





# **Biyagama Development Plan**

## **2021 – 2030**



**Ministry of Urban Development & Housing**  
**Urban Development Authority**

## Biyagama Development Plan 2021 - 2030

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Biyagama Development Plan 2021-2030 mainly consists of Three parts as Part I, II and III. The part I consists of the background of the development plan, preliminary study, need of the plan, the planning framework, the SWOT analysis & the plan. The Part II consists of the development zones and zoning guidelines pertaining to the planning boundary for the period of 2021 – 2030.

The Part III consist of the zoning boundaries with the coordinates and all the annexures.

Biyagama Development Plan 2021 - 2030 has been prepared by the Gampaha District Office - Western Province Division, Urban Development Authority.

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Environment and Landscape Division – UDA (Preparation of the PORS, DRR, Conservation, Cultural & Heritage Plans)  
GIS Division – UDA (Providing Arc GIS Spatial data layer & technical assistants)  
Research & Development Division – UDA (Conduct awareness programs to introduce new techniques)

## Acknowledgment

Western Province Division has taken the lead to provide the supervision for the preparation of the Biyagama Development Plan 2021 – 2030. The main goal of this plan is to identifying future development trends incorporating physical, economic, social and environment sectors in the Biyagama Pradeshiya Sabha (PS) area. The vision of the Biyagama Development Plan 2021 – 2030 is in line with the 'Vistas of Prosperity and splendour' the government policy direction of the His Excellency the President Gotabaya Rajapaksa.

It is our proud privilege to Honorable Mahinda Rajapaksa subject Minister of Urban Development & Housing for approving the Biyagama Development Plan 2021 – 2030 under the provision of Urban Development Authority Act No. 41 of 1978 as amended by the Act No. 04 of 1982. Further, it is our privilege to Dr. Nalaka Godahewa, State Minister of Urban Development, Coast Conservation, Waste Disposal and Community Cleanliness and Mr. Sirinimal Perera, Secretary to Ministry of Urban Development & Housing for their guidance and supports in this process.

Special gratitude offered on behalf of the planning team and the UDA, to the Chairman, Biyagama Pradeshiya Sabha (Biyagama PS), members of the PS and the staff. Secretary Biyagama Divisional Secretariat and the staff for their generous support given for the successful completion of this development plan.

Also, special appreciation on behalf of the UDA offered to all institutions representors and people who live in this area for giving data and directives required for the preparation of this plan.

Appreciatively thankful to Chairman of UDA Archt. Harshan De Silva, Director General of UDA Plnr. N.P.K. Ranaweera, Additional Director General of UDA Plnr. H.A. Dayananda, Deputy Director General (Planning) of UDA Plnr. M.P.Ranatunga, Director Western Province Division of UDA Plnr. N.A.S.N.Nishanka, Consultant (Legal) of UDA Attorney at Law C. Jayawardena, Director (Strategic Planning) of UDA Plnr. Priyani Nawarathne on behalf of the planning team for their incomparable courage, guidance and welcoming support.

In the end, Director – Environment & Landscape division L.Archt. C.K.E. Kalupahana and the staff of the division and Director - Geographical Information System & ITS Plnr. J.P.S. Somasekara and the staff of the division and the staff of the division, Gampaha District office of the UDA and staff members of all divisions are gratefully appreciating on behalf of the planning team for their support to the successful completion of this task.

## Hon. Minister's Foreword



The Urban Development Authority was established under the Urban Development Authority Act No. 41 of 1978, for the systematic planned urban development in the declared urban areas and continue to actively contribute towards it.

Steps have been taken to formulate comprehensive development plans for each urban development area, based on the efficient and effective use of physical space so that all areas of Sri Lanka make an equal contribution to the

development process of the country.

The Biyagama area provide services to a large population. Accordingly, Biyagama Pradeshiya Sabha Planning Area has the potential to become a town that continues to provide industrial, residential and commercial services. This development plan aims to develop the Biyagama PS Area by utilizing the industrial potential of the area by incorporating the eco industrial practices.

For the realization of His Excellency the president's vision "Vistas of Prosperity" the new Re-urbanization Programme has been formulated in wide consultation with Professionals, Specialists, Stakeholders & communities with strategies having an excellent technological methodology and innovative approach.

Accordingly, I commend the Chairman of the Urban Development Authority, the Director General, the planning teams and all the officers of the Urban Development Authority who assisted in making this work a success. Further, I also appreciate and believe through the support and contribution of the relevant Local Government Institutions, Public and Private Sector Institutions and the general public, Biyagama Development plan would be successfully implemented.

**Hon. Mahinda Rajapaksa (M.P)**

**Minister of Urban Development & Housing**

## Hon. State Minister's Foreword



As a pioneer in Sri Lanka in achieving modern sustainable development goals, the Urban Development Authority has a great responsibility. Accordingly, it is essential to prepare development plans for the Urban Development Areas declared by the Hon. Minister in charge of the subject in terms of the Urban Development Authority Amendment Act No. 04 of 1982 (Part II, Section 8A (1)).

The development plans thus formulated are primarily aimed at building a productive citizen, a happy family, a dignified society and a prosperous nation, which are the core aspirations of the vistas of prosperity. I also believe that these development plans will go a long way in achieving the objectives of urban development and regulation through a formal re-urbanization plan that will bring economic stability to the urban population.

Therefore, I would like to express my heartfelt gratitude to the planning team and to all those who have played a very responsible role in preparing this plan and I hope that you will all contribute to the expectations of the vision of prosperity.

**Dr. Nalaka Godahewa (M.P)**

State Minister of Urban Development, Coast Conservation,  
Waste Disposal and Community Cleanliness

## Hon. Chairman's Foreword (UDA)



Throughout the last four decades, Urban Development Authority has been serving as the apex planning authority in Sri Lanka having the statutory powers to prepare and enforce urban development plans.

Urban Development Plans cover a number of fields including optimum, effective and efficient use of land and managing the quality of its environment. These development plans are prepared for the promotion

and regulation of public well-being in urban areas and the people.

According to the present government's manifesto, it is compulsory to prepare development plans for areas which have been declared as urban development areas by the subject minister as per section 8 A (1) under part II of Urban Development Authority Act No. 04 of 1982 (Amendment).

The Development Plan for Biyagama Pradeshiya Sabha area has been prepared for the period 2021 - 2030 considering the physical, economic, social and environmental factors, while successfully overcoming the challenges in preparing the development plan through tools and methodologies with which the Urban Development Authority is equipped.

Therefore, I extend my heartfelt gratitude to the planning teams who dedicatedly worked for ensuring successful completion of this plan and to those who contributed in numerous ways. At the same time, I also expect that all parties who contributed for the preparation of this plan will also effectively contribute in future as well for successful implementation of the plan.

**Archt. Harshan De Silva**

Chairman,  
Urban Development Authority

## Hon. Chairman's Foreword (Biyagama Pradeshiya Sabha)



The Urban Development Authority, which has been a pioneer in the development of Sri Lanka's urban development for four decades, joined hands with local authorities and aligned to create benevolent towns to live in all urban areas with a proper land use pattern. More weight for quality & balance development in the physical, economic, social and environmental sectors have been added to the UDA due to the declaration of Biyagama PS area in 2001 as an urban development area.

Presently the Biyagama PS area belongs to the Core area of the Metro Colombo Development Region from 2017. The Pradeshiya Sabha also plays a significant role in this development process as administrative institution and completely accomplished their responsibilities for general welfare of the public.

Accordingly, Biyagama Development Plan for the period of 2021 -2030, has been prepared by the Gampaha District Office of the UDA and further, development intensity of the area has been focusing in to better direction under the legal framework. It targets the future residential community as well as the urban commuting population coming for their daily needs and integrates economic & social benefits through existing development potentials.

Moreover, the Public representatives of Biyagama PS and myself have been dedicated to become Biyagama PS area as environment friendly industrial city in the Western Province and richest industrial economy through this Urban Development Plan. It is hoped to fulfil its responsibilities and duties in the pursuit of this ultimate goal.

**Ananda Ganepola**

**Chairman,**

**Biyagama Pradeshiya Sabha**



## Preface

The entire Biyagama PS area has been declared under the UDA Act No. 41 of 1978 by a special gazette bearing no 1771/10 on 13.02.2001 dated by the Minister in charge of the subject of Urban Development. Biyagama PS area belonged to “Core area of the Metro Colombo Development Region”. under the gazette notification No. 2049/11 dated 11th of 2017. Accordingly, attention was drawn to prepare a new development plan for the Biyagama PS area by considering the urgent need of planning intervention.

The basis for the preparation of development plan can be identified as the data collection in relation to the years 2011 – 2019 and the data collected from the field surveys carried out. And analysis of collected data by using the scientific methods of analyzing and coming to the conclusions upon them. Accordingly, the new development plan for Biyagama PS area has been prepared for the 2021-2030 period, by utilizing the results and the decisions have been taken at various times in the development planning process and with the practical process and mixing of the same with the practical aspects of the Biyagama PS area.

Accordingly, Biyagama Development Plan has been prepared for the time period of 2021 -2030 and that has consisted with three parts. Part I includes Background of the development plan, Preliminary study & Need of the plan, The Planning Framework, Detail SWOT Analysis & The Plan. The Part II consists of the Planning and Building Regulations and zoning guidelines pertaining to the planning boundary for the period of 2021 – 2030. The Part III consist of the zoning boundaries with the coordinates and all the annexures.

Chapter 01, Background of the development plan describes the introduction, stakeholders of the plan, scope of the development plan and the planning process. Chapter 02 of preliminary study includes the study area, planning and situational context and the delineating the planning boundary. Chapter 03 describes the two main planning needs that proven scientific studies and logical base. Chapter 04 describes the planning framework which giving the sustainable development direction through the vision, goals & objectives while promoting industrial development and protecting sensitive wetland environmental system to achieve the vision of ‘Tranquilized Industrial City’. Chapter 05 includes the summarized & detailed SWOT analysis done based on the two main goals of the development plan.

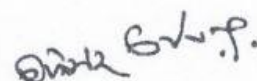
Chapter 06 consist with the plan that strengthen the proposed future vision of the area and describes the concept plan, proposed land use plan and the strategic plans. In here social and physical infrastructure development, industrial economic and environmental management and conservation plans are three major strategic plans of the development plan and under that describes the proposed strategic projects and institutional setting.

Similarly, Part Two - Chapter 07 of the Biyagama Development Plan has been dedicated to describe planning & building regulations and in chapter 8 described the identified zones and zoning guidelines and Chapter 9 included proposed road width, building line and reservations.

Thus, the intention of this Authority and the Government of Sri Lanka is to implement the Biyagama Development Plan 2021-2030 in near future.

**APPROVAL OF THE DEVELOPMENT PLAN FOR THE BIYAGAMA PRADESHIYA  
SABHA AREA**

I, Mahinda Rajapaksa, Minister of Urban Development and Housing do hereby approve the development plan for the Biyagama Pradeshiya Sabha Area, having considered the recommendation made by the Board of Management of the Urban Development Authority on 24<sup>th</sup> September, 2020 by virtue of the powers vested in me under section 8 "F" of the Urban Development Authority (Amendment) Act No.4 of 1982.



**Mahinda Rajapaksa (M.P)**  
**Minister of Urban Development and Housing**

Ministry of Urban Development and Housing,  
17<sup>th</sup> and 18<sup>th</sup> Floors,  
"Suhurupaya",  
Sri Subhuthipura Road,  
Battaramulla.

**Date: 30<sup>th</sup> March, 2021.**



# Gazette Notification



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The Gazette of the Democratic Socialist Republic of Sri Lanka

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## PART I : SECTION (I) — GENERAL

### Government Notifications

#### APPROVAL OF THE DEVELOPMENT PLAN FOR THE BIYAGAMA PRADESHIYA SABHA AREA

I, Mahinda Rajapaksa, Minister of Urban Development and Housing do hereby approve the development plan for the Biyagama Pradeshiya Sabha Area, having considered the recommendation made by the Board of Management of the Urban Development Authority on 24th September, 2020 by virtue of the powers vested in me under Section 8 "F" of the Urban Development Authority (Amendment) Act, No. 4 of 1982.

MAHINDA RAJAPAKSA (M. P.),  
Minister of Urban Development and Housing.

Ministry of Urban Development and Housing,  
17th and 18th Floors,  
"Suhurupaya",  
Subhuthipura Road,  
Battaramulla,  
30th March, 2021.

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**NOTICE OF APPROVAL OF THE DEVELOPMENT PLAN FOR THE PRADESHIYA SABHA  
LIMIT OF BIYAGAMA**

NOTICE is hereby given to the General Public of the Democratic Socialist Republic of Sri Lanka under Section 8 (G) of the Urban Development Authority Law No. 41 of 1978 as amended by the Act, No. 4 of 1982 that I, Mahinda Rajapaksa, the Minister in Charge of the subject of Urban Development & Housing, by virtue of the powers vested in me under Section 8 (F) of the said Act, have approved the Development Plan for the Pradeshiya Sabha Limit of Biyagama, prepared under Section 8(A) of the said Act on the 30th day of March, 2021.

**MAHINDA RAJAPAKSA (M. P.),**  
Minister of Urban Development & Housing.

Ministry of Urban Development & Housing,  
17th and 18th Floor,  
"Suhurupaya",  
Subhuthipura Road,  
Battaramulla,  
12th July, 2021.

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**APPROVAL OF THE DEVELOPMENT PLAN FOR THE PRADESHIYA SABHA LIMIT OF  
BIYAGAMA**

PUBLIC are hereby informed that the Development Plan prepared for the Pradeshiya Sabha Limit of Biyagama under Section 8 (A) of the Urban Development Authority Law, No. 41 of 1978 as amended by the Act, No. 4 of 1982 has been approved on 30th March, 2021, by Hon. Mahinda Rajapaksa, Minister of Urban Development & Housing, by virtue of powers vested on him under Section 8 (F) of the said Act.

**Arch. HARSHAN DE SILVA,**  
Chairman,  
Urban Development Authority.

12th July, 2021.

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# Part I



# 01

## Chapter



## Background of the Development Plan

# Chapter 01

## Background of the Development Plan

### 1.1. Introduction

The UDA Act No. 41 of 1978 stipulates one of the core activities as promoting integrated planning in urban areas declared by the Minister in charge of the organization and preparation of development plans, regulations and enforcement are critical activities that need the highest priority in the organization. Thus, the authority has a regulatory power to prepare the integrated development plans for all urban declared areas under the UDA (amendment) Act. No. 04 of 1982 Part II - section 8 A (I).

Under the tenfold key policies contained in the current Government National Manifesto discussed the “New approach in National Spatial System” as eighth policy. It will restructure the entire urban environment, introduce a C-shaped economic corridor that connects all intermediate cities and physical areas which giving the access to major ports and airports is expedited. Among the four multi-dimensional commercial cities, connecting cities, national cities & cluster cities, Biyagama can be identified as an intermediate city with industrial economic value centered on the Port of Colombo. Accordingly, steps have been taken to formulate plans in the Biyagama Development Plan taking into account the new approach of spatial system through the National Manifesto.

Cooperate plan of UDA prepared for the year period of 2020-2024 focus 5 main principles & first three principles are directly linked with the development plan preparation process & its importance. That emphasized “We Plan”, “We Enforce” & “We Implement” as the first three principles which derives the integrated developments within the urban declared area, effective & efficient regulations & the strategic projects with community, economic & environmental aspects. Accordingly, the Biyagama Development Plan preparation was guided under the principles & aspects of the UDA - Cooperate plan 2020 – 2024.

Biyagama PS area declared as an “Urban Development Area” on 13.02.2001 under the gazette notification no 1771/10 and current development practices pressured to identify Biyagama as an area for urgently needed planning intervention. There is no gazette urban development plan for Biyagama PS area and from 2017, March onwards preparation of strategic development plan has been started and completed within three years. Biyagama development plan is a local level development plan that will be valid from 2021 -2030 time period and that expects to address critical issues and harnessing the recent potentials of Biyagama PS area.

## **1.2. Stakeholders of the plan**

Preparation of the Biyagama development plan makes a common platform for all government and private responsible authorities, relevant agencies, communities and their suggestions, proposals were included to the development plan preparation process.

