	1 acre/20,000 pop.	0.71	0.00	0.71
Graveyard	1 acre/20,000 pop.	0.71	1.56	Additional land is not required
Crematorium	1 Crematorium/Paurashava (1 acre/crematorium)	1.00	0.00	1.00
Total		3.05	1.85	2.06
Mirsharai Paurashava				
Mosque/Temple/Church	0.2 acre/10,000 pop.	0.40	2.09	Additional land is not required
Eidgah	0.5 acre/20,000 pop.	0.49	0.29	0.20
Community Center	1 acre/20,000 pop.	0.99	0.00	0.99
Graveyard	1 acre/20,000 pop.	0.99	0.39	0.60
Crematorium	1 Crematorium/Paurashava (1 acre/crematorium)	1.00	0.00	1.00
Total		3.87	2.77	2.79

Source: Physical Feature Survey, 2018

2.5.8 Land for Open Space and Recreational Facilities

Open space and recreational facilities are the major parts of a city to make it livable. Open space and recreational facilities are comprised of Neighborhood Park, Playground, Central Park, Stadium, and Cinema Hall. As per standard, 16.93 acres of land is required in Mirsharai Paurashava for the year 2037 where the existing land for this category is 2.00 acres. Table 2. 12 presents the estimation of the land requirement for open space and recreational facilities of urban area.

Table 2. 12: Planning Standard and Land Requirement for Open Space and Recreational Facilities

Facilities	Recommended Standard Provision	Land Required (acre)	Existing Land (acre)	Additional Land (acre)
Baroiarhat Paurashava				
Stadium/Sports complex	5-10 acres/Upazila	5.00	0.00	5.00
Central Park	5-10 acres/Paurashava	5.00	0.00	5.00

Facilities	Recommended Standard Provision	Land Required (acre)	Existing Land (acre)	Additional Land (acre)
Neighborhood park	2 acres/10,000 pop.	2.83	0.00	2.83
Playground	2 acres/20,000 pop.	1.42	0.00	1.42
Cinema hall	1 acre/20,000 pop.	0.71	0.00	0.71
Total		14.96	0.00	14.96
Mirsharai Paurashava				
Stadium/Sports complex	5-10 acres/Upazila	5.00	2.00	3.00
Central Park	5-10 acres/Paurashava	5.00	0.00	5.00
Neighborhood park	2 acres/10,000 pop.	3.96	0.00	3.96
Playground	2 acres/20,000 pop.	1.98	0.00	1.98
Cinema hall	1 acre/20,000 pop.	0.99	0.00	0.99
Total		16.93	2.00	14.93

Source: Physical Feature Survey, 2018

2.5.9 Land for Utility Services

Utility services are the major parts of a city to make it livable. Utility services are comprised of post office, solid waste transfer station, solid waste disposal site, fire service, and electric sub-station. As per standard, 7.65 acres of land is required in Baroiarhat Paurashava and 7.77 acres of land is required in Mirsharai Paurashava for the year 2037. Table 2. 13 presents the estimation of the land requirement for utility services of urban area.

Table 2. 13: Planning Standard and Land Requirement for Utility Services

Facilities	Recommended Standard Provisions	Land Required (acre)	Existing Land (acre)	Required Additional Land (acre)
Baroiarhat Paurashava				
Post Office	0.40 acres/20000 pop.	0.00	0.28	0.28
Solid waste transfer station	0.20 acres/Ward	0.00	1.80	1.80
Solid waste disposal site	5 acres/Paurashava	0.00	5.00	5.00
Fire Services	0.50 acres/Paurashava	0.00	0.50	0.50
Electric Sub-station	0.07 acres/Paurashava	0.00	0.07	0.07
Total		0.00	7.65	7.65
Mirsharai Paurashava				
Post Office	0.40 acres/20000 pop.	0.00	0.40	0.40
Solid waste transfer station	0.20 acres/Ward	0.00	1.80	1.80
Solid waste disposal site	5 acres/Paurashava	0.00	5.00	5.00
Fire Services	0.50 acres/Paurashava	0.00	0.50	0.50
Electric Sub-station	0.07 acres/Paurashava	0.00	0.07	0.07
Total		0.00	7.77	7.77

Source: Physical Feature Survey, 2018

2.5.10 Land for Transport Facilities

Land requirement for transport facilities includes land for bus terminal, truck terminal, tempo/auto rickshaw/CNG stand, etc. However, there is no formal truck and bus terminal at both Baroiarhat and Mirsharai Paurashava. As per standard, 6.00 acres of land is required for each Paurashava of Mirsharai Upazila. Table 2. 14 presents the estimation of the land requirement for transport facilities of urban area.

Table 2. 14: Planning Standard and Land Requirement for Transport Facilities

Facilities	Recommended Standard Provisions	Existing Land (acre)	Land Required (acre)	Additional Required Land (acre)
Baroiarhat Paurashava				
Bus Terminal	3 acres/Bus Terminal	0.00	3.00	3.00
Truck Terminal	3 acres/Truck Terminal	0.00	3.00	3.00
CNG/Tempo stand	0.25 acres per stand	0.00	As per requirement	
Total		0.00	6.00	6.00
Mirsharai Paurashava				
Bus Terminal	3 acres/Bus Terminal	0.00	3.00	3.00
Truck Terminal	3 acres/Truck Terminal	0.00	3.00	3.00
CNG/Tempo stand	0.25 acres per stand	0.00	As per requirement	
Total		0.00	6.00	6.00

Source: Physical Feature Survey, 2018

2.6 Planning Strategies for Urban Area Plan

Planning strategies have been adopted for the preparation of the Urban Area Plan to meet the existing and estimated future land use demands in terms of absolute land requirements. Planning strategies for the preparation of Urban Area Plan (UAP) are given below:

- ❖ To promote smooth traffic circulation;
- ❖ Infill development;
- ❖ To conserve water bodies, open space and urban agriculture land;
- ❖ To enhance the local economy through employment generation in industrial (agro based) and service sector;
- ❖ To create infrastructure for human resources development (training centers, education institute at the tertiary level);
- ❖ To create sufficient sport and cultural infrastructures;
- ❖ To create sufficient health and sanitation infrastructures;
- ❖ Equitability distribution of community level facilities in each of the wards;
- ❖ To ensure clean urban environment.

2.7 Land Use Plan for Urban Area

The land use classification for the urban area has been finalized by UDD project Team.

2.7.1 Proposed Land Use for Baroiarhat Paurashava

In Baroiarhat Paurashava, 15 types of land uses have been proposed. It is based on the land use policies, guidelines and proposals including land use zoning plan. Table 2. 15 shows the proposed urban land use categories of Baroiarhat Paurashava.

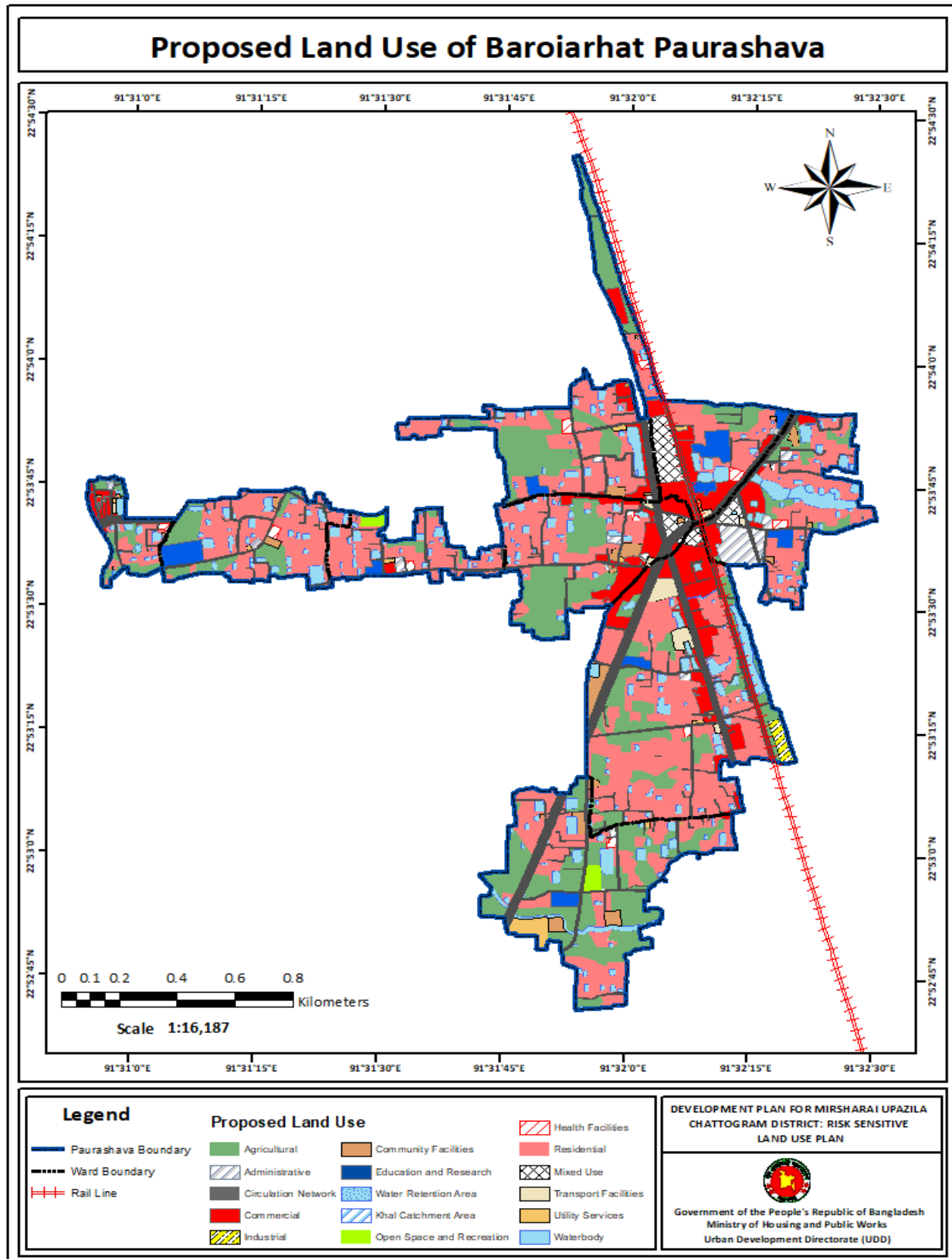
Table 2. 15: Proposed Urban Land Use Categories of Baroiarhat Paurashava

Serial No.	Proposed Land Use	Area (Acre)	Percentage (%)
1	Administrative	8.73	1.67
2	Agricultural	71.49	13.67
3	Circulation Network	54.27	10.38
4	Commercial	48.79	9.33
5	Community Facilities	7.50	1.43
6	Education and Research	15.33	2.93
7	Health Facilities	3.27	0.63
8	Industrial	3.98	0.76
9	Khal Catchment Area	6.32	1.21
10	Open Space and Recreation	2.33	0.45
11	Rail line Buffer Area	5.55	1.06
12	Residential	244.59	46.77
13	Transport Facilities	3.66	0.70
14	Utility Facilities	3.63	0.69
15	Waterbody	43.52	8.32
	Total	522.96	100.00

Source: GIS Database, MUDP (2017-2037)

From the Table 2. 15, it is clearly evident that residential land use (46.77%) dominates in Baroiarhat Paurashava. The second major proposed land use is agriculture use and it occupies about 13.67% (71.49 acres) of the Paurashava area. Map 2. 3 shows the proposed urban land use map of Baroiarhat Paurashava.

Map 2. 3: Proposed Land Use of Baroiarhat Paurashava



2.7.2 Proposed Land Use for Mirsharai Paurashava

In Mirsharai Paurashava, 18 types of land uses have been proposed. It is based on the land use policies, guidelines and proposals including land use zoning plan. Table 2. 16 shows the proposed urban land use categories of Mirsharai Paurashava.

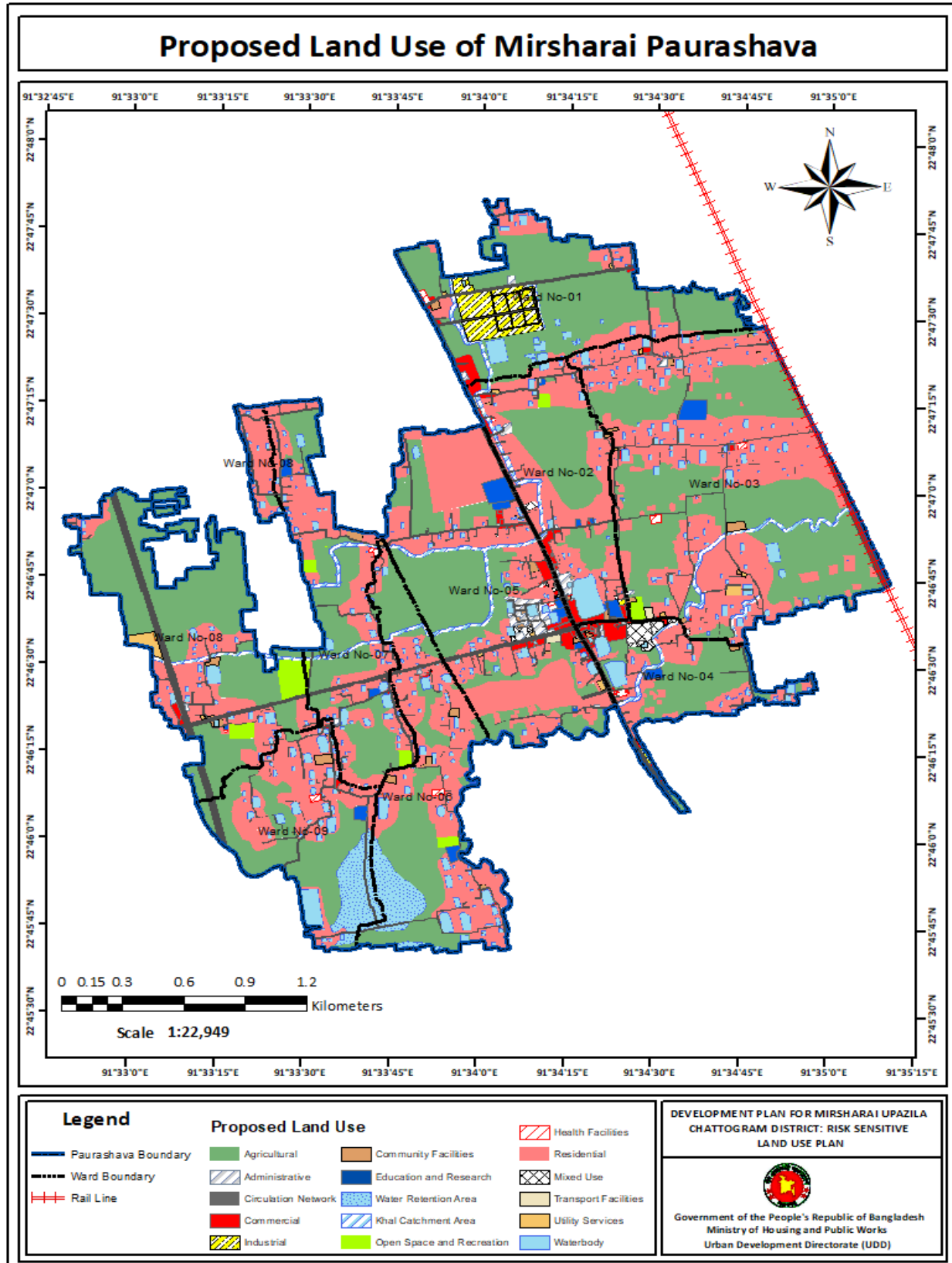
Table 2. 16: Proposed Urban Land Use Categories of Mirsharai Paurashava

Serial No.	Proposed Land Use	Area (Acre)	Percentage (%)
1	Administrative	11.34	0.61
2	Agricultural	893.99	47.81
3	Circulation Network	113.75	6.08
4	Commercial	19.56	1.05
5	Community Facilities	10.98	0.59
6	Drain	4.57	0.24
7	Education and Research	17.33	0.93
8	Health Facilities	4.20	0.22
9	Industrial	23.63	1.26
10	Khal Catchment Area	65.68	3.51
11	Mixed Use	1.61	0.09
12	Open Space and Recreation	13.42	0.72
13	Railline Buffer Area	7.31	0.39
14	Residential	522.79	27.96
15	Transport Facilities	1.48	0.08
16	Utility Facilities	5.60	0.30
17	Water Retention Area	40.84	2.18
18	Waterbody	111.65	5.97
	Total	1869.75	100

Source: GIS Database, MUDP (2017-2037)

From the Table 2. 16, it is clearly evident that Agricultural land use (47.81%) dominates in Mirsharai Paurashava. The second major proposed land use is Residential use and it occupies about 27.96% (893.99 acres) of the Paurashava area. Map 2. 4 shows the proposed urban land use map of Mirsharai Paurashava.

Map 2. 4: Proposed Land Use of Mirsharai Paurashava



2.8 Proposed Facilities for Urban Area

After analyzing the existing conditions of services and facilities of Mirsharai Upazila and considering the local demand form urban PRA and planning standard by UDD, future proposals for urban area have been made.

2.8.1 Proposals for Administrative Use

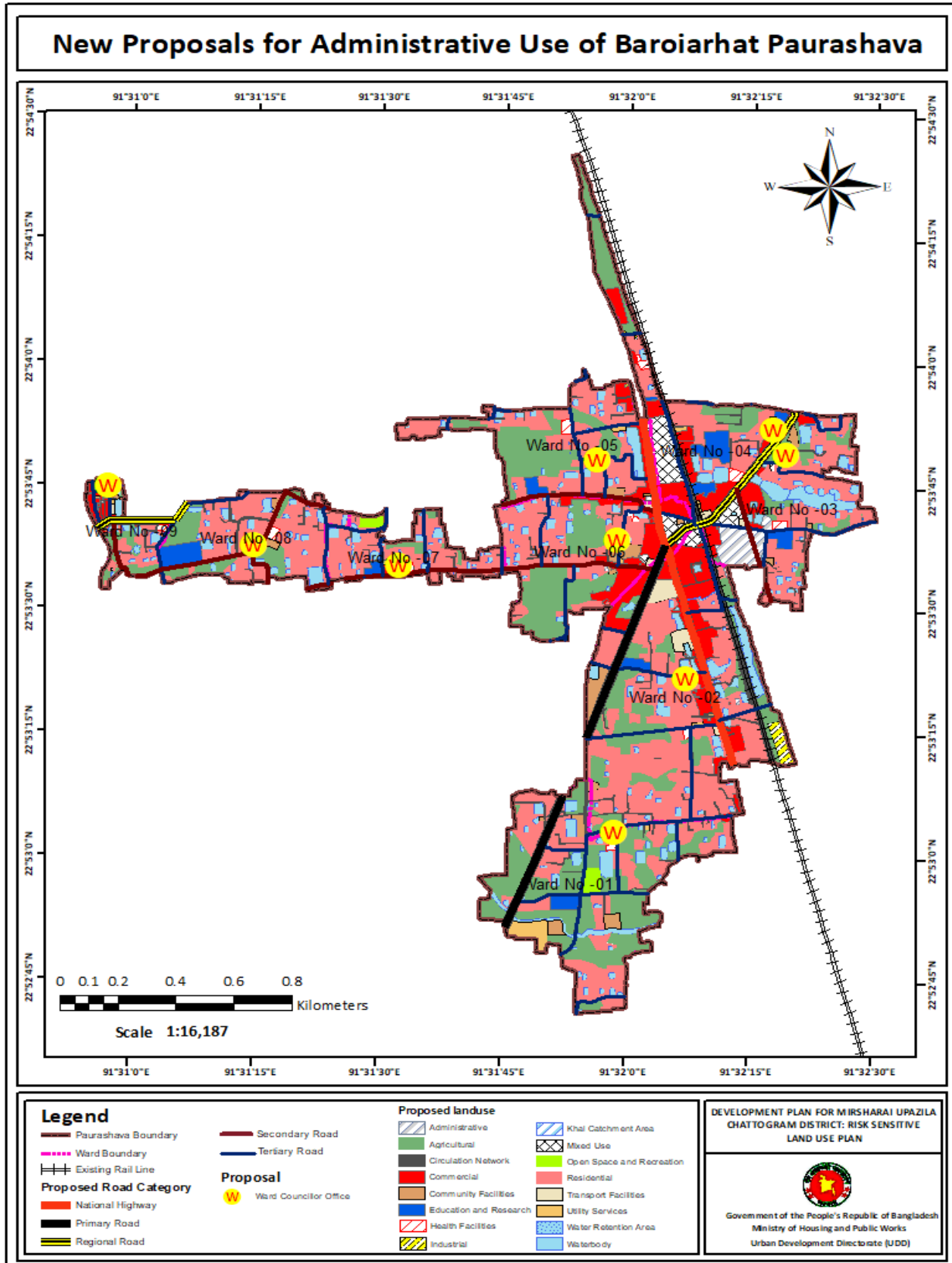
Administrative use covers all kinds of government offices and non-government offices including existing and proposed uses in urban area. PRA analysis reveals that, local people demanded for establishing Ward Counselor office at every ward. However, nine ward councilor offices for every ward are newly proposed to fulfill the future demand of administrative purpose of the urban area. Table 2. 17 denotes the new land use proposals for administrative purpose of urban area. Map 2. 5 shows the new development proposals for administrative use of Baroiarhat Paurashava. Map 2. 6 shows the new development proposals for administrative use of Mirsharai Paurashava.

Table 2. 17: New Development Proposals for Administrative Use

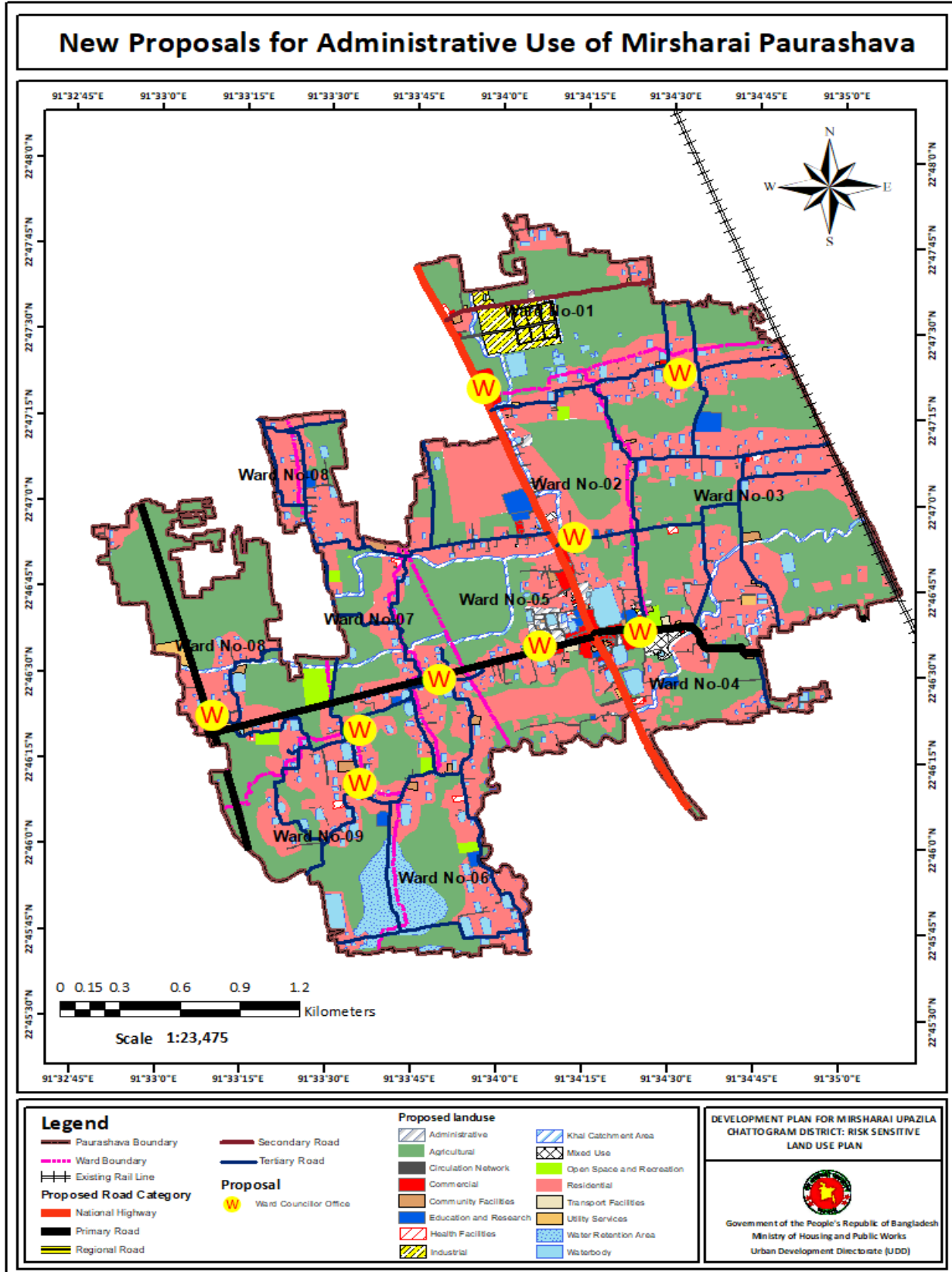
Proposed Facilities	Area (Acre)	Ward No.	Mauza Name	Plot No.
Baroiarhat Paurashava				
Ward Councilor Office	0.20	01	Sonapahar_013_002	1092, 1093, 1104, 1105, 1106, 1107, 1110
	0.26	02	Sonapahar_013_001	99, 101, 102, 103, 122
	0.40	03	Azamnagar_021_002	4690, 4721, 4722, 4725
	0.16	04	Purba Hinguli_011_004	7937, 7943
			Azamnagar_021_002	4678, 4679, 4683
	0.17	05	Jamalpur_020_001	947, 949, 950, 964, 965, 966
	0.38	06	Jamalpur_020_001	1821, 1824, 1825, 1832, 1759, 1760, 1820, 1822, 1823
	0.47	07	Jamalpur_020_001	1607, 1608, 1609, 1610, 1611, 1612, 1613, 1615, 1617
	0.26	08	Jamalpur_020_001	1252, 1255, 1256, 1257, 1258, 1458, 1459, 1509
0.16	09	Paschim Hinguli_022_002	2746, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2712, 2725, 99999	
Mirsharai Paurashava				
Ward Councilor Office	0.26	01	Purba Maghadia_073_003	3002, 3001, 3047, 3048
	0.07	02	Purba Maghadia_073_003	3958, 3959, 3968, 3970, 3971
	0.30	03	Purba Maghadia_073_004	5036, 5148, 5291, 5302, 5303, 5304
	0.08	04	Purba Maghadia_073_003	4197, 4198
	0.28	05	Madhya Maghadia_071_009	55942, 55943, 55944, 56051, 56053
	0.13	06	Madhya Maghadia_071_009	55205, 55207, 55208, 55211, 55215
	0.17	07	Madhya Maghadia_071_009	55103, 5512, 55113, 55114, 55115, 55116, 55121
	0.13	08	Mahachlimpur_056_000	685, 686, 696, 698, 699, 709
	0.14	09	Madhya Maghadia_071_010	57040, 57073, 57079, 57080, 57081, 57082, 57083, 57084, 57059

Source: GIS Database, MUDP (2017-2037)

Map 2. 5: New Proposals for Administrative Use of Baroiarhat Paurashava



Map 2. 6: New Proposals for Administrative Use of Mirsharai Paurashava



2.8.2 Proposals for Residential Use

Residential land use of any urban area is important use and needs full attention. PRA analysis reveals that, local people demanded for planned housing area for future housing purpose.

A. Future Residential Demand of Baroiarhat Paurashava

At first population of Baroiarhat Paurashava in 2011 and 2037 has been calculated. Total No. of population in 2011 was 11,602. This population will be increased to 14,163. Baroiarhat Paurashava household in 2011 and 2037 has been calculated by dividing population of the paurashava with the household number (5). Total no. of Paurashava household in 2011 was 2320. This will be increased to 2833 in 2037. Total surplus household is 513 (2833-2320).

Then existing residential building footprint area and no. of residential structures in Baroiarhat Paurashava has been calculated through GIS database. Existing residential building footprint area is 1727810.78 sq. ft. and total no. of residential structure is 2484. Average existing residential structure area in Baroiarhat Paurashava has been calculated through dividing residential building footprint area with no. of residential structures and it is 696 sq. ft. As average existing residential structure area is covered 60% of its plot area. So, Plot area is 1160 sq. ft. (696/60% sq. ft.). After that future net building footprint has been calculated through following formula,

$$\text{Future Net Building Footprint in acre} = (\text{Plot Area} \times \text{Surplus Household})/43560$$

Future net building footprint area in Baroiarhat Paurashava is 14 acres. After multiplying the future net building footprint area with two, future gross residential area (Future net building footprint X 2) has been calculated. Total future gross residential demand in Baroiarhat Paurashava is 28 acres. Additional 28 acres area is needed for future housing purpose.

B. Future Residential Demand of Mirsharai Paurashava

At first population of Mirsharai Paurashava in 2011 and 2037 has been calculated. Total No. of population in 2011 was 16,218. This population will be increased to 19,797. Mirsharai Paurashava household in 2011 and 2037 has been calculated by dividing population of the paurashava with the household number (5). Total no. of Paurashava household in 2011 was 3244. This will be increased to 3960 in 2037. Total surplus household is 716 (3960-3244).

Then existing residential building footprint area and no. of residential structures in Mirsharai Paurashava has been calculated through GIS database. Existing residential building footprint area is 3032253.01 sq. ft. and total no. of residential structure is 5200. Average existing residential structure area in Mirsharai Paurashava has been calculated through dividing residential building footprint area with no. of residential structures and it is 583 sq. ft. As average existing residential structure area is covered 60% of its plot area. So, Plot area is 972 sq. ft. (583/60% sq. ft.). After that future net building footprint has been calculated through following formula,

$$\text{Future Net Building Footprint in acre} = (\text{Plot Area} \times \text{Surplus Household})/43560$$

Future net building footprint area in Baroiarhat Paurashava is 16 acres. After multiplying the future net building footprint area with two, future gross residential area (Future net building footprint X 2) has been calculated. Total future gross residential demand in Mirsharai Paurashava is 32 acres. Additional 32 acres area is needed for future housing purpose.

About 25.91 acres of land for resettlement housing has been proposed at ward number 03, 05 and 06 in Baroiarhat Paurashava. About 26.32 acres of land for resettlement housing has been proposed at ward number 05 and 06 in Mirsharai Paurashava. It can be precisely assumed that the area will provide meaningful living condition. Table 2. 18 denotes the new land use proposals for residential use of the urban area. Map 2. 7 shows the new development proposals for housing area of Baroiarhat Paurashava. Map 2. 8 shows the new development proposals for housing area of Mirsharai Paurashava.