### **Main Stakeholders**

1. Biyagama Pradeshiya Sabha
2. Biyagama Divisional Secretariat Office

### **Main Consultancy Agencies**

1. Board of Investment
2. Biyagama Agrarian Services Office
3. Export Agriculture Department
4. Ceylon Petroleum Corporation
5. Central Environmental Authority
6. Land Use Policy Planning Department
7. National Housing Development Authority
8. National Water Supply & Drainage Board
9. Road & Passenger Transport Authority
10. Provincial Road Development Authority (PRDA - WP)
11. Ceylon Electricity Board / LECO
12. Railway Department
13. RDA - Gampaha
14. Kachcheriya, Gampaha
15. Irrigation Department, Gampaha
16. Zonal Education Office, Kelaniya
17. Police Station - Biyagama / Meegahawatta

### **Stakeholder Groups**

1. Trade unions - Delgoda/ Kadawatha / Mawaramandiya /Biyagama
2. Three Wheeler's Association - Makola / Kadawatha

(Annexure Table 1. Stakeholder Participation - Group wise)

### 1.3 Scope of the Development Plan

According to the UDA Act No. 41 of 1978, has given legal provisions to promote integrated planning, preparation of Development Plans, preparation and implementation of regulations for urban areas declared by the Minister in charge of the Authority and Biyagama PS area has been declared by the Authority under the gazette notification No. 1771/10 of 13.02.2002. Due to the development relationship with Colombo and the development intensity of the area, Biyagama PS area included to the “Core Area of the Metro Colombo Development Region” under the gazette notification No. 2049/11 dated 11th of 2017. With this legal framework, it is expected to launch the Biyagama Urban Development Plan as a local area development plan incorporating the physical, economic, environmental and social sectors

As per the current government National Manifesto discussed the “New approach in National Spatial System” in eighth policy & that lead to restructure the entire urban environment. This “New approach in National Spatial System” introduced city structure as follow, Multi-dimensional commercial cities, connecting cities, national cities & cluster cities. Considering the national spatial structure guidance, Biyagama can be identified as an intermediate city with industrial economic value centered on the Port of Colombo. Accordingly, steps have been taken to formulate plans in the Biyagama Development Plan taking into account the new approach of spatial system through the National Manifesto.

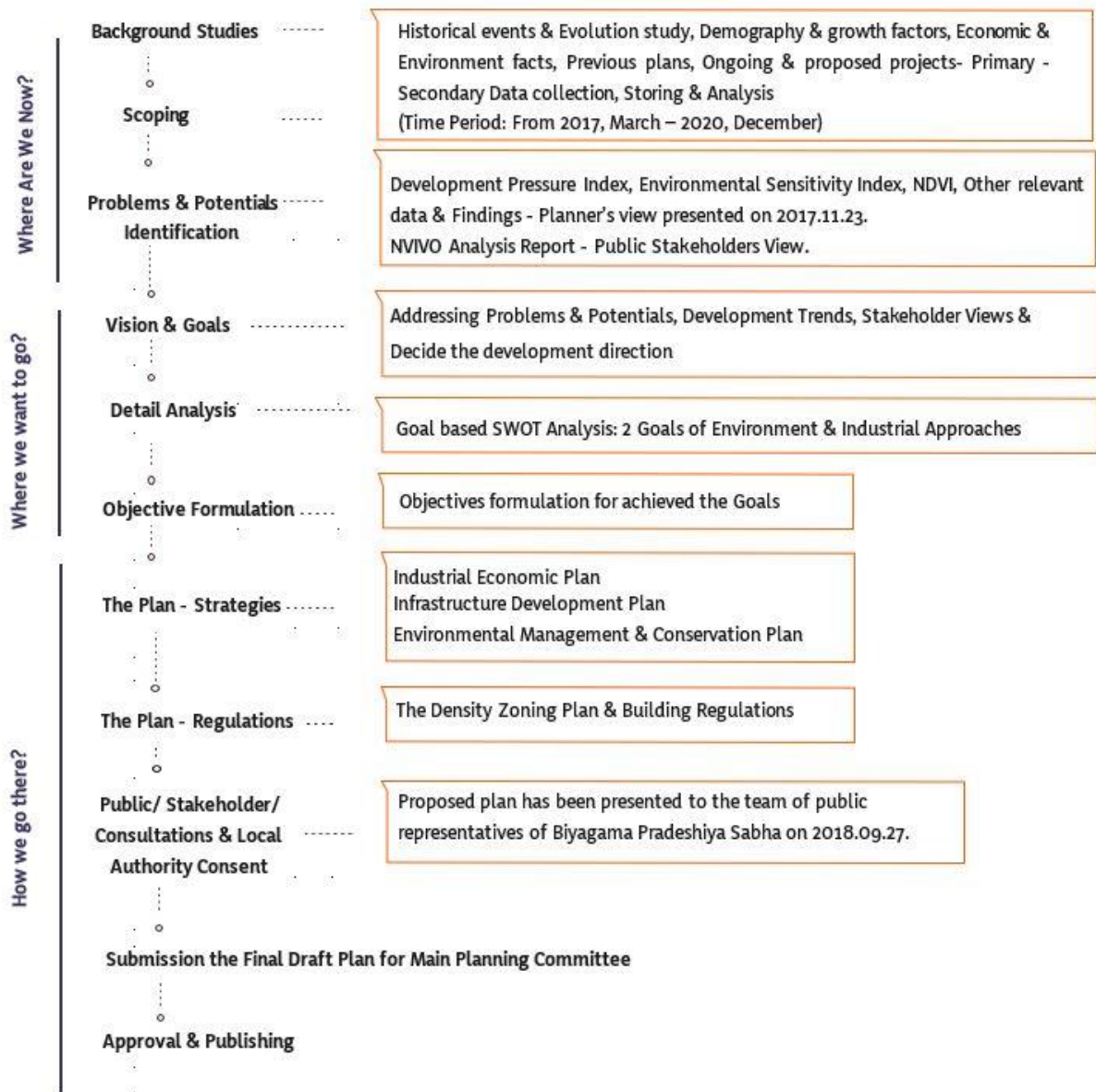
Strategic planning approach focused the urban development of Biyagama as model industrial city, that will be the idol for western region industrial development which giving the major concern for the sensitive wetland environment and cater variety of industrial needs. Also, expecting the sustainable development of the environment through physical, economic and social development and proper wetlands management. The proposed industrial economic plan and the social and physical infrastructure management plan envisages the upgrading and improvement of the lands, water, electricity, transportation and other physical infrastructure facilities to cater industrial development. The proposed service plan provides the needs of the urban community, creating small clusters with urban services. Environmental Conservation and Management Plan will also be developed to create an environmentally sensitive wetland system while controlling the flooding of the area in suitable manner and develop the Biyagama as an industrial city without a negative impact on the environment.

These separate sectoral plans letting to develop Biyagama PS area as an industrial city by targeting ten years with a comprehensive land use management. In local level context, Biyagama development plan stipulates cluster development approach which promotes industrial and residential clusters that harmonize the green and brownfield developments. Strategic projects related to this industrial development will guide to meet the long-term vision as an industrial city with a sustainable urban form.

## 1.4. The Planning Process

Biyagama development plan was prepared under the strategic planning process with the following steps.

Figure 1. 1 Strategic Planning Process





Conducting background studies to cover the Biyagama development plan was carried out by covering various aspects. The primary - secondary data was collected on the basics of history of Biyagama, current demographic composition and growth factors, economic and environmental factors, previous planning attempts and proposed projects of the area. Also, field surveys, interviews, satellite images, google map and media reviews, resource profile prepared by Biyagama Divisional Secretariat (DS), Gampaha District Statistical Handbook prepared by Department of Census and Statistics and research articles were used for this study.

Findings of the follow-up studies highlighted that, Biyagama PS area has been expanded with industrial development and the development has been enhanced by previous planning interventions and the promotion of further development with proposed projects. These findings are confirmed by the results of Development Pressure Index, Normalized Difference Vegetation Index (NDVI), Environmental Sensitivity Index and Critical wetland analysis that directed for two main planning needs. After that, planner's perspective of problem framing has been presented to the public stakeholders on 2017.11.23 and merged their proposals for identified problems.

Preparation of vision and goals of the Biyagama PS area was formulated under two main themes of industrial development and environmental management based on the ideas of public stakeholders by using NVIVO software and analytical findings of the planning team. Detail SWOT analysis was done base on two goals that includes the core ideas of industrial development and environment management. This will create opportunity for development in the area by using the strengths, opportunities of the Biyagama area and exploits weaknesses and threats.

Industrial economic, Environment management and Infrastructure development plans which include strategic projects developed through the objectives under the above goals-based SWOT analysis. The Biyagama Development Plan will be strengthened with the strategic projects of each plan and managed for a comprehensive land use plan for the period 2021-2030. After the preparation of density zoning plan & zoning guidelines the plan presented to the general public, stakeholders, consultations & local authority consent for 60-day time period. With the comments, the updated final draft plan submitted to the Main Planning Committee of the UDA and got the approval for publish the development plan.



**02**

**Chapter**

**Preliminary  
Study**

## Chapter 02

### Preliminary Study

#### 2.1. The Study Area

Biyagama PS area is located in Eastern suburb of Western region, 21 km away from Colombo and 18 km from Gampaha. In term of access, Biyagama located in between a strategic location in the National and Regional Road Network, and located between the Colombo-Kandy and Low level - Avissawella Road which are two main road corridors out of seven main corridors in Sri Lanka.

Biyagama is one of the twenty sub basins of Kelani River and belongs to the wetland zone as per the geographical location. Biyagama recorded a temperature of 27 °C and 2500 mm of rainfall and having well connected tributaries and canal system with Kelani river, sensitive wetlands and paddy fields. Annexure 03 indicates the above wetlands distribution. Most spread soil type is Red-Yellow Podzolic soils with soft or hard laterite; rolling and undulating terrain and close to Kelani river spread with Alluvial soils of variable drainage and texture; flat terrain.

As per the Annexure 04, current land use composition in Biyagama PS area, it is comprised with 72% of area physically developed as residential, commercial & industrial, 19% with environmental characters such marshy lands, wetlands and paddy lands and 9% of developable lands.

Figure 2. 1 Location of Biyagama PS area

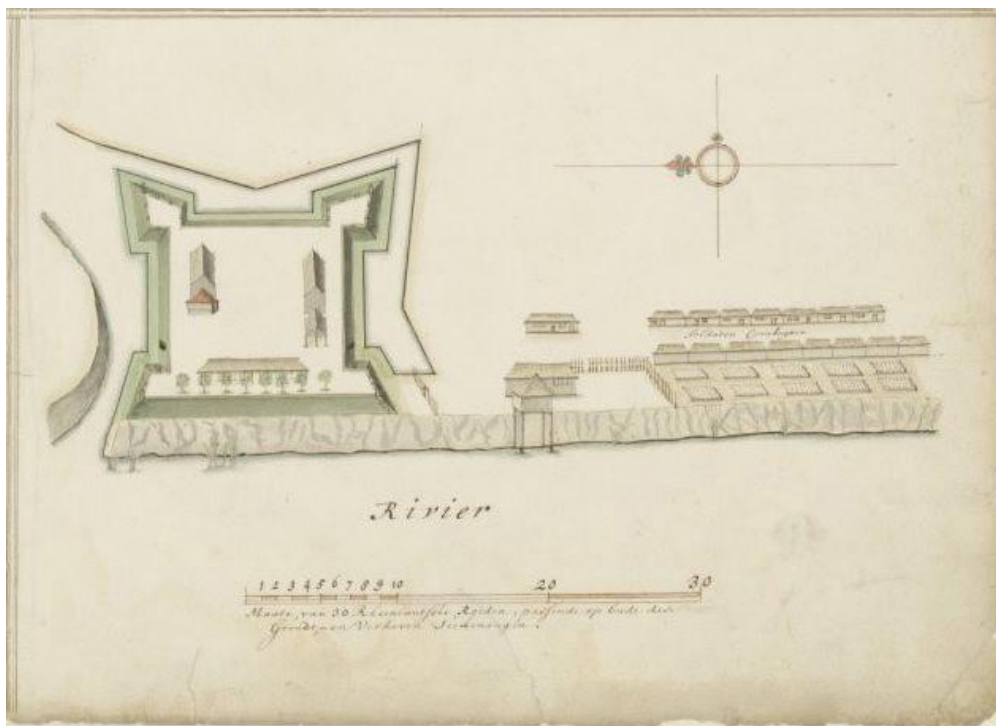


Source: Open Street Map/ Gampaha District Planning Team, 2021

## 2.2. Planning & Situational Context

The history of Biyagama is revealed through folk heritage and the war history of Sri Lanka and it is mentioned that the Biyagama area was a protected area for the Sinhala army and the military camp of the king Rajasingha - I was placed at Biyagama. Also recorded that the Royal Palace was built on Rakshapana rock plain. In the year 1587, when the Portuguese Army from Goa arrived in the country, the Sinhala army was afraid and retreating, then the Sinhala wording of "Baagama" was later called as Biyagama. Malwana fort was built by the Portuguese in right bank of the Kelani river flows from the Seethawaka kingdom and in 1590 shown by the following figure 2.2. Malwana had been selected for the home with headquarters of Captain Asawedu of the Portuguese Army at that time. In the Dutch era, it is said that the Malwana fort was used for protection of soldiers and the four large buildings were used as warehouses.

Figure 2.2 Malwana Fortress



Source: Amazing Lanka Webpage, 2017

Past information analysis confirmed that a number of traditional industries providing their primary products for the kingdoms from the history have been popular throughout the Biyagama area and even the names of the area have been conveying accordingly. It should be specially mentioned that some villages were popular for different aspects such as Daranagama for fire wood, Heiyanthuduwa for Gold & Silver, Yabalaruwa for weapons, Mabima & Pattiwila famous for the clay industry. Similarly, the ancestral community are living in the Biyagama, Mabima area for the Clay Industry and Sri Lankan first Clay Museum and the Training center are located in this area.

After the colonial era, the socio-political and economic background of the country decided to locate state running manufacturing companies in Biyagama area. The first attempt was set up the Local Bottling Plant of Pure Beverages in 1955 at Thalwatta area. (Later Coca-cola Beverages Sri Lanka). In 1969, the Sapugaskanda Refinery was established as the first oil refinery in Sri Lanka, originally it was designed with capacity of 38,000 barrels per day, which then increased up to 50,000 barrels per day in 1979.

Construction of Kaduwela bridge in 1982, created a link between Biyagama - Colombo road and Low-level road which made a new road corridor called "New Kandy corridor". That connects to Kandy Road (A 01) via Mudungoda at Balummahara Junction. As a result of this road, the present city development pressure at Kaduwela will be extended to the Biyagama - Bandarawatta junction and the Colombo- Biyagama road could be seen as a new commercial corridor. Samurdhi Mawatha which has been built by the Greater Colombo Economic Commission (GCEC-Later BOI) is the main port link road corridor lies through middle part of the area via Kiribathgoda. The construction of the Samurdhi Mawatha increased the attractiveness of industrial investment in the area and have a better access to many industrial areas and also the direct connection was built between the Sapugaskanda Oil Refinery Centre and the Biyagama Export Processing Zone. Annexure 05 displaying the main & internal road network of the Biyagama PS area.

With the open economy, the second Export Processing Zone was established in Biyagama in 1985 due to strengthen the private sector intervention for industrial sector and the CMRSP that guided free trade zone developments for balanced regional development. Small scale commercial sub town centers and junctions were spread out concentrating on the Export Processing Zone and value of land has been increased with the infrastructure development in the area. A major residential area, including temporary occupants, was added to the area due to the employment-based manufacturing industry expansion and community attracted by job opportunities.

**Figure 2. 3 Biyagama Export Processing Zone**



Source: Bloomberg - Getty images, 2015

According to the Annexure 06 of CMRSP, Biyagama has been concerned as a peri-urban area which was significantly influenced by the increase of industrial establishments and attraction of employments. The plan identified Biyagama as one of the “Growth center” of Gampaha district. It has been planned to promote industrial land use by 40% and decrease the residential land use upto 15%. The plan estimated and expected 285,000 population by 2010.

But, according to the 2011 census conducted by the Department of Census and Statistics, the recorded population in the Biyagama Divisional Secretariat is 186,862 and by 2017 it has increased to 192,000. From this population, it represents 92% of the population are Sinhalese, 7% are Muslims, 1% are Sri Lankan Tamil and other nations. In Biyagama, the total number of families are 48,151 with 47,636 housing units. The housing density of Grama Niladhari Divisions of Sapugaskanda, Makola Ihala, Gonawala West, Pamunuwila and Mawaramandiya which are closer to the Colombo-Kandy main road recorded as high dense when compared with the other GN Divisions of the area. This has been shown by the Annexure 07, Population density according to the GN Divisions based on census 2011.