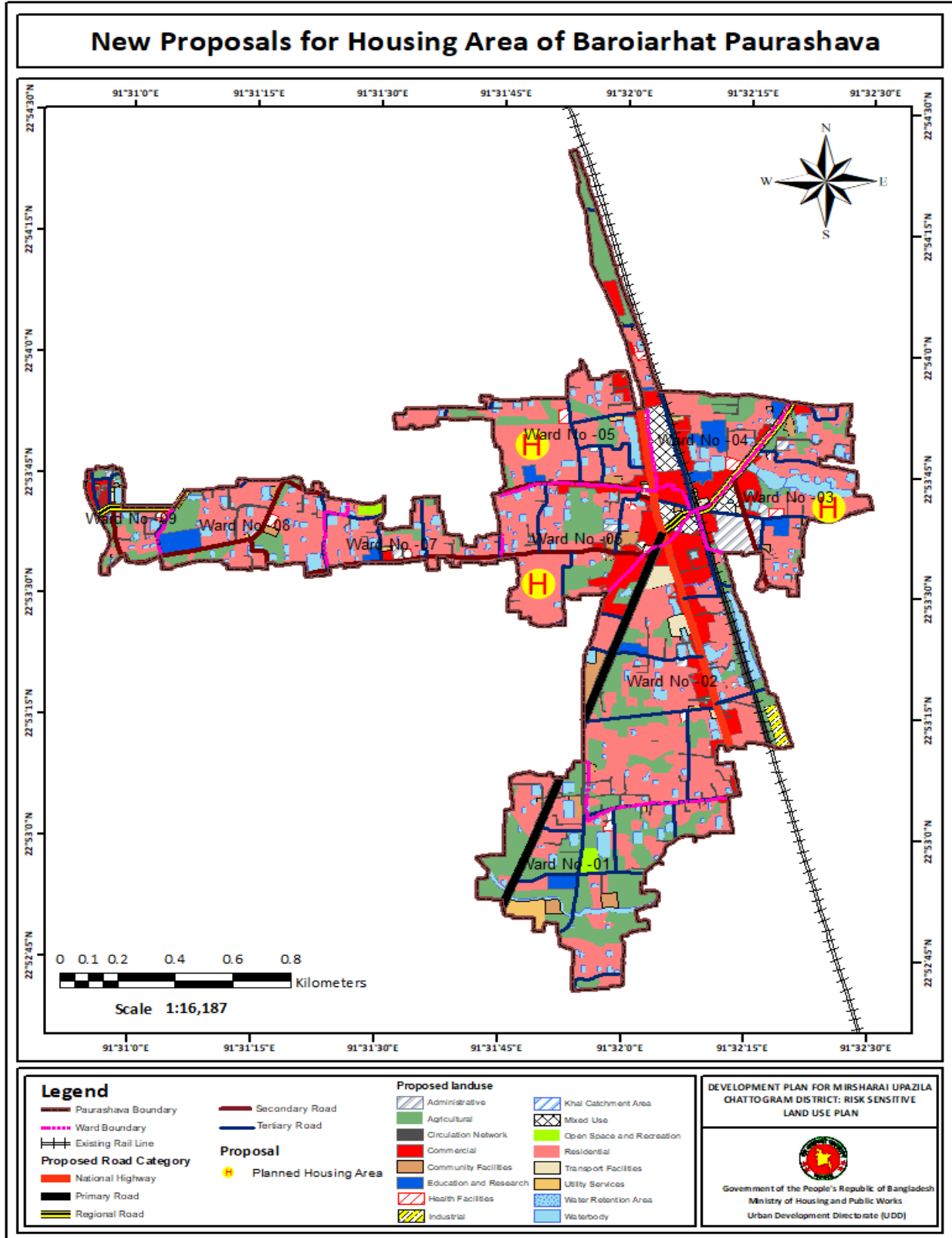
Table 2. 18: New Development Proposals for Residential Use

Proposed Facilities	Area (Acre)	Ward No.	Mauza Name	Plot No.
Baroiarhat Paurashava				
Planned Housing Zone	5.07	03	Azamnagar_021_002	4714, 4715, 4924
			Purba Hinguli_011_005	10007, 10008, 10009, 10010, 10011, 10012, 10013, 10014, 10015, 10016, 10017, 10018, 10019, 10020, 10021, 10022, 10023, 10024, 10025, 10026, 10027, 10028, 10029, 10030, 10408, 10420, 10421
	10.84	06	Jamalpur_020_001	1668, 1691, 1692, 1694, 1704, 1712, 1713, 1714, 1715, 1716, 1717, 1718, 4138, 4139, 4140, 4141, 4142, 4143, 4145, 4165, 4167, 4168, 4169, 4170, 4171, 4172, 4172, 4173, 4174, 4175, 4176, 4180, 4181, 4184, 4189, 4190, 4191, 4193, 4194, 4195, 4196, 4197, 4198, 4199, 4200, 4201, 4202, 4203, 4204, 4205, 4206, 4207, 4208, 4209, 4210, 4211, 4212, 4213, 4214, 4215, 4216, 4217, 4218, 4226, 4227, 4228, 4229, 4230, 4231, 4232, 4233, 4234, 4235, 4263, 4265, 4269, 4281, 99999
10	05	Jamalpur_020_001	661, 662, 814, 815, 816, 817, 819, 821, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 839, 840, 841, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 881, 882, 883, 884, 925, 934, 969, 970, 972, 99999	
Mirsharai Paurashava				
Planned Housing Zone	26.32	05, 06	Madhya Maghadia_071_009	55604, 55605, 55609, 55638, 55639, 55640, 55641, 55642, 55643, 55647, 55648, 55649, 55650, 55651, 55652, 55653, 55654, 55655, 55656, 55657, 55658, 55659, 55660, 55661, 55662, 55663, 55664, 55665,

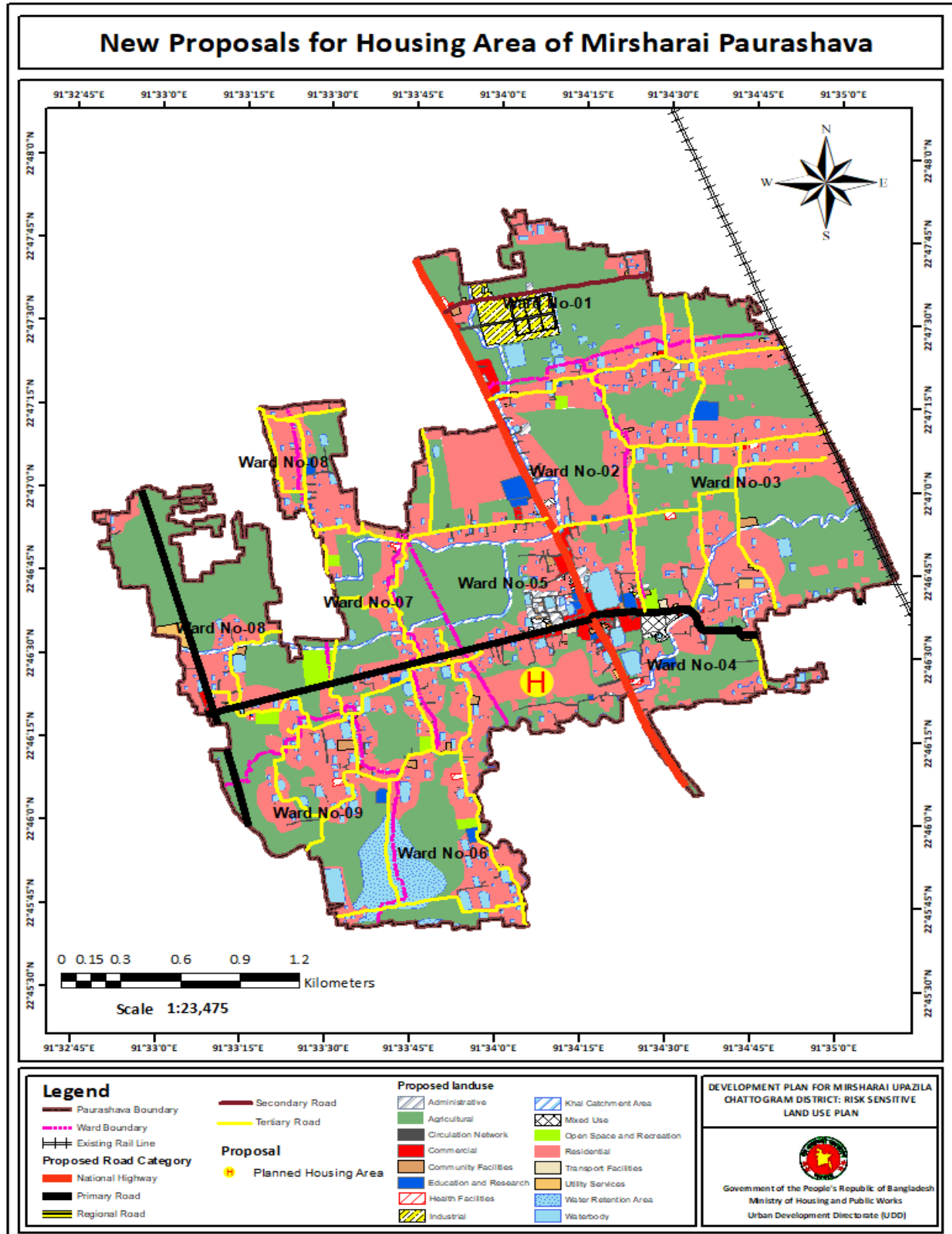
Proposed Facilities	Area (Acre)	Ward No.	Mauza Name	Plot No.
				55672, 55673, 55674, 55683, 55684, 55685, 55686, 55687, 55688, 55689, 55690, 55691, 55692, 55693, 55694, 55695, 55696, 55697, 55698, 55699, 55700, 55701, 55702, 55717, 55719, 55720, 55721, 55722, 55727, 55728, 55729, 55733, 55734, 55735, 55741, 55742, 55743, 55744, 55745, 55746, 55748, 55749, 55750, 55751, 55752, 55753, 55754, 55755, 55756, 55757, 55758, 56210, 55810, 55811, 55812, 55813, 55814, 55815, 55816, 55817, 55818, 55819, 55820, 55821, 55822, 55823, 55824, 55825, 55826, 55827, 55828, 55829, 55830, 55831, 55832, 55833, 55853, 55854, 55855, 55857, 55864, 55865, 55866, 55867, 55868, 55869, 55870, 55871, 55872, 55873, 55874, 55875, 55876, 55877, 55878, 55879, 55880, 55881, 55882, 55883, 55884, 55885, 55886, 55887, 55888, 55889, 55890, 55891, 55892, 55893, 55894, 55895, 55896, 55897, 55898, 55899, 55900, 55901, 55902, 55903, 55904, 55905, 55906, 55907, 55913, 56116, 56118, 56119, 56159, 56160, 56170, 55759, 55911, 55912, 55914, 55915, 56211, 56114, 56115, 56117, 56121

Source: GIS Database, MUDP (2017-2037)

Map 2. 7: New Proposals for Housing Area of Baroiarhat Paurashava



Map 2. 8: New Proposals for Housing Area of Mirsharai Paurashava



2.8.3 Proposals for Commercial Use

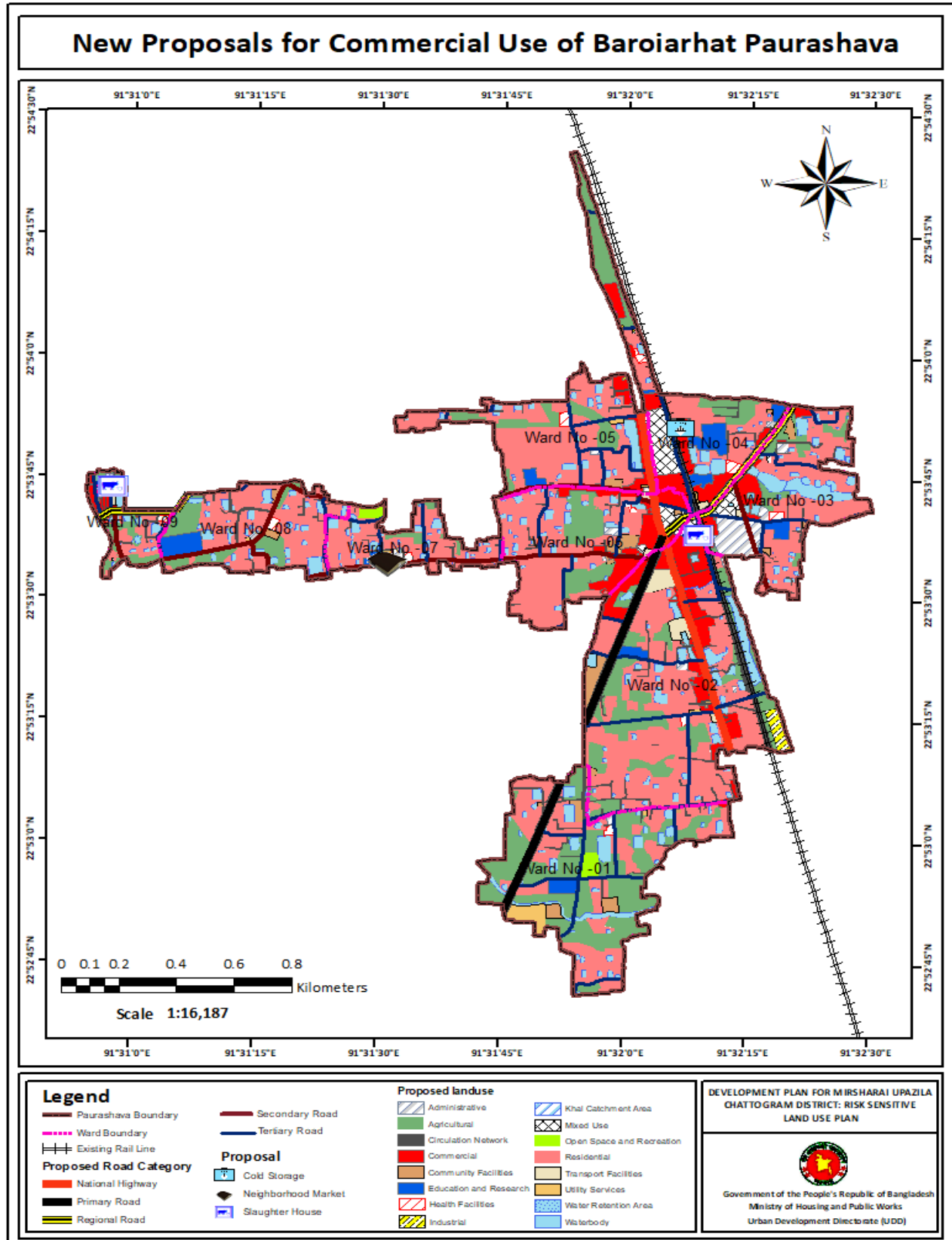
Existing commercial areas and areas potential for future commercial development have been placed under commercial use. According to the PRA survey, participants from urban area asked for kitchen market, central bazar, slaughter house, and central agro-based market with cold storage facilities. However, one neighborhood market, one cold storage and two slaughter houses have been proposed for commercial purpose of Baroiarhat Paurashava. Besides, one wholesale market, four neighborhood market and one slaughter house has been proposed for commercial use of Mirsharai Paurashava. Table 2. 19 represents the new development proposals for commercial use of both Baroiarhat and Mirsharai Paurashava. Map 2. 9 shows the new development proposals for commercial use of Baroiarhat Paurashava and Map 2. 10 shows the new development proposals for commercial use of Mirsharai Paurashava.

Table 2. 19: New Development Proposals for Commercial Use

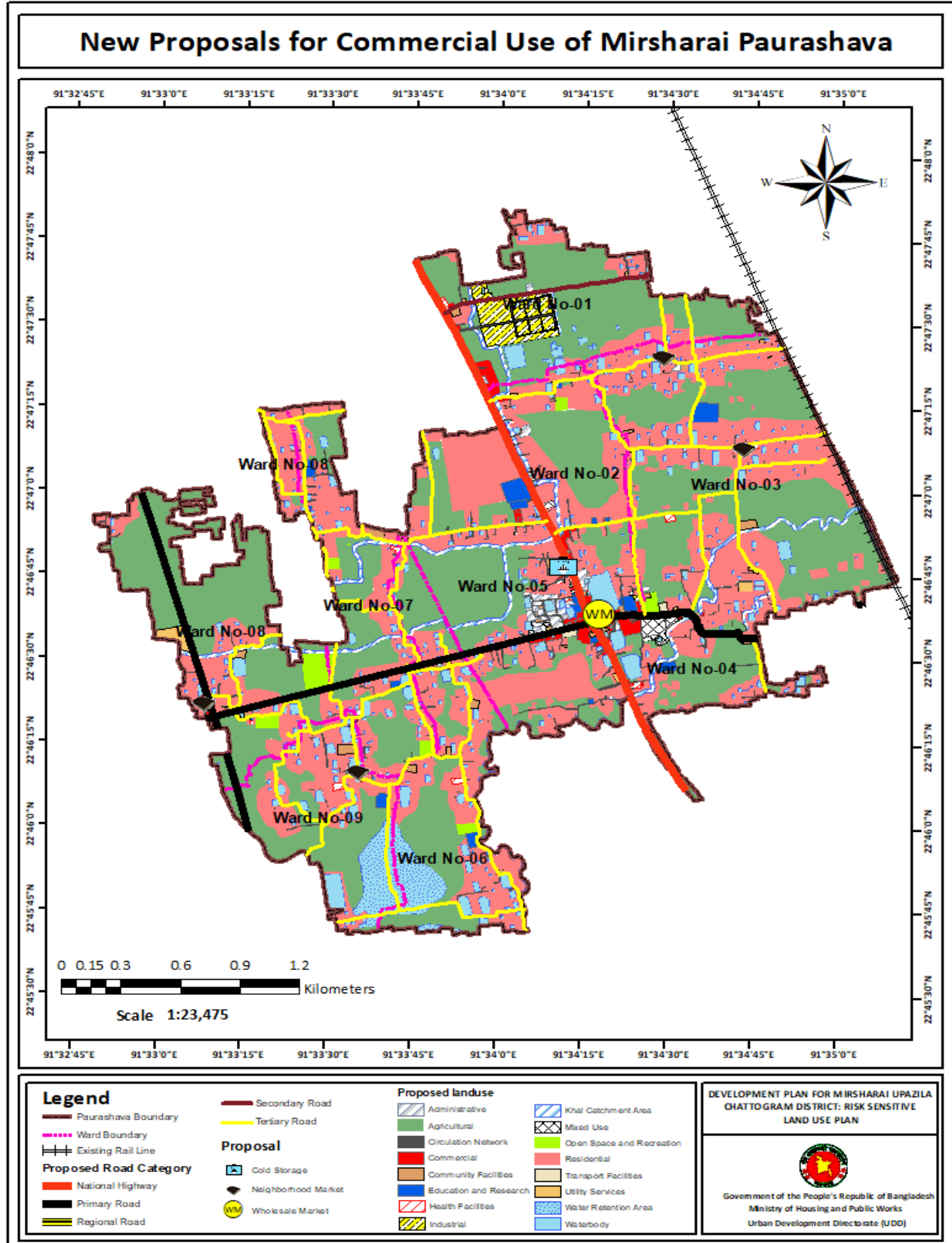
Proposed Facilities	Area (Acre)	Ward No.	Mauza Name	Plot No.
Baroiarhat Paurashava				
Neighborhood Market	0.24	07	Jamalpur_020_001	1605, 1606, 1607
Cold Storage	0.58	04	Azamnagar_021_002	4619, 4626, 4627, 4628, 4630
Slaughter House	0.09	02	Sonapahar_013_001	242, 243, 244, 245, 293
	0.08	09	Paschim Hinguli_022_002	2712, 2719, 2720, 2721, 2722, 2723, 2724, 2725, 99999
Mirsharai Paurashava				
Wholesale Market	1.72	02	Purba Maghadia_073_003	3001, 4144, 4331, 4134, 4135, 4136, 4190, 4137, 4138, 4192, 4139, 4309, 4191, 4193, 4194, 4333, 4334, 4332, 4141, 4140, 4335, 4143, 4142
Neighborhood Market	0.27	03	Purba Maghadia_073_003	3680
			Purba Maghadia_073_004	5008, 5034
	0.21	03	Purba Maghadia_073_004	5500, 5668, 5678
	0.57	08	Mahachlimpur_056_000	698, 699, 700, 701, 702, 704, 705, 706, 708, 734
	0.25	07, 09	Madhya Maghadia_071_010	57439, 57040, 57082, 57083, 57084, 57085, 57059
Cold Storage	1.33	05	Madhya Maghadia_071_009	56007, 56008, 56014, 56194

Source: GIS Database, MUDP (2017-2037)

Map 2. 9: New Proposals for Commercial Use of Baroiarhat Paurashava



Map 2. 10: New Proposals for Commercial Use of Mirsharai Paurashava



2.8.4 Proposals for Education and Research

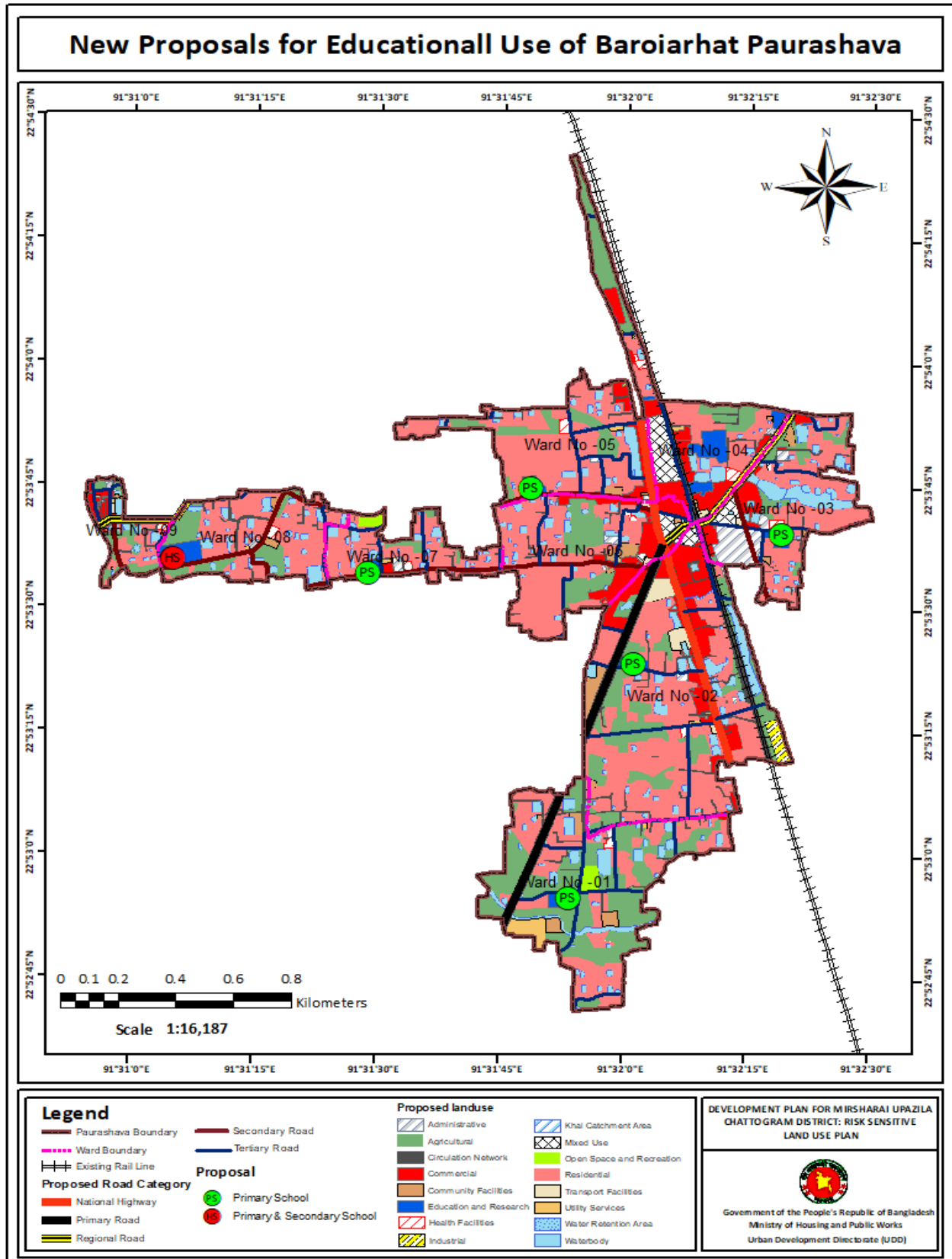
Educational and research area refers to mainly educational institutes such as nursery/kindergarten, primary school, secondary school, colleges, madrasah, vocational/ polytechnic institute. PRA analysis reveals that, local people demanded for establishing primary school at several ward in both Baroiarhat and Mirsharai Paurashava. Considering different planning aspects, five new primary schools and one primary cum secondary school have been proposed at Baroiarhat Paurashava. On the other hand, four new primary schools, one primary cum secondary school and one vocational training institute have been proposed at Mirsharai Paurashava Besides, with increasing enrollment in schools, existing primary schools may be expanded horizontally or vertically. Table 2. 20 represents the new land use proposals for education and research purpose. Map 2. 11 shows the new development proposals for educational use of Baroiarhat Paurashava and Map 2. 12 shows the new development proposals for educational use of Mirsharai Paurashava.

Table 2. 20: List of Proposals for Education and Research

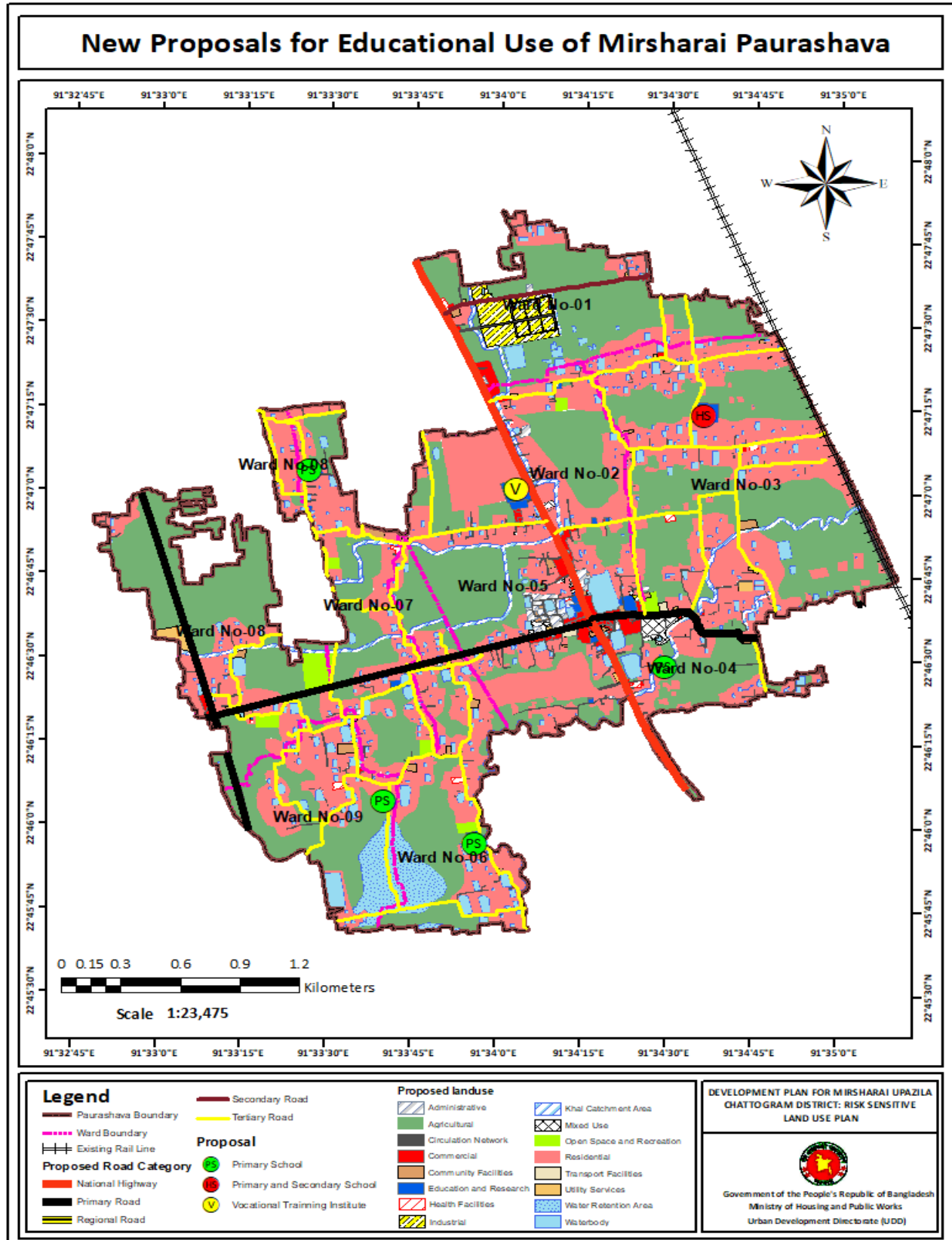
Type of Facilities	Area (Acre)	Ward No.	Mauza Name	Plot No.
Baroiarhat Paurashava				
Primary School	1.25	01	Sonapahar_013_002	920, 928, 923, 930, 927, 922, 924, 960, 962
	0.90	02	Sonapahar_013_001	56, 58, 62, 63, 69, 70, 76, 77, 78, 87, 89, 93, 98
	1.17	03	Purba Hinguli_011_005	10440, 10445, 10446, 10447, 10448, 10449, 10450, 10462
	1.01	05	Jamalpur_020_001	821, 822, 823, 839, 841, 842, 843, 844, 845, 848
	0.66	07	Jamalpur_020_001	1583, 1584, 1592, 1593, 1594, 1605, 1606
Primary & Secondary School	2.89	08	Jamalpur_020_001	1326, 1327, 1329, 1330, 1331, 1340, 1422, 1423, 1424, 1425, 1426, 1427, 1428, 1429, 1430, 1431, 1432, 1433, 1434, 1435, 1436, 1437, 1438, 1439, 1440, 1441, 1442, 1443
Mirsharai Paurashava				
Primary School	1.12	04	Purba Maghadia_073_005	7003, 7028, 7029, 7030, 7031, 7032, 7034, 7039, 7040, 7041, 7042
	1.03	06	Madhya Maghadia_071_010	58057, 58058, 58059, 58060, 58061, 58062, 58063, 58072, 58073, 58074, 58075, 58076, 58077
	1.09	07	Raghabpur_055_000	1153, 1282, 1283, 1284, 1285, 1290, 1223, 1275, 1280, 1281, 1292, 1297
	1.14	09	Madhya Maghadia_071_010	57415, 57416, 57417, 57418, 57419, 57420, 57424, 57426, 57427, 57428, 57429, 57431, 59400
Primary & Secondary School	3.47	03	Purba Maghadia_073_004	5369, 5366, 5373, 5381, 5386, 5385, 5372, 5365, 5370, 5382, 5387, 5384, 5371, 5452, 5450, 5388, 5363, 5383, 5451, 5455, 5453, 5437, 5448, 5449, 5454, 5443, 5444, 5445, 5447, 5488, 5487, 5457
Vocational Training Institute	3.51	05	Katagang_107_003	3521, 3522, 3523, 3524, 3525, 3526, 3527, 3529, 3530, 3531, 3532, 3533, 3535, 3534, 3536, 3545, 3546, 3547, 3548, 3549, 3550, 3551, 3552, 3553, 3554, 3555, 3556, 3557, 3558, 3559, 3570, 3571, 3572, 3573,

Source: GIS Database, MUDP (2017-2037)

Map 2. 11: New Proposals for Educational Use of Baroiarhat Paurashava



Map 2. 12: New Proposals for Educational Use of Mirsharai Paurashava



2.8.5 Proposals on Health Care Facilities

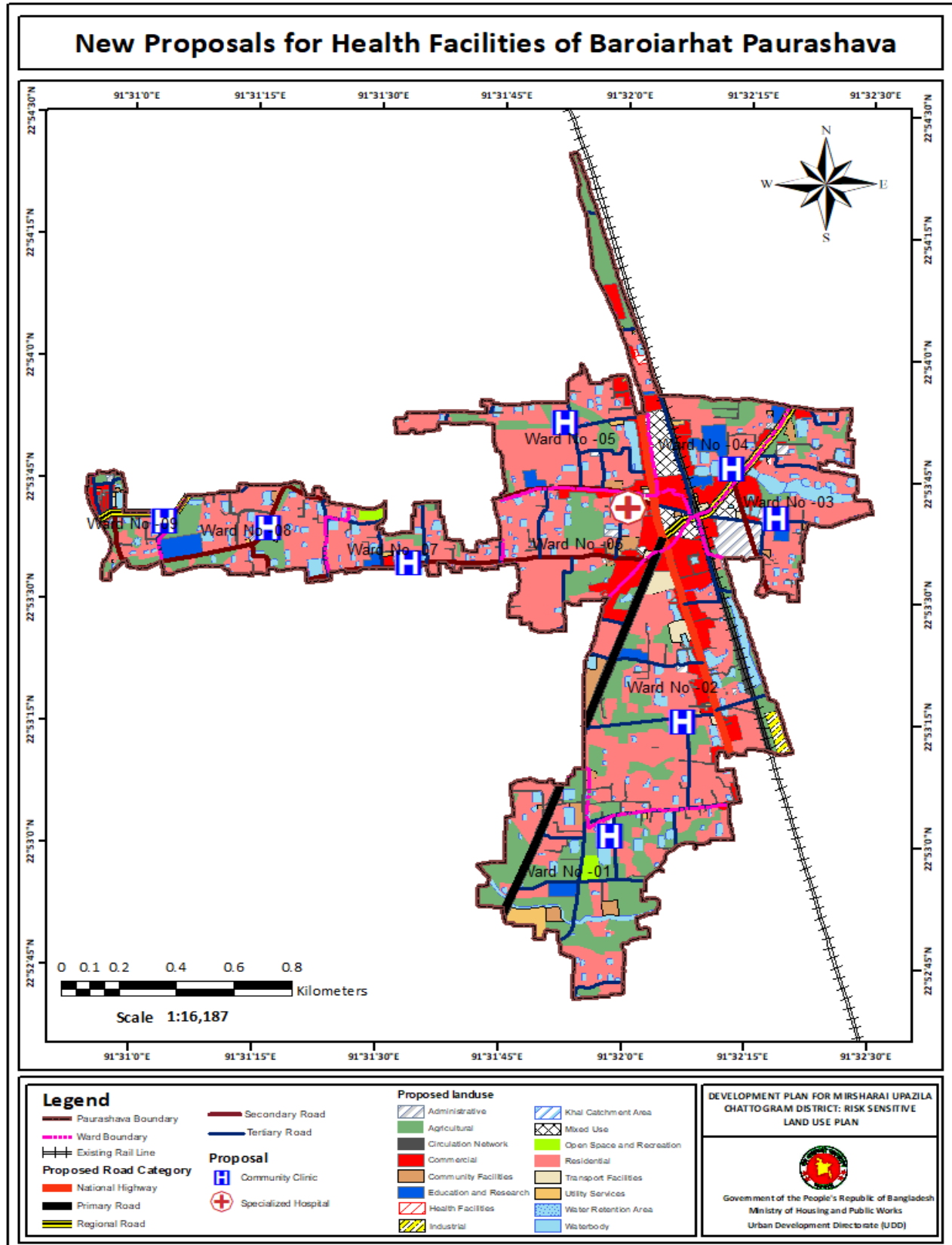
The zone of health care facilities is intended to provide locations, where health facilities including Upazila Health Complex, maternity clinics, and other health facilities can be set up. Demand of health facilities is one of the major demands of local people. Almost all PRA participants of both Baroiarhat and Mirsharai Paurashava demanded for community clinic at each ward. However, eight community clinics and one specialized hospital have been proposed at Baroiarhat Paurashava and seven community clinics have been proposed at Mirsharai Paurashava. Table 2. 21 represents the new land use proposals for health care facilities purpose of urban area. Map 2. 13 shows the new proposals for Health Facilities of Baroiarhat Paurashava and Map 2. 14 shows the new proposals for Health Facilities of Mirsharai Paurashava.