The current natural population growth rate is 1.4%, and if this growth rate continues further, the total residential population is expected to reach approximately 247,000 by 2030. Population growth rates recorded as 2.08% on the basis of industrial development trends that occurred in Biyagama during 1981-1999 period. According to the current population, the population density is 32 persons per hectare of and daily commuting populations of approximately 150,000 in the region due to direct impact of industrial establishments.

**Figure 2. 4 Fonterra Manufacturing Plant**

**Figure 2. 5 Dimo Siyambalape - Utility Vehicle Workshop**



**Source: Fonterra Story, Fonterra Website, 2017**

**Source: Dimo Lanka Website, 2018**

In spatially, there are three distinctive industrial clusters in Biyagama namely, Biyagama EPZ, Sapugaskanda Lindel industrial estate, Dimo and other industrial enterprises cluster. This has been shown in the Annexure 08 of the industrial distribution density. Establishment of Lindel Industrial Estate in 1995 agglomerated oil refinery supporting industries and Biyagama was preferred location for multi-national manufacturing companies. Figure 2.4 displays the Fonterra Brands Lanka Pvt Ltd- 1995, figure 2.5 displays the 1996- Dimo commercial vehicle workshop and Lion Brewery etc.

Along with the industrial development intensity of the area, in 2004 the CESMA Plan identified Biyagama as industrial development area and included to inner ring township. Annexure 09 indicates this plan. Due to modern changes of the transport sector, the current industrial sector has gained more value from the Outer Circular Highway which lying through the Biyagama area as well as Kaduwela and Kadawatha two interchanges. As per the figure 2.7, The Kelani river right bank water treatment plant at Pattiwila in the Biyagama area, fulfil the water requirement of Colombo North, has also contributed to the increase in the value of the infrastructure facilities including the road network

Figure 2. 6 Outer Circular Expressway



Source: Trip to Sri Lanka Website-2017

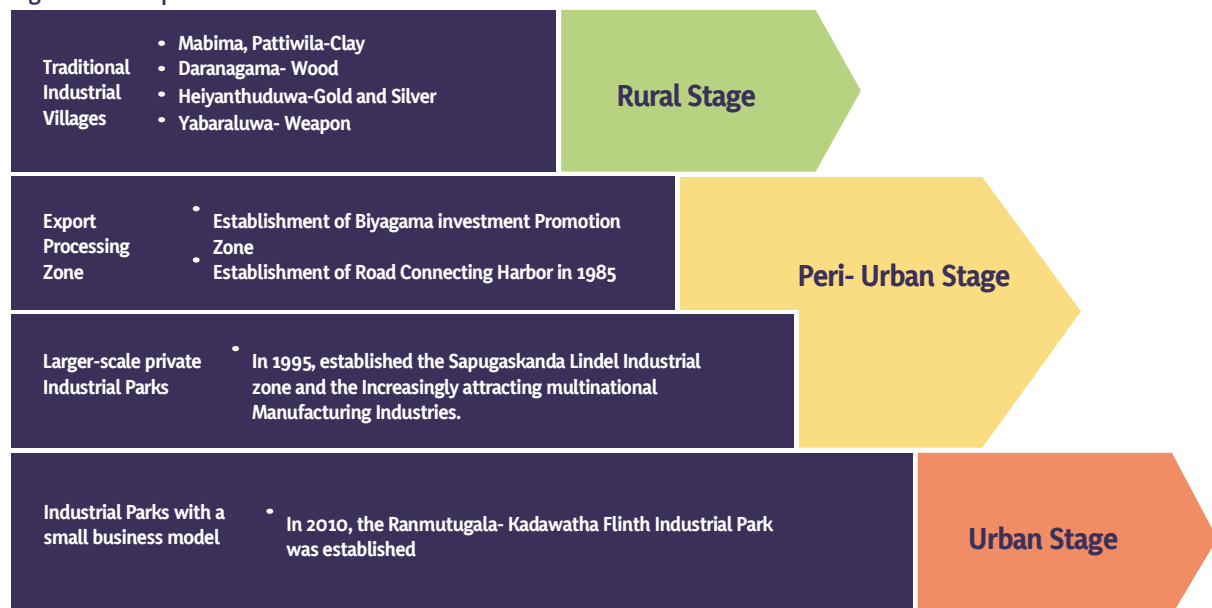
Figure 2. 7 Kelani River Right Bank Water Treatment Plant



Source: NWSDB -2018

Moreover, with the advent of technological advancements, there is a tendency to take place industrial parks with small business model around the area with new industrial infrastructure. Under these circumstances, industrial sector had a major impact on the social, economic and physical development of the Biyagama area over the past and that led a unique sequence of Biyagama industrial development and the development transformation process as following figure 2.8 describes.

Figure 2. 8 Sequence of Industrial trends & Area transformation



Source: Gampaha District Planning Team, 2021

## 2.3 Delineation of the Planning Boundary

Delineation of the planning boundary has varied into initial and detail planning areas with the findings of Biyagama and surroundings. Importance of the area due to second largest labour based free trade zone, preferred location of multi-national manufacturing plants, and the strategic location within inter-regional transport corridors influence to consider Biyagama with national and regional context. Therefore, initial study area was in broader terms with the data collection and comparison.

The hierarchical node-based development and no main town center cause to define the detail study area which is beyond the natural and administrative boundaries of Biyagama PS. Three main town centers of Kaduwela, Kadawatha and Kiribathgoda which are locate at the edge of the Biyagama PS boundary was the main fact to identify the functional boundary.

Development pressure of outside town centers captured parts of Biyagama into their accounts by exceeding the administrative limits and therefore some parts of Biyagama include to threshold of outer town centers. Connectivity analysis, locations of industrial clusters and network of small junctions are other considering factors refine the detail study area with functional aspect.

The existing south and east bounds of Biyagama PS area demarcated with natural geographical boundaries of waterway features: Kelani river and Malwana streams. Mahara and Kelaniya PS boundaries demarcate the northern and western boundaries respectively. Considering the evolution of administrative boundary, current Biyagama PS area was under the Kelaniya Divisional Secretariat until 1977 and later it was administrated by the Greater Colombo Economic Commission (Later BOI) due to the special reason regarding the establishment of Sri Lanka's second export processing zone in 1985.

Under the sections of 20, 21, 22 in Greater Colombo Economic Commission Law No. 04 of 1978 and the laws of schedule "C" cause to ended Biyagama PS area into Greater Colombo Economic Commission. After this power delegation all development activities done under the Municipal Council Ordinance except the sections I, II, III, IX, X, XI, & XIV.

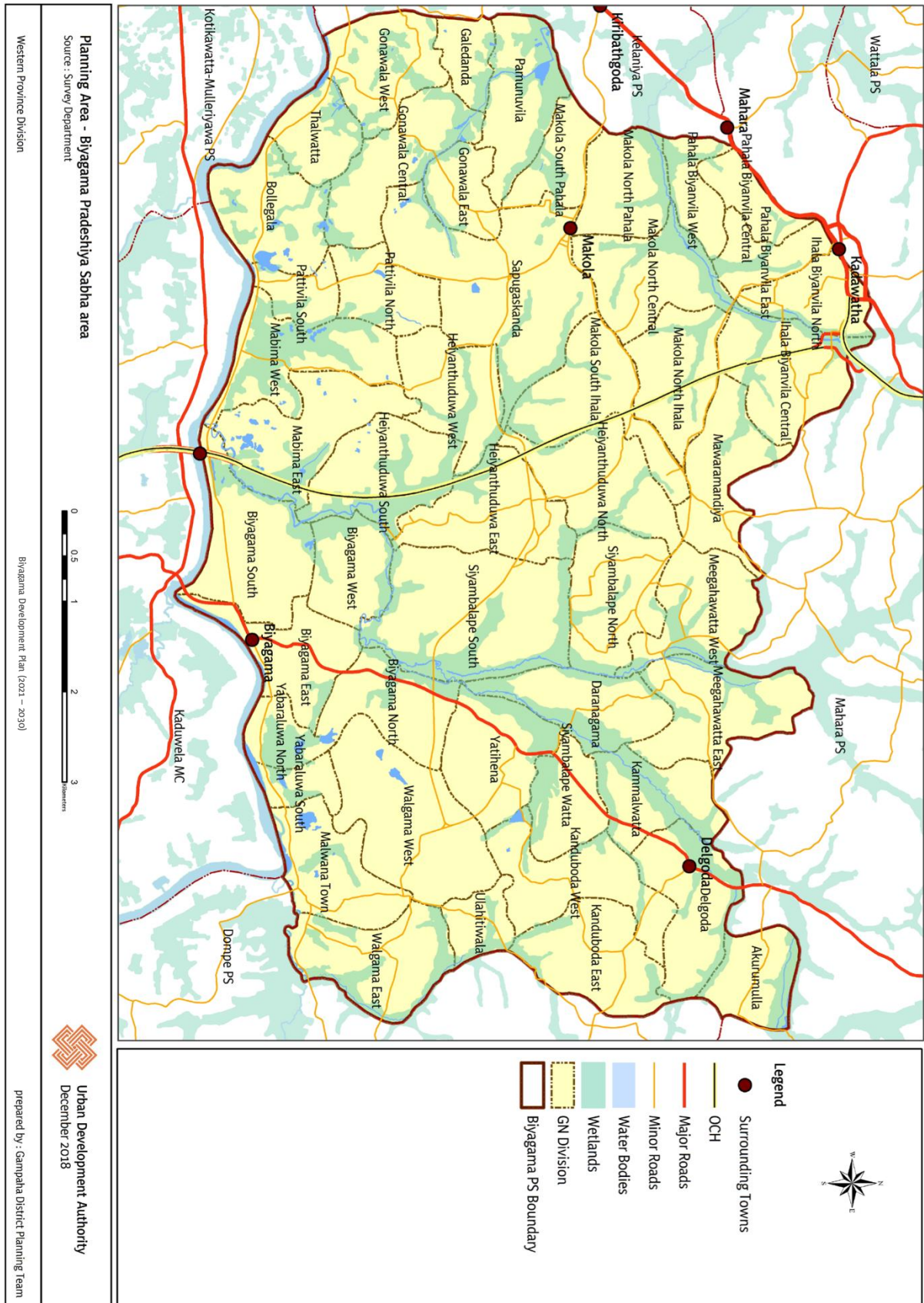
In 1995.04.02 under the gazette notification no 877/27, constituted Biyagama PS within Biyagama divisional secretariat area. Therefore, from 1995.06.01 onwards all the powers and functions delegated to the Biyagama pradeshiya sabha by BOI.

Biyagama PS area declared as an Urban Development Area on 2001.02.13 under the gazette notification No. 1771/10 by considering the rapid physical and urban development. Not only, 2017.12.11 under the gazette notification No. 2049/11 Biyagama PS included to Core area of the Metro Colombo Development Region. At present 192,000 population lived within 60.2 (sq.km) land area of Biyagama PS and it is consisting with 49 GN divisions.

According to evolution of present administrative boundary delineation proves the specific reason of industrial development promotion within the area from 1977 onwards. Even though the functional boundary beyond the administrative limits in current context this specific administrative boundary delineation and its included reason can't be depreciated. Therefore, for the sake of administrative convenience and based on national, western regional level planning interventions, the Biyagama development plan prepared for 49 GN divisions of Biyagama PS area locality that covering total land extent as 60.2 sq.km.



Map 2.1: The Planning Area



# 03



Chapter

Need of the  
Plan

## Chapter 03

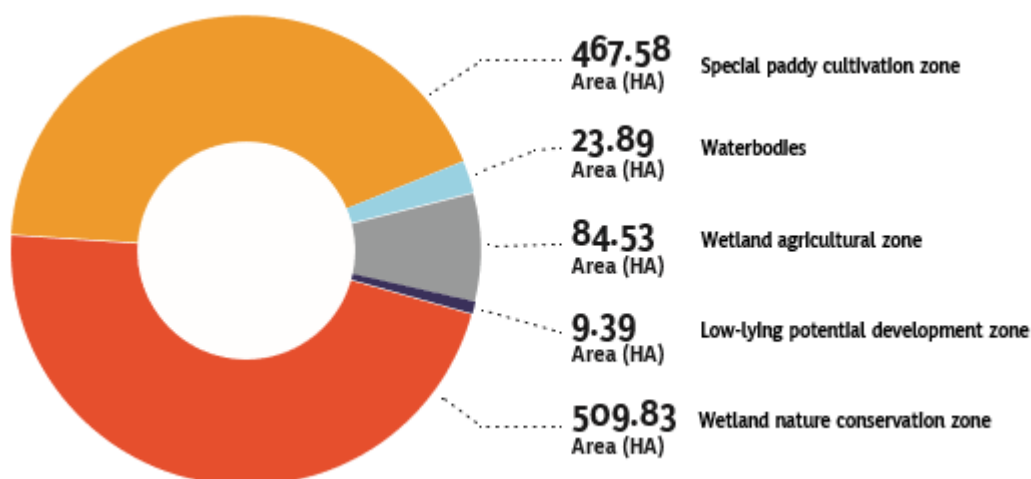
### Need of the Plan

#### 3.1. Conflict between environmental sensitivity and current industrial development

Land use composition of Biyagama Urban Development Area blends with 13% productive agro wetlands and 6% of marsh and waterbodies. This has been clearly indicated by Annexure 04 of Land use composition of Biyagama PS area.

According to the wetland classification of Sri Lanka Land Development Corporation (SLLDC) for Biyagama Urban Development Area, 47% of wetlands belong to Wetland Nature Conservation Zone and 42% of wetlands include to Special Paddy Cultivation Zone. 8% of the wetlands coming under the Wetland Agricultural Zone. In this area, only 1% (Delgoda Paddy Field) has been identified as a Low-lying Potential Development Zone and this composition indicates that Biyagama PS area is inheriting a sensitive wetland environment.

Figure 3.1 Wetland Composition - Categories based on SLLDC



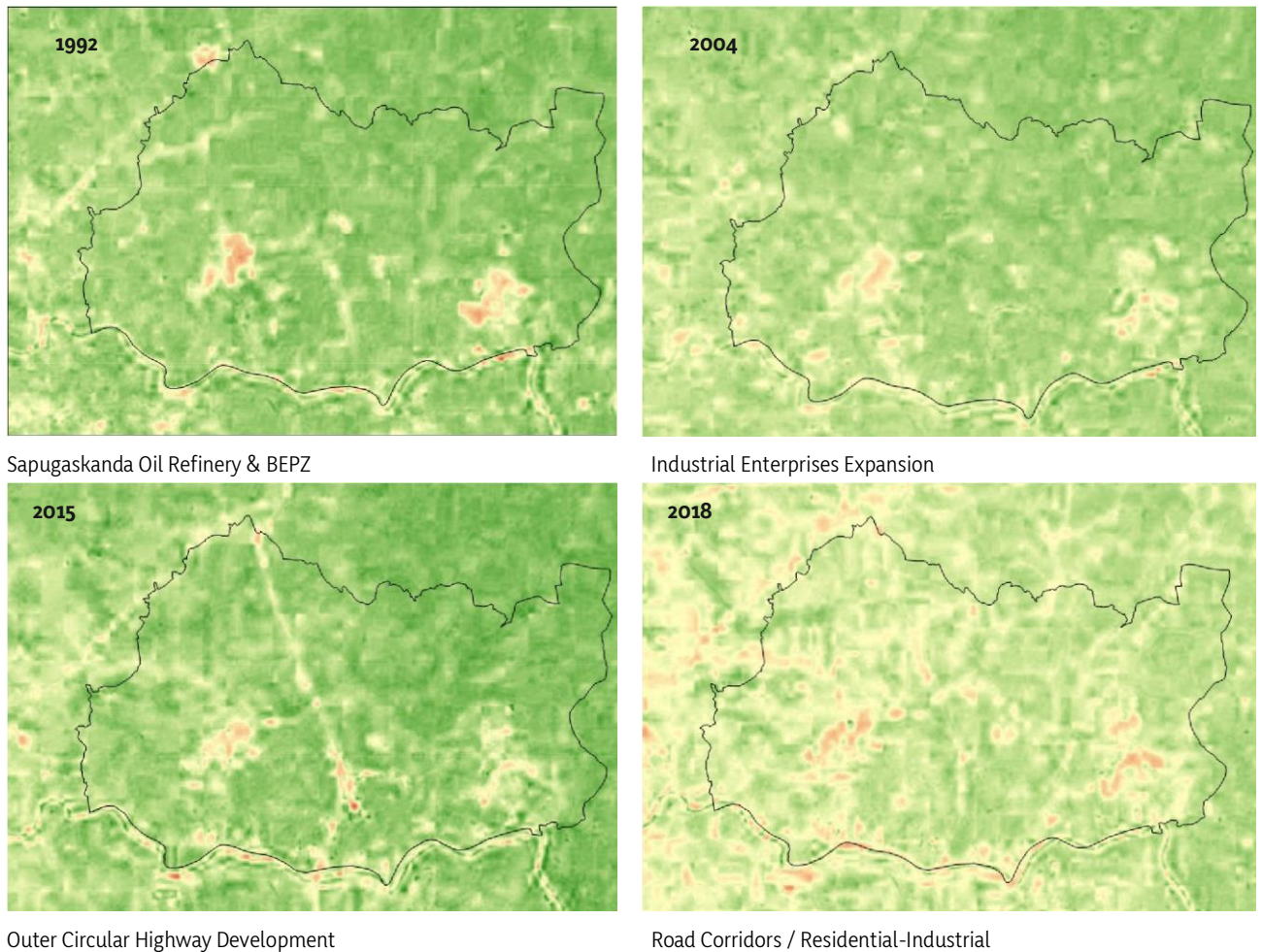
Source: Wetland -SLLDC 2017

With the rapid growth of industrial development, the demand for low-lying development has increased and this has caused to fill many low-lying areas in an unauthorized manner. As a result, many problems such as interruption of water flow, increase of abandoned paddy fields and flash flood situations was occurred.