Table 2. 21: List of Proposals for Health Care Facilities

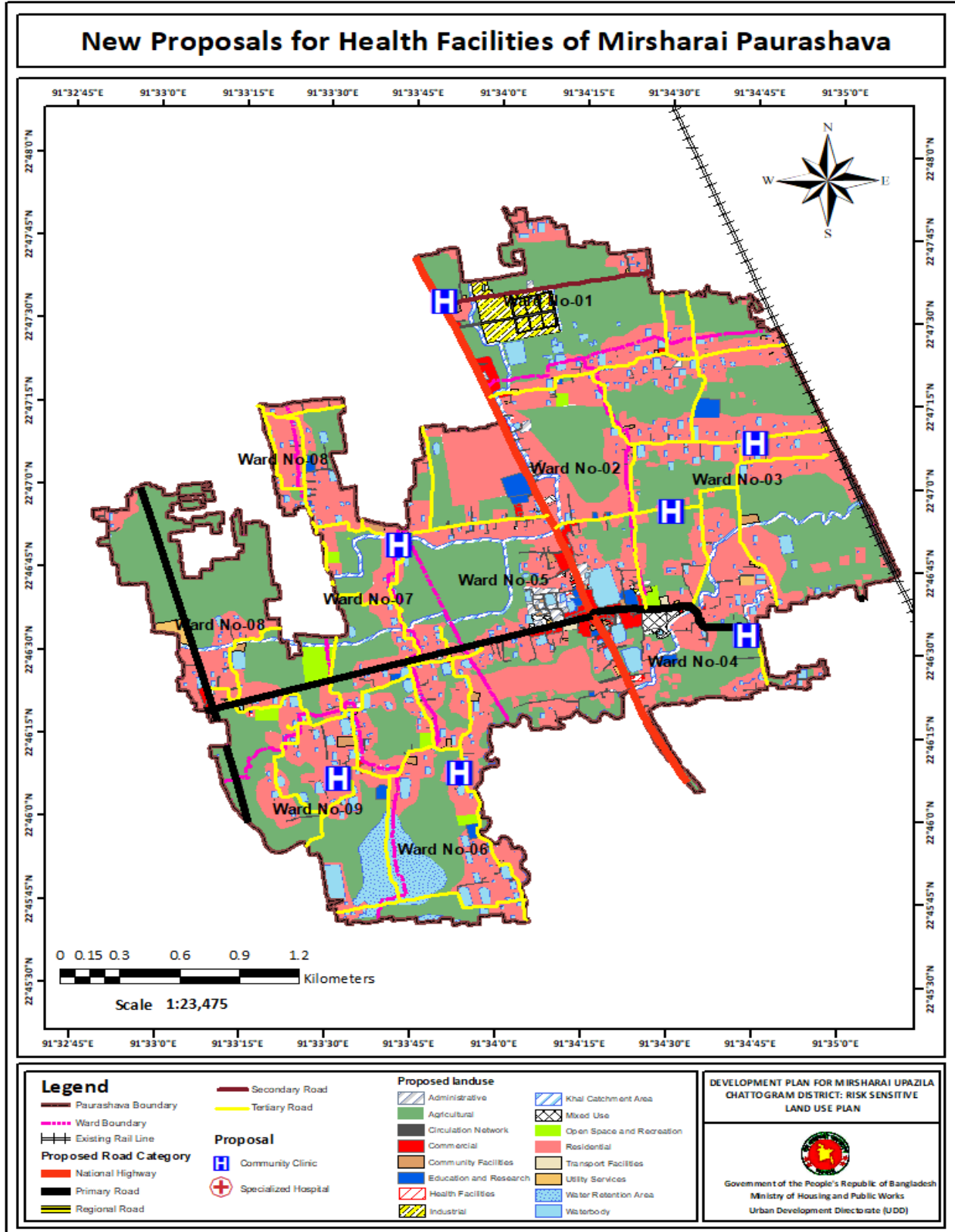
Type of Facilities	Area (Acre)	Ward No.	Mauza Name	Plot No.
Baroiarhat Paurashava				
Community Clinic	0.28	01	Sonapahar_013_002	1101, 1102, 1110, 1111, 1112
	0.23	02	Sonapahar_013_001	169, 172, 173, 174, 207, 208,
	0.39	03	Purba Hinguli_011_005	10005, 10008, 10421
	0.50	04	Azamnagar_021_002	4659, 4660, 4663, 4664, 4679, 4680, 4682, 4665
	0.47	05	Jamalpur_020_001	877, 878, 892, 893, 909, 924, 925, 99999
	0.26	07	Jamalpur_020_001	1608, 1609, 1610, 1611, 1629, 1630, 1631, 1632, 1634
	0.40	08	Jamalpur_020_001	1239, 1243, 1247, 1249, 1250, 1251
	0.26	09	Jamalpur_020_001	1319, 1337, 1341, 1342, 1343
Specialized Hospital	0.22	06	Jamalpur_020_001	1780, 1781, 1787, 1788, 1789, 1790
Mirsharai Paurashava				
Community Clinic	0.51	01	Purba Maghadia_073_001	1447, 1448, 1449, 1450, 1451, 1452, 1453, 1469, 1480, 1481, 1486
	0.40	03	Purba Maghadia_073_004	5500, 5666, 5667, 5668, 5669
	0.51	03	Purba Maghadia_073_004	5792, 5791, 5805, 5794, 5806, 5807, 5796
	0.26	04	Purba Maghadia_073_005	7136, 7269, 7270
	0.45	06	Madhya Maghadia_071_010	58183, 58198, 58199, 58220, 58221, 58222, 58223, 58224
	0.42	07	Katagang_107_003	3166, 3164, 3255, 3254, 3165, 3163, 3168
	0.44	09	Madhya Maghadia_071_008	53501, 53502, 53504
			Madhya Maghadia_071_010	57026, 57453, 57451, 57030

Source: GIS Database, MUDP (2017-2037)

Map 2. 13: New Proposals for Health Facilities of Baroiarhat Paurashava



Map 2. 14: New Proposals for Health Facilities of Mirsharai Paurashava



2.8.6 Proposals for Open Space and Recreational Facilities

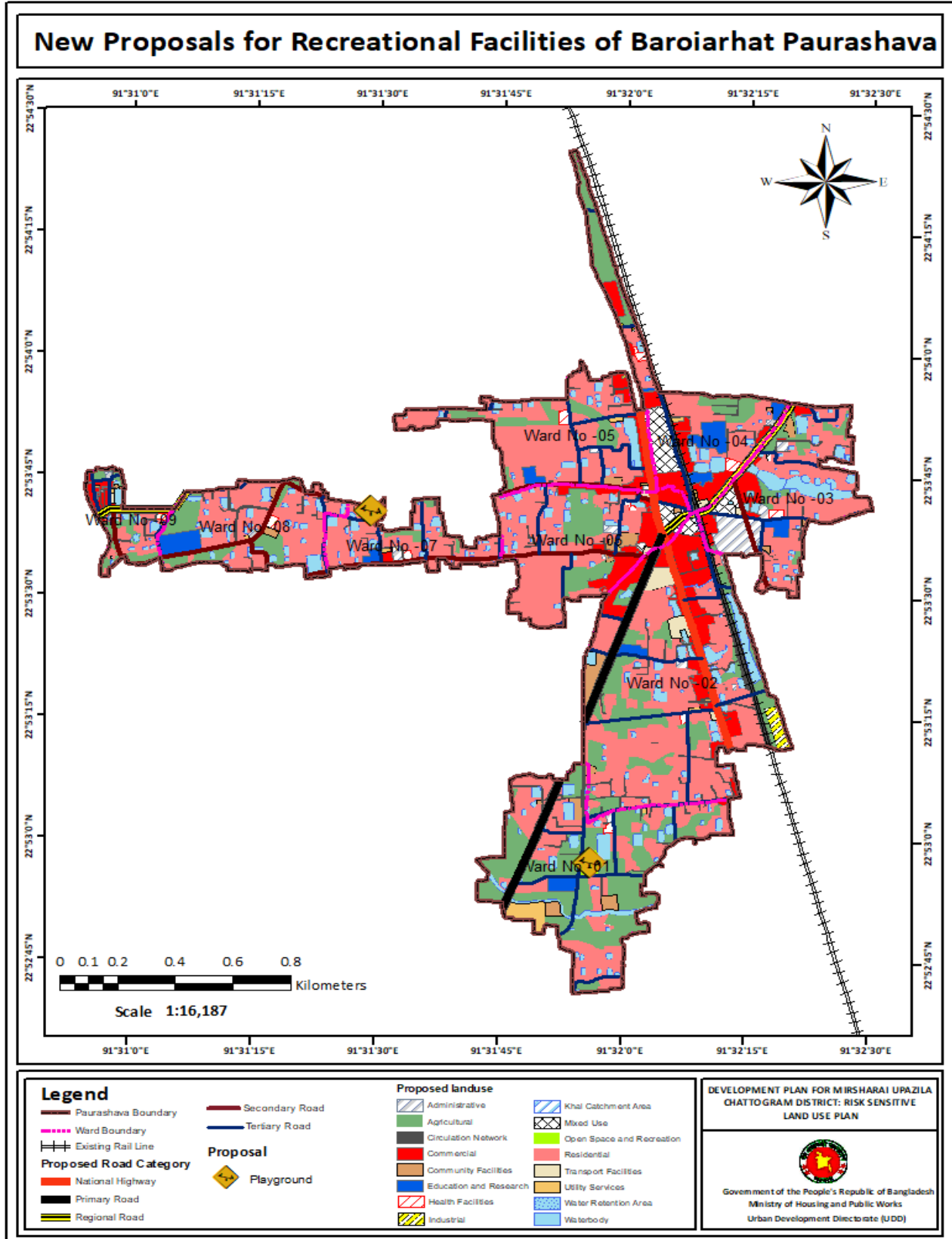
Open space and recreational facilities without or with minimum building structure i.e. stadium, sports complex, playground, park/neighborhood park, Children Park, etc. are listed and proposed in the Open Space zone. To develop the mental and physical growth, two playgrounds have been proposed at Baroiarhat Paurashava and five playgrounds and one children park have been proposed at Mirsharai Paurashava. Table 2. 22 represents the new land use proposals for open space and recreational facilities purpose. Map 2. 15 shows the new development proposals for Open Space and Recreational facilities of Baroiarhat Paurashava and Map 2. 16 shows the new development proposals for Open Space and Recreational facilities of Mirsharai Paurashava.

Table 2. 22: List of Proposals for Open Space and Recreational Facilities

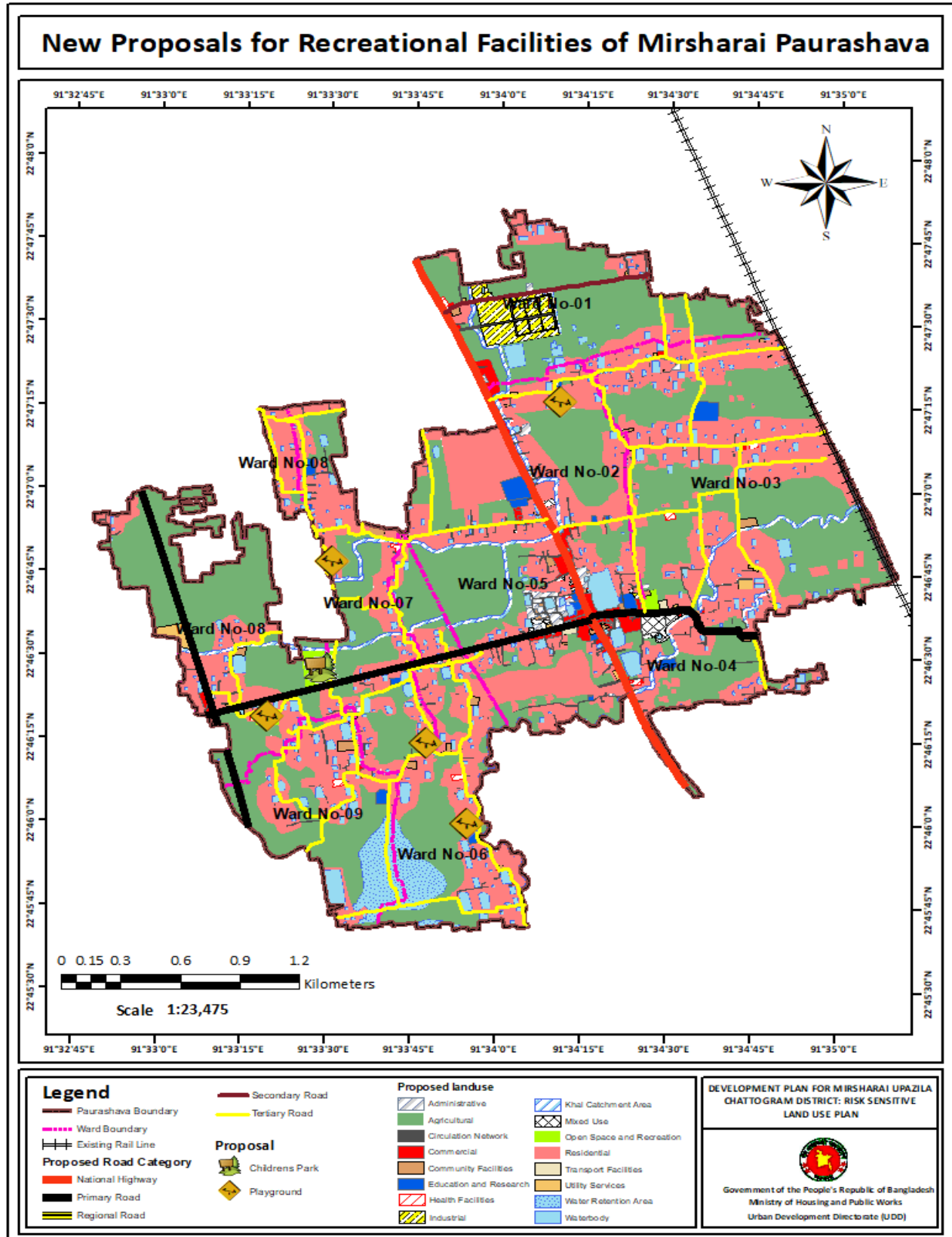
Type of Facilities	Area (Acre)	Ward No.	Mauza Name	Plot No.
Baroiarhat Paurashava				
Playground	1.35	01	Sonapahar_013_002	1149, 1150, 1098, 1156, 962
	0.98	07	Jamalpur_020_001	333, 336, 337, 338, 1126, 1134, 1135, 1136, 1137, 1156, 1157, 1158, 1159, 1161, 1162, 1163, 1218, 1572
Mirsharai Paurashava				
Playground	1.05	02	Purba Maghadia_073_003	3510, 3509, 3497, 3520, 3496, 3519, 3495, 3494, 3521, 3522
	1.45	06	Madhya Maghadia_071_010	58073, 58075, 58076, 58103, 58104, 58105, 58106, 58107, 58108, 58109, 58110, 58111, 58112, 58113, 58115, 58124, 58125, 58126, 58128, 58129, 58130
	1.41	07	Madhya Maghadia_071_010	57264, 57265, 57266, 57267, 57268, 57269, 57284, 57285, 57286, 57207, 57270, 57271, 57272
	1.01	07	Raghabpur_055_000	1438, 1439, 1467, 1468, 1469
	2.22	08	Mahachlimpur_056_000	784, 808, 809
Madhya Maghadia_071_008			53105, 53108, 53109, 53110, 53111, 53112, 53113, 53163, 53164, 53165, 53166, 53168, 53169, 53170, 53171	
Children Park	6.89	08	Madhya Maghadia_071_008	53010, 53011, 53012, 53013, 53032, 53034, 53035, 53036, 53037, 53038, 53039, 53040, 53041, 53042, 53043, 53044, 53045, 53046, 53047, 53048, 53050, 53051, 53052, 53053, 53059, 53062, 53063, 53064, 53052, 53051, 53051
			Madhya Maghadia_071_009	55095, 55001, 55002, 55095, 55001, 55002

Source: GIS Database, MUDP (2017-2037)

Map 2. 15: New Proposals for Recreational Facilities of Baroiarhat Paurashava



Map 2. 16: New Proposals for Recreational Facilities of Mirsharai Paurashava



2.8.7 Proposals for Community Facilities

Community facilities include community center, graveyard/cremation ground, fire service, public library, police outpost, post office, T&T Office, eidgah, mosque/church/temple, station, club, etc. According to the PRA participants from the urban area, eidgah, graveyard/cremation ground, community center, etc. is their basic demand. Considering the adopted planning standard and local demand from PRA survey, one community center, one eidgah, six graveyard, one cremation ground has been proposed at Baroiarhat Paurashava and one community center, five graveyard, three cremation ground has been proposed at Mirsharai Paurashava. Table 2. 23 represents the new land use proposals for community facilities purpose of urban area. Map 2. 17 shows the new proposals for community facilities of Baroiarhat Paurashava and Map 2. 18 shows the new proposals for community facilities of Mirsharai Paurashava.

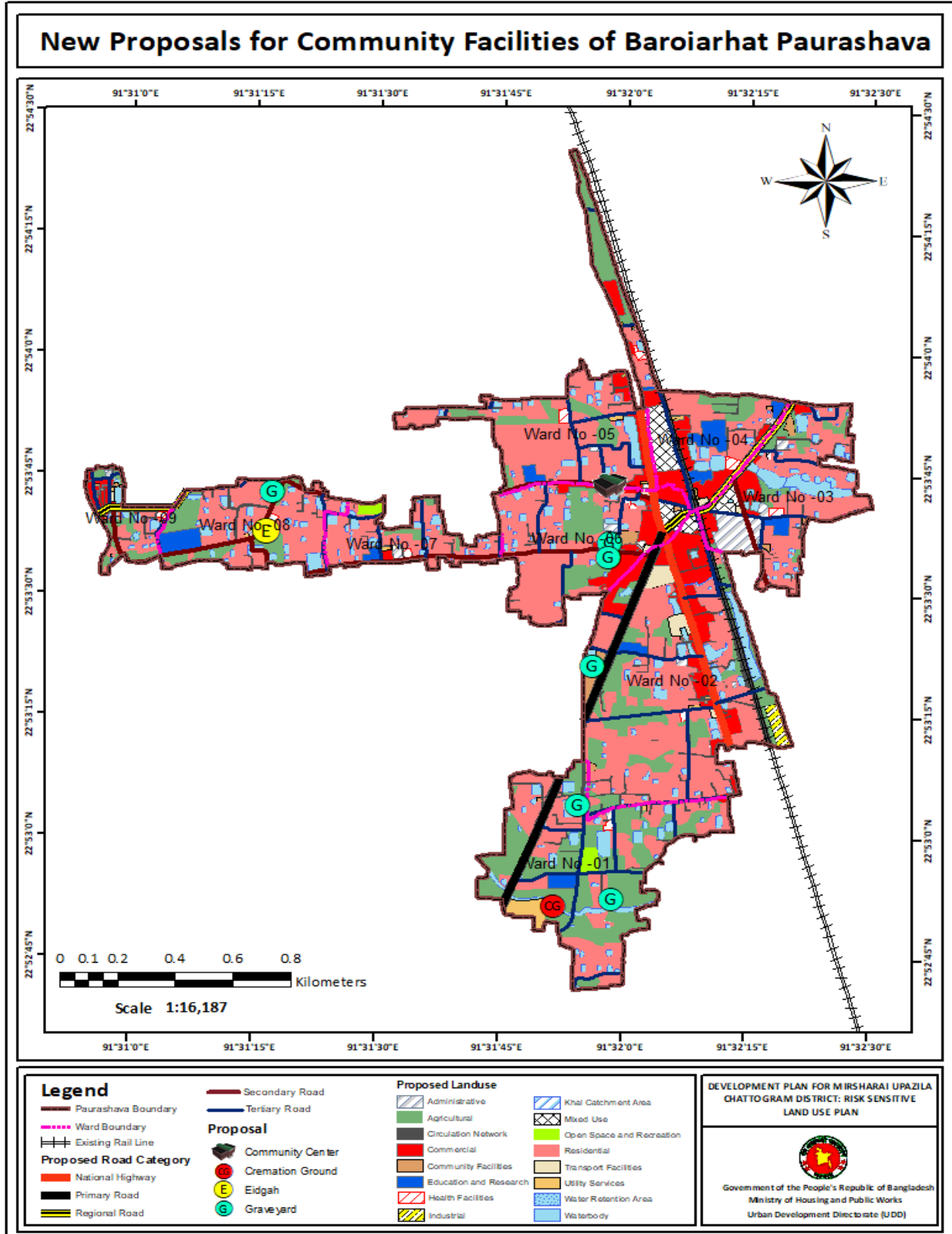
Table 2. 23: List of Proposals for Community Facilities

Type of Facilities	Area (Acre)	Ward No.	Mauza Name	Plot No.
Baroiarhat Paurashava				
Community Center	0.58	05	Azamnagar_021_002	4564, 4565, 4566, 4567, 4568, 4569
Eidgah	0.38	08	Jalampur_020_001	1245, 1246, 1247, 1509, 1511, 1512, 1513, 1514, 1521, 1251
Graveyard	0.73	01	Sonapahar_013_002	1162, 1161, 1164, 1163, 1154
			Imampur_019_000	1018, 1019
	0.67	01	Sonapahar_013_002	871, 961, 962
	1.97	02	Sonapahar_013_001	141, 136, 139, 84, 80, 81, 11, 10
	0.31	06	Jalampur_020_001	1826, 1827, 1829, 1830, 1832
	0.17	06	Jalampur_020_001	1713, 1829, 1838
Graveyard	0.25	08	Jalampur_020_001	1266, 1270, 1271, 1272, 1273, 1274, 1277
	0.71	01	Sonapahar_013_002	953, 949, 952, 950, 951, 931
Mirsharai Paurashava				
Community Center	0.21	05	Madhya Maghadia_071_009	56137, 56138, 56139, 56140, 56141, 56142
Graveyard	0.25	03	Purba Maghadia_073_003	3831, 3830, 3832, 3828, 3826, 3827, 3810, 3812, 3818
	1.83	03	Purba Maghadia_073_004	6049, 6040, 6035, 6039, 6065, 6038, 6036
	0.49	06	Madhya Maghadia_071_010	57113, 57115, 57312, 57325, 57328, 57329, 57330, 57331, 57332, 57334, 57114
	0.92	07	Katagang_107_003	3155, 3150, 3149, 3148, 3154
	1.12	09	Madhya Maghadia_071_010	57010, 57017, 57049, 57050, 57052, 57053, 57054, 57055, 57056, 57057, 57006, 99999

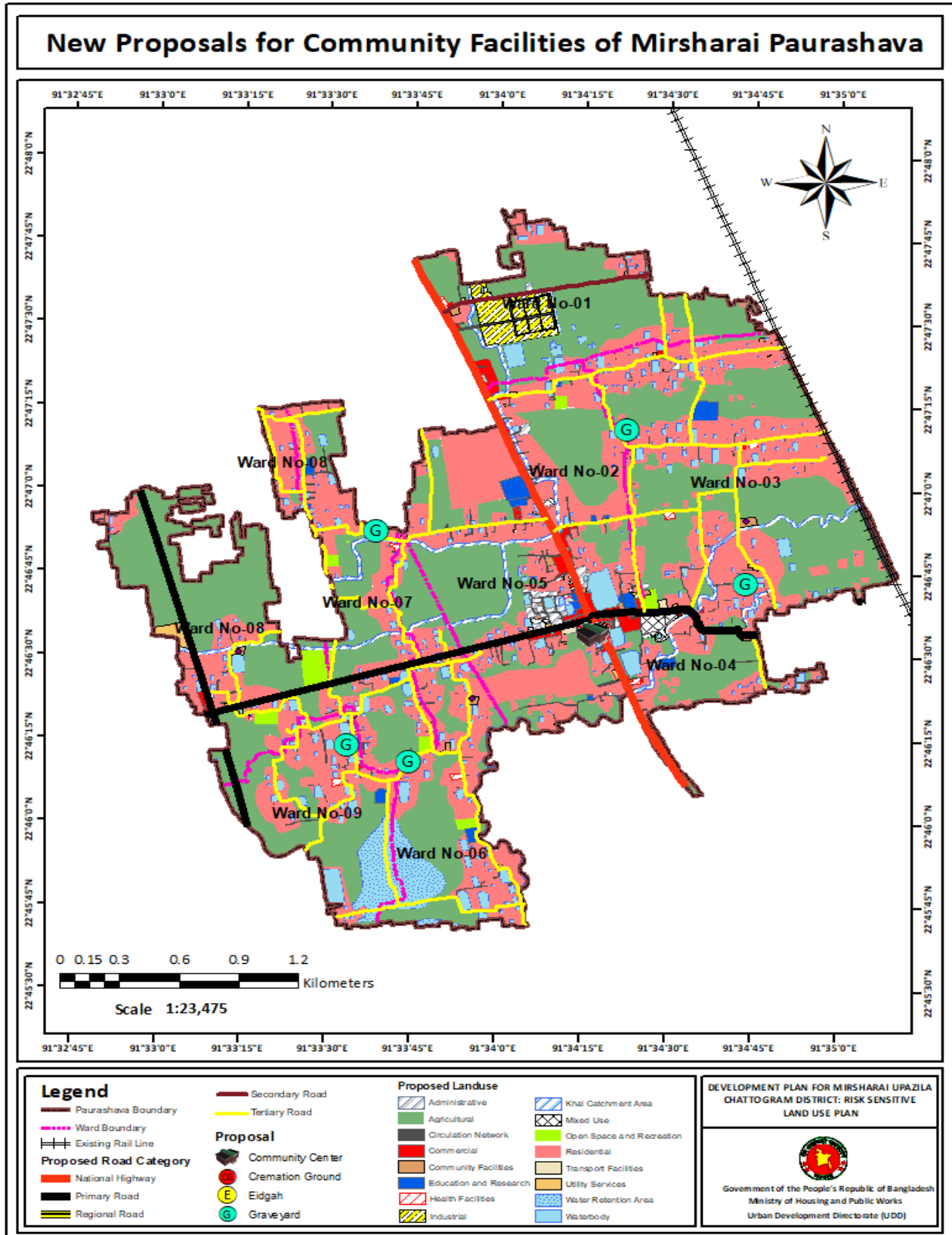
Type of Facilities	Area (Acre)	Ward No.	Mauza Name	Plot No.
Cremation Ground	1.07	03	Purba Maghadia_073_004	6194, 6200, 6196, 6134, 6204, 6202, 6203, 6198, 6199, 6205, 6133, 6197, 6134, 6203, 6198, 6208, 6208, 6208, 6205, 6133, 6197
			Gobania_074_000	1, 5, 32
	0.55	06	Madhya Maghadia_071_009	55603, 55604, 55605, 55606, 55607, 55608, 55609
	0.59	08	Mahachlimpur_056_000	582, 583, 585, 586, 587, 588

Source: GIS Database, MUDP (2017-2037)

Map 2. 17: New Proposals for Community Facilities of Baroiarhat Paurashava



Map 2. 18: New Proposals for Community Facilities of Mirsharai Paurashava



2.8.8 Proposals for Other Utility Services

Utility services include water supply pump, electric sub-station, waste transfer station, waste dumping ground. Considering the adopted planning standard and local demand from PRA survey, nine waste transfer stations, one fecal sludge and waste treatment plant and four public toilets have been proposed at Baroiarhat Paurashava and eleven waste transfer stations, one fecal sludge and waste treatment plant and two public toilets have been proposed at Baroiarhat Paurashava. Table 2. 24 represents the new land use proposals for utility services purpose of urban area. Map 2. 19 shows the new proposals for Utility Services of Baroiarhat Paurashava and Map 2. 20 shows the new proposals for Utility Services of Mirsharai Paurashava.

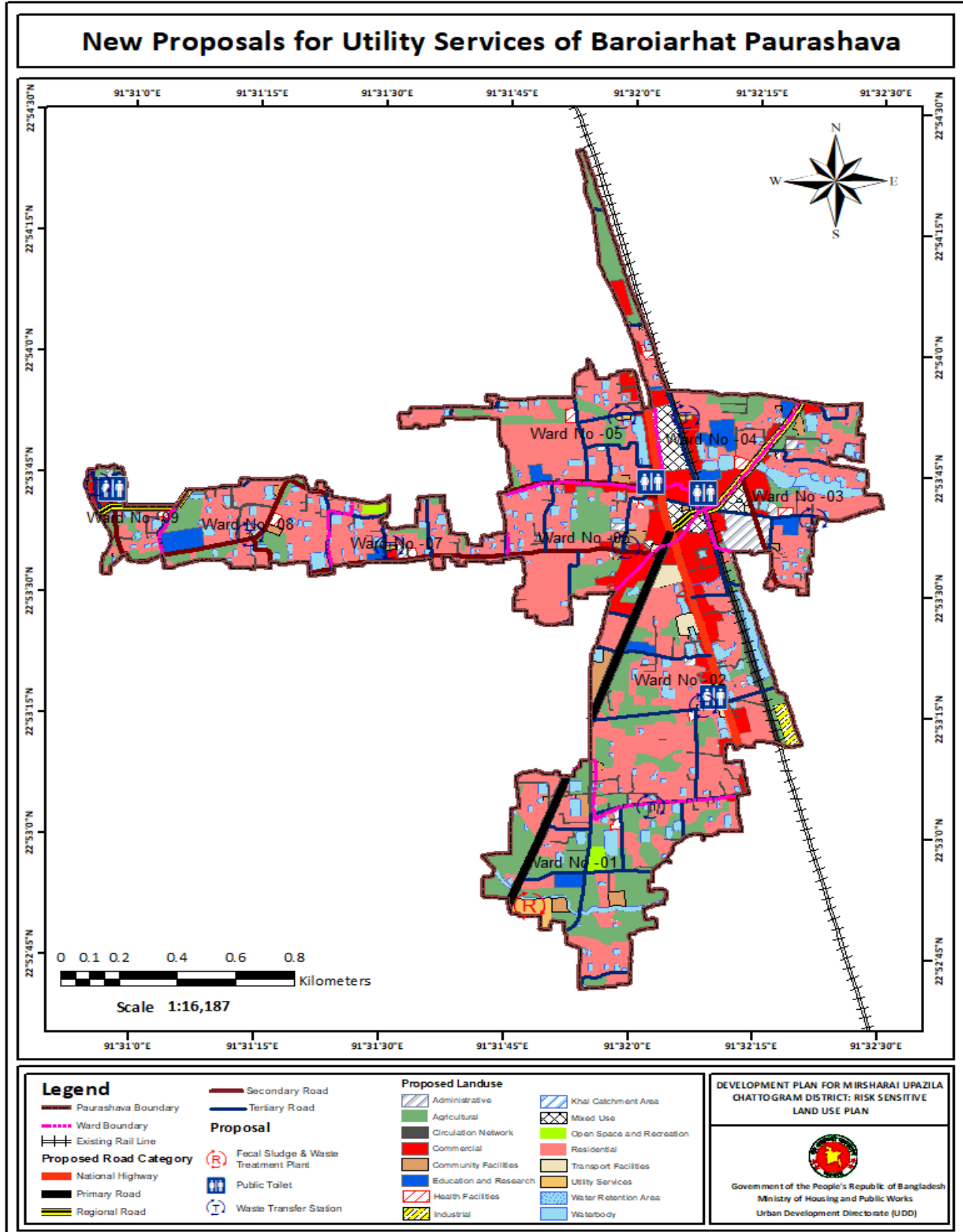
Table 2. 24: List of Other Proposed Utility Services

Type of Facilities	Area (Acre)	Ward No.	Mauza Name	Plot No.
Baroiarhat Paurashava				
Waste Transfer Station	0.10	01	Sonapahar_013_002	1125, 1093, 1092
	0.13	02	Sonapahar_013_001	210, 211, 212
	0.11	03	Purba Hinguli_011_005	10421, 10443, 10444
	0.17	04	Azamnagar_021_002	4619, 4626, 4627
	0.22	05	Azamnagar_021_002	4541, 4542, 4544, 4545, 99999
	0.08	06	Jamalpur_020_001	1830, 1831, 1832, 1836
	0.15	07	Jamalpur_020_001	1594, 1604, 1605, 1607, 1613
	0.08	08	Jamalpur_020_001	1256, 1258, 1458
	0.04	09	Paschim Hinguli_022_002	2656, 2566, 2567, 2568, 2590 1215, 2566, 1215, 2567, 2565, 2566, 2567, 2568, 2590, 99999
Fecal Sludge & Waste Treatment Plant	3.10	01	Sonapahar_013_002	931, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950
			Imampur_019_000	697, 698, 720, 721, 724, 725, 728, 724, 725, 724, 721, 725
Public Toilet	0.07	09	Paschim Hinguli_022_002	2712, 2714, 2715, 2716, 2717, 2718, 2745, 2746, 99999
	0.07	02	Sonapahar_013_001	212, 227
	0.07	05	Azamnagar_021_002	99999
	0.11	04	Sonapahar_013_001	296, 297
Mirsharai Paurashava				
Waste Transfer Station	0.10	01	Purba Maghadia_073_001	1426, 1483
	0.10	01	Purba Maghadia_073_001	967, 968, 971, 972, 1192
	0.22	02	Purba Maghadia_073_003	3053, 3062, 3052, 3054
	0.09	03	Purba Maghadia_073_003	3679, 3680

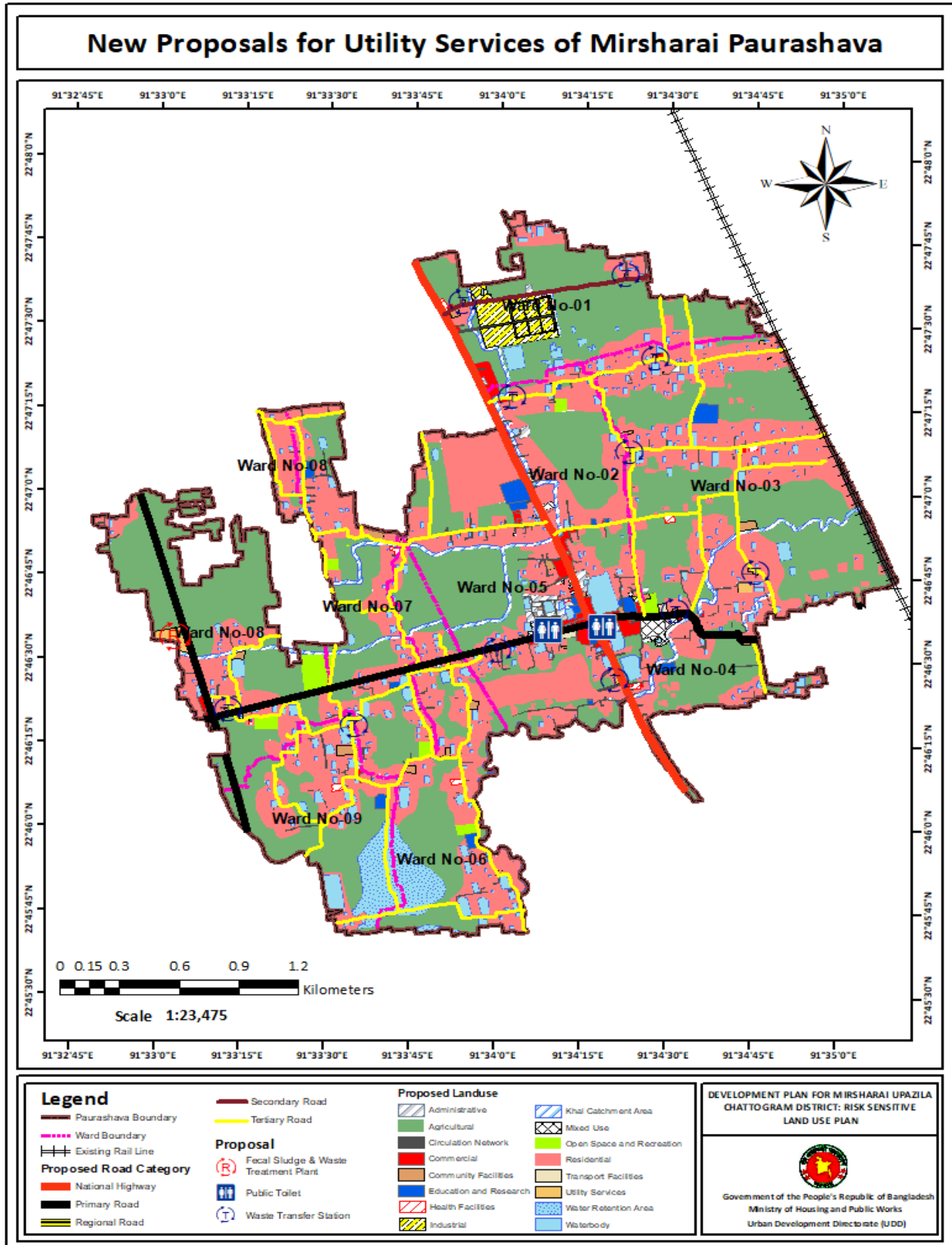
Type of Facilities	Area (Acre)	Ward No.	Mauza Name	Plot No.
			Purba Maghadia_073_004	5008
	0.08	03	Purba Maghadia_073_003	3819, 3817, 3886
	0.10	03	Gobania_074_000	60, 61, 62, 908
	0.15	03	Purba Maghadia_073_004	5917, 5916, 5921
	0.35	05	Madhya Maghadia_071_009	56154
	0.11	05	Madhya Maghadia_071_009	55471, 55472, 55473, 55530, 55784, 55785, 55787
	0.13	08	Mahachlimpur_056_000	683, 690, 691, 692, 772
	0.04	09	Madhya Maghadia_071_010	57157, 57159, 57160
Public Toilet	0.14	05	Madhya Maghadia_071_009	56054, 56055, 56056, 56057, 56059, 56094, 55793
	0.07	04	Purba Maghadia_073_003	4311
Fecal Sludge & Waste Water Treatment Plant	3.02	08	Mahachlimpur_056_000	291, 296, 297, 298, 299, 300, 301, 302, 303, 307, 308, 309, 314, 315, 316, 317, 318, 319, 320, 325, 326, 327, 520, 521, 528
			Purba Maliais_058_000	311, 312, 313

Source: GIS Database, MUDP (2017-2037)

Map 2. 19: New Proposals for Utility Services of Baroiarhat Paurashava



Map 2. 20: New Proposals for Utility Services of Mirsharai Paurashava



2.8.9 Proposals for Transport Facilities

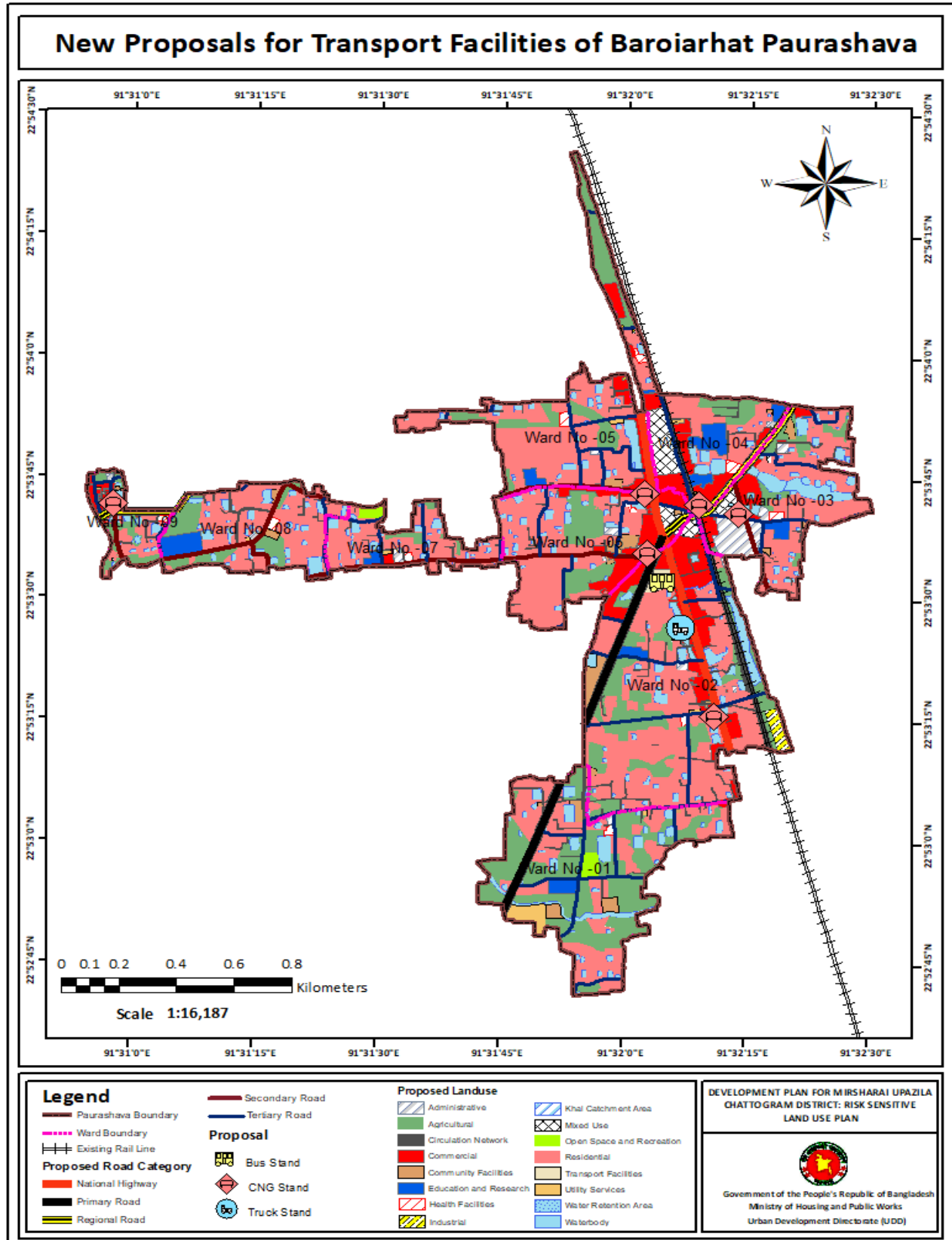
Transport facilities includes land for bus terminal, truck terminal, tempo/auto rickshaw/CNG stand, etc. Considering the adopted planning standard and local demand from PRA survey, six CNG Stand, one Bus Stand and one truck stand have been proposed at Baroiarhat Paurashava and three CNG stands have been proposed at Mirsharai Paurashava. Table 2. 25 represents the new land use proposals for transport facilities purpose. Map 2. 21 shows the new proposals for Transport Facilities of Baroiarhat Paurashava and Map 2. 22 shows the new proposals for Transport Facilities of Mirsharai Paurashava.

Table 2. 25: New Development Proposal for Transport Facilities

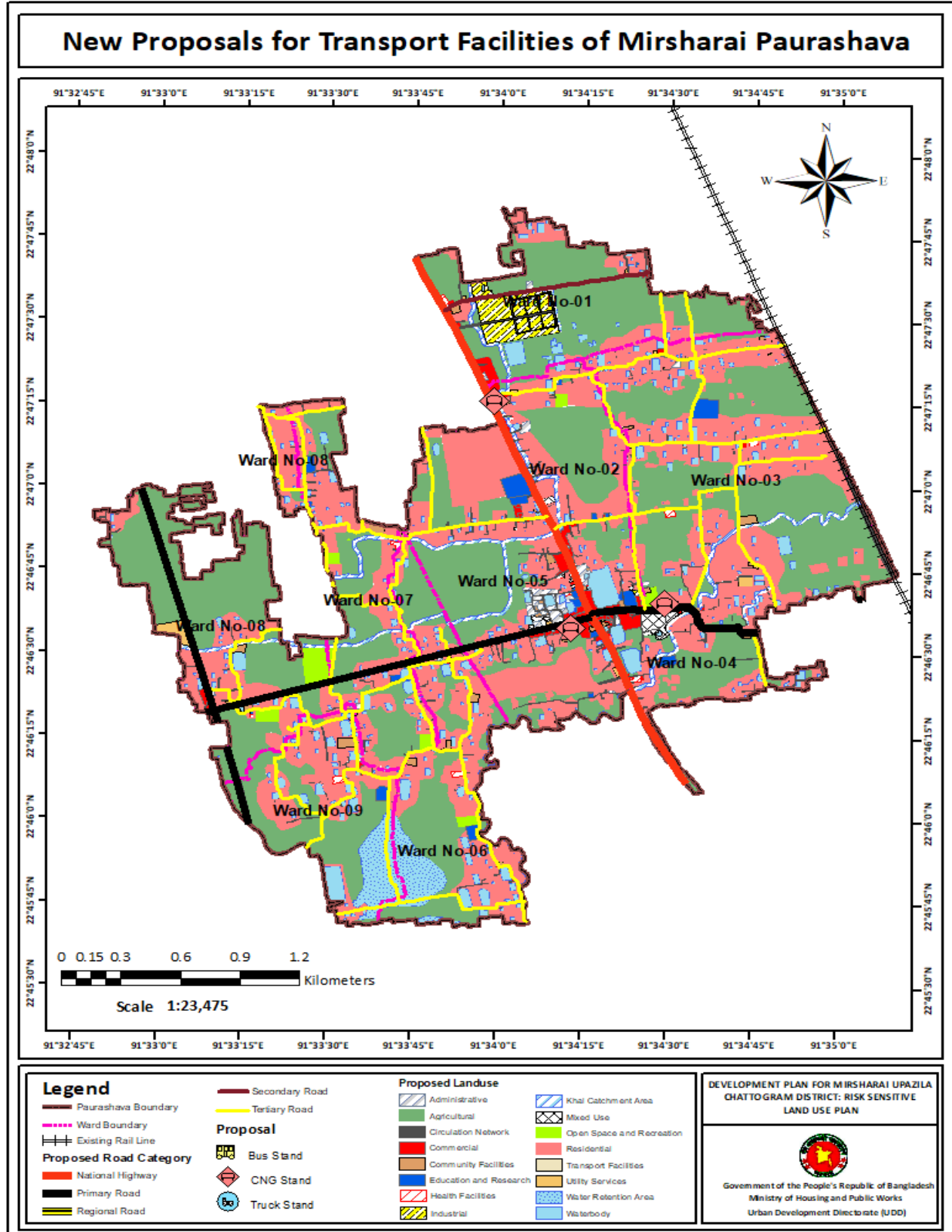
Type of Facilities	Area (Acre)	Ward No.	Mauza Name	Plot No.
Baroiarhat Paurashava				
CNG Stand	0.15	02	Sonapahar_013_001	227
	0.15	03	Sonapahar_013_001	310, 311, 315, 316, 323, 324, 99999
			Purba Hinguli_011_005	10001, 10421
	0.24	04	Sonapahar_013_001	296, 297, 298
	0.24	05	Jalampur_020_001	1792, 1815
	0.22	06	Sonapahar_013_001	2, 3, 7, 8, 9, 10, 13, 227, 378, 379
	0.14	09	Paschim Hinguli_022_002	2691, 2692, 2693, 2694, 2695, 2696, 2697, 2698, 2699, 2700, 2701, 2702, 2703, 2704, 2705, 2706, 2707, 2708, 2709, 2710, 2711, 2712, 2713, 2714, 99999
Bus Stand	1.61	02	Sonapahar_013_001	29, 30, 20, 19, 21, 17, 18, 16, 14, 227
Truck Stand	1.17	02	Sonapahar_013_001	45, 46, 47, 48, 49, 50, 51, 52, 53, 55, 227
Mirsharai Paurashava				
CNG Stand	0.23	02	Purba Maghadia_073_003	3002, 3001
	0.55	03	Purba Maghadia_073_003	4183
			Purba Maghadia_073_004	5904, 5920, 5918, 5919, 5921, 5940, 5924, 5923
	0.76	05	Madhya Maghadia_071_009	55911, 56099, 56100, 56105, 56106, 56107, 56108, 56109, 56110, 56112, 56125, 56125, 56126, 56098

Source: GIS Database, MUDP (2017-2037)

Map 2. 21: New Proposals for Transport Facilities of Baroiarhat Paurashava



Map 2. 22: New Proposals for Transport Facilities of Mirsharai Paurashava



2.9 Transport Development Plan

Connectivity is the most important aspect of development of any region. Mirsharai Paurashava and Baroiarhat Paurashava mostly connected through road network. Road network development plans are taken on the basis of existing scenario of urban road network.

2.9.1 Existing Condition of Road Network

From the transportation survey, it has been observed that 100% road of Mirsharai Paurashava is pucca in condition. The total length of road in Mirsharai Paurashava is 50.11 km. On the other hand, it has been observed that Baroiarhat Paurashava comprises of 23.88 km. roads. Among these about 93.34% roads are pucca and 6.66% roads are semi-pucca. Table 2. 26 shows the summary of existing road network of urban area.

Table 2. 26: Existing Road Network Status of Urban Area

Road Type	Length (km)	Percentage (%)
Mirsharai Paurashava		
Pucca Road	50.11	100.00
Sub-Total	50.11	100.00
Baroiarhat Paurashava		
Pucca Road	1.59	6.66
Semi-Pucca Road	22.29	93.34
Sub-Total	23.88	100.00
Total	73.99	

Source: Field Survey, 2018-19

2.9.2 Road Design Standard

PRA survey has been completed throughout the urban area. During the PRA session and survey most of the people demanded for road network improvement. Road network hierarchy has been developed for the proposed roads of the urban area according to the LGED and RHD.

Table 2. 27: Proposal for Road Standard in the Urban Area

Road Category	Recommended Right of Way (ft.)
Regional Road	100, 135, 250
Primary Road	60, 100, 250
Secondary Road	40
Tertiary Road	20

Source: GIS Database, MUDP (2017-2037)

2.9.3 Plan for Road Network Development

Primary Road and Regional Road

Primary roads are rural major roads that as a system provide an integrated network serving travel corridors of Zila wise and Upazila wise and connect all major population centers and carry high volume of traffic. A Regional Highway (primary) is the classification for all primary roads in Bangladesh as defined by the Roads and Highways Department of the Ministry of Communications (RHD). The total length of proposed primary road in Baroiarhat Paurashava and Mirsharai Paurashava is respectively 1.29 km and 4.78 km with 100-135 ft. RoW. Besides, the total length of regional road in Baroiarhat Paurashava is 1.03 km. with 100-135 ft. RoW. The RoW of these road is considerable after inclusion of Bangladesh Export Zone Authority Prposal.

Figure 2. 1 shows the cross section of primary road according to the road standard.

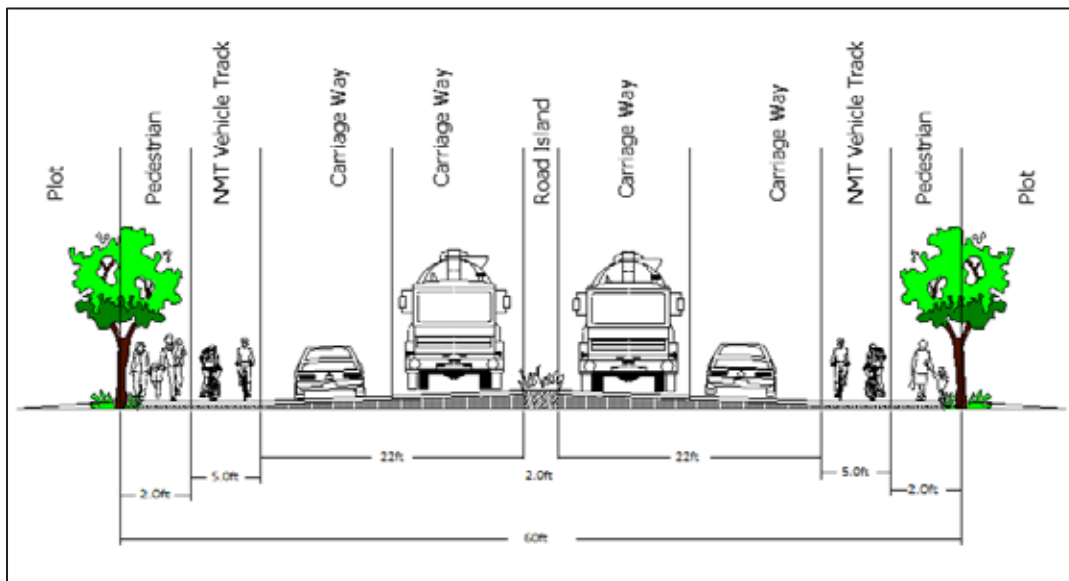


Figure 2. 1: Cross Section of Primary Road

Secondary Road

Secondary Roads are that type of roads which provide access to a primary road and connect small communities to each other's and links between various important nodes of activity within the Upazila and Paurashava. The total length of proposed secondary road in Baroiarhat Paurashava and Mirsharai Paurashava are respectively 3.31 km. and 3.69 km. with 40 ft. to 60 ft. Figure 2. 2 shows the cross section of secondary road according to the road standard.

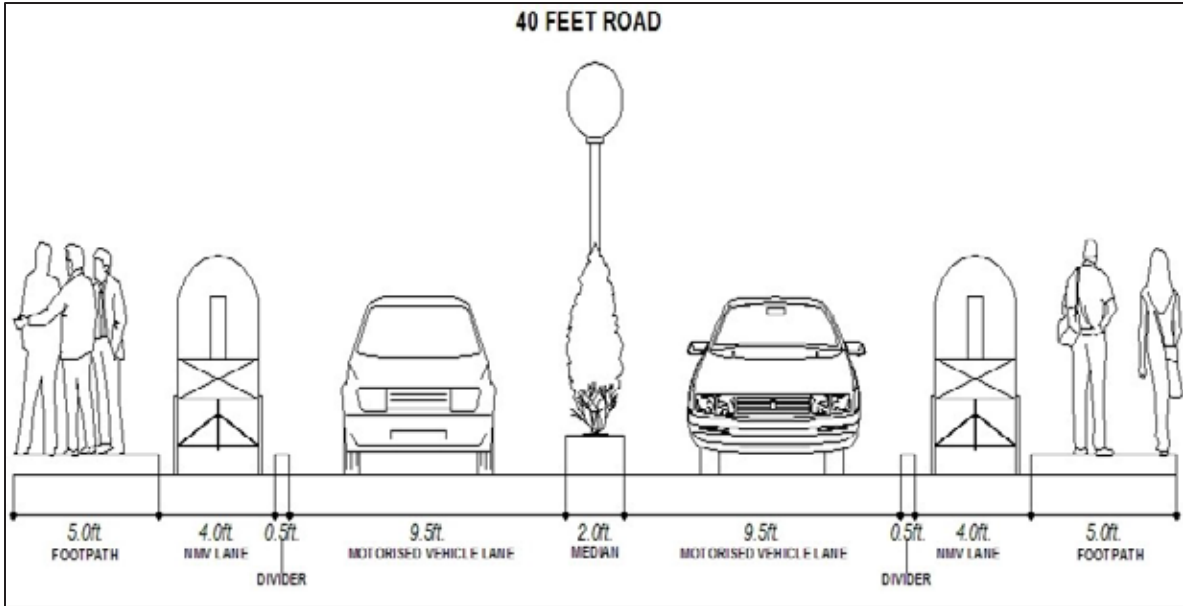


Figure 2. 2: Cross Section of Secondary Road

Tertiary Road

Tertiary Road collects and distributes traffic to and from access roads from predominantly residential areas to other parts of the hierarchy and also provides direct access to roadside land uses. The total length of proposed tertiary road in Baroiarhat Paurashava and Mirsharai Paurashava is respectively 10.65 km with 20 ft. RoW and 20.79 ft. RoW. Figure 17.3 shows the cross section of tertiary road according to the road design standard.

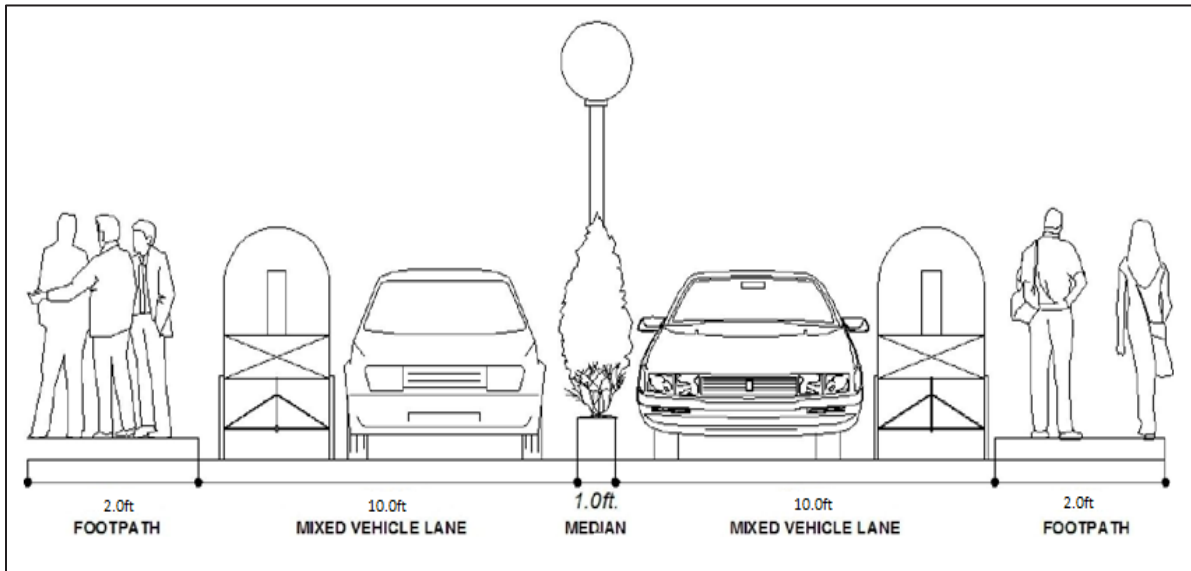


Figure 2. 3: Cross Section of Tertiary Road

2.9.4 Proposed Road Network

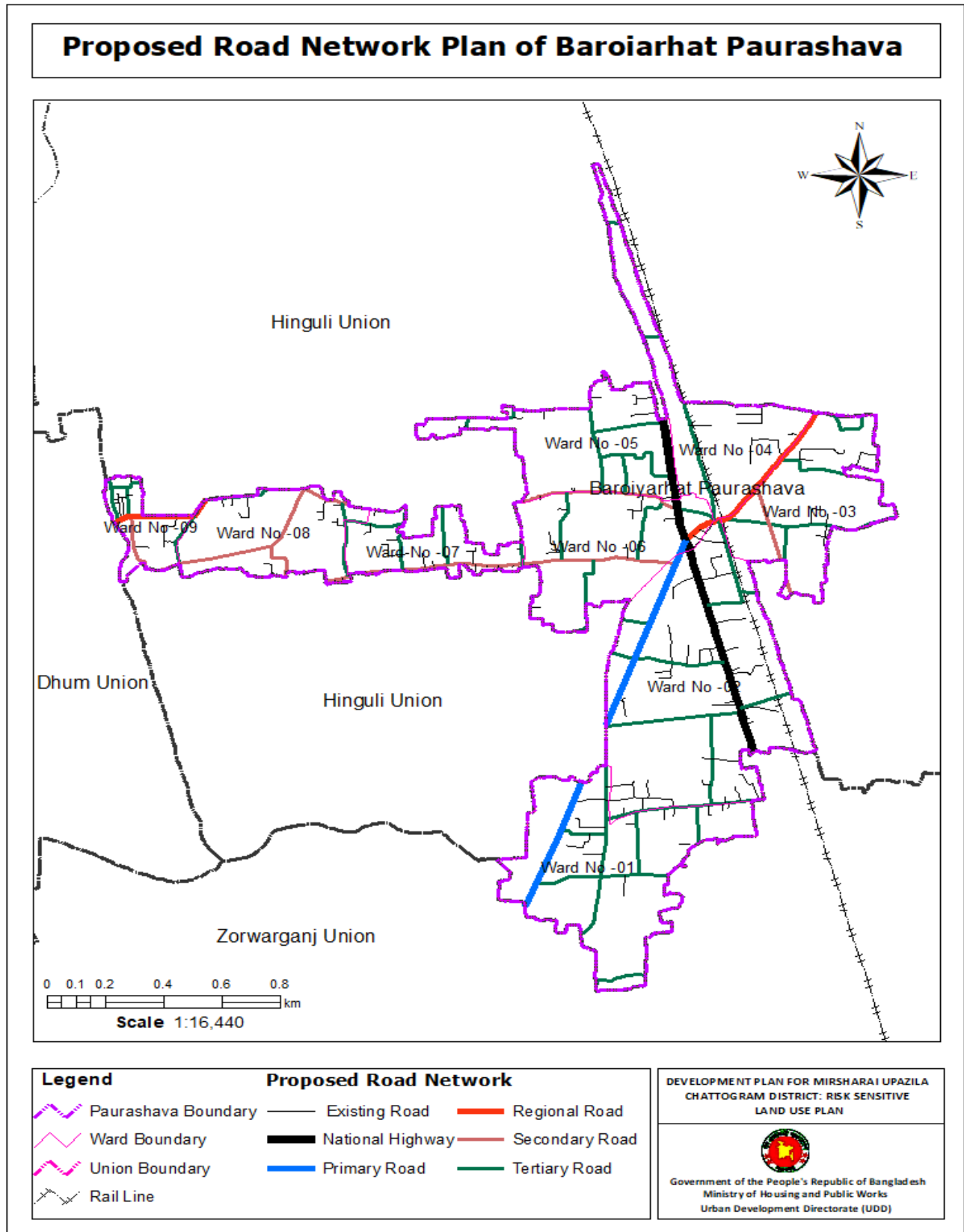
Road network has been proposed based on the PRA demand from the urban area. According to the proposed road standard, three types of road have been proposed in the urban area. Table 2. 28 shows the summary of proposed road network of both Baroiarhat and Mirsharai Paurashava. Map 2. 23 shows the proposed road network plan of Baroiarhat Paurashava and Map 2. 24 shows the proposed road network plan of Mirsharai Paurashava.