According to the statistics of Agrarian Services Office of Biyagama, there are 455.91 ha. of abandoned paddy lands out of total extent of 965.81 ha. As a percentage it is 47% and 306.08 ha. of such abandoned paddy lands identified as potential lands for development promotion which cannot be used for any other productive agriculture. In the Annexure 10, this analysis has been displayed and confirms that the productive agricultural lands are decaying gradually.

Based on this situation, the analysis of the green cover density of the area has been done (Normalized Difference Vegetation Index - NDVI) and the analysis shows changed green patches in different periods of time and the transformation with area development.

**Figure 3.2 NDVI Analysis**



**Source: Landsat Images ,1992/2004/2015/2018**

Further, it is identified that industries associated activities have been gathered in areas such as Mahena, Pattiwila, and Mabima through the consideration of analysis of the data, observations and recent trends. Sri Lanka Land Reclamation and Development Corporation has been identified that most of the wetlands in the surrounding area are coming under Natural Wetland Conservation Zone. Other important fact is that Raggahawatta canal which is tributary of Kelani River falls within this area. Industrial effluent discharge into Kelani river through Raggahawatta canal which is located upstream of water intakes of Ambathale and Kelani River Right Bank Water Treatment Plants.

“The worst, very poor ecological condition is reported from the sampling sites at Raggahawatte which flows contaminated industrial waste water. Most of parameters were exceeded the standard value during the total monitoring period which implies the industrial pollution.

Source: Central Environmental Authority, 2014

According to the figure 3.2, Lindel industrial estate including Sapugaskanda Oil Refinery centre and Biyagama Export Processing Zone have been identified as two main industrial clusters through the Normalized Difference Vegetation Index (NDVI). Later, the satellite images of 2004-2015-time period has illustrated that how those two clusters

expanded with other industrial enterprises and OCH development in 2014 has been clearly indicated by NDVI. At present, road corridors like Kandy corridor, New Kandy corridor, Samurdi Mawatha and residential development in Makola and Malwana can be identified by the satellite images of 2018.

Issues related to water pollution were raised from the public stakeholder meeting which is held to get suggestions and ideas for the development plan preparation through participatory planning approach. From the environmental side, it was mentioned that incidence of fish deaths in the Raggawatta canal and it was led to question the water quality in Kelani River. Waste water discharge in to river has been increased due to rapidly growing of industries around in the Kelani river. It is emphasized that more attention should be required regarding the future water consumption of people in the North Colombo as well as the environmental values.

According to the results of the various environmental researches carried out for the Kelani river basin and the Environmental Sensitivity Index emphasized that strategic direction should be focused on better management for current industrial development trends and environmental sensitivity. Various environmental factors and recent flood data have been used to identify critical environmental sensitive areas in the Biyagama area. Annexure 11 indicates those results. Results of the Environmental Sensitivity Index (ESI) displayed the southern part of the area has high sensitivity wetlands when compared with the northern part. At the same time, the current industrial trends and expansion are also concentrated on same direction. Hence, there have been many sub issues, such as industrial pollution, reclamation of wetlands, flash floods, canal depletion, disposal of waste water into paddy fields, impact for ground water catchments. Future water consumption of the Western region as well as in the Biyagama has become decisive situation due to these reasons.

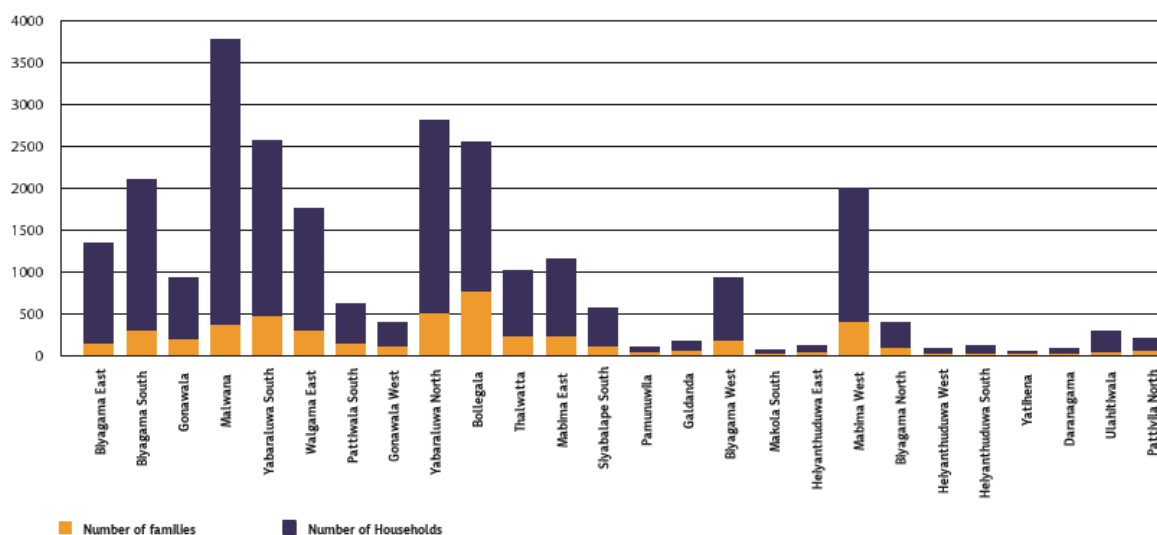
These closely interconnected environment related problems directed to the need of preventive actions, emergency responses in planning intervention of Biyagama PS area. It is further emphasized through the studies carried out and emphasized the balance of the industrial development and environmental management of the area in future planning attempts.

### 3.2 Socio-economic impact due to Kelani river flood

The other main problem faced by the Biyagama PS area is the socio - economic impact of the annual flood in the Kelani River. With the high level of precipitation to up-streams, Kelani river fills with water beyond its capacity and let the surplus water overflows the banks and runs into adjoining low-lying lands through Ragghawatta, Malwana tributaries. Adjoining low- lying lands are paddy lands that indicates 13% from the land use composition and this situation can be clearly identify by the Annexure 12 of elevation and the flood inundation area of 2016 flood event

When compared with the past and recent flood situations of the area, the impact of the affected population is increasing mainly due to unauthorized construction within the river reservation as well as filling wetlands. According to data and statistics indicates by the following figure 3.3, it is proved that, Malwana, Yabaraluwa, Bollegala and Mabima areas were strongly influenced by 2016 flood event when compared with other GN divisions.

Figure 3.3 2016 Flood Affected Households - GN Division wise



Source : Biyagama Divisional Secretariat, 2016

Figure 3.4 Mabima & Biyagama South Area - Impacts to the Industrial Sector & Livelihood



Source: DailyMirror NEWS Paper,2016

Figure 3.5 Bandarawatta - Flood Inundation



Source: <https://www.ucanews.com/>, 2018/05/23

The floods that occurred in May of 2016 were around 4-7 days and affected areas were changed day by day. The satellite images of Disaster Management Centre have confirmed that 9 sq. km of flooded area has been reported on 16th May and it is increased up to 12 sq.km by 19th May and later it was gradually decreased. This fact has been further described as a weakness of the area in Chapter 05 of Detail SWOT analysis.

According to the data records of Biyagama Divisional Secretariat, about 1100 families have constructed unauthorized constructions along Kelani river reservations. Unauthorized land filling, absence of drainage system, covering by boundary walls will caused to increase the flood impacts. Some areas including Malwana experiences flash floods even in a slight rain. In the 2016 flood situation, the main junctions connecting New Kandy Road, Malwana - Dekatana Road was obstructed and this has been indicated by Annexure 13.

The obstructions due to the flood situation in the area is directly affecting the industrial sector as well as the livelihood of the people. This situation affects the employees in factories as well as many laborer from outside. Also, industrial economy has been disrupted and directly affected due to break down of transportation system of industrial production and raw material.

**Figure 3.1 Lost & Damage Analysis for Informal Business & Service Sector**

Biyagama Divisional Secretariat Division	Damages (SL Rs. Mn)			Loss (SL Rs. Mn)		
	Industry & Commerce	Trade	Service	Industry & Commerce	Trade	Service
	19.65	33.23	30.62	14.73	24.92	5.51

**Source: "Flood and landslide hazard of Sri Lanka, May 2016 - Assessment of Post Disaster Needs Assessment**

The above-mentioned economic loss has been confirmed by "Flood and landslide hazard of Sri Lanka, May 2016 - Assessment of Post Disaster Needs Assessment" prepared based on flood situation in May 2016. According to the report, Gampaha district falls within the six main disaster-prone districts and analysis of the damages and losses of three main sectors namely, Industry, Commerce, Trade and Services. The damage caused by informal businesses and service lines in three main areas in the Biyagama Divisional Secretariat in the year 2016 is as follows:

"The field visit of PDNA team in the end of July 2016 to Biyagama revealed that a number of companies continued to be closed due to severe damage to the infrastructure, storage and production inputs. Even though a full account of employment losses are not yet available, initial fact finding missions anticipate significant losses in the formal sector too."

Moreover, the river reservation and most of its nearest occupant are object for liberation of their lands and resettlement process because their livelihood is interconnected with the indirect employment opportunities and advantages of the industrial economy.





# 04

## Chapter

## The Planning Framework



## Chapter 04

### The Planning Framework

#### 4.1. The Vision



“The Tranquilized Industrial City”

“A Greenscape Industrial City Idol of Western arena by hosting an interaction space to cater a variety of industrial needs”

#### 4.2 The Vision Statement

The vision developed for the future development direction of the Biyagama PS area consists with the two main themes of Environmental and Industrial Economic Development as well as the key issues studied in the area. The word Tranquilized refers the management of magnificent landscape with sensitive green wetlands and waterways of Biyagama. Through this wording, it hopes to create an Industrial City, where harmonize the future brownfield developments with its greenery wetlands. And that will lead industrial city idol for the Western region to minimize negative scenarios through the contemporary sustainable development practices with integrated layers of compatible land uses.

As a preferred location for industrial investments due to the availability of factors of production, Biyagama will be an Industrial City idol which guidance to all industrial cities of Sri Lanka that caters variety of industrial needs and expected to contribute to uplifting the country's economy as well as the socio-economic environment of the country, under the sustainability approach and eco principles, practices.

The core idea of “Tranquilized Industrial City” means the attempt for enhancing the resilience of socio-ecological systems through a creation of industrial city idol. Through this, future Biyagama PS area will be experience the balanced eco industrial interaction spaces with contemporary industrial economic growth and managing the green landscape.

## 4.3 Goals

01

**Create multifaceted clusters while promoting unified industrial economic needs.**

Goal

Above first goal aims to create clusters of different industrial services that fulfil the needs and requirements of the industrial sector and attract industrial investments with basic productive factors in the area. In order to develop Biyagama PS area as an industrial city based on the vision, meaning of multi-sectoral clusters are based on different industrial services which are available in those industrial clusters. It aims to promote industrial development through the development of physical infrastructure and establish urban service clusters with the target of commuting and residential population.

02

**Control the emergence of shocking city with negative environment and social scenarios.**

Goal

Biyagama as the Tranquilized Industrial City, it is expected to create closeknit of greenery wetlands network and sustained brownfield development. This is closely link with promotion of sustainable industrial development with this sensitive environment of Biyagama. Control of the emergence of Shocking city means, the urban development with sustainable eco-social strategies that controls the irregular and informal urban development.

## 4.4 Objectives

Goal

01

Create multifaceted clusters while promoting unified industrial economic needs.

Objectives

1. To open up 13% from the total land area through collector road pattern for industrial investments by 2030.
2. To promote industrial oriented business zone around central investment corridor by 2025.
3. To facilitate 30% of manufacturing sector employment contribution by the end of 2030
4. To facilitate 3 multi- nodal neighborhood clusters by 2030.

Goal

02

Control the emergence of shocking city with negative environment and social scenarios.

1. To conserve 100% of critical wetlands that tolerate the surplus flood water of the area by 2030.
2. To introduce wetland stewardships for 130 ha of abandoned agro wetlands with CER by 2030.
3. To minimize the flood impact by restorative flood protective and treatment areas by the end of 2025.

# 05

## Chapter

### SWOT Analysis



## 5.1. Summarized SWOT Analysis

### Goal 01

#### Create multifaceted clusters while promoting unified industrial economic needs

## S

- Having the basic production factors such as land, capital, labor and entrepreneurship. (Refer Table 5.1)
- Industrial Suitability Index displayed the 84% from the total land extent as high and moderate suitability level for industrial investment **promotions**.
- Sub towns and nodes based spatial setting of the area.
- Recorded 69% of rapid commercial development.



## W

- 98% of the land area of Biyagama EPZ reached to its maximum carrying capacity
- 70% of the roads in the area are narrow local roads.
- Kelani river seasonal flooding blocked 07 major transport nodes.
- Absence of industrial oriented business and financial area
- Not allocated spaces for service line maintenance.
- Inadequate health facilities in relation to the residential and commuting population.
- 7 % from the housing categories indicates the improper and informal line houses.
- Maintain a solid waste sorting center in prime location which could be used for urban service and utilities in Delgoda Town



# O

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- National & Regional level planning direction
- CMRSP & CESMA plans stressed the industrial development
- Upcoming flood mitigation projects of CRIP –DBIP
- 3K Area project proposed to develop Delgoda & Malwana town centers
- Trend of establishing small scale multi - tenant business model industrial parks
- Manufacturing sector investment opportunities from the structured proposed projects by BOI
- Up - coming transport development projects (Biyagama – Kosgama Railway Project/Kadawatha - Light Railway Project)
- Proposed logistic corridor / Science & Tech City Development



# T

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- Main port access roads discouraging freight transportation
  - Traffic congestion in Kiribathgoda town center
  - Peliyagoda 4th Mile's post railway bridge restricts vehicles more than 3.5 m height.
- Proposed Millawa industrial estate with 780 acres in Kaluthara district





Goal **02**

## Control the emergence of shocking city with negative environment and social scenarios

### S

6% of the land use composition belongs to environmental features (365 Ha -Marsh/ Water bodies /Scrubs)

13% of productive agro-wetlands act as natural buffer zones and water retention areas

**Availability of public and private open spaces of 11.7 ha**

Availability of 08 minor flood protection structures



### W

- **Present industrial establishments distributed close to sensitive wetlands.**
- Biyagama sub basin recorded 73 of industries from the A, B, & C types of pollution potentials of respectively 14, 58 & 1
- 47 % of abandoned paddy lands out of total paddy lands distributed in southern part of the area.
- **1100 families recorded as encroached the Kelani river reservation and canal banks, encroachments**
- Approximately 20,000 people affect to flood annually & inundation time period varies into 4 -7 days



# O

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- National Manifesto Guidance through Eco Industrial Zones
- WRSP-2030 identified an eco-conservation zone of 100m buffer along Kelani river
- Upcoming flood mitigation projects of CRIP –DBIP
- **Regulations related environment protection**
- Current Industrial Policy & Sustainable Approach



# T

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- 2842 industries are recorded with different pollution potentials in Kelani river basin



## 5.2. Detailed SWOT Analysis

### Goal 01

Create multifaceted clusters while promoting unified industrial economic needs



### STRENGTHS | Goal 01

Table 5.1 : Detailed facts for factors of production

1- Having the basic production factors such as land, capital, labor and entrepreneurship.

Land	Capital	Entrepreneur	Labor
<ul style="list-style-type: none"> <li>• Availability 9% of developable and suitable land for industrial investment.</li> <li>• Low land value varying from Rs. 100,000 to Rs. 400,000 per perch when compared with Colombo and adjacent areas.</li> </ul>	<ul style="list-style-type: none"> <li>• Strategic location close to sea port and airport to reach within 1 hour</li> <li>• OCH lying through the area and having 2 interchanges (Kadawatha /Kaduwela)</li> <li>• Located in between 2 major inter - regional transport corridors</li> <li>• Well placed at the heart of national oil energy and gas - Sapugaskanda</li> <li>• Availability of 3.3% of import cargo and 2.8% of export cargo facilities</li> <li>• Kelani River Right Bank Water Treatment Plant with the capacity of 360,000m<sup>3</sup> per day</li> <li>• Biyagama(220kv) &amp; Sapugaskanda (132kv) grid substations</li> <li>• Multi-purpose gamma irradiator (MGIF) facility at Biyagama EPZ</li> </ul>	<ul style="list-style-type: none"> <li>• Present industrial establishments and growth</li> <li>• Present multi - national network of industrial investments</li> <li>• Hereditary Industrial base and village based modern small scale industrial trends</li> </ul>	<ul style="list-style-type: none"> <li>• Recorded remarkable growth of labor force after 1985</li> <li>• 23% from the employment sectors directly contribute to manufacturing industries</li> <li>• 12% from the employment sectors directly contribute to accommodation and food catering</li> <li>• 66% of working age population from the total population</li> <li>• Recorded 150,000 commuting population and identified as an employment generation centre</li> </ul>

Source : Gampaha District Planning Team,2021

First goal aims to promote unified industrial economic needs with cluster development approach. The following discussed facts and figures strengthened the potentials of industrial development under the factors of production which are shortlisted in the above table 5.1.

Land is the basic factor of production, from the land use composition 72% of the lands identified as built-up lands and excluding environmental features 9% of developable lands area available within Biyagama. According to the Annexure 15, Land values of Biyagama area displayed comparatively very low variation that having positive impact for attraction of industrial investments.

Capital includes the all man-made resources, therefore present infrastructure facilities included to capital factor. Under the transport and mobility, sea port and airport accessibility are basic needs of industrial development of a country. Therefore, located in between the Kandy and Low level inter regional transport corridors and current expressway development maximize the strategic location of Biyagama. New Kandy Road and Colombo - Kandy Road (A 01) giving the accessibility as most connected corridor to all over the country. Outer Circular Highway (OCH) is lying through the area and both Kaduwela & Kadawatha expressway interchanges are located within Biyagama PS area. This OCH links to Southern expressway network from Kottawa which connects southern part of the country within 1 hour. The proposed third phase of the OCH towards Kerawalapitiya which link with Katunayake expressway giving the Katunayake international airport accessibility within 15-30 minutes.

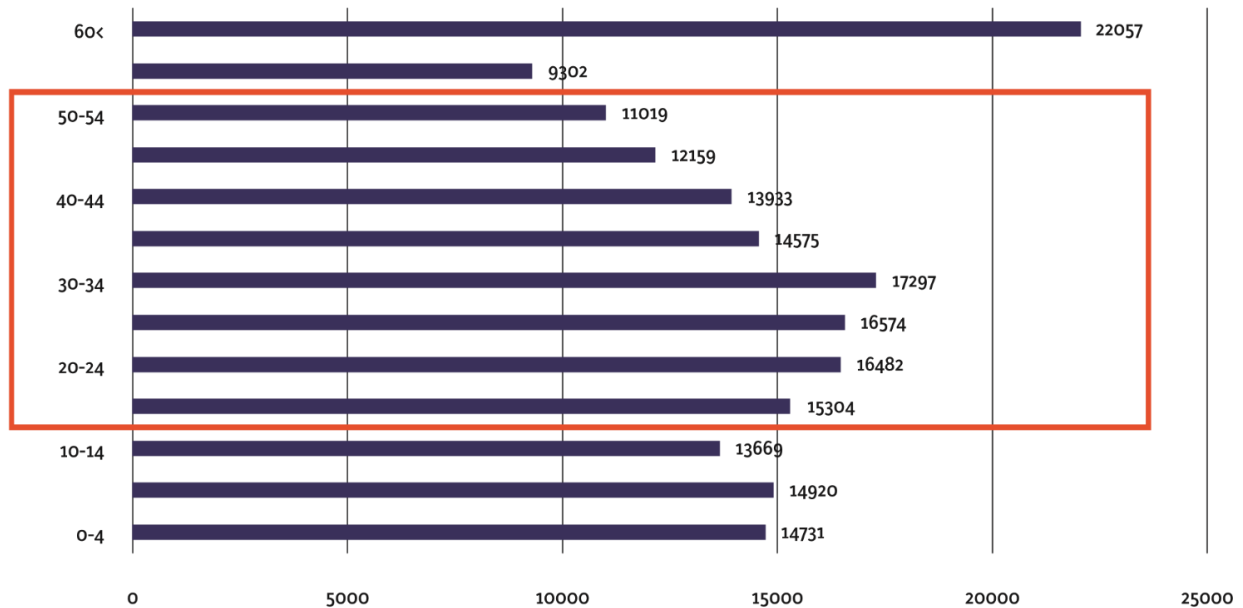
Sapugaskanda oil refinery which is one and only oil refinery in Sri Lanka located near Colombo and with the capacity to refine around 2.12 million metric tons per year (or 52,500 barrels per day - bpd). That implies the well placed at the heart of national oil energy and gas. Availability of 3.3% of import cargo and 2.8% of export cargo facilities implies the present logistic facilities due to the industrial agglomeration of Biyagama. 360,000 m<sup>3</sup> designed Kelani River Right Bank Pattiwila water treatment plant fulfilled the water demand of northern part of western province. That covers 1 million consumers of Biyagama, Kelaniya, Kiribathgoda, Kadawatha, Ragama, Wattala, Kandana, Ja-Ela, Seeduwa and Ganemulla areas and present production is (m<sup>3</sup>/d) 175,000.

According to the Electricity supply, Biyagama having 220 kV Grid substation and 132 kV Grid substation at Sapugaskanda. Also, Biyagama PS area having two power generating plants at Lindel Industrial Estate - Lakdhanavi Ltd (21MW) and Asia Power Pvt Ltd (51MW) with 220 Kv transmission network. Biyagama EPZ consisted with the facility of Multi-Purpose Gamma Irradiator (MGIF) which support for the pharmaceutical, chemical and food manufacturing plants. This proves the industrial sector-oriented infrastructure facilities proves that Biyagama as a city of having industrial economic needs.

Under the labor factor, Biyagama recorded remarkable growth due to the highest industrial labor agglomeration after the introduction of Biyagama EPZ. From 1981 – 2001 time period 2.08% population growth rate was recorded due to the employment attraction of BEPZ. This fact has been proved by DSD wise comparison of industrial establishments

and labor in Annexure 17. According to the economic sector wise employments in Annexure 18, 23% of the employment sector directly contributes to manufacturing industries of Biyagama and 12% directly contributes to accommodation and food catering. As following figure 5.1, Biyagama PS area is consists with 66% of working age population from the total population and recorded 150,000 commuting population per day and identified as an employment generation center.

**Figure 5.1 : Age Composition of Biyagama PS area - 2017**



Source : Gampaha District Statistical Handbook,2017

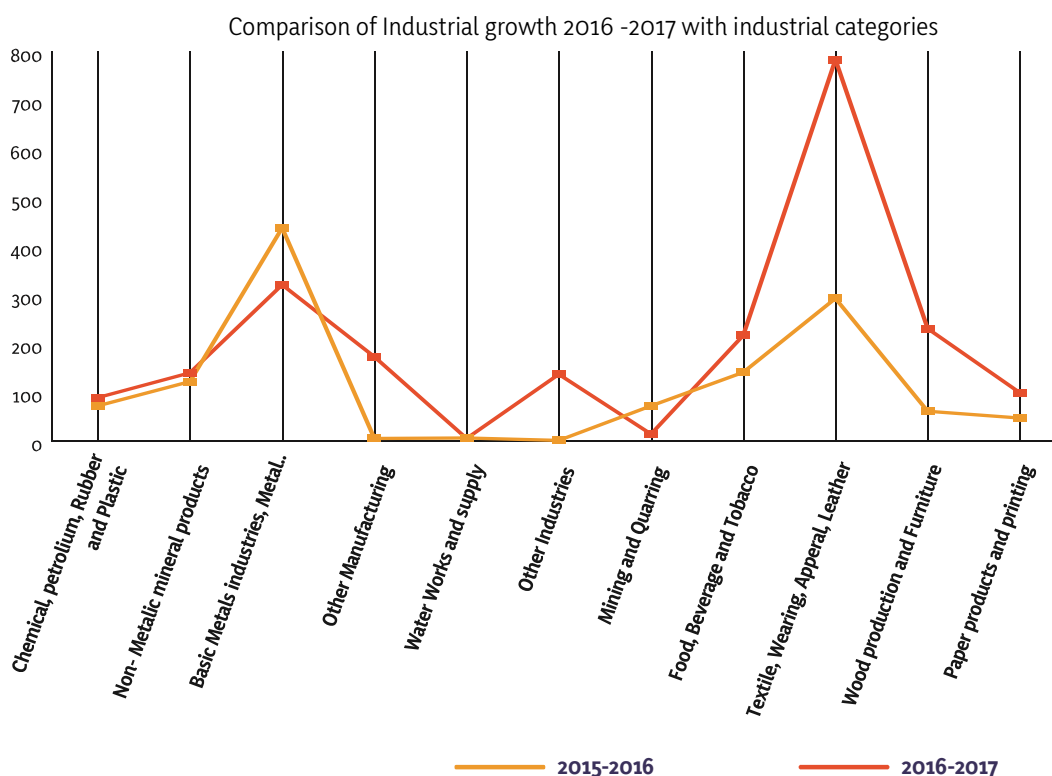
Last factor of production as entrepreneur discussed with the present industrial establishments, growth of the industrial sector and homebased industries with a hereditary industrial base. As well as Biyagama having strong and prestigious international linkages due to the multi-national industrial establishments network. As examples, Anchor - Fonterra Brands Lanka, Lion brewery Ceylon PLC and Coca-Cola Beverages Sri Lanka Ltd.

Three industrial clusters could be identified in the area according to the spatial distribution pattern of the industrial establishments and that has been displayed through the Annexure 08. Biyagama EPZ, Sapugaskanda Lindel industrial Estate and Dimo utility vehicles workshop and the surrounded industries are the identified major clusters.

In 1995, establishment of Lindel industrial estate at Sapugaskanda in 125 acres was first Sri Lankan privately owned industrial park and it was the significant change of the Sri Lankan industrial development. The industrial trend was changed into the joint ventures with leasable land and buildings and out of the 100 acres of leasable land, about 90 acres are already occupied by well-known industries of which five of them are joint ventures with fortune 500 companies. Lindel is a private company with BOI status. 49% of its shares are held by the DFCC Bank, 2% by Lanka Ventures Limited and the remainder by the Treasury of Sri Lanka.

This second wave of liberalization resulted to attract multi - national manufacturing companies namely, in 1995 Fonterra Brands Lanka (Pvt) Limited, in 1996 Lion Brewery Ceylon PLC and DIMO Siyambalape - commercial vehicle workshop. This industrial development intensity of Biyagama could be further expected and confirmed through records of preliminary planning clearances as approximately 50 per year. At present there is a tendency of constructing private ware houses and lending can be seen along Mahena road and Mabima road for logistic facilities.

**Figure 5.2 Comparison of Industrial growth 2016 -2017 with industrial categories**



Source: Gampaha District Statistical Handbook, 2017

Statistics comparison of the industrial categories by year wise, it shows rapid increase of basic metal industries, other manufacturing and textile, apparel and leather sector industries within Biyagama PS area. Textile and apparel sector are the highest contribution to the country's foreign direct investments and Biyagama PS area having a rapid increment of textile and apparel sector.

According to the historic evidences, Biyagama is not a newer to industrial development activities and there were hereditary industrial villages in past. As historical industrial base, clay industry is mostly spread the areas where very closer to the Kelani river like Mabima, Pattiwila, Bollegala, and Yabaraluwa, Gold and Silver works spread in Biyanvila, Mawaramandiya, Meegahawatta, Siyambalape and Heiyanthuduwa areas. Makola for Brassware and Kanduboda, Yabaraluwa and Heiyanthuduwa are famous for granite works.

At present the area has developed with the homebased industries that mixed with new technology. As examples, Pamunuwila area is famous for fireworks industries, Biyanwila area for rubber mix coir industry while Makola, Kammalwatte and Heiyanthuduwa for aluminum works and Siyambalape North for printing industry. Meegahawatta and Delgoda areas are well known for the interior works and the cushioning works for the vehicles.

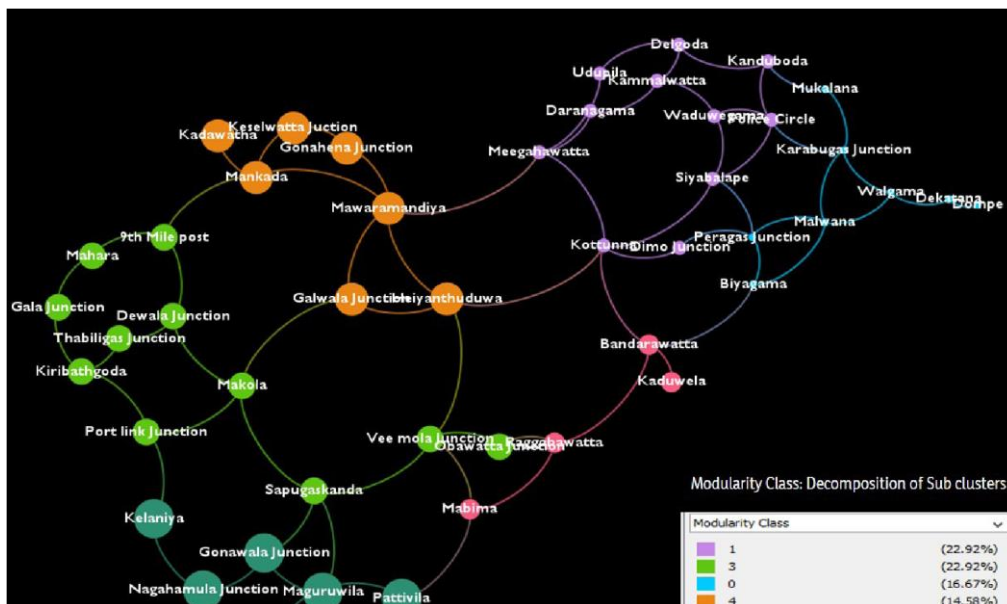
**2- Industrial Suitability Index displayed the 84% from the total land extent as high and moderate suitability level for industrial investment promotions.**

The analysis of industrial suitable areas has been carried out using data from the physical, environmental and social factors to identify the most suitable environment for future investments. Analytical results indicate that Samurdhi Mawatha, Dimo Junction, Heiyanthuduwa, Walgama and Malwana are the most suitable areas and this has been indicated in Annexure 18.

**3- Sub towns and nodes based spatial setting of the area.**

Biyagama having a node based spatial setting that merge with the different industrial clusters of the area. As per the figure 5.3, using Gephi-network analysis software this sub cluster composition identified through modularity class tool. Through this output Biyagama PS area has been divided into six clusters based on the linkages and confirmed that it has been divided over specialized land use and includes three industrial clusters and three urban service clusters. According to that planning area having hierarchical order of sub towns and nodes, that can be prove by the Annexure 19 of most connected nodes of the area.