Table 2. 28: Proposed Road Network Category of Urban Area

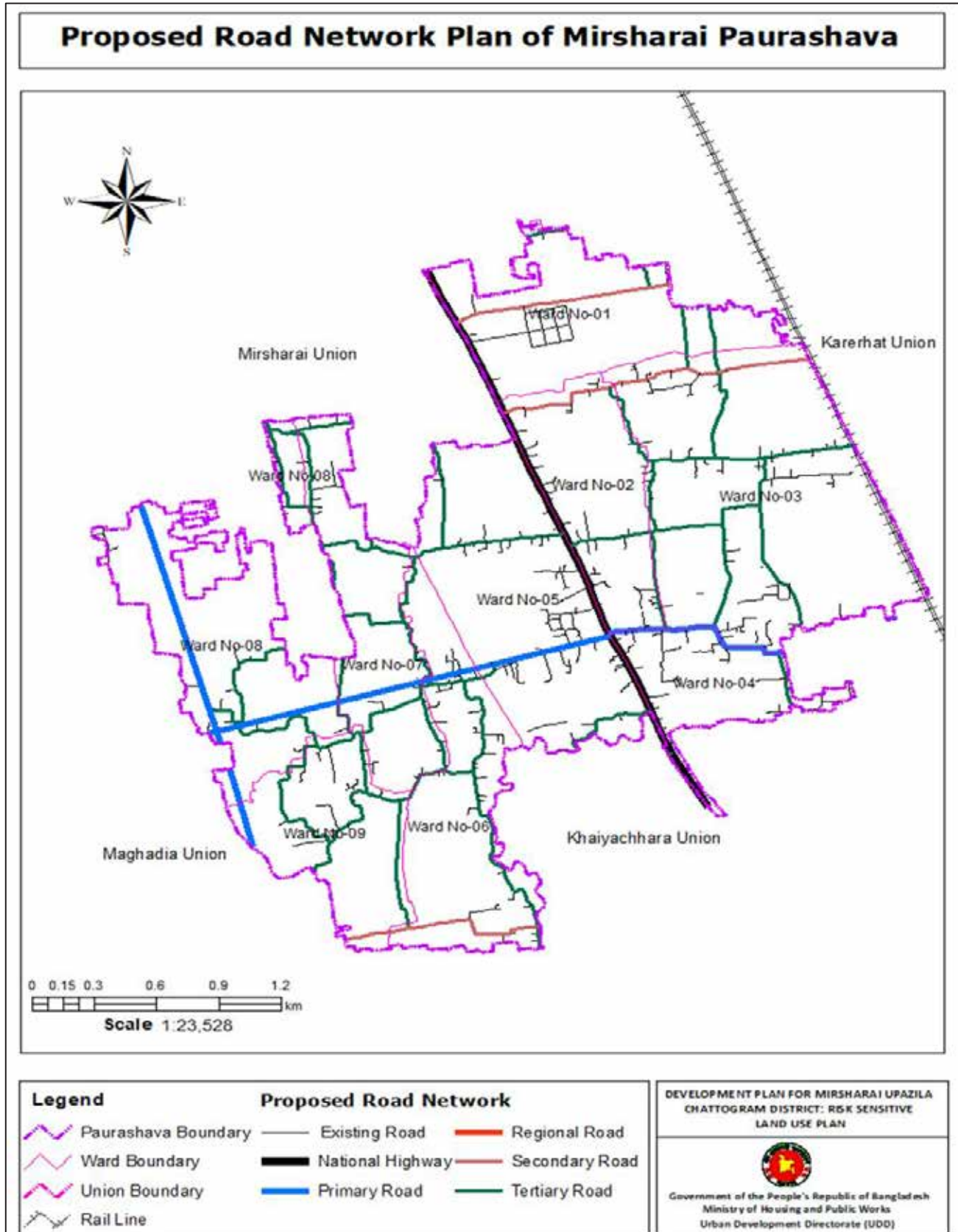
Road Hierarchy	Proposed RoW (ft.)	Length in Meter	Length (Kilometer)
Baroiarhat Paurashava			
National Highway	100	1333.66	1.33
Regional Road	100	1034.94	1.03
Primary Road	100	1294.21	1.29
Secondary Road	40	3311.37	3.31
Tertiary Road	20	10649.42	10.65
Sub-Total		17,623.59	17.62
Mirsharai Paurashava			
National Highway	100	3227.58	3.23
Primary Road	100	4775.95	4.78
Secondary Road	40	3687.23	3.69
Tertiary Road	20	20791.12	20.79
Sub-Total		32,481.88	32.48
Total		50,105.47	50.11

Source: GIS Database, MUDP (2017-2037)

Map 2. 23: Proposed Road Network Plan of Baroiarhat Paurashava



Map 2. 24: Proposed Road Network Plan of Mirsharai Paurashava



Legend

- Paurashava Boundary
- Ward Boundary
- Union Boundary
- Rail Line

Proposed Road Network

- Existing Road
- National Highway
- Primary Road
- Regional Road
- Secondary Road
- Tertiary Road

DEVELOPMENT PLAN FOR MIRSHARAI UPAZILA
 CHATTOGRAM DISTRICT: RISK SENSITIVE
 LAND USE PLAN



Government of the People's Republic of Bangladesh
 Ministry of Housing and Public Works
 Urban Development Directorate (UDD)

2.9.5 Proposal for Improvement of the Existing Road Networks

Most of the road in the urban area is very narrow and it creates tremendous transportation problem. To improve this situation about 14.05 km. and 25.45 km. road are proposed respectively for Baroiarhat Paurashava and Mirsharai Paurashava for widening in the transport development plan. Table 2. 29 shows the summary of road widening proposal for the urban area.

Table 2. 29: Summary of Road Widening Proposal in Urban Area

Road Type	Proposed RoW (ft.)	Length in Meter	Length (Kilometer)
Baroiarhat Paurashava			
Regional Road	60	1034.94	1.03
Secondary Road	40	2946.38	2.95
Tertiary Road	20	10072.73	10.07
Total		14,054.05	14.05
Mirsharai Paurashava			
Primary Road	60	972.1	0.97
Secondary Road	40	3687.23	3.69
Tertiary Road	20	20791.12	20.79
Total		25,450.45	25.45

Source: GIS Database, MUDP (2017-2037)

2.9.6 Proposals of New Road Network

To improve the existing transportation system about 4.41 km. and 1.85 km. road has been newly proposed respectively in Baroiarhat Paurashava and Mirsharai Paurashava. The highest 3.80 km new road has been proposed with 100 ft. right of way (RoW), which will function as a primary road in Baroiarhat Paurashava. Besides, highest 1.29 km new road has been proposed with 100 ft. right of way (RoW), which will function as a primary road in Mirsharai Paurashava. Table 2. 30 shows the summary of new road proposal for the urban area.

Table 2. 30: Summary of New Road Proposal in Urban Area

Road Type	Proposed RoW (ft.)	Length in Meter	Length (Kilometer)
Baroiarhat Paurashava			
Primary Road	100	3803.35	3.80
Secondary Road	40	604.19	0.60
Total		4,407.54	4.41
Mirsharai Paurashava			
Primary Road	100	1294.21	1.29
Secondary Road	40	364.99	0.36
Tertiary Road	20	192.23	0.19
Total		1,851.43	1.85

Source: GIS Database, MUDP (2017-2037)

A number of structures would be affected if the suggested standard is followed. The detail statistics of the proposed urban road network and a number of affected structures due to road widening is presented in Table 2. 31.

Table 2. 31: Summary of Number of Affected Structures by Proposed Road

Road Hierarchy	Proposed RoW (ft.)	Length (km)	Number of Affected Structures			
			Pucca	Semi-pucca	Katcha	Total
Baroiarhat Paurashava						
Primary Road	100	2.28	28	25	70	123
Tertiary Road	20	13.74	49	23	98	170
Sub-Total		16.02	77	48	168	293
Mirsharai Paurashava						
Primary Road	60	6.51	69	42	125	236
Tertiary Road	20	29.08	72	35	220	327
Sub-Total		35.59	141	77	345	563
Total		51.60	218	125	513	856

Source: GIS Database, MUDP (2017-2037)

A number of water bodies would be affected if the suggested standard is followed. The detail statistics of the proposed urban road network and a number of affected water bodies due to road widening is presented in Table 2. 32.

Table 2. 32: Summary of Number of Affected Water Bodies by Proposed Road

Road Hierarchy	Proposed RoW (ft.)	Length (km)	Number of Affected Water Body		
			Pond	Ditch	Khal
Baroiarhat Paurashava					
Primary Road	100	2.28	12	4	1
Tertiary Road	20	13.74	30	12	1
Sub-Total		16.02	42	16	2
Mirsharai Paurashava					
Primary Road	60	6.51	22	-	3
Tertiary Road	20	29.08	64	2	4
Sub-Total		35.59	86	2	7
Total		51.60	128	18	9

Source: GIS Database, MUDP (2017-2037)

2.10 Drainage Network Development Plan

2.10.1 Existing Drainage Condition

The drainage system of Baroiarhat and Mirsharai Paurashava has been surveyed and classified into two main categories: natural drainage system and man-made drainage system.

Natural Drainage System

Amir Ali Khal, Gobania Khal, and Osi Miah Khal are the main natural drainage channel in the urban area. A number of other water bodies are found inside the Paurashava. All of these water bodies are acting as drainage channels. Moreover, some water bodies like khal, ponds, and ditches are also act as collector of water. Total area devoted to natural water bodies in both Baroiarhat and Mirsharai Paurashava is around 185.93 acres. It can also be observed that Mirsharai Paurashava possesses highest area for natural water bodies. Table 2. 33 shows the total area covered by existing natural water bodies in the urban area.

Table 2. 33: Existing Natural Water Bodies in the Urban Area

Type of Water Body	Baroiarhat Paurashava	Mirsharai Paurashava
	Area (Acre)	Area (Acre)
Ditch	8.34	1.73
Khal	1.88	24.76
Pond	39.48	109.75
Sub-Total	49.70	136.23
Total Area	185.93	

Source: Physical Feature Survey, 2018

Man-made Drainage System

The man-made drainage system of the urban area is being managed by katcha and pucca drain. Table 2. 34 shows the drainage coverage and types in the urban area. Total length of drains in the urban area is 21.38 km.

Table 2. 34: Existing Man-made Drainage Network in the Urban Area

Type of Drain	Baroiarhat Paurashava	Mirsharai Paurashava
	Length (Meter)	Length (Meter)
Katcha Uncovered	322.86	3944.72
Pucca Uncovered	5981.36	0.00
Pucca Covered	2648.67	8479.75
Sub-Total	8952.88	12424.48
Total Length	21,377.36	

Source: Physical Feature Survey, 2018

2.11 Water Supply

2.11.1 Assessment of the Existing Condition

Mirsharai Upazila has a non-piped water supply system which is fed mostly by the groundwater sources, i.e., the production tube wells. In addition, few people use some surface water bodies and ring wells for water. The groundwater sources are installed and maintained by the Department of Public Health Engineering (DPHE) of the government of Bangladesh. In Mirsharai Upazila, water is extracted mostly from the underlying deep aquifer because the shallow aquifer is contaminated with arsenic. For this reason, most of the installed wells are deep tub wells (DTWs), and there are limited number of shallow tube wells (STWs). Table 2. 35 Shows a summary of status of public water sources installed and operated throughout the entire Upazila in recent years.

Table 2. 35: Status of Water Source of DPHE in Mirsharai Upazila

Time	Total Public Water Source	No. of Safe Water Source (Tube Well)	Supply Coverage (Person/Tube Well)
Jun-13	4896	4338	93
Jun-14	4885	4327	93
Jun-15	4946	4388	88
Jun-16	4907	3723	105
Jun-17	5008	3824	103
Jun-18	5008	3824	104
Jun-19	4899	3723	110

Source: DPHE

As of 2019, there are 3,723 number of safe tube wells in operation in Mirsharai Upazila. However, its alarming that the number of safe water sources have been drastically reduced from June 2013 to June 2019 due to contamination with various chemicals including arsenic. Although there is no field record of daily production from these water sources, but the supply coverage and water consumption behavior of 2017 suggests an average yield of about 14.3 MLD (million liters per day) in total. This production capacity may potentially go down to or below 9.4 MLD in 2037 if the aquifer cannot receive adequate recharge annually or becomes contaminated with arsenic and other hazardous minerals.

The current water supply volume is inadequate compared to the demand of the local people. Needs for potable or drinkable water is one of the major issues of the local community in almost every Union of Mirsharai Upazila. During conducting the PRA for the MUDP project, the participants from the thirteen (13) Unions out of sixteen (16) Unions and two (2) Pourashavas placed an urgent concern about the scarcity of potable water sources in their locality. The participants in the PRA also reported about the severity of the arsenic contamination in the drinking water.

Statistics obtained from the Socio-economic survey indicates that about 85.90% of the surveyed households use tube well water for drinking purpose, 2.80% households use tap-water supplied by other authorities, 6.10% households collect water from the existing surface water bodies, e.g., river, lake, pond, etc. The survey also found that, among the supply sources, 88.80% are drinkable, 9.00% are arsenic contaminated, and 2.20% are not drinkable. DPHE reported that about 1000 public water sources are contaminated as of June 2019 in Mirsharai Upazila.

2.11.2 Future Scenarios for Water Demand and Supply

Within the projected period of the Structure Plan, i.e., 2037, a substantial growth in socio-economic development and population is expected in Mirsharai Upazila. The proposed Bangabandhu Sheikh Mujib Shilpa Nagar (BSMSN) will be established, and go for operation in the near future. The industrial development along with the increased population will require sufficient sources for water supply. The existing groundwater sources are useful, but they are not capable of meeting the projected water requirement for 2037. Besides, it's quite uncertain how long and to which extent these groundwater sources can safely contribute to the water supply without a negative impact on the subsurface aquifer condition. The authorities must look for alternative and sustainable sources of supply, such as the surface water from the Feni River, nearby potential reservoirs, constructed lakes or ponds, or from the adjacent areas if feasible. The projected water demand-supply scenarios of Mirsharai Upazila are briefly discussed below.

For Bangabandhu Sheikh Mujib Shilpa Nagar (BSMSN)

The feasibility study (2014) implemented by the Bangladesh Economic Zones Authority (BEZA) for the Bangabandhu Sheikh Mujib Shilpa Nagar (BSMSN) identified an average water requirement of 274.9 MLD including residential, commercial and industrial uses during operation. The study proposed the Feni River as the source of supply, and recommended installation of a surface water treatment plant near the confluence of the Muhuri and Feni River with a capacity of 280.0 MLD.

Assuming the treatment plant in operation, Mirsharai Upazila will not require any additional source of supply to support the operation of the Bangabandhu Sheikh Mujib Shilpa Nagar (BSMSN) as well as to serve the population of that economic zone.

For All Urban and Rural Setups in Mirsharai Upazila Excluding the BSMSN

The water requirements estimated for urban and rural setup are about 4.10 MLD and 27.20 MLD respectively. The average per capita water requirements are considered 120 LPD and 60 LPD for the urban and rural setups respectively following the guidelines provided in the Bangladesh National Building Code 2015 (BNBC 2015).

Thus, the total water requirement for Mirsharai Upazila in 2037 is about 31.30 MLD, excluding the water demand of the proposed economic zone (BSMSN).

The supply capacity of the existing groundwater sources of DPHE in Mirsharai Upazila will gradually decrease in future. Therefore, these sources are not reliable. Supply behavior of these sources in the recent years (2013-2019) indicates that about 9.40 MLD of water may be available in 2037 under the best-case scenario.

At present, there is no notable surface water supply source in Mirsharai Upazila except the Feni River. However, there is no constructed treatment and supply infrastructure in the Upazila. Few people use untreated water from the river, lake and ponds. The feasibility study (2014) implemented by Bangladesh Economic Zone Authority (BEZA) suggested construction of a surface water treatment plant to supply water from the Feni River to the proposed BSMSN..

Again, during the hydro-geological survey for the MUDP project, four sites were identified which have some potentials for water reserve and utilization for water supply. Note that the Bangladesh Water Development Board (BWDB) has already constructed two reservoirs; one at Mohamaya and the other at Bawachhara for irrigation purpose. The Mohamaya reservoir is also used for tourism purpose. The hydrologic analysis performed for all these existing and potential reservoirs suggest that only about 0.40 MLD of water can be harvested for use in the water supply. Remember that this water will be available for harvesting mostly during the monsoon period, e.g., May – October, in a year. Besides, the available rate for withdrawal will not be uniform throughout the harvesting period.

The potential for rainwater harvesting was also investigated to some extent in this project. Since the probable roof-top area or the effective catchment area for rainwater harvesting in 2037 is unknown, the assessment was made on the basis of the existing paved roof-top surface areas. The analysis suggests that about 9.40 MLD of rainwater can be harvested annually on an average. Note that this is a very crude estimate and it may have a large deviation from the actual potential.

If all of the above sources can be utilized, then the total capacity for water supply appears to be 19.20 MLD. Thus, the future water balance scenario appears to be negative, and Mirsharai Upazila may have a water deficit of $31.30 - 19.20 = 12.10$ MLD in 2037. The situation will go worse in absence of the potential reservoirs and rainwater harvesting facilities.

Finally If the economic zone is established, more or less 32,00,000 (thirty two lakh) people may come to Mirsharai upazila in the next 20 years. The annual water demand will be 233.60 million cubic meters in the next 20 years. At present, 105 million cubic meters of water is naturally stored in our underground aquifers. Annual water deficit is 128.60 million cubic meters. 92 million cubic meters per year will be available from the proposed above ground reservoir. Every year an additional 36.60 million cubic meters of water has to be collected from Feni River.

2.11.3 Potential Risks for the Future Sources of Supply

The MUDP project assessed potentials for three types of supply sources for use in 2037, such as:

- The groundwater sources, i.e., the STWs and DTWs of DPHE;
- Four prospective reservoirs, and the existing Mohamaya and Bawachhara reservoirs of BWDB;
- Rainwater (to be harvested from the paved roof-tops).

Feni River, is the main surface water source, is already recommended for utilization. Therefore, no additional assessment is done for Feni River in this project.

The assessment findings demonstrate that there are some critical risks for the above-mentioned supply sources; and Mirsharai Upazila may need to rely completely on the Feni River, or water import from adjacent Upazilas. The Bay of Bengal may be another good alternative also. Table 2. 36 provides a summary of risks for the water supply sources investigated in this project.

Table 2. 36: Risks for the Potential Water Supply Sources of Mirsharai Upazila

Source Type	Risk
Groundwater (Tube Wells of DPHE)	There are two major risks such as 1) arsenic contamination, and 2) lowering of the groundwater table. Most of the shallow tube wells are already contaminated. DPHE reported 1000 contaminated tube wells in 2019. Lowering of the groundwater table is another major concern. There is a possibility that groundwater extraction is not permitted anymore to prevent subsidence in near future. In such case, there will be only option to use surface water sources.
Prospective Storage Reservoirs	The potential supply capacity appears to be quite small compared to the estimated demand and required investment for construction of these reservoirs. However, a more detailed engineering examination may be performed for an accurate assessment of actual supply capacity from these reservoirs. Construction of any impoundment reservoir involves a certain extent of environmental risks or hazards such as earthquakes, ecological changes, surface flooding, etc. Therefore, the prospective sites require a more rigorous engineering, environmental, and financial assessment.
Rainwater Harvesting	Rainwater harvesting is already found in practice in some households in Mirsharai. However, the challenge is the limited availability of paved roof surfaces which can be utilized for rainwater collection. Application of this technology also involve a gradual shift in building construction approach. There is a limited or no scope for altering roof-top pattern of the existing structure. Therefore, installation of rainwater harvesting facilities may be assigned by act or law for new or future building construction. The estimates of harvestable rainwater depend on the effective catchment area. Therefore, the estimates provided in this report are valid as long as the assumptions made for the roof-top area are correct.

2.11.4 Recommendations for the Supply Sources and Water Use

It's evident that the potential for the future sources of water supply is not good in Mirsharai Upazila, except the Feni River. Thus, the structure plan takes a careful attempt for providing appropriate recommendations for water supply as listed below.

1. Feni River is the most reliable option for water source in Mirsharai Upazila. The capacity of the proposed surface water treatment plant can be increased to allow water demand of the population of Mirsharai Upazila for 2037 scenario. It appears that a supply capacity of 320.0 MLD ($>280.0+31.3$) will be able to serve both the proposed economic zone and the projected population of Mirsharai Upazila. BEZA and DPHE may jointly approach for construction and operation of the treatment plant.
2. If the projected population in Mirsharai Upazila exceeds from the estimates provided in the MUDP project or the feasibility study (2014) of BEZA, then additional water supply sources may need to be installed.
3. Its recommended to utilize the existing groundwater sources with a safe yield as long as they can. Installation of new tube wells are discouraged unless they are the only option. DPHE may need to explore alternate sources of supply for sustainability of the economy in Mirsharai Upazila.
4. Though the prospective reservoirs demonstrate some supply capacity, but a rigorous engineering, environmental and economic assessment is required to establish their feasibility for construction.
5. Installation of rainwater harvesting facilities should be promoted for all buildings as much as possible.
6. Lakes or large water bodies may be constructed to capture and retain water for subsequent treatment and use. Mirsharai Upazila is a low-lying land on the west side of the Dhaka-Chattogram highway, and one or more water bodies can be easily constructed in the naturally supported detention areas.
7. Water import from the adjacent Upazilas may be an option during emergencies. Mirsharai Upazila authority may consult with DPHE and other relevant stakeholders for planning of this technique.
8. The Bay of Bengal is another abundant source of water, but it requires a large investment in the desalination process. In absence of sufficient groundwater or surface water sources, Mirsharai Upazila authority as well as BEZA cannot but have to extract water from the ocean.
9. Water recycling should be promoted as much as possible, especially in the commercial and industrial uses. Adopting water recycling may release stress from the supply sources to a great extent.
10. Water efficient fixtures and fittings should be promoted in every use to reduce the production loss. Besides, the tariff structure should be designed in such way that people remain aware about wastage of water during use.
11. The concerned authority should regularly conduct awareness campaigns about the value of water. The local people already suffer from water scarcity. Therefore, the concerned authority should organize essential trainings, workshop and other useful events to educate people about efficiently using water.

2.12 Solid Waste Management

2.12.1 Existing Condition

Sanitation problem has been identified as a major problem in almost all the ward level PRA participants of both two paurashava. Local people in paurashava level is expressed their concern about sanitation problem. Urban level PRA reveals that, establishment of public toilet also a major concern.

According to the Socio-economic survey, surveyed 83% respondents have hygienic latrine whereas only 17% respondents have non-hygienic latrine.

2.12.2 Proposals on Sanitation

To establish a network-based sanitation system is not economically feasible in upazila level. Instead, Paurashava authority should promote septic tank based on site sanitation system. It can introduce hygienic and productive management of human excreta. It should strictly control latrine connection to drains. A sludge management plan may be developed and household sludge carried to the plant by vacuum truck for transportation treatment of excreta and discharge into the fecal sludge treatment plant.

The proposed fecal sludge management interventions for Mirsharai Upazila will focus on the entire sanitation value chain i.e. safely collecting fecal sludge from pits and septic tanks, and conveying it to the fecal sludge treatment plant to be located at the landfill site (Figure 2.4).

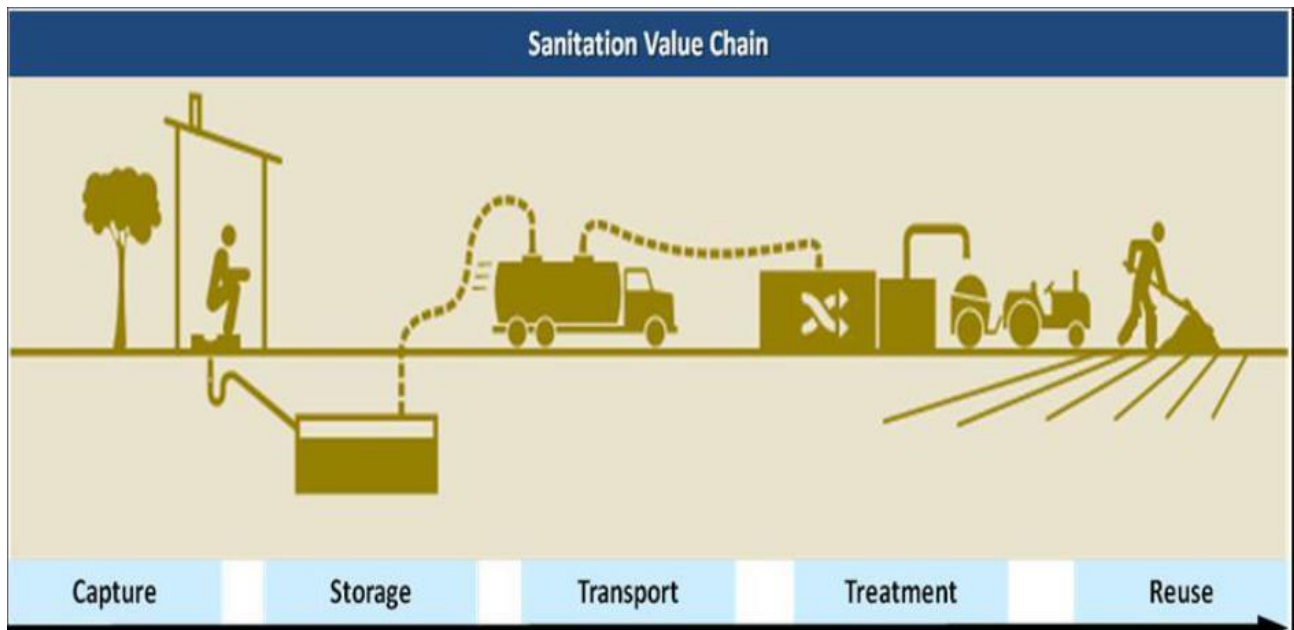


Figure 2. 4: Sanitation Value Chain

Table 2. 37: Fecal Sludge Treatment Options (Every 150,000 people)

Parameters	FS Drying	Box Composting	Co Digestion of FS and SW
Capacity	24 cum per day	40 MT per day	1,600 cum
Land requirement	1.5 acre	2.5 acre	2 acres
Operational Cost	4 lac per year	7 lac per year	12 lac per year
Regular Maintenance Cost (As required)	3 lac per year	5 lac per year	6 lac per year
Infrastructure Cost (Land Cost Excluded)	2 crores	7 crores	10 crores
Life Span	20 years	20 years	20 years

Source: Practical Action

To manage the huge amount of human excreta, the fecal sludge treatment plant has been proposed at Ward No. 01 in Baroiarhat Paurashava and at Ward No. 09 in Mirsharai Paurashava.

Table 2. 38: Proposals of Fecal Sludge Treatment Plant

Type of Facilities	Area (Acre)	Ward No.	Mauza Name	Plot No.
Baroiarhat Paurashava				
Fecal Sludge & Waste Treatment Plant	3.10	01	Sonapahar_013_002	931, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952
			Imampur_019_000	697, 698, 720, 721, 724, 725, 728
Mirsharai Paurashava				
Fecal Sludge & Waste Water Treatment Plant	3.02	08	Mahachlimpur_056_000	291, 296, 297, 298, 299, 300, 301, 302, 303, 307, 308, 309, 314, 315, 316, 317, 318, 319, 320, 325, 326, 327, 520, 521, 528
			Purba Maliais_058_000	311, 312, 313

Source: GIS Database, MUDP (2017-2037)

CHAPTER 03: PERMITTED AND CONDITIONAL USE

3.1 Introduction

In the current chapter general definition, permitted and conditionally permitted uses under each Land use zone is furnished one by one. The uses not listed here in any of the category shall be treated as Restricted Use for the land zone category and shall not be permitted only except decision by the Planning Authority. In such situations, the use shall get permission in the category of new use.

3.2 Development Control in Urban Area

Development control is an essential part for the development process. For development control, certain procedures have to be followed for approval of designs of various categories of structures, establishments, and land uses. Development control process consists of some individual tasks. The first condition is to secure land use permit according to approved zoning plan followed by approval of the design of proposed building/structure. Land Use permit is given on the basis of Land Use Zoning. Land Use zoning is the base on which development control process is performed. The development control process is performed under some government Act and Rules. These are: Building Construction Rules, 1996 under Building Construction Act, 1952; Bangladesh National Building Code, 1993, Jaladhar Ain and other relevant laws related to development control of Upazila area.

3.3 Land Use Zoning

Land Use Zoning is a form of legal power which is delegated to development authorities/municipalities/upazilas through enabling legislation to ensure the welfare of the community by regulating the most appropriate use of the land. Zoning is a classification of land uses that limits what activities can or cannot take place and what will be prohibited on a parcel of land by establishing a range of development options. To get a Land Use permit from development authorities/municipalities/upazilas, a citizen's prospective use of structure must be compatible with the approved land use zones of an area.

Zoning has been defined as an action through legislation provided to a development authority/municipality to control

- The heights to which buildings/structures may be erected,
- The area of a land parcel that must be kept vacant, and
- The uses to which buildings and land parcels may be put.

Land Use zoning is mainly of three types, area zoning, density zoning and height zoning.

❖ Area Zoning

Area zoning is to specify which types of Land Use are considered appropriate for different areas or 'zones' and it, therefore, indicates the planning control objectives of the authority or municipality or Upazilas for its administrative area. The main objectives of such zoning are done mainly from the environmental point of view that accrues other social benefits.

❖ Density Zoning

The aim of the density zoning is to limit the size of the population in any particular area using density control methods so that the designed facilities and amenities can support the existing size of the population. The size of the population has to bear on the capacity of designed utility facilities and amenities and traffic volume and crowding, especially in the residential areas. Such zoning is practiced to ensure a healthy and enjoyable community living.

❖ Height Zoning

Height zoning restricts the height of buildings and structures in any particular area. This zoning is aimed to promote natural growth of an area to be a proper and sound development of areas. Height zoning has a particular importance in-flight safety around airport areas and another similar purpose.

Considering the existing level of development and development prospects of the Upazila, the consultant recommends following the area zoning and height zoning among the above three. Zoning is only a part of development control regulations. A prospective developer in a Paurashava has to comply with other rules and regulations, like, Building Construction Rules, 1996 under Building Construction Act 1952, Bangladesh National Building Code 1993 and other conditions of construction method, building safety and associated issues.

3.4 Classification of Land Use Zoning

Characteristics of local towns like Upazilas have a clear difference with the traditional large towns of our country. After a detailed consultation between the client and consultants of the project, the consultant recommends following Land Use Zoning classification under current Development Plan of Mirsharai Upazila.

- a) Administrative Zone
- b) Agricultural Zone
- c) Commercial Zone
- d) Flood Flow Zone
- e) Growth Center
- f) General Industrial Zone

- g) Heavy Industrial Zone
- h) Mixed Use Zone
- i) Open Space
- j) Rural Settlement
- k) Urban Residential Zone
- l) Waterbody
- m) Water Retention Area

The following sections deal with the general definition of the use and description of associated permitted and conditionally permitted uses under each Land Use zone one by one. The uses not listed here in any of the categories shall be treated as Restricted Use for the corresponding Land Use category and shall not be permitted only except unanimously decided otherwise by the Nagar Unnayan Committee. In such situations, the use shall get permission in the category of New Use.

3.4.1 Administrative Zone

The administrative zone will allow agglomeration of administrative structures to make a convenient communication among them. This zone houses important government machinery such as the All types of Government Office, Ansar Camp, Bank, BWDB Office, Civil Surgeon Office, DoE Office, Deputy Commissioner's Office, Commercial Group Office, LGED Office, DPHE Office, Jailkhana, Labor Union, Law Chamber, Mercantile & Cooperatives, Money Exchange Center, Paurashava Office, PDB Office, Police Station, Political Party Office, Post office, Private company/Different types of NGO/ CBO/Club, Professional's Association, R&H Office, Private Bank/Insurance Company, Public Works Department Office, Security Service Office, Settlement Office, Statistical Bureau Office, SP Office/ Police Headquarter, Trading Corporation Office, Union Parishad Office, Upazila Headquarter, Zila Parishad Office, etc.