Figure 5.3 Gephi Network Analysis of Sub Clusters



Source: Gampaha District Planning Team, 2021

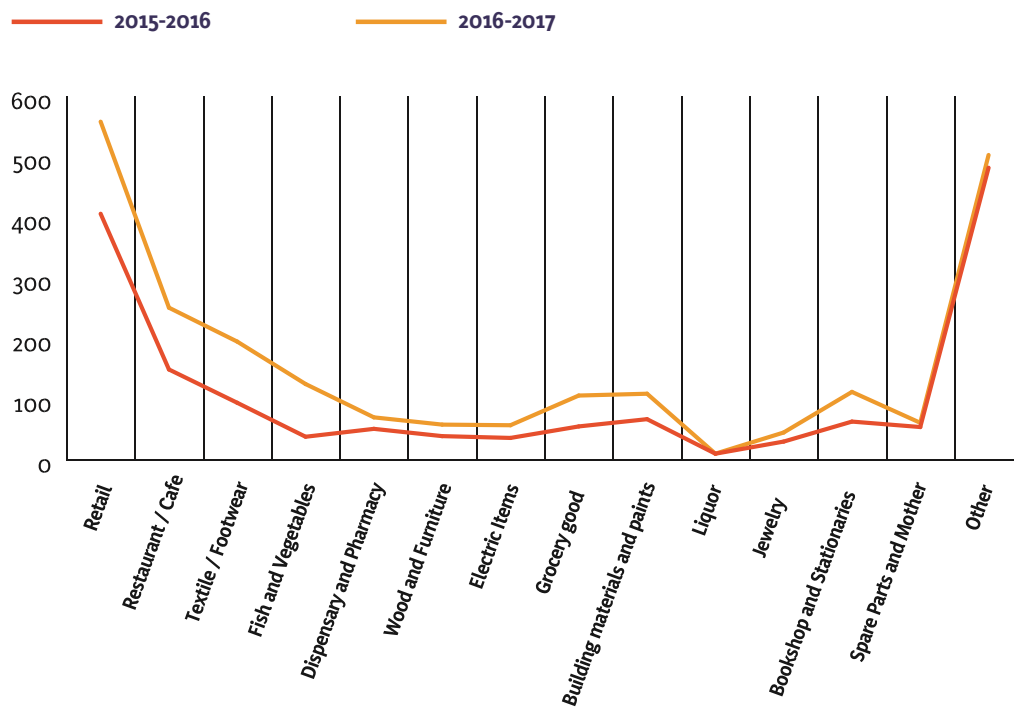
#### 4- Recorded 69% of rapid commercial development.

Industrial and institutional development simultaneously influence to increase the commercial spaces and lead to develop commercial nodes around the industrial cluster entrances. As per the annexure 20, series of satellite images from 2004 to 2017 of Siyambalape junction proved that scenario.

In annexure 21, Development pressure index also proved this situation and Kadawatha, Makola, Malwana, Gonahena and Mawaramandiya areas identified as high pressure of development. According to the records of commercial spaces registrations in Gampaha district statistical handbook, year 2017 recorded rapid registration of commercial spaces in relation to year 2016. The following figure 5.4 displays that variation.

**Figure 5.4 Comparison of Registered Commercial Spaces of Biyagama PS area 2016-2017**

Comparison of Registered Commercial Spaces of Biyagama PS area 2016-2017



Source: Gampaha District Statistical Handbook, 2017



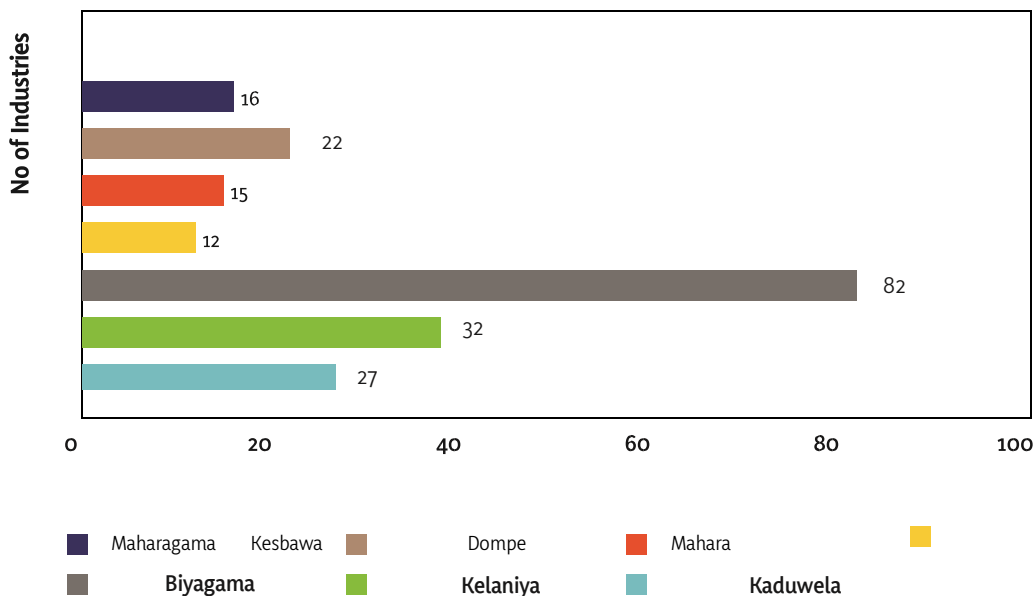


## WEAKNESSES | Goal 01

### 1- 98% of the land area of Biyagama EPZ reached to its maximum carrying capacity.

57 factories are currently operation at the Biyagama Export Processing Zone, which are spread over 180 acres of land. Industrial and Commerce team of the stakeholder meeting has mentioned that there are no spaces for new factories in the Biyagama EPZ and that has reach to its maximum carrying capacity. As per the following figure 5.5, there are 25 manufacturing industries operating under the BOI - Biyagama EPZ have been established outside of the zone but within the Biyagama Divisional Secretariat limits.

Figure 5.5 Comparison of BOI based Industrial establishments DSD wise



Source: HR Division - Biyagama EPZ, Board of Investment, 2018

### 2- 70% of the roads in the area are narrow local roads.

Width of the internal roads that connect main arteries of Colombo-Kandy Road, New Kandy Road & Samurdhi Mawatha are less than 9m and road bends discouraging the freight transportation. According to the Annexure 22, less road widths of the internal road network of Biyagama negatively impact to the newer industrial investments and rejecting approvals. This context has been studied through the space syntax - spatial integration analysis and that have indicated as Annexure 23.

### 3- Kelani river seasonal flooding blocked 07 major transport nodes.

When flood occurred and its duration time period cause to make the disturbance to transportation system of the area and major junctions of New Kandy road, Colombo- Biyagama Road, and Malwana Dekatana road blocked with flood.

Bandarawatta Junction, Nagahamulla Junction, Siyabalape Junction, Malwana, Pattiwila & Mabima Junctions are affected in every flood event it is displayed through the Annexure 13. This flood scenario caused to disturb passengers who used following bus routes - Panadura-Kandy (17), Karabugas Junction -Fort bus route (356), Dekatana-Fort (226), Pugoda-Colombo (224), Malwana-Colombo (225), Gampaha-Kaduwela (228) and Kiribathgoda-Pettah (230).

Figure 5.6 Flood Inundation- 2018 Gonawala



Figure 5.7 Flood Inundation-2018 Pattiwila



Source: Captured by Udari Hettiarachchi, 2018.05.26

### 4- Absence of industrial oriented business and financial area.

Even though the southern part of the Biyagama PS area represent as an industrial employment center, there is no separate area or a center for financial and banking purposes. To fulfil the needs & wants of the people related to the banking and financial activities, people have to travel sub urban centers and these sub towns also not agglomerate the type of commercial banks.

### 5- Not allocated spaces for service line maintenance.

At the meeting of the stakeholders, a major problem relating infrastructure was the lack of space for the services on both sides of the road. As a result, it was highlighted that the road network has become dilapidated by various institutions to break down the roads on several occasions.

## 6- Inadequate health facilities in relation to the residential and commuting population.

Biyagama PS area having a Type C - divisional hospital. But as an area of labour agglomeration due to the industrial establishments and the location of second largest EPZ in terms of the labour participation, highlighted the need of improved health facilities. According to the international standards of four hospital beds per 1000 people, that proves it can't be account with the Biyagama PS area threshold population and following data table describes comparison with surrounding hospitals.

**Table 5. 2 Comparison of Hospital types & Beds - Biyagama & Surroundings**

Hospital /Type	No of Beds	Population _DSD wise
Biyagama, Type C - Divisional Hospital	33	192,000
Kiribathgoda, Type B - Base Hospital	100	112,797
Dompe, Type A - Divisional Hospital	104	158,493
Udupila, Type C - Divisional Hospital	24	213,837

Source: Gampaha District Statistical Handbook, 2017

## 7- 7% from the housing categories indicates the improper and informal line houses.

Provision of accommodation facilities for the employees of the Biyagama zone is one of main income source of local community. According to the recorded housing data from census of 2011, most of the accommodation in Malwana, Walgama, Yabaraluwa, Siyambalape, Yatihena area are located as improper and informal line houses. Biyagama North and Walgama East GN divisions recorded highest line houses distribution of 718 and 731 respectively. The line houses density of the area is displayed as Annexure 24.

**Figure 5.8 Line houses around Biyagama EPZ Area**



Source: Sundaytimes Newspaper, 2009

**8- Maintain a solid waste sorting center in prime location which could be used for urban service and utilities in Delgoda Town.**

Solid waste sorting site of the Biyagama PS area is located in a land that having high commercial value adjoins to the existing Delgoda bus terminal. This bus terminal is not connected to Delgoda junction directly and the solid waste sorting site close to this bus terminal cause to decrease the optimum use of urban lands and impact to the highest and best use. At present this bus terminal used only for bus parking and the commercial spaces of the building are not functioning.

**Figure 5.9 Solid Waste Sorting Site- Delgoda**



Source: Captured by Udari Hettiarchchi, 2018.01.08

**Figure 5.10 Delgoda Bus Terminal with vacant commercial spaces**



Source: Captured by Udari Hettiarchchi, 2018.01.08



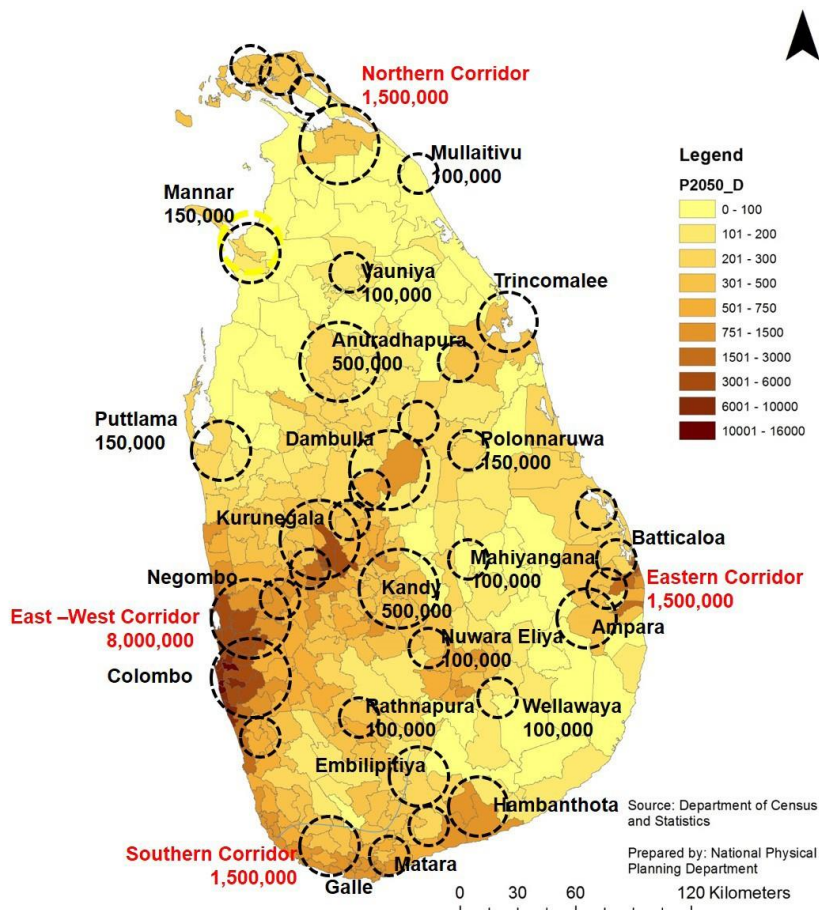
## OPPORTUNITIES | Goal 01

### 1. National and Regional Level Planning Direction

As per the following figure 5.11, the National Physical Plan 2050, Biyagama PS area is located in East-West Economic Corridor which proposed to increase 20 - 25% population. Planning direction from the national level already guided and stressed the economic development. Therefore, Biyagama can contribute to the national economy via industrial sector as a part of the East-West Economic Corridor. Also, Biyagama EPZ is a significant contributor to the national economy with an export value estimated at Rs. 134 billion (\$ 849 million) and importing Rs. 58 billion (\$ 368 million) worth of raw materials in 2017.

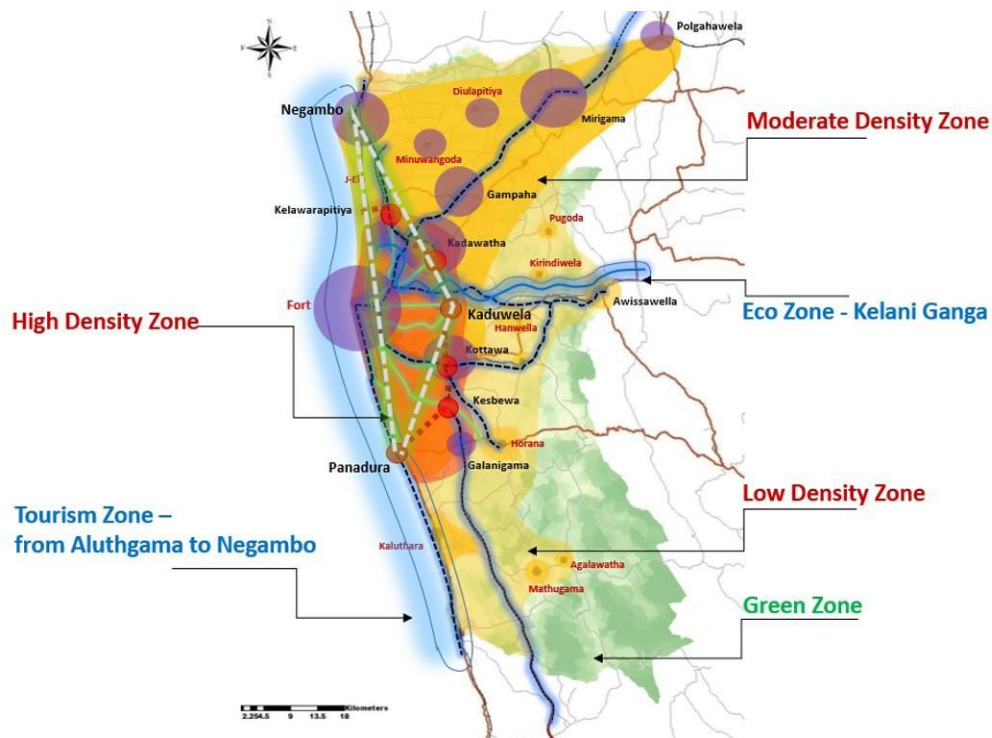
Following figure 5.12, Western Region Structure Plan - 2030 identified Biyagama area as the industrial potential area and regional level planning direction emphasized the industrial development. According to these recent national and regional planning decisions will be main opportunity for future industrial development of the area.

Figure 5.11 NPP Proposed Economic Corridors



Source: National Physical Planning Department, 2017

Figure 5.12 Draft Western Region Structure Plan-2030



Source: Western Province Division, UDA, 2017

## 2. CMRSP & CESMA plans stressed the industrial development

CMRSP in 1998 identified Biyagama as one of the “Growth center” in Gampaha district. It has been planned to promote industrial land use by 40% and decrease the residential land use upto 15%. The plan estimated and expected 285,000 population by 2010 and that has displayed through the Annexure 06. CESMA Plan in 2004, identified Biyagama as an industrial development area and included to inner ring township of the Western region.

## 3. Upcoming flood mitigation projects of CRIP-DBIP

Climate Resilient Improvement Project by the Department of Irrigation will be introduced for flood mitigation wall from Kelani river mouth up to Hanwella. With this wall flood impact from the Kelani river will be mitigate and that will be added opportunity for physical developments of the area.

## 4. 3K Area project for Delgoda & Malwana urban redevelopment

From the 3K Area Project (Kottawa, Kaduwela & Kadawatha), Biyagama PS area belongs to the Kaduwela and Kadawatha Zones. 3K Project area is displayed in Annexure 25 and project proposed to redevelop Delgoda and Malwana as minor urban centres.