Purpose

The main purpose of this zone is to agglomerate the administrative structures within a certain boundary for the convenience of people.

Land Use Permitted

The following uses in the tables are proposed to be applicable for this zone only.

Table 3. 1: Permitted Land Use for Administrative Zone

Permitted Administrative Uses	Permitted Administrative Uses
Accounting, Auditing or Bookkeeping Services	Newspaper Stand
ATM Booth	Outdoor Religious Events
Bus Passenger Shelter	Photocopying and Duplicating Services
Civic Administration	Post Office
Communication Service Facilities	Professional Office
Communication Tower within Permitted Height	Project Office

Permitted Administrative Uses	Permitted Administrative Uses
Confectionery Shop	Public Transport Facility
Construction, Survey, Soil Testing Firms	Satellite Dish Antenna
Cultural Exhibits and Libraries	Guest House
Cyber Café	Scientific Research Establishment
Emergency Shelter	Shelter (Passers By)
Freight Transport Facility	Training Centre
General Store	Transmission Lines
Government Office	Utility Lines
Grocery Store	Water Pump \ Reservoir

Land Use Conditionally Permitted

The following uses may be permitted or disallowed in this zone after review and approval by the authority/committee.

Table 3. 2: Conditionally Permitted Land Use for Administrative Zone

Conditionally Permitted Administrative Uses	Conditionally Permitted Administrative Uses
Amusement and Recreation (Indoors)	Flowers, Nursery Stock and Florist Supplies
Postal Facilities	Freight Handling, Storage & Distribution
Bank & Financial Institution	Freight Yard
Boarding and Rooming House	Gallery \ Museum
Book or Stationery Store or Newsstand	Garages
Coffee Shop \ Tea Stall	Lithographic or Print Shop
Conference Center	Mosque, Place of Worship
Courier Service	Outdoor Café
Daycare Center (Commercial or Nonprofit)	Parking Lot
Detention Facilities	Parking Lot (Commercial)
Doctor \ Dentist Chamber	Pipelines and Utility Lines
Energy Installation	Plantation (Except Narcotic Plant)
Fast Food Establishment \ Food Kiosk	Police Box \ Barrack
Fire \ Rescue Station	Auditorium, Coliseum, Meeting Halls, and Conference Facilities, Convention

Restricted Uses

All use except permitted and conditionally permitted uses.

3.4.2 Agriculture Zone

The agricultural zone is the zone of 'food production' where predominantly agricultural production will be encouraged. All types of agricultural activity such as crop production; aquaculture etc. will be dominant and will be permitted to ensure food security. The agricultural zone is intended to prevent the scattered indiscriminate conversion of cropland into settlements.

Purpose

- To safeguard food security by protecting agricultural land from indiscriminate conversion in the name of development.
- To promote farming activity and farming operation in the land especially suitable for the purpose.
- To conserve agricultural lands within urban areas and encourage the long-term viability of agricultural operations and the supporting agricultural industry.

Land Use Permitted

The following uses in the tables are proposed to be applicable for this zone only.

Table 3. 3: Permitted Land Use for Agricultural Zone

Permitted Agriculture Uses	Permitted Agriculture Uses
Animal Shelter	Social Forestry
Aquaculture	Shallow Tube Well
Aquatic Recreation Facility (Without Structure)	Horticulture
Arboriculture	Static Transformer Stations
Cash Crop Cultivation	Temporary Structure (Agricultural)
Dairy Farming	Transmission Lines
Deep Tube Well	Tree Plantation (Except Narcotic Plant)
Ducker	Utility Lines
Food Grain Cultivation	Vegetable Cultivation
Irrigation Facilities (Irrigation canal, Culvert, Flood wall)	Woodlot

Source: Compiled by the MUDP Project Team

Land Use Conditionally Permitted

The following uses may be permitted or disallowed in this zone after review and approval by the authority/committee.

Table 3. 4: Conditionally Permitted Land Use for Agricultural Zone

Conditionally Permitted Agriculture Uses	Conditionally Permitted Agriculture Uses
Communication Tower Within Permitted Height	Graveyard \ Cemetery
Crematorium	

Source: Compiled by the MUDP Project Team

Restricted Uses

All use except permitted and conditionally permitted uses.

3.4.3 Commercial Zone

Commercial areas generally contain one or more of a wide variety of uses that include business uses, offices, hotel, public houses, and limited forms of retailing. Uses that are particularly appropriate to these areas include wholesale, business service uses, the sale of motor vehicles and limited forms of retailing that involve the sale of bulky goods unsuitable to be carried away by pedestrians. This would allow users that are compatible with or reinforce the commercial function of the area. As a whole, Commercial Zone is intended

to provide all the facilities and services with the commercial Land Use that are designed for basic trade and business.

Commercial zones are classified into two types: office and business predominated zones. Commercial Business Zone is a business pre-dominated commercial zone that mainly supports business. This zone is intended to support large commercial developments in major incorporated areas such as retail distribution, retail warehouse, retail storage and retail logistics facilities. The Commercial Business Zone is intended to provide areas for logistical and retail warehousing activities, including storage, distribution, and packaging of goods and products as well as activities which require a large site and space. The Commercial Zone (Office) is intended to provide all the facilities and services with the commercial Land Use. Commercial Office Zone is an office pre-dominated commercial zone that mainly supports the official works. It supports other types of commercial activities, too. Proposals for these areas involve large-scale buildings and require a high degree of accessibility and parking space for car users and delivery vehicles.

Purpose

- The intent of this zone is to provide commercial nodes inconvenient and strategic locations of the area to meet urban needs and to encourage clustering commercial development as opposed to stripping commercial development and commercial sprawl.
- The main objective for designating this zone is to promote trade and commerce compactly associated with all other facilities.

Land Use Permitted

The following uses in the tables are proposed to be applicable for this zone only.

Table 3. 5: Permitted Land Use for Commercial Zone

Permitted Commercial Uses	Permitted Commercial Uses
Accounting, Auditing or Bookkeeping Services	Fruit and Vegetable Markets
Agri-Business	Fitness Centre
Agricultural Sales and Services	General Store
Ambulance Service	Government Office
Antique Store	Grocery Store
Appliance Store	Guest House
Art Gallery, Art Studio \ Workshop	Health Office
ATM Booth	Hotel or Motel
Auction Market	Indoor Amusement Centers, Game Arcades
Auditorium, Coliseum, Meeting Halls, and Conference Facilities, Convention	Television, Radio or Electronics Repair (No Outside Storage)
Auto Leasing or Rental Office	Jewelry and Silverware Sales
Automobile Driving Academy	Market (Bazar) Place
Auto Paint Shop	Mosque, Place of Worship
Auto Parts and Accessory Sales (Indoors)	Motorcycle Sales Outlet
Auto Repair Shop (With Garage)	Multi-Storied Car Park
Automobile Wash	Newspaper Stand

Permitted Commercial Uses	Permitted Commercial Uses
Billboards, advertisements & advertising structure	Outdoor\commercial outdoor recreation
Bakery or Confectionery-Retail	Parking Lot (Commercial)
Bank & Financial Institution	Orphanage
Barber Shop	Pathological Lab
Beauty and Body Service	Pet Store
Bicycle Shop	Photocopying and Duplicating Services
Automobile Sales	Photofinishing Laboratory & Studio
Billiard Parlor \ Pool Hall	Pipelines and Utility Lines
Boarding and Rooming House	Post Office
Inter-City Bus Terminal	Preserved fruits & vegetables facility
Book Stall	Printing, Publishing, and Distributing
Building Material Sales or Storage (Indoors)	Professional Office
Bulk Mail and Packaging	Project Identification Signs
Bus Passenger Shelter	Project Office
Catering Service	Property Management Signs
Chinese Restaurant	Public Transport Facility
Cinema Hall	Real Estate Office
Clinic	Refrigerator or Large Appliance Repair
Coffee Shop \ Tea Stall	Resort
Commercial Office	Restaurant
Communication Service Facilities	Retail Shops \ Facilities
Communication Tower Within Permitted Height	Sales Office of Industries
Computer Maintenance and Repair Shop	Satellite Dish Antenna
Computer Sales & Services Shops	Shelter (Passers By)
Confectionery Shop	Shopping Mall \ Plaza
Conference Center	Slaughter House
Community Center	Social Forestry
Construction Company	Software Development Firm
Construction, Survey, Soil Testing Firms	Stationery Store
Courier Service	Sporting Goods and Toys Sales
Cyber Café	Super Store
Daycare Center (Commercial or Nonprofit)	Taxi Stand
Dental Laboratory	Telephone Exchanges
Department Stores, Furniture & Variety Stores	Book or Stationery Store
Diagnostic Center	Theater (Indoor)
Doctor \ Dentist Chamber	Toys and Hobby Goods Processing and Supplies
Department Stores	Training Centre
Drug Store or Pharmacy	Transmission Lines
Electrical and Electronic Equipment and Instruments Sales	Veterinarian Clinics, Animal Hospitals, Kennels and Boarding Facilities
Fast Food Establishment \ Food Kiosk	Vehicle Sales & Service, Leasing or Rental
Flowers, Nursery Stock and Florist Supplies	Utility Lines
Food Court	Warehousing
Freight Handling, Storage & Distribution	Water Pump \ Reservoir
Freight Transport Facility	Wood Products
Freight Yard	Woodlot

Source: Compiled by the MUDP Project Team

Land Use Conditionally Permitted

The following uses may be permitted or disallowed in this zone after review and approval by the authority/committee.

Table 3. 6: Conditionally Permitted Land Use for Commercial Zone

Conditionally Permitted Commercial Uses	Conditionally Permitted Commercial Uses
Agricultural chemicals, pesticides\ fertilizers shop	Broadcast studio\ recording studio (no audience)
Amusement and Recreation (Indoors)	Indoor Amusement Centers, Game Arcades
Bicycle Assembly, Parts and Accessories	Indoor Theatre
Incineration Facility	Lithographic or Print Shop
Craft Workshop	Motor Vehicle Fueling Station \ Gas Station
Coffee Shop \ Tea Stall	Musical Instrument Sales or Repair
Concert Hall, Stage Shows	Optical Goods Sales
Construction, Survey, Soil Testing Firms	Painting and Wallpaper Sales
Container Yard	Paints and Varnishes
Energy Installation	Parking Lot
Fire \ Rescue Station	Patio Homes
Firm Equipment Sales & Service	Plantation (Except Narcotic Plant)
Fitness Centre	Postal Facilities
Flowers, Nursery Stock and Florist Supplies	Poultry
Forest Products Sales	Police Box \ Barrack
Fuel and Ice Dealers	Private Garages
Garages	Professional Office
Garden Center or Retail Nursery	Retail Shops Ancillary to Studio\ workshop
Grain & Feed Mills	Stone \ Cut Stone Products Sales
Household appliance\ furniture repair service	Trade Shows

Source: Compiled by the MUDP Project Team

Restricted Uses

All use except permitted and conditionally permitted uses.

3.4.4 Flood Flow Zone

The area over which the flow of floodwater during monsoon passes through is termed here as flood flow zone.

Purpose

The intent of the Flood Flow Zone is to protect adverse hydrological impact, human life, and health, minimize property damage, encourage appropriate construction practices, and minimize public and private losses due to the overflow of water. Additionally, this zone is intended to maintain the sound use and development of flood-prone areas and to restrict potential home buyers by notifying that property is in a flood area. The provisions of this zone are intended to minimize damage to public facilities and utilities such as water and

gas mains, electric, telephone, and sewer lines, street, and bridges located in the floodplain, and prolonged business interruptions; and to minimize expenditures of public money for costly flood control projects and rescue and relief efforts associated with flooding.

Land Use Permitted

The following uses in the tables are proposed to be applicable for this zone only.

Table 3. 7: Permitted Land Use for Flood Flow Zone

Permitted Uses	Permitted Uses
Aquatic Recreation Facility (Without Structure)	Plantation (Except Narcotic Plant)
Dry Season Play Field	Static Transformer Stations
Marina \ Boating Facility	Transmission Lines
Pipelines and Utility Lines	Utility Lines

Source: Compiled by the MUDP Project Team

Land Use Conditionally Permitted

The following uses may be permitted or disallowed in this zone after review and approval by the authority/committee.

Table 3. 8: Conditionally Permitted Land Use for Flood Flow Zone

Conditionally Permitted Uses	Conditionally Permitted Uses
Communication Tower Within Permitted Height	Poultry

Source: Compiled by the MUDP Project Team

Restricted Uses

All use except permitted and conditionally permitted uses.

3.4.4 Growth Center

According to the location theorists, “Such settlements which are nuclear or central to their influence area are called growth centers”. In the context Bangladesh, Growth Centers are rural marketplaces that have been identified by the Planning Commission on the basis of socio-economic and administrative criteria for making development investment. There are about 8,000 rural marketplaces throughout Bangladesh that are popularly known as 'hat' or 'bazaar'. Realizing their importance in the rural sector, the government felt the need to upgrade them with some infrastructure facilities in order to enhance their efficiency. However, due to fund constraint, it was not possible to include all the 'hats' or 'bazaars' for development investment. Thus, initially 1,400 of them were selected in 1984 and later in 1993; another 700 'hats' or 'bazaars' were added to this list to take the final number to 2,100. In our planning area, there are some growth centers that contain substantially the following characteristics.

Purpose

- It incorporates a mix of uses that typically include or have the potential to include the following: retail, office, services, and another commercial, civic, recreational, industrial, and residential uses, within a densely developed, compact area;
- It incorporates existing or planned public spaces that promote social interaction, such as public parks, civic buildings (e.g., post office, municipal offices), community gardens, and other formal and informal places to gather;
- It is organized around one or more central places or focal points, such as prominent buildings of civic, cultural, or spiritual significance or a square;
- It results in compact concentrated areas of land development that are served by existing or planned infrastructure and are separated by rural countryside or working landscape

Land Use Permitted

Rural commercial center in the “Growth center” form is one of an important feature for rural economic sustainability. In a growth center, people can find their necessary service activity in an easily accessible distance apart from the urban area. In this sense, the permitted uses for growth center are the following:

Table 3. 9: Permitted Land Use for Growth Center

Permitted Uses	Permitted Uses
Accounting, Auditing or Bookkeeping Services	Garages
Addiction Treatment Center	Garden Center or Retail Nursery
Agricultural chemicals, pesticides\ fertilizers shop	General Store
Agricultural Dwellings	Grain & Feed Mills
Agricultural Product Sales	Grocery Store
Dormitory	High School
Furniture Stores	Hotel or Motel
Ambulance Service	Household appliance and furniture repair service
Amusement and Recreation (Indoors)	Housing for Seasonal Firm Labor
Ancillary Dwelling	Indoor Amusement Centers
Animal Husbandry	Indoor Theatre
Antique Store	Jewelry and Silverware Sales
Appliance Store	Katcha Bazar
Auction Market	Loom (Cottage Industry)
Auto Repair Shop (With Garage)	Mosque, Place of Worship
Bank & Financial Office	Newspaper Stand
Barber Shop	NGO \ CBO Office
Barber Shop	Nursery School
Billboards, advertisements & advertising structure	Communication tower within the permitted height
Blacksmith	Optical Goods Sales
Boarding and Rooming House	Orphanage
Book or Stationery Store or Newsstand	Outdoor Fruit and Vegetable Markets
Bus Passenger Shelter	Outdoor Religious Facility (Eidgah)
Cinema Hall	Paints and Varnishes Shop

Permitted Uses	Permitted Uses
Cleaning \ Laundry Shop	Photo Studio
Coffee Shop \ Tea Stall	Photocopying and Duplicating Services
Cold Storage	Postal Facilities
College\Technical Training School \ Centers \ Agro Based Trading	Electrical and Electronic Equipment and Instruments Sales
Communication Service Facilities	Public Utility Stations & Substations
Open Theater	Research organization (Agriculture \ Fisheries)
Community Center	Restaurant
Computer Maintenance and Repair	Retail Shops \ Facilities
Computer Sales & Services	Rickshaw \ Auto Rickshaw Stand
Confectionery	Satellite Dish Antenna
Courier Service	Sawmill
Craft Workshop	Shoe Repair or Shoeshine Shop (Small)
Cyber Café	Signboard \ Billboard
Dairy Farming	Slaughter House
Daycare Center (Commercial or Nonprofit)	Small Workshop
Department Stores	Social Forestry
Doctor \ Dentist Chamber	Specialized School: Dance, Art, Music & Others
Agro-based industry (rice mill, sawmill, cold storage)	Specialized School: Dance, Art, Music, Physically Challenged & Others
Drug Store or Pharmacy	Static Transformer Stations
Primary School	Storage & Warehousing
Emergency Shelter	Taxi Stand
Energy Installation	Television, Radio or Electronics Repair
Fabric Store	Theater (Indoor)
Family Welfare Center	Transmission Lines
Fast Food Establishment \ Food Kiosk	Truck Stand & Freight Terminal
Firm Equipment Sales & Service	Utility Lines
Fish Hatchery	Variety Stores
Fitness Centre	Vehicle, Leasing or Rental Service
Flowers, Nursery Stock	Veterinary Centre
Freight Transport Facility	Veterinary Clinic \ Center
Fuel and Ice Dealers	Wood Products
Funeral Services	Woodlot

Source: Compiled by the MUDP Project Team

Land Use Conditionally Permitted

The following uses may be permitted or disallowed in this zone after review and approval by the authority/committee.

Table 3. 10: Conditionally Permitted Land Use for Growth Center

Conditionally Permitted Uses	Conditionally Permitted Uses
Artisan's Shop	Library
Auto Leasing or Rental Office	Motor Vehicle Fueling Station \ Gas Station
Beauty Parlor	Musical Instrument Sales or Repair

Conditionally Permitted Uses	Conditionally Permitted Uses
Building Maintenance\Cleaning Services (No Outside Storage)	Preserved Fruits and Vegetables Facility \ Cold Storage
Building Material Sales or Storage (Indoors)	Plantation (Except Narcotic Plant)
Carnivals and Fairs	Police Station
Circus	Poultry
Correctional Institution	Pet Store
Fire Brigade Station	Sports and Recreation Club
Freight Handling, Storage & Distribution	Stage Shows
Freight Yard	Temporary Rescue Shed
Guest House	Trade Shows

Source: Compiled by the MUDP Project Team

** All of the commercial activities shall be located at growth center.*

Restricted Uses

All use except permitted and conditionally permitted uses.

3.4.5 General Industrial Zone

Promoting the development of industrial areas as the primary locations for uses including manufacturing, repairs, warehousing, distribution, open-storage, waste materials treatment and recovery, and transport operating centers, the industrial zone has been earmarked. The development of inappropriate mixes of uses, such as office-based industry and retailing will not normally be encouraged here.

It is an objective to ensure that, normally, new buildings in primarily industrial areas are a single story with high ceilings to provide versatility and adaptability to accommodate a broad range of types of plant, machinery, and delivery vehicles throughout their design life. It is an objective to ensure that the likely demand for car parking and delivery vehicle facilities are fully met within the site, to apply the highest standards of design, hard and soft landscaping and to ensure that pedestrian access is provided and that provision is made for public transport.

Purpose

The intent of this zone is to accommodate certain industrial uses which, based on their operational characteristics, is incompatible with residential, social, medical, and commercial environs. As a result, the establishment of such zones shall be restricted to areas geographically buffered from such environs, and the operations of such uses monitored by performance standards to ensure environmental compatibility.

- The purpose and intent of industrial zone are to provide areas in appropriate locations where various light industrial operations can be conducted without creating hazards to surrounding land uses. Industrial zones are cohesive, planned tracts, with all elements sharing the same or compatible architectural and landscaping themes within a parcel.

- Areas intended to accommodate a variety of industrial establishments which: 1) employ high environmental quality standards; 2) may function as an integral part of an overall development area; and, 3) have minimal impacts on adjacent uses.
- The purpose and intent of General industrial zone is to provide areas in appropriate locations for certain types of non-objectionable products or adjacent uses because they are characterized by a minimum of material, processes, or machinery likely to cause undesirable effects upon nearby or adjacent residential or commercial property.

General Industrial Zone is to accommodate Green, Orange A, Orange B types of industries of Department of Environment (DOE) prepared categories, and Urban Area Plan designated light industries and general industries along with some other new types. Here the industries will not be noxious and heavy.

Land Use Permitted

The following uses in the tables are proposed to be applicable for this zone only.

Table 3. 11: Permitted Land Use for General Industrial Zone

Permitted General Industrial Uses	Permitted General Industrial Uses
Aluminum products	Perfumes, cosmetics
Artificial Fiber Production	Pharmaceutical Industry
Assembling and manufacturing of clocks and watches	Assembling and manufacturing of electrical and Electronic home products etc.
Photocopying and Duplicating Services	Photographic Film Factory
Plastic & rubber goods (excluding PVC)	Pipelines and Utility Lines
Assembling and manufacturing of toys (except plastic items)	Production of utensils and souvenirs of brass and bronze
Assembling of motor vehicles	Police Box \ Barrack
Assembling of telephones	Power Loom
ATM Booth	Printing and writing ink manufacturing Industry
Automatic rice mill.	Printing Press
Bakery	Printing, Publishing, and Distributing
Bank & Financial Institution	Processing: fish, meat, and food
Manufacture of industrial tools, equipment, and machinery	Processing and bottling of drinking water and carbonated drinks
Blacksmith	Production of artificial leather goods
Bus Passenger Shelter	Production of Comb, hair band, hair clip etc.
Chocolate and lozenge Factory	Production of gold ornaments
Cinema Hall	Production of Pin, board pin, U Pin etc.
Clinic and Pathological lab	Production of powder milk/condensed milk/dairy
Cold storage	Production of shoes and leather goods
Communication Tower within Permitted Height	Production of spectacles frames
Confectionery Shop	Public Transport Facility
Dry-cleaning	Repairing of refrigerators
Edible oil	Restaurant
Effluent Treatment Plant	Retail Shops \ Facilities

Permitted General Industrial Uses	Permitted General Industrial Uses
Electric cable	Salt Industry
Engineering works	Salt production
Fabric washing Plant	Salvage Processing
Factory for production of chocolate and lozenge	Salvage Yards
Fire \ Rescue Station	Satellite Dish Antenna
Flour (large) Mill	Sawmill, Chipping, and Pallet Mill
Freight Transport Facility	Shelter (Passers By)
Bicycle Assembly, Parts and Accessories	Shoes and leather goods production
Galvanizing	Soap
Garments and sweater Factory	Social Forestry
Glass factory	Sodium silicate Factory
Glue (excluding animal glue)	Spinning mill
Grinding/husking wheat, rice, turmeric, chilly, pulses – machine above 0 Horse Power	Television, Radio or Electronics Repair (No Outside Storage)
Grocery Store	Starch and glucose factory
Hotel, multi-storied commercial building.	Stone grinding, cutting, and polishing
Household appliance and furniture repair service	Sports goods Production
Ice-cream	Tea processing
Jute mill	Tire re-treading
Lime	Transmission Lines
Machine Sheds	Truck Stop & Washing or Freight Terminal
Manufacture of Agricultural tools, equipments and small machinery.	Utensils made of clay and china clay/sanitary wares (ceramics)
Furniture Manufacture of wood/iron\aluminum	Utility Lines
Manufacturing of wooden vessel	Water Pump \ Reservoir
Match Factory	Water Purification Plant
Meat and Poultry (Packing & Processing)	Weaving and handloom
Metal utensils/spoons etc.	Wood Products
Mosque, Place of Worship	Wood treatment
Motor vehicles repairing works	Wood/iron/aluminum Furniture production
Newspaper Stand	Woodlot
Packaging Industries	

Source: Compiled by the MUDP Project Team

Land Use Conditionally Permitted

The following uses may be permitted or disallowed in this zone after review and approval by the authority/committee.

Table 3. 12: Conditionally Permitted Land Use for General Industrial Zone

Conditionally Permitted General Industrial Uses	Conditionally Permitted General Industrial Uses
Amusement and Recreation (Indoors)	Lithographic or Print Shop
Appliance Store	Manufacturing of Artificial flower
Assembling and manufacturing of clocks and watches	Assembling and manufacturing of electrical and Electronic home products etc.
Medical and surgical instrument production	Motor Vehicle Fueling Station \ Gas Station

Conditionally Permitted General Industrial Uses	Conditionally Permitted General Industrial Uses
Outside Bulk Storage	Motorcycle Sales Outlet
Assembling and manufacturing of toys (except plastic items)	Assembling of motorcycles, bicycles, and toy cycles
Musical instruments	Outdoor Fruit and Vegetable Markets
Assembling of scientific and mathematical instruments	Photographic lab (except ultraviolet and infra-red)
Assembling of telephones	Overhead Water Storage Tanks
Bamboo and cane goods	Painting and Wallpaper Sales
Book-binding	Paints and Varnishes
Candle Production	Parking Lot
Carpet and mat production	Parking Lot (Commercial)
Cork items Production	Pen and ball-pen Factory
Cyber Café	Production of artificial leather goods
Daycare Center (Commercial or Nonprofit)	Plantation (Except Narcotic Plant)
Doctor \ Dentist Chamber	Private Garages
Electrical and electronic equipment and instruments sales	Re-packing of milk powder (excluding production)
Employee Housing	Laundry
Energy Installation	Retail Shops Ancillary to Studio \ Workshop
Fast Food Establishment \ Food Kiosk	Rope and coir mat production
Garages	Sports goods (excluding plastic made items)
Gold ornaments Production	Super Store
Grain & Feed Mills	Tea packing (excluding processing)
Incineration Facility	Washing Plant

Source: Compiled by the MUDP Project Team

Restricted Uses

All use except permitted and conditionally permitted uses.

3.4.6 Mixed Use Zone

The Residential- Commercial- General Industrial zone is intended to achieve cohabitation of uses while ensuring that negative impacts on residents are minimized. The spaces created in this zone are intended to encourage a diminished need for motorized travel and shall possess characteristics of all of the three- Residential, Commercial, and Industrial.

Purpose

The main purpose of this zone is to support the diversification and expansion of the area’s industrial base and employment growth as well as to facilitate investment in a wide range of industrial and related activities, with efficient land utilization and provision of infrastructure. To make provision for small-scale services that support surrounding industrial activities, or which meet the needs of the local workforce is a primary aim of this type of Land Use. Provide convenient access for the area and regional residents to industrial goods, services, and employment opportunities, too, is an important purpose of this zone.

Land Use Permitted

The following uses in the tables are proposed to be applicable for this zone only.

Table 3. 13: Permitted Land Use for Mixed Use Zone

Permitted Mixed Uses	Permitted Mixed Uses
Accounting, Auditing or Bookkeeping Services	Fire \ Rescue Station
Antique Store	General Store
Appliance Store	Grocery Store
ATM Booth	Guest House
Auditorium, Coliseum, Meeting Halls, and Conference Facilities, Convention	Service stations, full service (with minor repair)
Auto Leasing or Rental Office	Landscape and Horticultural Services
Auto Paint Shop	Mosque, Place of Worship
Auto Parts and Accessory Sales (Indoors)	Newspaper Stand
Auto Repair Shop (With Garage)	Nursery School
Automobile Driving Academy	Photocopying and Duplicating Services
Automobile Sales	Pipelines and Utility Lines
Automobile Wash	Police Box \ Barrack
Bakery or Confectionery-Retail	Primary School
Bank & Financial Institution	Project Identification Signs
Barber Shop	Property Management Signs
Bicycle Assembly, Parts and Accessories	Public Transport Facility
Bicycle Shop	Rickshaw \ Auto Rickshaw Stand
Billboards, Advertisements, and Advertising Structure	Satellite Dish Antenna
Billiard Parlor \ Pool Hall	Service Garage
Blacksmith	Hospital
Boarding and Rooming House	Sewage Treatment Plant
Book or Stationery Store or Newsstand	Shelter (Passers By)
Bulk Mail and Packaging	Shoe Repair or Shoeshine Shop (Small)
Bus Passenger Shelter	Social Forestry
Children's Park	Social organization
Cleaning \ Laundry Shop	Solid Waste Recycling Plant
Commercial Recreational Buildings	Special Dwelling
Communication Service Facilities	Transmission Lines
Communication Tower within Permitted Height	Utility Lines
Confectionery Shop	Water Pump \ Reservoir
Construction, Survey, Soil Testing Firms	Woodlot
Courier Service	

Source: Compiled by the MUDP Project Team

Land Use Conditionally Permitted

The following uses may be permitted or disallowed in this zone after review and approval by the authority/committee.

Table 3. 14: Conditionally Permitted Land Use for Mixed Use Zone

Conditionally Permitted Mixed Uses	Conditionally Permitted Mixed Uses
Agricultural chemicals, pesticides\ fertilizers shop	Freight Transport Facility
Amusement and Recreation (Indoors)	Garages
Auction Market	Garden Center or Retail Nursery
Beauty and Body Service	Government Office
Gaming Clubs	Grain & Feed Mills
Building Material Sales or Storage (Indoors)	Health Office, Dental Laboratory, Clinic or Lab
Bulk Fuel Sales Depot	Hotel or Motel
Coffee Shop \ Tea Stall	Household Appliance & Furniture repair service
Computer Maintenance and Repair	Incineration Facility
Computer Sales & Services	Indoor Theatre
Concert Hall, Stage Shows	Jewelry and Silverware Sales
Condominium or Apartment	Lithographic or Print Shop
Conference Center	Market (Bazar)
Construction Company	Musical Instrument Sales or Repair
Correctional Institution	Outdoor Fruit and Vegetable Markets
Counseling Services	Painting and Wallpaper Sales
Craft Workshop	Paints and Varnishes
Cyber Café	Pet Store
Daycare Center (Commercial or Nonprofit)	Photofinishing Laboratory & Studio
Department Stores, Furniture & Variety Stores	Plantation
Drug Store or Pharmacy	Project Office
Employee Housing	Psychiatric Hospital
Energy Installation	Refrigerator or Large Appliance Repair
Fabric Store	Restaurant
Fast Food Establishment \ Food Kiosk	Retail Shops \ Facilities
Firm Equipment Sales & Service	Retail Shops Ancillary to Studio \ Workshop
Fitness Centre	Sporting Goods and Toys Sales
Flowers, Nursery Stock and Florist Supplies	Sports & Recreation Club, Firing Range: Indoor
Forest Products Sales	Telephone Exchanges
Building Maintenance \ Cleaning Services, No Outside Storage	Television, Radio or Electronics Repair (No Outside Storage)

Source: Compiled by the MUDP Project Team

Restricted Uses

All use except permitted and conditionally permitted uses.

3.4.7 Open Space

The primary uses in these areas include playgrounds, parks, and other areas for outdoor activities, sports centers, sports pitches, outdoor recreation, and landscaped areas. High standards of accessibility are essential in this zone. Accessibility standard is related to the use of that particular open space. For example, local amenity areas and playgrounds may require emphasis on access for pedestrians and cyclists. Sports Centers serving a wider catchments area will require accessibility by public transport and car users.

Purpose

To provide for the active and passive recreational needs of the city and the protection of its bountiful natural resources as well as to protect the natural and aesthetic qualities of the area for the general welfare of the community. The purpose of this zone is:

- To provide for, protect and improve the provision, attractiveness, accessibility, and amenity value of public open space and amenity areas.
- To provide for, protect, and improve the provision, attractiveness, and accessibility of public open space intended for use of recreational or amenity purposes. The only development that is incidental to, or contributes to the enjoyment of open space, amenity, or recreational facilities will be permitted within this zone.
- To preserve and provide for open space and recreational amenities. The zoning objective seeks to provide recreational and amenity resources for urban and rural populations subject to strict development controls. Only community facilities and other recreational uses will be considered and encouraged by the Planning Authority.

Land Use Permitted

The following uses in the tables are proposed to be applicable for this zone only.

Table 3. 15: Permitted Land Use for Open Space

Permitted Open Space Uses	Permitted Open Space Uses
Botanical Garden & Arboretum	Playing Field
Bus Passenger Shelter	Social Forestry
Carnivals and Fairs	Special Function Tent
Circus	Tennis Club
Landscape and Horticultural Services	Transmission Lines
Memorial Structure	Urban-Nature Reserve
Open Theater	Utility Lines
Park and Recreation Facilities (General)	Woodlot
Pipelines and Utility Lines	Zoo
Plantation (Except Narcotic Plant)	

Source: Compiled by the MUDP Project Team

Land Use Conditionally Permitted

The following uses may be permitted or disallowed in this zone after review and approval by the authority/committee.

Table 3. 16: Conditionally Permitted Land Use for Open Space

Conditionally Permitted Open Space Uses	Conditionally Permitted Open Space Uses
Communication Tower Within Permitted Height	Motorized Recreation
Fitness Centre	Trade Shows
Flowers, Nursery Stock and Florist Supplies	

Restricted Uses

All use except permitted and conditionally permitted uses.

3.4.8 Urban Residential Zone

Urban Residential Zone is intended primarily for housing development but may also include a range of other uses particularly those that have the potential to foster the development of new residential communities such as schools, small shops, doctor's chambers, and open space like playing fields and so on. Limited Commercial facilities within this zone shall be planned and developed as an integral retail or business unit which, comply with the planned mixed-use concept of the Urban Area Plan.

Purpose

The prime objective of this zone is to provide the space for living as well as to meet the daily needs of the residents. The main purposes of this zone are:

- To provide for the residential development, associated services and to protect and improve residential amenities.
- To improve the quality of existing residential areas and strengthen the provision of local community services and amenities.
- To control unscheduled development on individual lots or tracts, promote economic and efficient land use.
- To provide for a variety of housing types and densities to meet current and future residential needs.
- To provide an appropriate mix of house sizes, types, and tenures in order to meet household needs; to promote balanced communities, and to promote higher densities in the development center to facilitate day and evening activity and ensure a 'living' center.

The urban areas that are already densely and haphazardly built are termed here as Spontaneous Residential Zone. These zones primarily support living with some civic facilities. The main purpose of this Land Use zone is to provide enough space for residents. There will have some supporting uses, too, for the residents.

The areas that have some scope to develop as a planned area are declared as Planned Residential Zone. In Planned Residential Zone, there will have a variety of supporting uses such as small retail, parking, post box etc. with primarily residential use. The planned residential area in the neighborhood form should be followed for new urban development.

The neighborhood is a walk able community in human scale, with a frequently interconnected street network which weaves a mix of housing types, and small local scale retail and service uses that serve the local population. The services designed here are in walking distances considering the day to day needs.

Land Use Permitted

The following uses in the tables are proposed to be applicable for this zone only.

Table 3. 17: Permitted Land Use for Urban Residential Zone

Permitted Urban Residential Uses	Permitted Urban Residential Uses
All Types of Residential House	High School
Apartment Housing	Children's Park (Must Have Parking)
Artisan's Shop	Housing for Seasonal Firm Labor
Assisted Living or Elderly Home	Housing Project
ATM Booth	Landscape and Horticultural Services
Barber Shop	Memorial Structure (Ancillary)
Bill Payment Booth	Monument (Neighborhood Scale)
Boarding and Rooming House	Mosque, Place of Worship
Book Stall	Newspaper Stand
CBO Office	Nursery School
Child Daycare \ Preschool	Orphanage
Household Appliance and Furniture Repair Service (No Outside Storage)	Photocopying and Duplicating Services (No Outside Storage)
Cleaning \ Laundry Shop	Pipelines and Utility Lines
Communication Service Facilities	Playing Field
Communication Tower Within Permitted Height	Primary School
Community Center	Private Garages (Ancillary Use)
Condominium or Apartment	Project Identification Signs
Confectionery Shop	Property Management Signs
Cottage	Public Transport Facility
Cultural Exhibits and Libraries	Retail Shops \ Facilities
Cyber Café	Satellite Dish Antenna
Daycare Center (Commercial or Nonprofit)	Shelter (Passers By)
Departmental Stores	Shoe Repair or Shoeshine Shop (Small)
Doctor \ Dentist Chamber	Special Dwelling
Dormitory	Flowers, Nursery Stock and Florist Supplies
Drug Store or Pharmacy	Stationery Store
Dwelling	Temporary tent for Permitted Function
Eidgah	Temporary Tent
Employee housing (Guards)\Ancillary Use	Transmission Lines
Fast Food Establishment \ Food Kiosk	Urban-Nature Reserve
Fitness Centre	Utility Lines
Specialized School: Dance, Art, Music, Physically Challenged & Others	Uses in Neighborhood Center* (Where Neighborhood Center exists)
Gaming Clubs	Water Pump \ Reservoir
General Store	Woodlot
Grocery Store	

Land Use Conditionally Permitted

The following uses may be permitted or disallowed in this zone after review and approval by the authority/committee following appropriate procedure while the application meets the criteria mentioned in the requirement.

Table 3. 18: Conditionally Permitted Land Use for Urban Residential Zone

Conditionally Permitted Urban Residential Uses	Conditionally Permitted Urban Residential Uses
Addiction Treatment Center	Graveyard \ Cemetery
Amusement and Recreation (Indoors)	Guest House
Art Gallery, Art Studio \ Workshop	Market (Katcha Bazaar) Place
Automobile Driving Academy	Neighborhood Co-Operative Office
Beauty and Body Service	Optical Goods Sales
Billiard Parlor \ Pool Hall	Outdoor Café
Building Maintenance \ Cleaning Services	Overhead Water Storage Tanks
Bus Passenger Shelter	Paints and Varnishes Store
Coffee Shop \ Tea Stall	Parking Lot
Community Hall	Patio Homes
Correctional Institution	Photofinishing Laboratory
Courier Service	Plantation (Except Narcotic Plant)
Crematorium	Police Station
Electrical Sub Station	Post Office
Emergency Shelter	Postal Facilities
Energy Installation	Row House
Fire Brigade Station	Slaughter House
Flood Management Structure	Sports and Recreation Club
Fruit Markets	Static Transformer Stations
Funeral Services	Telephone Sub Station
Furniture & Variety Stores	Temporary Rescue Shed
Garages	Tennis Club
Garden Center or Retail Nursery	Tourist Home or Resort

Restricted Uses

All use except permitted and conditionally permitted uses.

3.4.9 Waterbody

Waterbody serves the natural flow of water along their alignment.

Purpose

This zone tends to preserve the flow and level of water across all seasons along with their natural alignment. Upazila area is covered by a network of natural water body including river, canal, and pond. To promote and provide environmentally safe and sound living for the people of the area and for the future generation, water body has an immensely importance. Waterbody should be preserved not only for environmental concern but also for active and passive recreation purposes.

Land Use Permitted

The following uses in the tables are proposed to be applicable for this zone only.

Table 3. 19: Permitted Land Use for Waterbody

Permitted Administrative Uses	Permitted Administrative Uses
Aquatic Recreation Facility (Without Structure)	Utility Lines
Fishing Club (Non-structural)	Water Parks

Land Use Conditionally Permitted

The following uses may be permitted or disallowed in this zone after review and approval by the authority/committee.

Table 3. 20: Conditionally Permitted Land Use for Waterbody

Conditionally Permitted Administrative Uses	Conditionally Permitted Administrative Uses
Marina \ Boating Facility	Water-based Recreation

Restricted Uses

All use except permitted and conditionally permitted uses.

3.4.10 Water Retention Area

Retaining water is the main purpose of this type of Land Use.

Land Use Permitted

The following uses in the tables are proposed to be applicable for this zone only.

Table 3. 21: Permitted Land Use for Water Retention Area

Permitted Uses	Permitted Uses
Aquatic Recreation Facility (Without Structure)	Utility Lines
Fishing Club (non-structural)	Water Parks

Land Use Conditionally Permitted

The following uses may be permitted or disallowed in this zone after review and approval by the authority/committee.

Table 3. 22: Conditionally Permitted Land Use for Water Retention Area

Conditionally Permitted Uses	Conditionally Permitted Uses
Marina \ Boating Facility	Water-based Recreation

Restricted Uses

All use except permitted and conditionally permitted uses.

CHAPTER 04: CONCLUSION

4.1 Concluding Remarks

The Urban Area Plan of Mirsharai Upazila consists of the plans for Baroiarhat and Mirsharai Paurashava as identified in the Structure Plan for the Upazila. Since the Urban Area Plan is mainly indicative further measures should be taken during implementation.

In the development process of the Upazila, coordination among all local authorities within Mirsharai Upazila will be necessary for integrated development encompassing the potentials of both urban and rural areas. There is scope for local government authorities for cooperation and collaboration among themselves for local development in a comprehensive manner. It is expected that the Urban Area Plan prepared under the current project will provide essential tools for integrated development at Mirsharai Upazila.

ANNEXURE-A: PROJECT TEAM

A. Key Professionals

Serial No.	Name	Position Assigned
01	Ahmed Akhtaruzzaman	Project Director
02	Md. Ahshan Habib	Project Manager
03	Zakia Sultana	Planner
04	Md. Saifur Rahman	Planner
05	Yearunnessa Khanam	Assistant Planner

B. Supporting Staff

Serial No.	Name	Position Assigned
01	Md. Monir Hossain	Draftsman (Grade-1)
02	S. M. Saidul Islam	Draftsman (Grade-2)
03	Md. Shahinur Rahman Sarkar	Draftsman (Grade-3)
04	Md. Nazrul Islam	Draftsman (Grade-4)
05	Md. Raju Ahamed	Tracer
06	Renu Mia	Tracer

ANNEXURE-B: PHOTOGRAPHS



Photograph-1 & 2: “Art Competition, 2018- Children Thought About Mirsharai Upazila” at Zila Parishad Auditorium in Mirsharai Upazila under Development Plan for Mirsharai Upazila, Chattogram District: Risk Sensitive Land Use Plan (2017-2037) Project



Photograph-3 & 4: Seminar on MUDP Project at Zila Parishad Auditorium in Mirsharai Upazila



Photograph-5 & 6: PIC Meeting was held on May, 2018 under MUDP Project



Photograph-7 & 8: Conducting Urban PRA at Ward No. 07 in Mirsharai Paurashava and Ward No. 05 in Baroiarhat Paurashava



Photograph-9 & 10: Conducting PRA at 01 No. Karerhat Union and 12 No. Khaiyachhara Union in Mirsharai Upazila



Photograph-11 & 12: Participation of Young Generation Group named “University Student Association of Mirsharai (USAM)”

ANNEXURE-C: PUBLIC HEARING COMMENTS

1. Public Hearing Comments of Baroiarhat Paurashava

Figure 1.1: Public Hearing Comments of Baroiarhat Paurashava (Ward No. 01)

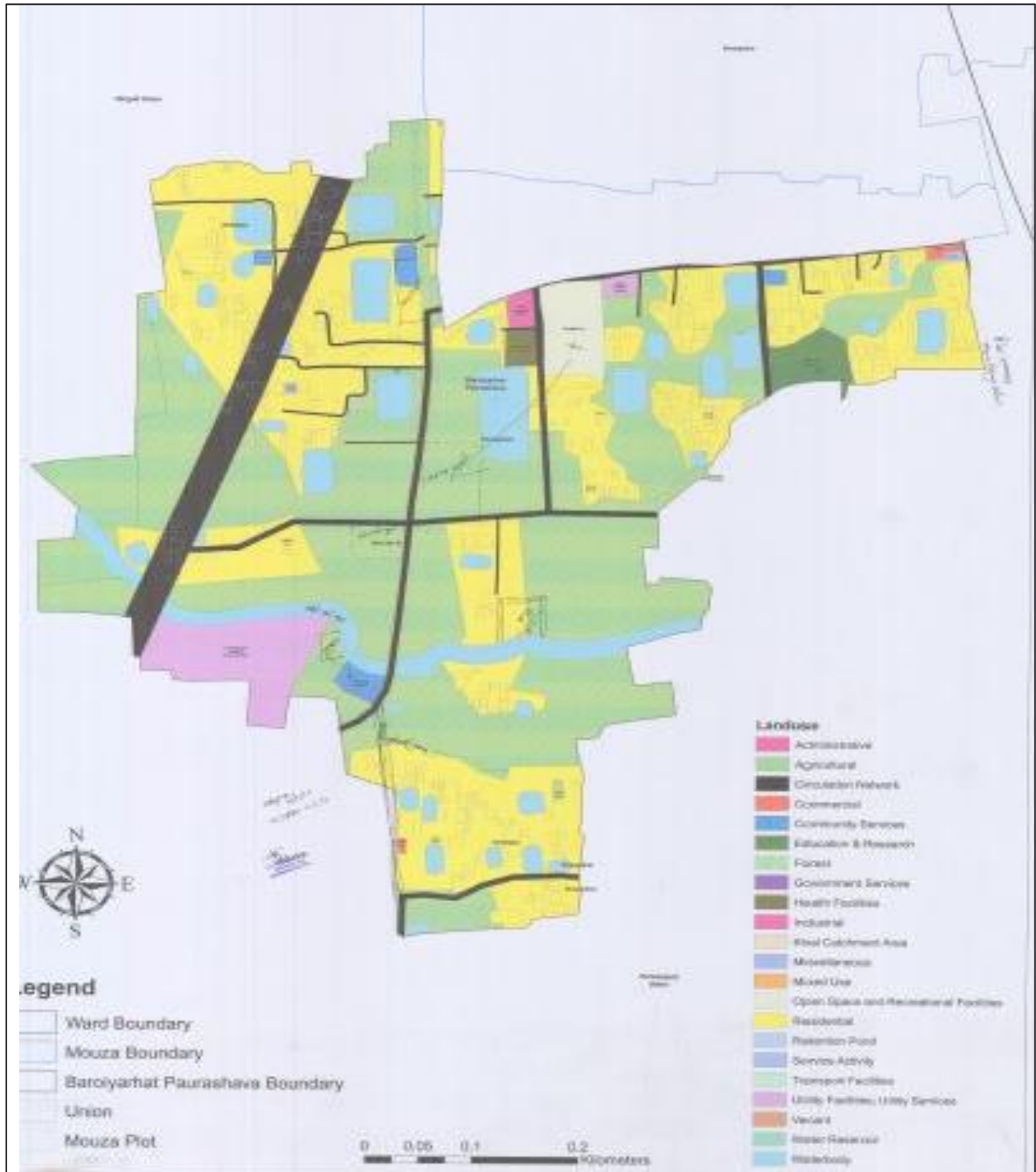


Figure 1.2: Public Hearing Comments of Baroiarhat Paurashava (Ward No. 02)

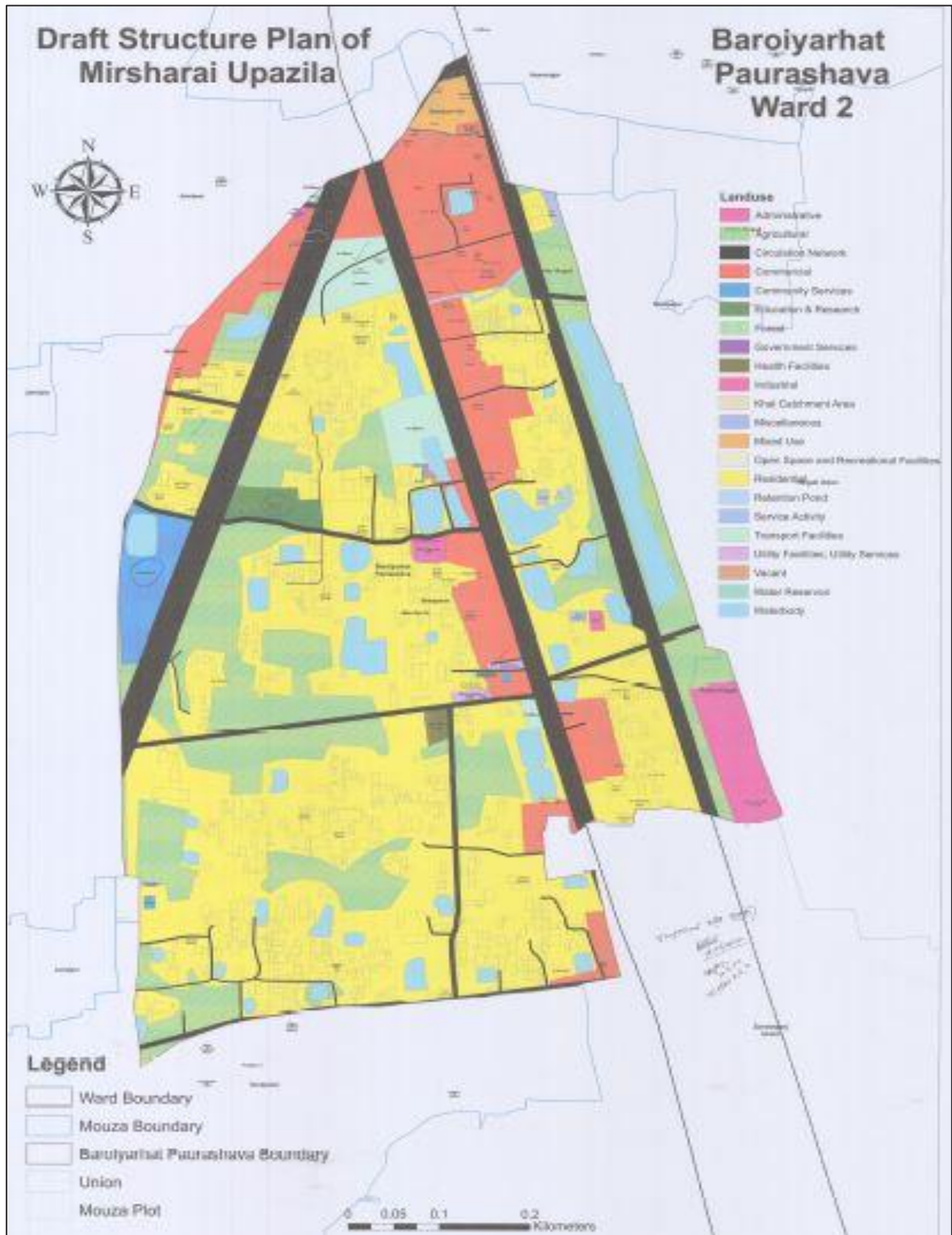


Figure 1.3: Public Hearing Comments of Baroiarhat Paurashava (Ward No. 03)

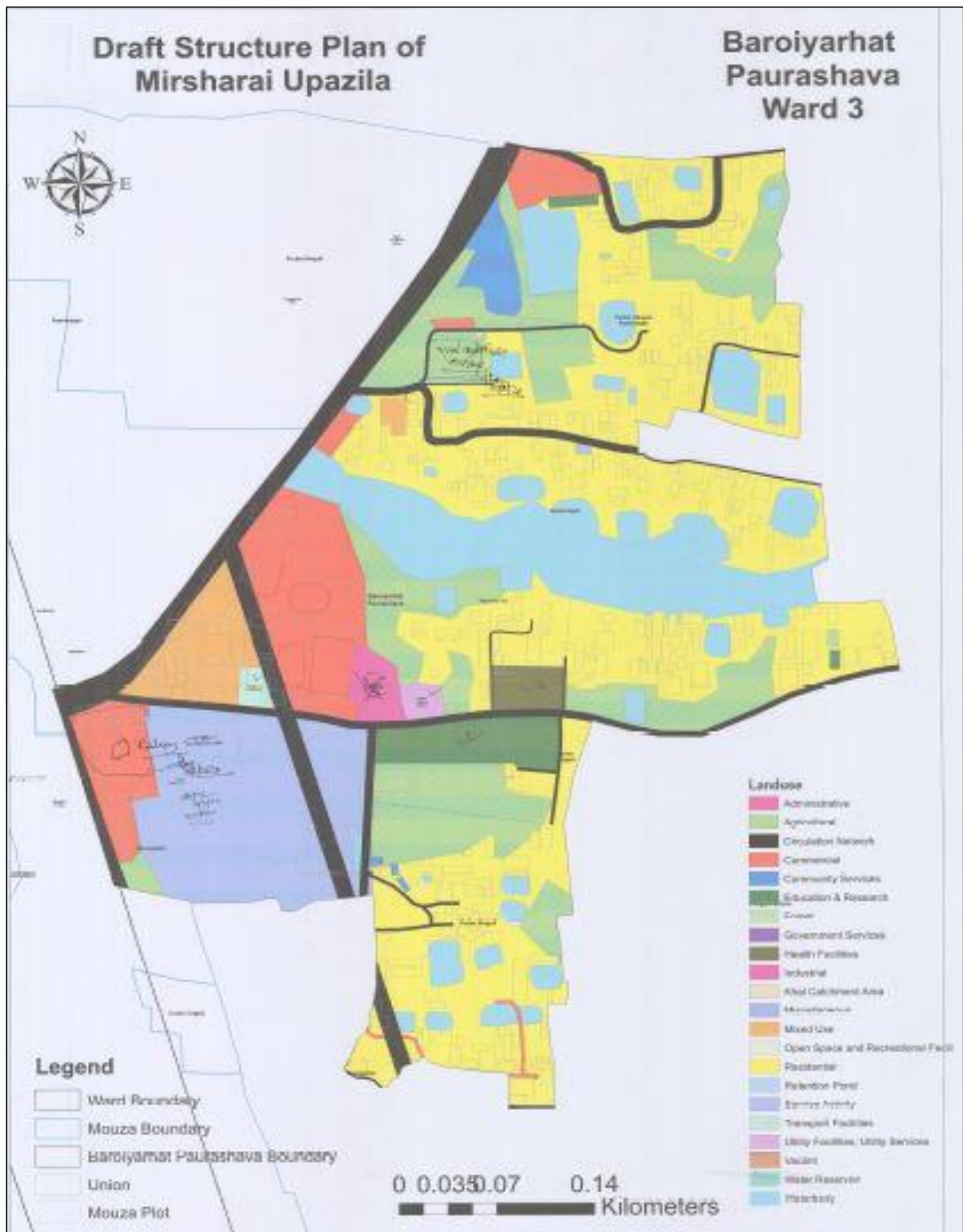


Figure 1.4: Public Hearing Comments of Baroiarhat Paurashava (Ward No. 04)

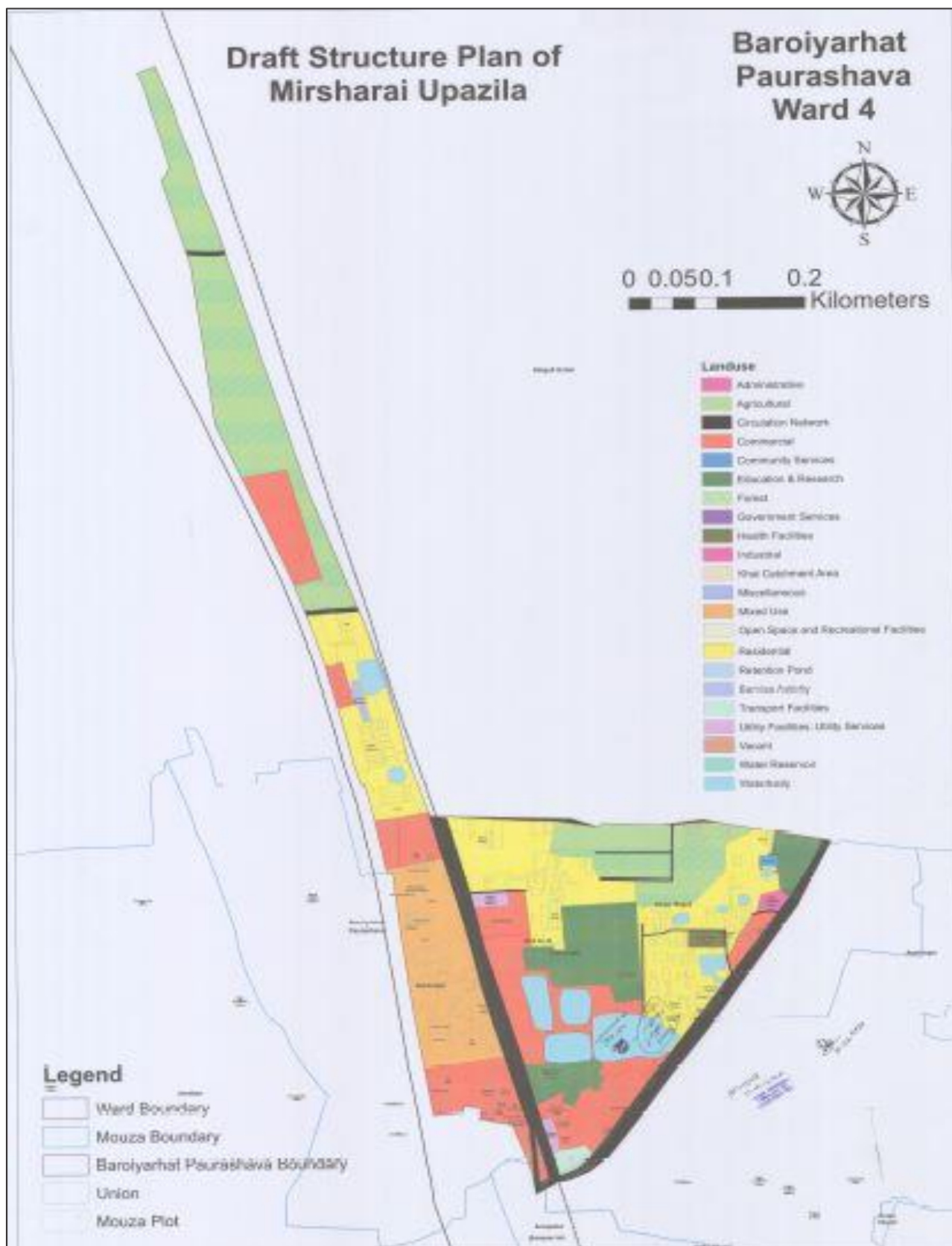


Figure 1.5: Public Hearing Comments of Baroiarhat Paurashava (Ward No. 05)

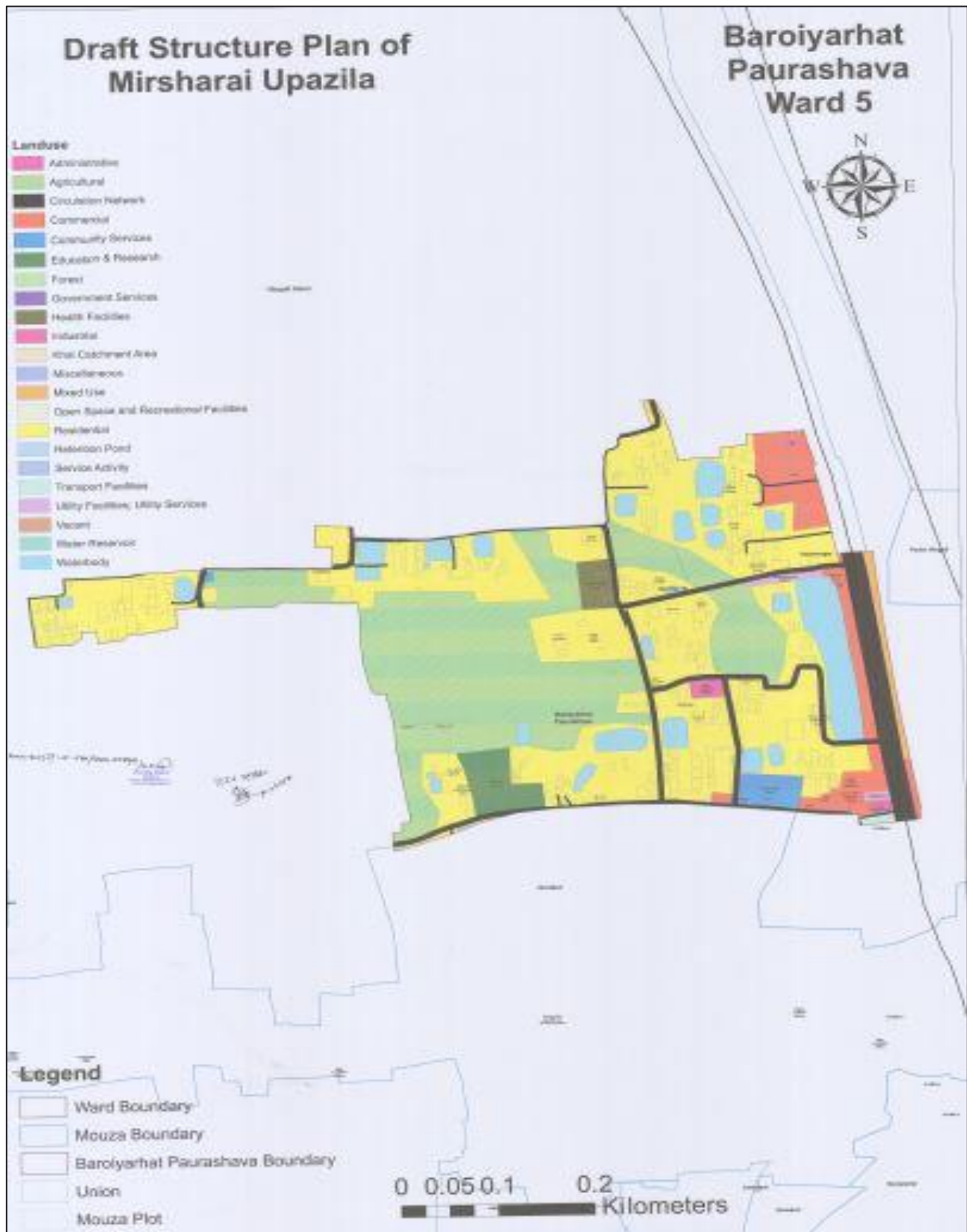


Figure 1.6: Public Hearing Comments of Baroiarhat Paurashava (Ward No. 06)

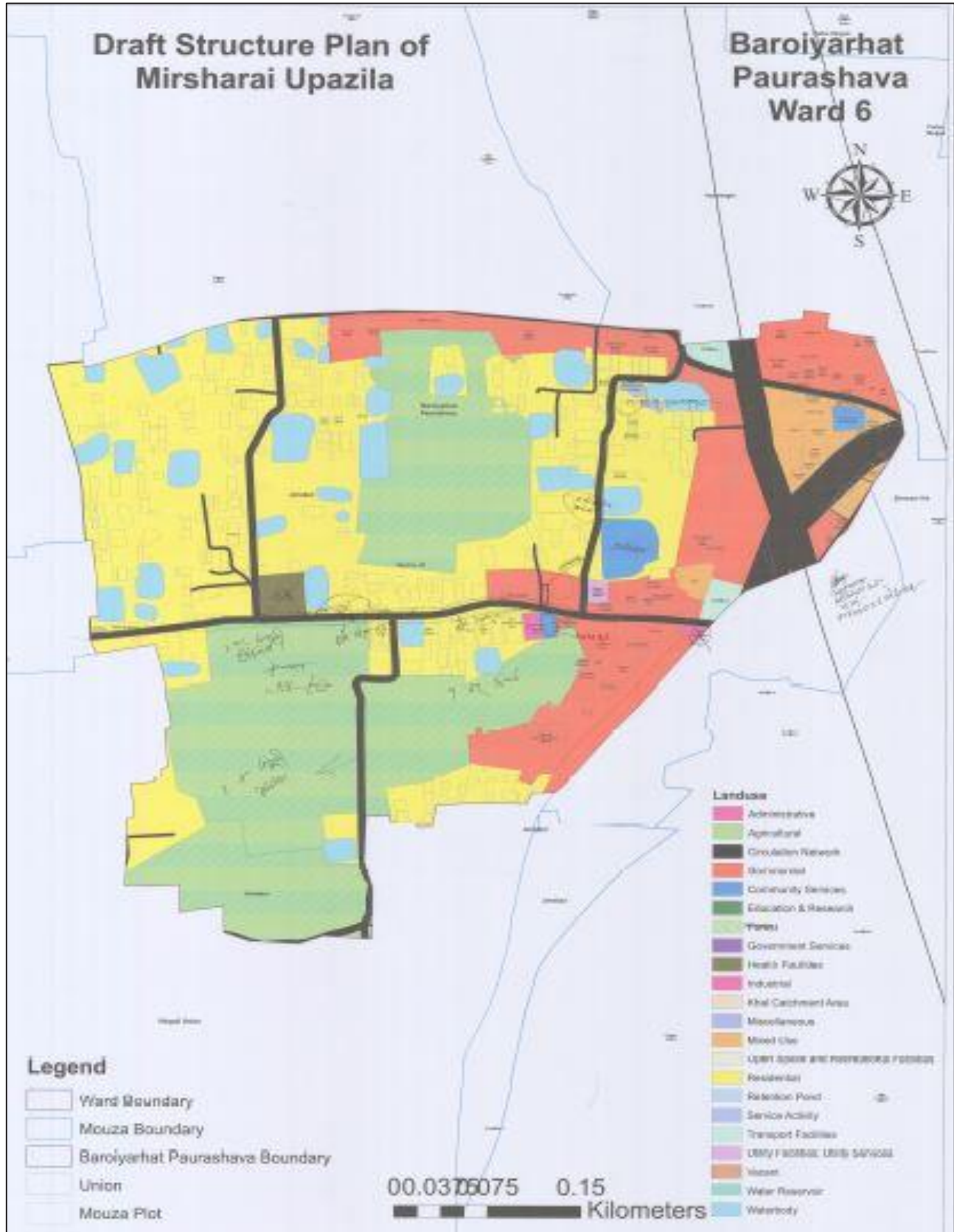


Figure 1.7: Public Hearing Comments of Baroiarhat Paurashava (Ward No. 07)