## 5. Trend of establishing small scale multi - tenant business model industrial parks

The recent trend of industrial development is establishment of small-scale business model industrial parks which cater to diverse requirements of different organizations. As one central multi-tenant server set up that meets the requirements of all tenants and improved security, high level of service availability reduce the impact of disruptions to their missions, critical production processes and to ensure business continuity. Also, high technology usage able to reduce their carbon footprint which is an important criterion for their business model. In addition, it creates a simplified platform that can enhance the efficiency and effectiveness of servers used by tenant companies of the park. Through this demand for high quality labor will be increased and this is boost for the country's talent pool.

**Figure 5.13 Flinth Industrial Park -Ranmuthugala Estate, Kadawatha**



**Source: Cablesoul Web site, 2010**

The present example for this kind of business model is Ranmuthugala estate - Flinth industrial park at Kadawatha as per the following figure 5.13. The park extent upto 10 acres and 8 companies which are primarily involved in production and in exporting to various parts of the world such as Aero Sense, Cable Solutions, Harness Solutions, Prime Packaging, Quality Floors, CaviTool, Swedlanka and Metal Component Services.

## 6. Manufacturing sector investment opportunities from the structured proposed projects by BOI

According to the BOI- Project proposals of 2017, it has been identified manufacturing sector projects: Healthcare supplements/Cosmetic products/Value added rubber industry, Textile accessories/Woven fabric manufacturing plant cluster. These identifications are important for the attraction investment opportunities for the Biyagama PS area lands.

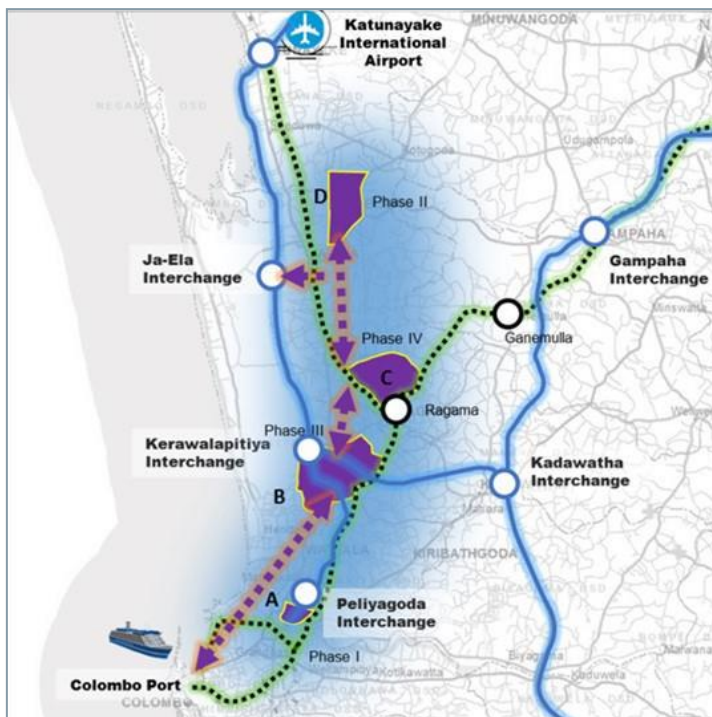
## 7. Up - coming transport development projects

The proposed Biyagama-Kosgama Railway Project, LRT Developments and Kadawatha LRT Station, OCH Phase III Development with Kerawalapitiya Interchange, Central Expressway Development and Kadawatha Interchange becoming a gateway to Kandy are up- coming transport development projects that added value for the area in terms of accessibility. According to the Annexure 26 of future expressway development in Sri Lanka shows the importance of the Outer Circular Highway and its connections regarding the industrial sector promotions in near future.

## 8. Proposed logistic corridor / Science & Tech City Development

Western Region Structure Plan proposed a logistic corridor from Peliyagoda up to Katunayake. This will be an added advantage for logistic facilities for industries and following figure 5.14 indicates the proposed corridor. Science and Tech city development of Homagama area also indirect opportunity for skilled labor for the manufacturing industrial sector.

Figure 5.14 Proposed Logistic Corridor- WRMP



Source: Peliyagoda Draft Development Plan, 2017



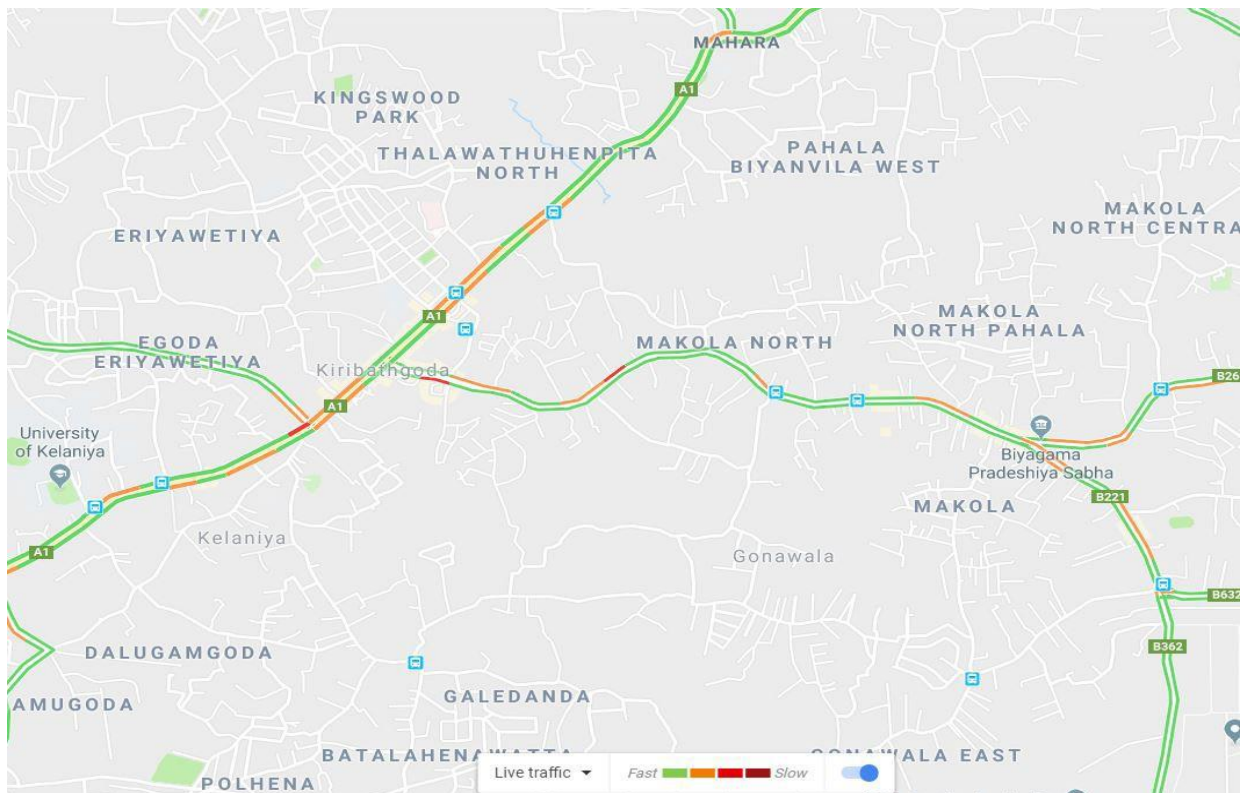


## THREATS | Goal 01

### 1. Main port access roads discouraging freight transportation (Traffic congestion in Kiribathgoda town center/ Peliyagoda 4th mile's post railway bridge restricts vehicles more than 3.5 m in height)

Samurduhi Mawatha and Colombo-Biyagama roads are main port access road corridors of the area. Port links with the average distance and time are major concern of locating and investing industries. But these two main port access corridors discourage the freight transportation due to the traffic and height restriction. Samurduhi mawatha via Kiribathgoda is the minimum distance road to the port, but Kiribathgoda town centre located within main inter-regional transport corridor that often occur huge traffic congestion. As per the following figure 5.16, around peak hours' average travel speed of the Kiribathgoda area is 10-15 km/h around peak hours.

Figure 5.15 Traffic Congestion-Kiribathgoda



Source: Google Maps, 2017

Figure 5.16 Height Restriction Area- 4th Mile's Post



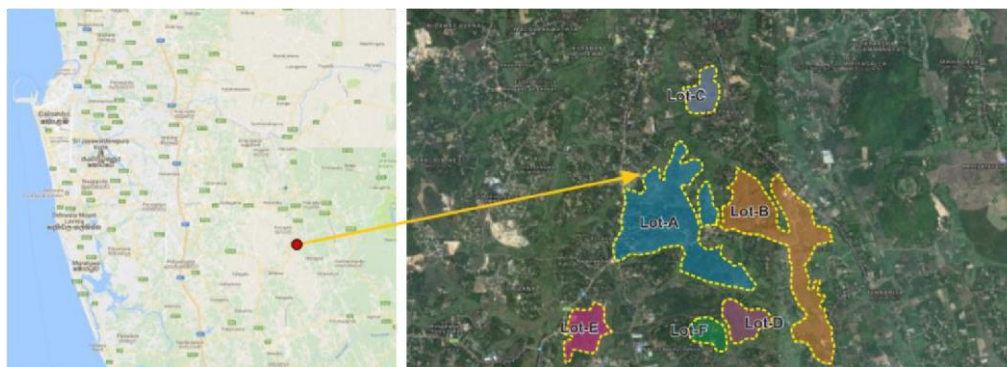
Source: Google Street View, 2017

Biyagama – Colombo road (B 214) is traffic free road corridor when compare to the Kandy corridor. But, the road where link to the Kandy corridor (4th mile's post) having a height restriction barrier due to the Kelani valley railway bridge as per the above figure 5.17. Container freight transportation restrict from that location. Therefore, should take turns to Waragoda road and Station road for link Kandy corridor to access the port.

## 2. Proposed Millawa industrial estate with 780 acres in Kaluthara district

At present, infrastructure facilities development in proposed Millawa industrial estate with 780 acres in Horana, Kaluthara district is supervising by the UDA. This newer industrial estate can be identified as a threat to attract large scale industrial investments to the Biyagama PS area due to the large land extents for proposed industrial investments and under the goal O1 related to the industrial economic needs.

Figure 5.17 Lands for industrial investments in Millawa Industrial estate



Source: UDA - Investment Potentials Summit, 2017

## Goal 02

Control the emergence of shocking city with negative environment and social scenarios



### STRENGTHS | Goal 02

1. **6% of the land use composition belongs to environmental features of Marsh/ Water bodies /Scrubs. (365 Ha)**
2. **13% of productive agro-wetlands act as natural buffer zones and water retention areas.**

Southern part of the Biyagama PS area consists with most environmental sensitive wetlands and tributaries that closely connected with Kelani river. The water retention capacity of these environmental features support to storm water management. Raggahawatta, Malwana - Sambawela, Pattiwila and Pahuru oya can be identified as tributaries and canals of the planning area, Kanduboda - Yatihena, Kottunna and Heladeniya tanks are water resources of the area. Existing environmental and agricultural features can be listed as follows according to the landuse composition. Green and Blue environmental features of the planning area display from the Annexure 04.

**Table 5.3 Green & Blue Spaces from Land use Composition**

Main Category	Sub Category	Area (Ha)	%
Environmental Features	Marsh / Water Bodies / Scrub	365.75	6
Agricultural Lands	Paddy	811.63	13
	Commercial crops (Coconut/Rubber)	265.38	4
	Other Plantation	295.35	5
Developed Lands	Residential	3470.29	58
	Industrial	385.84	7
	Commercial	87.41	2
	Public Utilities	113.71	2
	Road & Transport	224.88	3
<b>Total</b>		<b>6020.24</b>	<b>100%</b>

Source: Gampaha District Planning Team, 2021

13% of the land use indicates the 811.63 hectares of paddy lands and 523.4 hectares paddy lands are continuously cultivated as per the Agrarian statistics of Biyagama. These productive paddy lands support to environmental balance of the area and these agro wetlands make natural buffers for the residential neighborhoods and reduce conflict with industrial land uses.

**Figure 5.18 Yatihena Tank and surrounding paddy lands**



Source: Captured by - Udari Hettiarachchi, 2017/12/30

### 3. Availability of public and private open spaces of 11.7 ha.

Biyagama PS area having public and private open spaces that blends with the natural and built environment. According to the statistics, there are 18 playgrounds, 6 volley ball courts and two public parks of Siyabalape walking path, Al Mubarak children park at Malwana. There are two privately owned leisure parks: Water world and Rainbow paradise. Locations of public and private open spaces are displayed from the Annexure 27.

### 4. Availability of 08 minor flood protection structures.

Due to the connected waterways of the major water body of Kelani river there are minor flood protection structures that obtained by the Department of Irrigation and locations of those structures displayed in Annexure 28. As per the following table 5.4, availability of the minor flood protection structures reduces the flood vulnerability of the area.

**Table 5.4 Minor Flood Protection Structures of Biyagama PS area**

Location	Gate Type	Protected Area (Ha)
Yabalaruwa	Flap Gate	80.2
Kakulawala	Lifting Gate	75.3
Raggahawatta	Flap Gate	22.1
Pattiwila	Flap Gate/ Lifting Gate	111.4
Bollegala - Pelawatta	Flap Gate	8.5
Seethawala	Flap Gate	-

Source: JICA Planning Team, 2009



## WEAKNESSES | Goal 02

### 1. Present industrial establishments distributed close to sensitive wetlands.

Southern part of the Biyagama PS area consists with environmental sensitive wetlands and industrial clusters where most environment related problems occur such as low-lying lands filling, industrial solid waste dumping, waste water discharging. This context is displayed from the Annexure 29 and Annexure 30 displayed the result of analysis regarding the identification of critical wetlands within the planning area.

### 2. Biyagama sub basin recorded 73 of industries from the A, B, & C types of pollution potentials of respectively 14, 58 and 1.

According to the inventory of industries by Environmental Pollution Control Division and Research and Development Unit of the Central Environment Authority identified 4520 of total industries in Gampaha district that involved to the process of Environmental Protection Licenses and 10% or 418 of industries belongs to Biyagama PS area. Categorization of those industries under the A, B & C types of pollution potentials recorded as 113, 119 & 176 respectively.

Further, Natural resource profile of Kelani River, Biyagama sub basin recorded 73 of total of A, B, and C categories which contains 14, 58, and 1 pollution potentials respectively. As per their study, the sampling site at Raggahawatta receives contaminated industrial waste water from Biyagama Industrial Zone. The parameters frequently exceeded during the last three years are COD (36% times), BOD (7% times), Dissolved Oxygen (27% times) and Heavy metals (7% times).

This situations and incidents can be accepted due to the following research findings by different responsible institutions. The international journal of “Analysis of Variation of Water Quality in Kelani River, Sri Lanka” focused only seven sampling sites belong to Biyagama PS area at a stretch of 8 km along the Kelani River. These 07 samples tested with six parameters using the data measure the Water Quality Index (WQI) through mathematical model and concluded as below table 5.5.

The highest WQI (72.90) was reported near the Water Treatment Plant in Biyagama, while the lowest WQI (62.98) was achieved near the Water board pump in Ambathale. Water quality of five of the samples were in good quality range and the other two samples were in medium quality range.

**Table 5.5 Water Quality Index**

Parameter	Sample Site Locations						
	1 Close to Hela Clothing Factory	2 Close to Ambatale Water Treatment Plant	3 Pattiwila Area	4 Close to Kelani River Right Bank (BWTP)	5 Close to Kaduwela Highway Interchange	6 Close to Lion Brewery Factory	7 Malwana Area
Dissolved Oxygen (% sat)	19.63	19.91	34.47	41.45	36.61	27.47	29.77
pH Value	5.95	6.07	6.34	6.52	6.68	6.62	6.52
Turbidity -NTU	8.13	4.54	9.27	9.41	6.16	11.84	9.31
Temperature (° C)	28.32	28.28	28.44	28.36	26.14	27.96	26.66
Total Phosphate-mg/L	0.09	0.36	0.08	0.17	0.46	0.14	0.09
Nitrate(mg/L)	0.7	1.28	0.58	0.6	0.46	0.34	0.56
Water Quality Index	65.24	62.98	70.4	72.9	70.22	70.03	70.37

Source: Analysis of Variation of Water Quality in Kelani River, Sri Lanka – N.M.D.A. Abeysinghe, M.B Samarakoon, 2017

**3. 47% of abandoned paddy lands from the total paddy extent distributed southern part of the area.**

Most of paddy lands are abandoned which are distributed within the southern part of the Biyagama PS area. According to the statistics of the Biyagama Agrarian office, 455.91 ha of abandoned paddy lands from the total of 965.81 ha of total paddy extent and as a percentage it is 47%. From that abandoned paddy 306.08 ha lands (32% from the total paddy lands) identified as potential development promotion lands which can't use for any other productive agriculture. Therefore, it seems with the time productive agro - wetlands are reducing and this situation displaying from the Annexure 31.