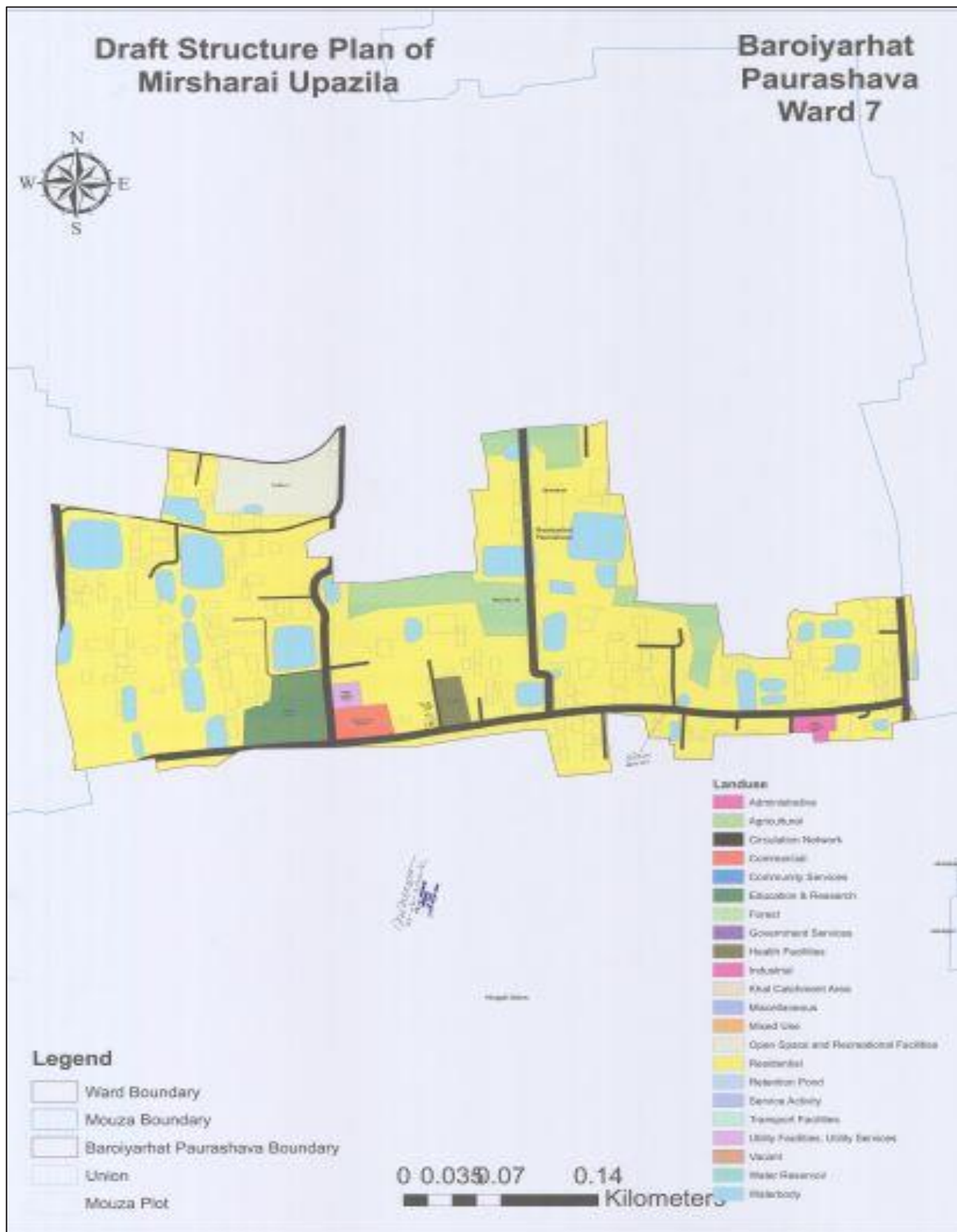


Figure 1.8: Public Hearing Comments of Baroiarhat Paurashava (Ward No. 08)

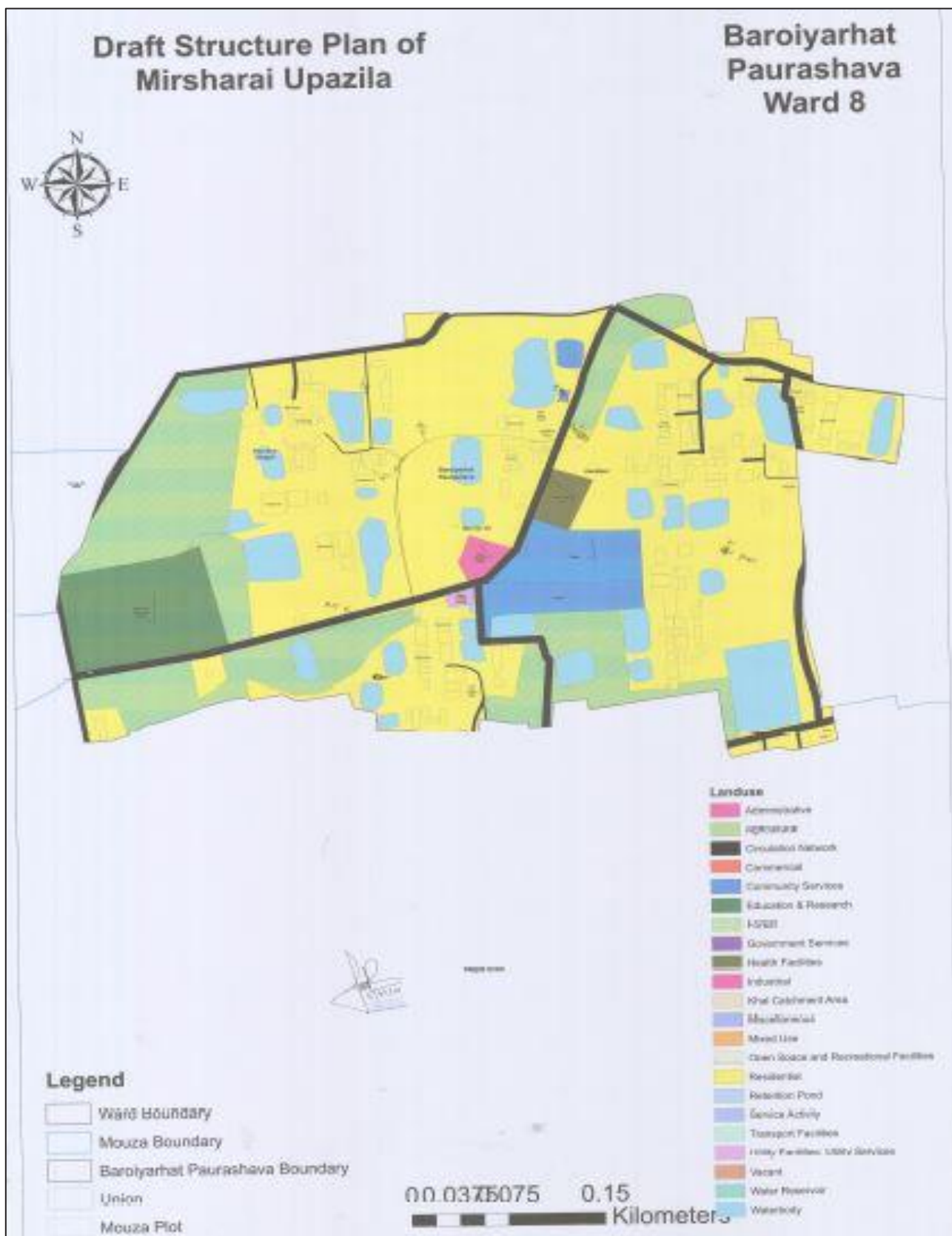


Figure 1.9: Public Hearing Comments of Baroiarhat Paurashava (Ward No. 09)

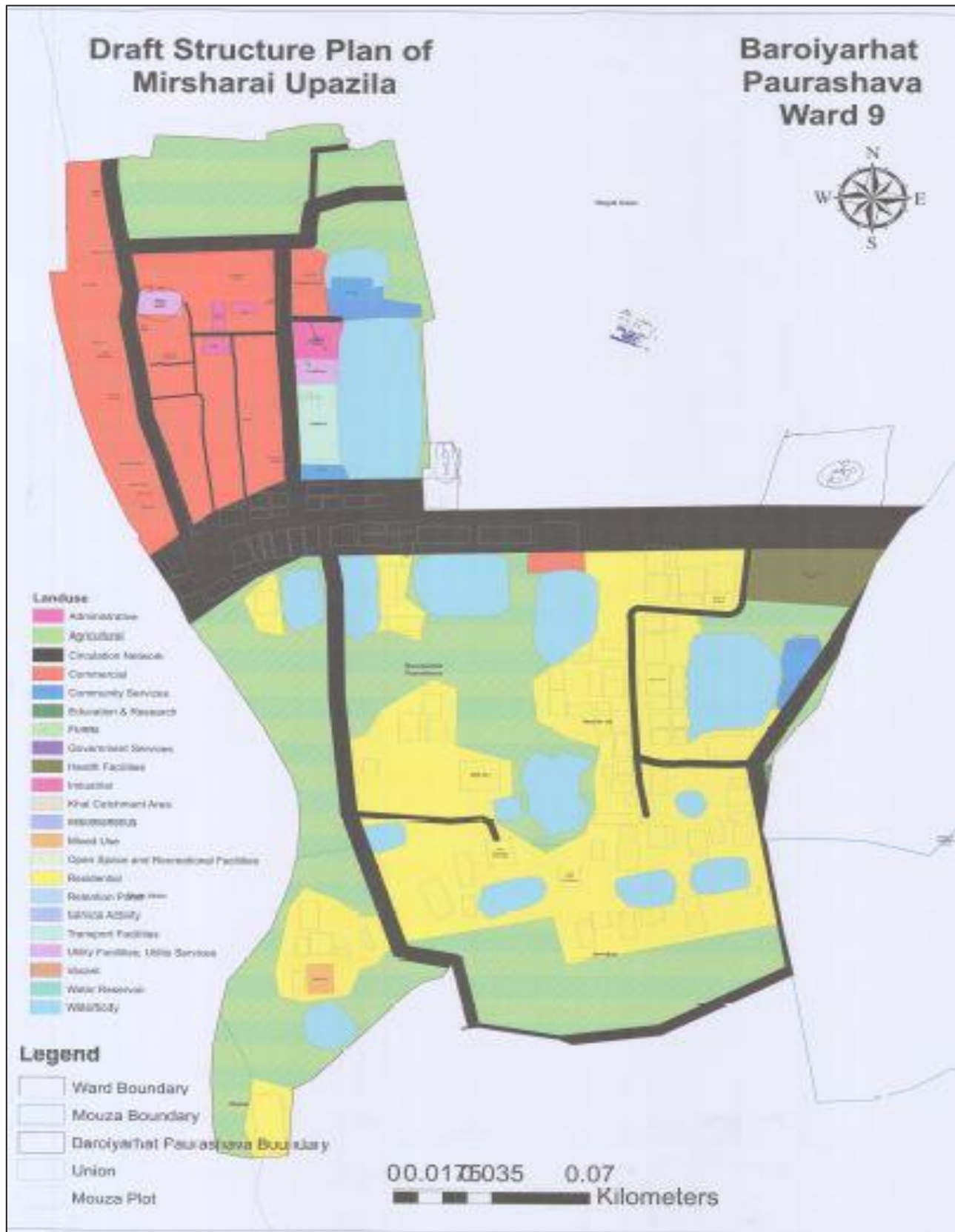
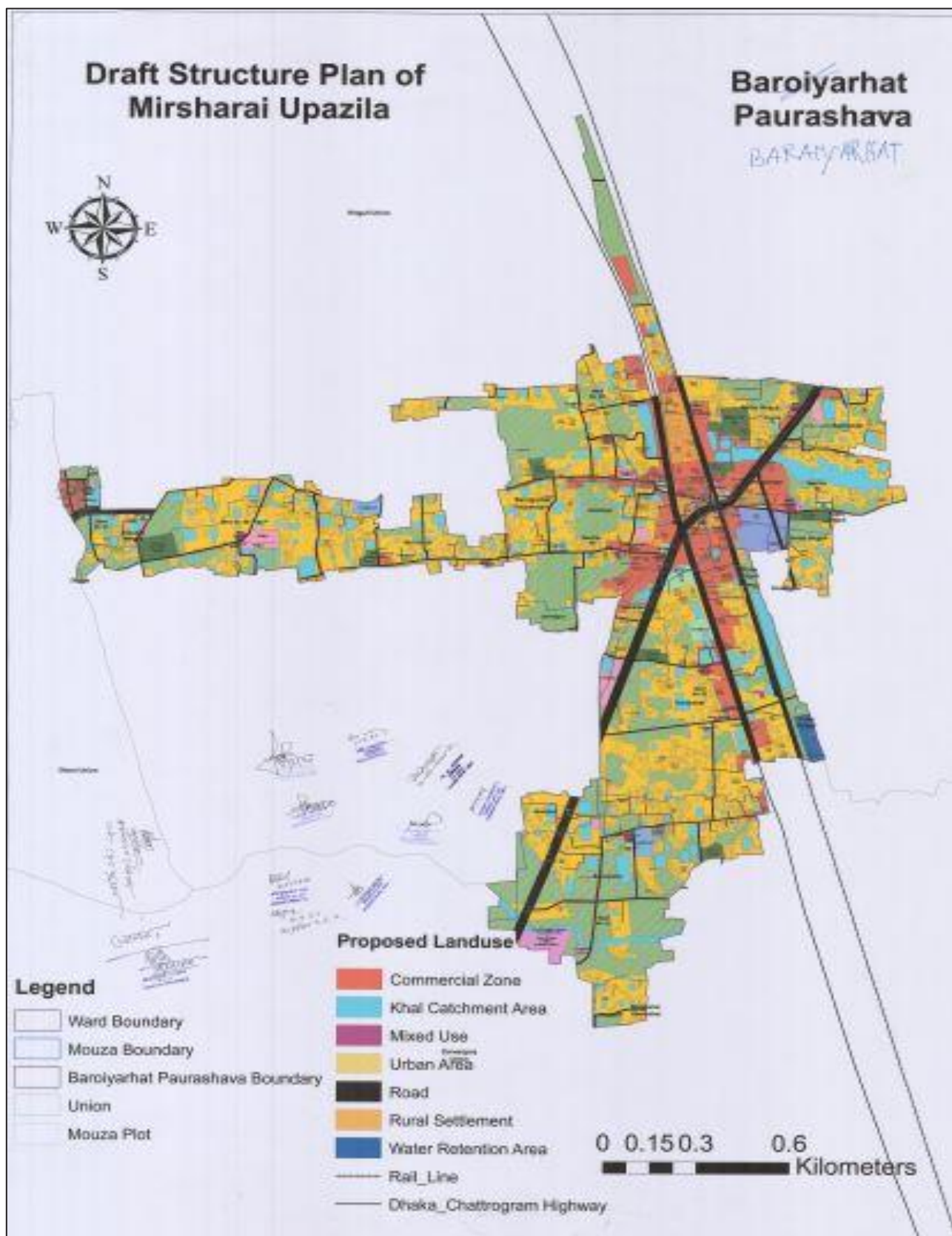


Figure 1.10: Public Hearing Comments of Baroiyarhat Paurashava



2. Public Hearing Comments of Mirsharai Paurashava

Figure 2.1: Public Hearing Comments of Mirsharai Paurashava (Ward No. 01)

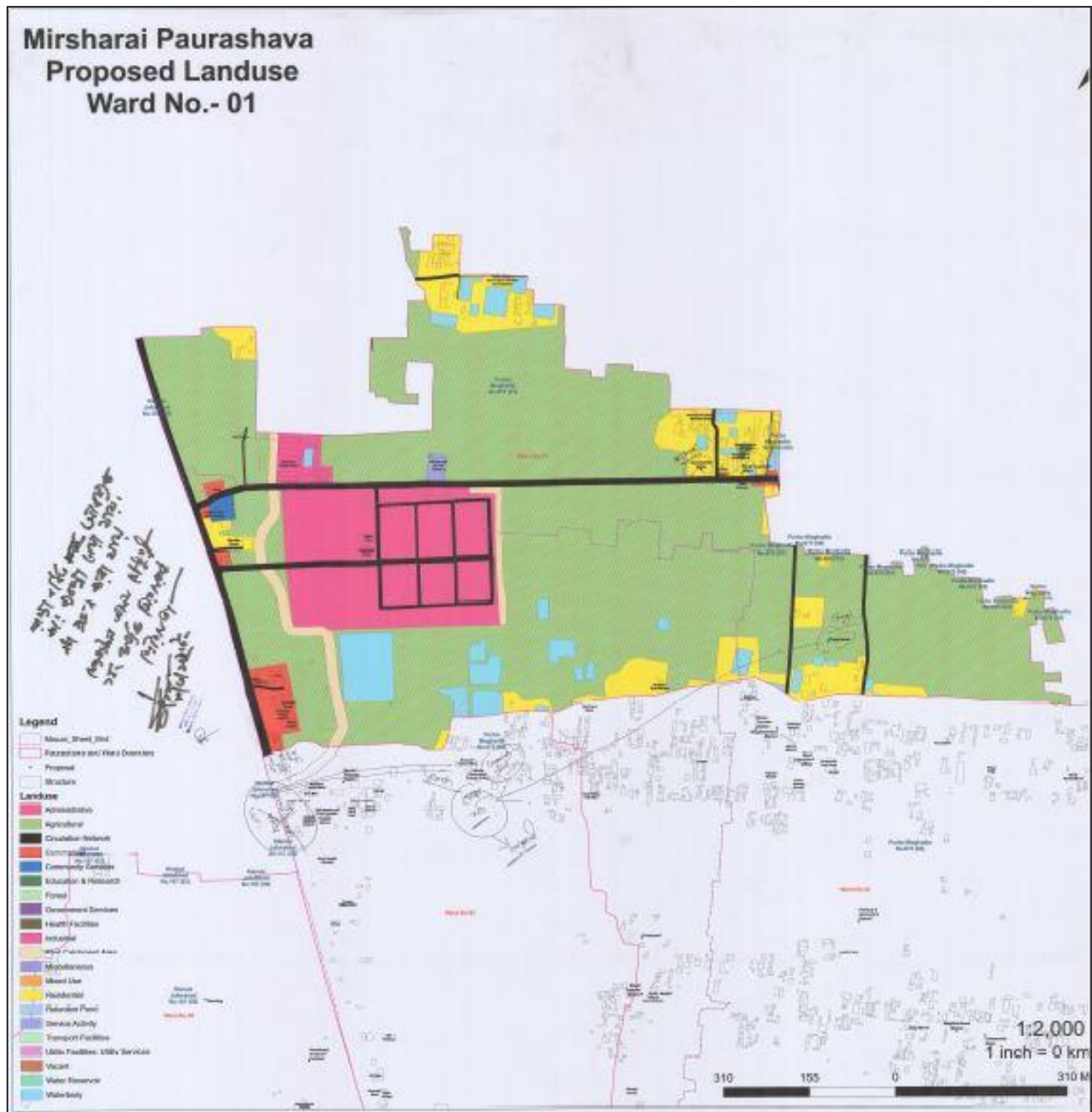


Figure 2.2: Public Hearing Comments of Mirsharai Paurashava (Ward No. 02)

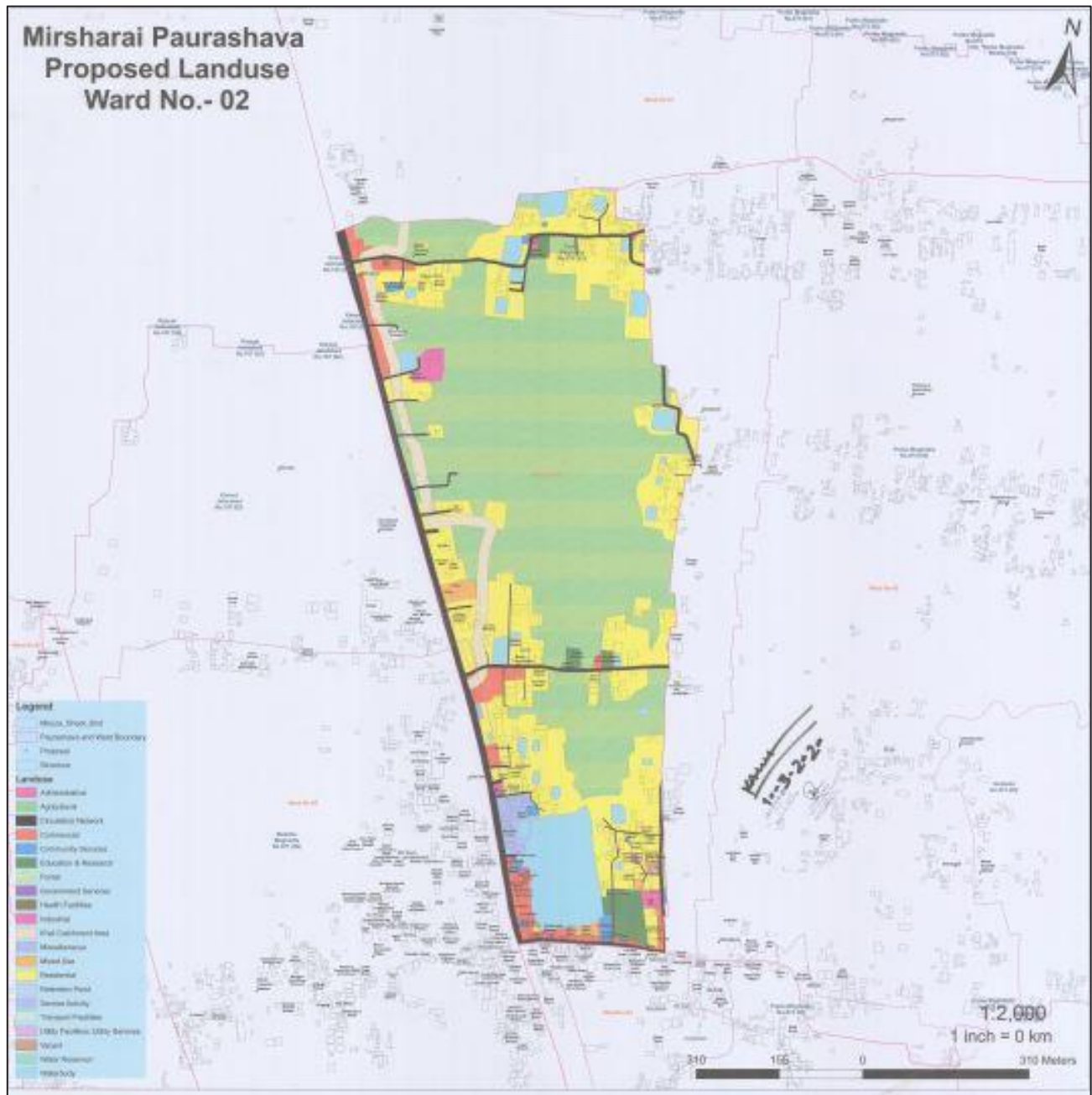


Figure 2.4: Public Hearing Comments of Mirsharai Paurashava (Ward No. 04)

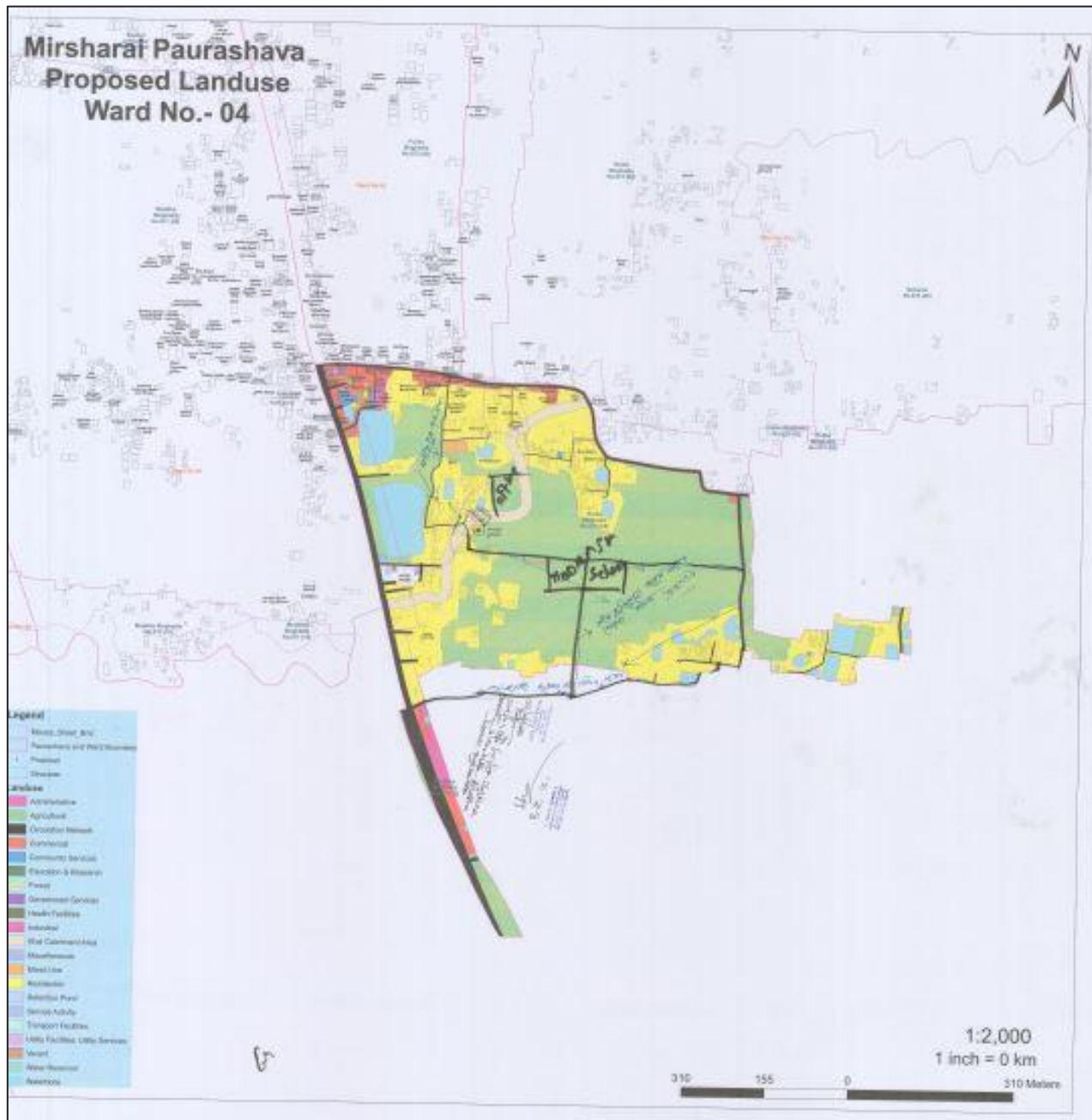


Figure 2.5: Public Hearing Comments of Mirsharai Paurashava (Ward No. 05)

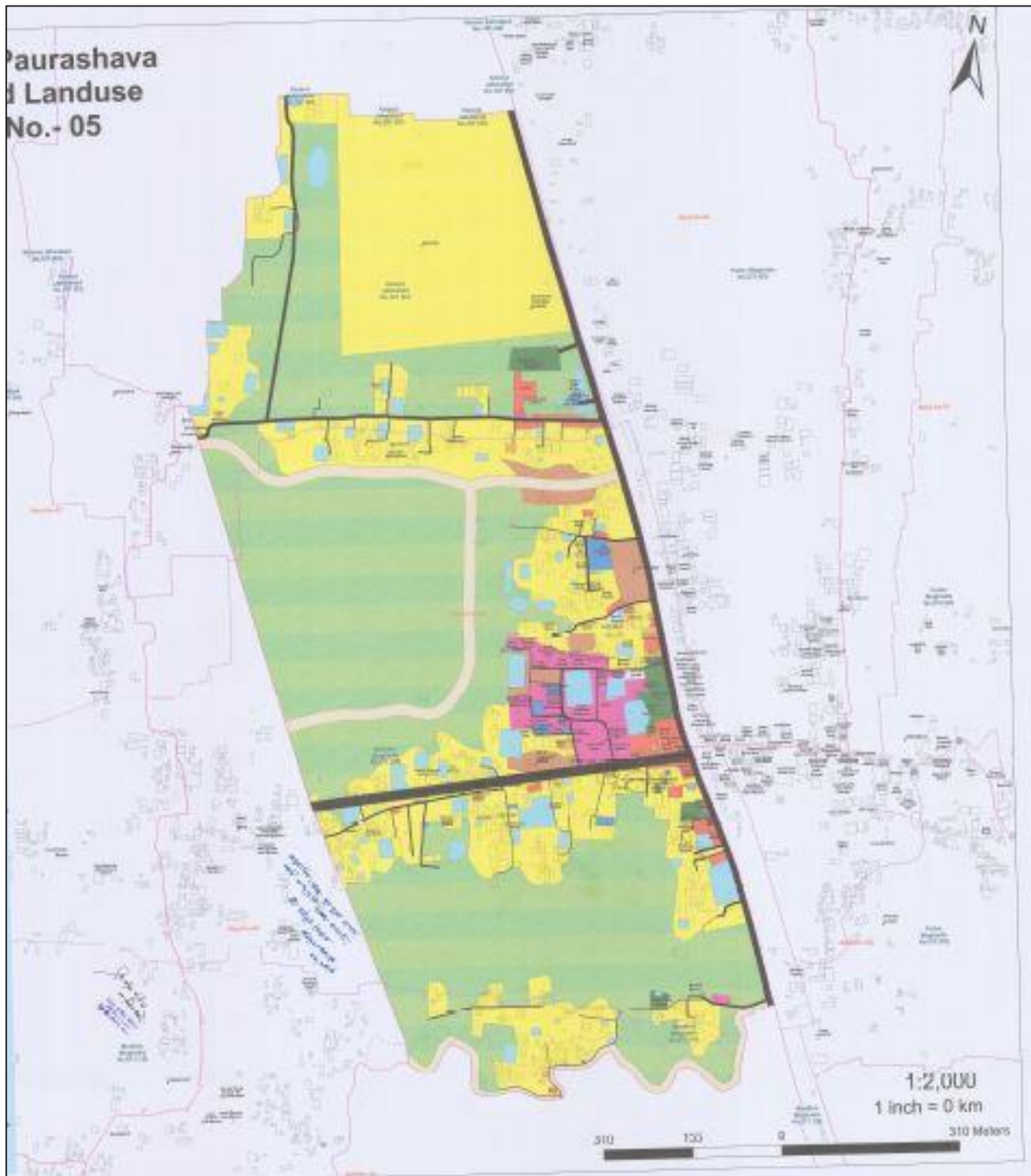


Figure 2.6: Public Hearing Comments of Mirsharai Paurashava (Ward No. 06)