#### 4. 1100 families recorded as encroachers of the Kelani river bank reservation and canal banks encroachments

According to the statistics of resource profile prepared by the Biyagama Divisional Secretariat recorded 1100 families within 15 m river reservation. Also 6.5m tributary reservations also encroached and these illegal constructions let to worst the flood impact. River reservation and canal banks encroachments mostly spread in Mabima, Bollegala, and Malwana areas.

Figure 5.19 Sambawela Canal Reservations Encroachments



Source: Captured by Udari Hettiarachchi, 2018/06/21

Figure 5.20 Kelani River Reservation Encroachments - Malwana

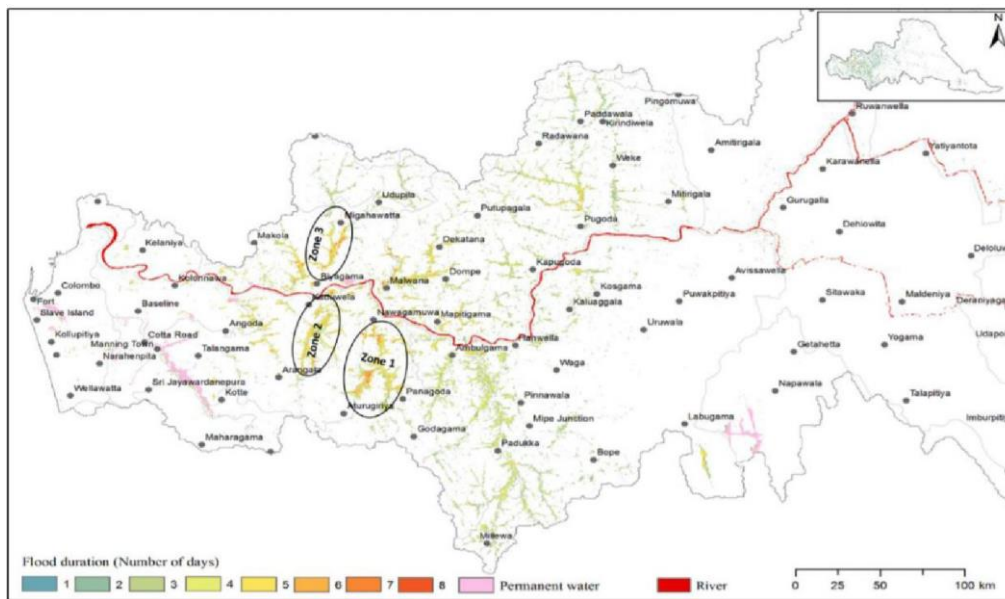


Source: Captured by Udari Hettiarachchi, 2018/06/21

5. Approximately 20,000 people affect to flood annually & inundation time period vary into 4 -7 days.

According to the statistics of flood affected population in year 2016 from field officer of Disasters in Biyagama Divisional Secretariat, recorded high impact for Malwana, Yabalaruwa, Bollegala, and Mabima compare to other GN divisions. In the 2016 flood event, inundation period varies into 4-7 days and day by day the affected area was changed. Kelani river seasonal flood caused to impact 20,000 of the livelihoods of the people and that impact to the industrial related activities also.

Figure 5.21 Flood duration (Number of days)



Source: Disaster Management Centre, 2016





## OPPORTUNITIES | Goal 02

### 1. National Manifesto Guidance through Eco Industrial Zones

Vistas of Prosperity and Splendour - Chapter VIII (Sustainable Environmental Policy) mentioned about the industrial sector that leads to a Green Economy by creating Eco Industrial Zones.

“The Linear Economy in which manufacturers produce goods using the existing raw materials and dispose of waste into the environment will be replaced with the Circular Economy in which waste in one industry can be used as raw material in another. (Re-use, Recycle, Re-purpose). This will create *eco-industrial zones and pave the way for a green economy.*”

Under the section of “Atmosphere” & “Bio Diversity” mentioned as follow,

“Guidelines will be provided to reduce and control carbon emissions and other forms of air pollution. *Industrial establishments will be encouraged to plant trees, establish urban forests, green paths, green roofs and agroforestry systems.*”

“Measures will be taken to increase national forest cover by establishing parks in urban and semi-urban areas, developing urban vegetation by establishing tree lines along express ways and *implementing tree planting programmes in industrial premises.*” (Page 62 - 64)

Figure 5.22 Industries - National Manifesto Guidance

#### Chapter - 8

### A Sustainable Environmental Policy

**The breakdown of the balance in the environment by artificially modifying or adversely affecting the biosphere is considered a form of environmental pollution. Sustainable Environmental Policy is not just about environmental conservation, but also implementing balanced social and economic practices towards sustainable development.**

#### Land

Land should be used solely for the benefit of the people in Sri Lanka. In order to do that it is important to re-activate the National Physical Plan. It is important to introduce scientific methods to improve sustainable agriculture, animal husbandry and plantation agriculture to achieve maximum financial gains while reducing the impact on the environment

#### Industries

The Linear Economy in which manufacturers produce goods using the existing raw materials and dispose of waste into the environment will be replaced with the Circular Economy in which waste in one industry can be used as raw material in another. ( Re-use, Re-cycle, Re-purpose). This will create eco-industrial zones and pave the way for a green economy.

#### Waste Management

The first step in the waste management process will be to make people aware that waste is their own creation. Necessary action will be taken to minimize waste generation. Sustainable consumption concepts will be introduced from a person's childhood.

Source: Sri Lanka Podujana Peramuna Manifesto - English,2019

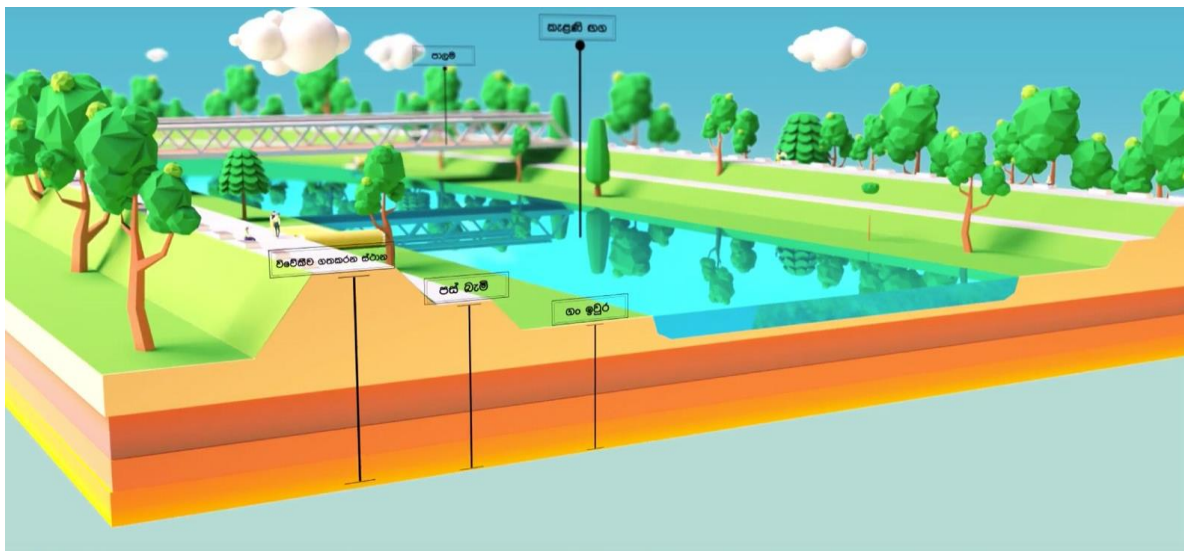
## 2. Western Regional Structure Plan of 2030 identified an eco-conservation zone of 100m buffer along Kelani river

Proposed eco-conservation zone of 100m buffer which has been identified in the Western Region Structure Plan-2030 could be an opportunity for environment sense to the area. This qualitative development will help to reduce the adverse impacts on the Kelani river as well as a good opportunity to reduce the flood impacts. Kelani river considered as the administrative boundary of the Gampaha & Colombo districts and this project will be a great opportunity for creating water front related public open spaces and investments for special development projects.

## 3. Upcoming flood mitigation projects of CRIP –DBIP

Climate Resilient Improvement Project under the World Bank funds by the Irrigation Department proposed flood mitigation wall from Kelani river mouth upto Hanwella. With this wall, flood impact from the Kelani river will be mitigate and that will be an added opportunity for physical developments of the area. As well as this project considered the tributaries of Kelani river, Malwana and Raggahawatta canals also included to that.

Figure 5.23 Proposed Cross Section of Flood Mitigation Wall



Source: Protection of Kelani River Basin from Flood- Video Clip - CRIP, 2018

#### 4. Regulations related environment protection

Sri Lanka Land Reclamation & Development (No 1662/17 -2010 July 14 –Part I: Section I)

Sri Lanka Land Reclamation & Development Corporation act, no 15 of 1968, As amended by act No.27 of 1976, No 52 of 1982 & Sri Lanka Land Reclamation & Development Corporation (amended) act, No.35 of 2006.

“Surface width of the canal & reservations from the canal banks are declared under this act & any sort of building or filling shall not be done according to the law.”

Kelani River -15m Reservation / Raggahawatta & Malwana Streams – 6.5 m Reservations

- 1979 No 58 Agrarian Services Act
- Under the No 62 Sentence - Not be allowed filling paddy lands without permission from the Agrarian Services Commissioner
- Under No 12.4 Sentence - Can be stopped development activities performed on paddy lands if regulations are violated according the zoning plan.

#### 5. Current Industrial Policy & Sustainable Approach

BOI industrial enterprises lead in establishing green factories with sustainable approach. By this approach BOI creating a new image for industrial productions will be harmonize the environment. From each of the BOI zones a land area had been allocated to tree planting with the idea of creating a forest within the zone. This will be an opportunity to minimize the negative scenarios to environment through industrial development.

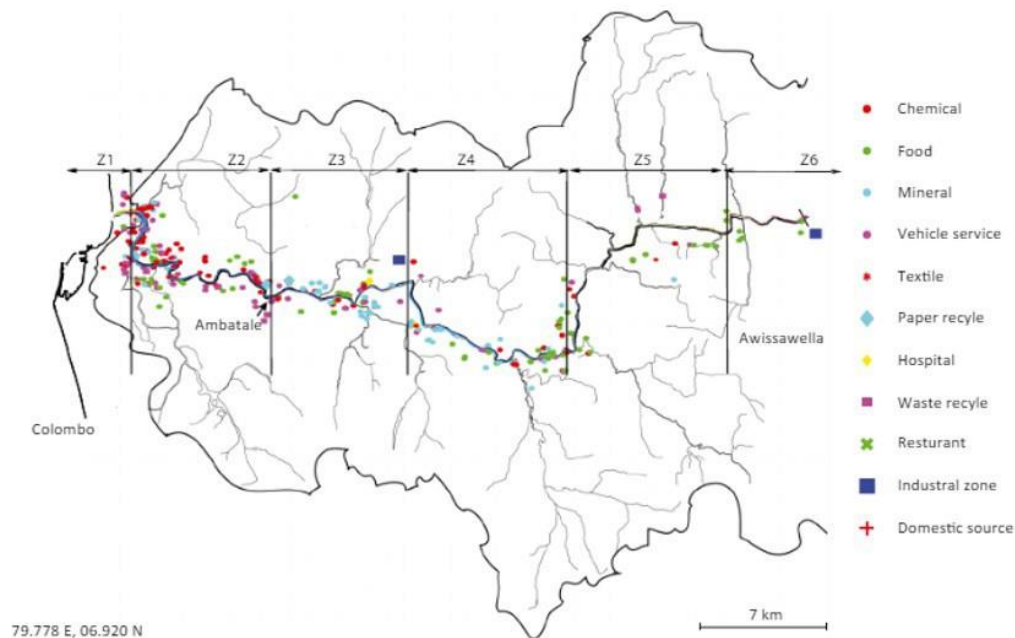


## THREATS | Goal 02

### 1. 2842 industries are recorded with different pollution potentials in Kelani river basin

According to the Natural Resource Profile of Kelani River, about 2,842 industries are recorded in the CEA database with different pollution potentials (Type A, B and C). The 2,842 industries are divided into 862 (30%); 1,220 (43%); and 760 (27%). Also the research of Industrial pollution and the management of river water quality: A Model of Kelani River, Sri Lanka has also identified the spatial distribution of point sources of daily wastewater discharge and pollution loads. With these findings, there will be a threat to control the emergence of shocking city.

Figure 5.24 Spatial Distribution of Point sources and demarcation of zones - Kelani River Basin



Source: Asha Gunawardena & Research Team, 2017



# 06

Chapter

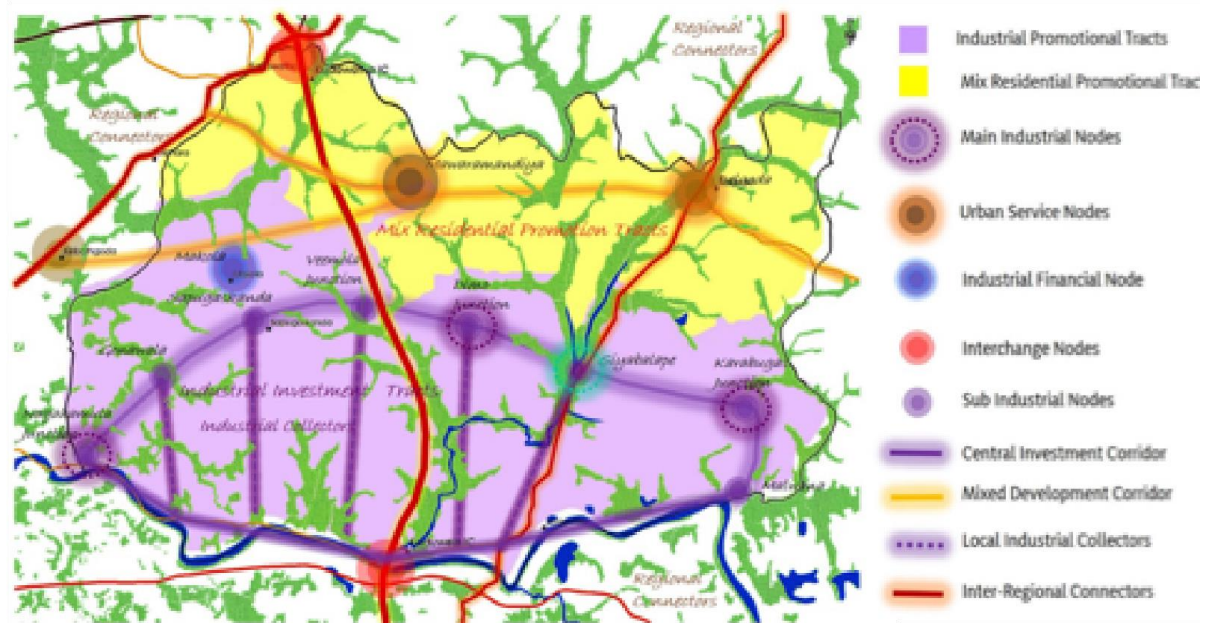
The Plan



## Chapter 06 The Plan

### 6.1 Concept Plan

Figure 6.1 Concept Plan



Source: Gampaha District Planning Team, 2021

The Proposed future vision depicts the spatial changes of the area through a conceptual design to develop Biyagama as Tranquilized Industrial City of affiliated green wetland network. It is primarily linked to the "Central Investment Corridor" that is integrated with all industrial utilities and services and industrial promotional tracts are expected to be developed along the southern border of the region, and the northern part of it as a mixed residential zone.

The main industrial promotional tracts get the access with Biyagama - Colombo Road via Peliyagoda and the lands which have been proposed for industrial development will open up for investments by development of local road network of the area.

Industrial promotional tracts of afflicted greenery wetlands getting the main access from the two main industrial nodes namely, Nagahamula & Karabugas junctions and sub industrial nodes that connects to the proposed central investment corridor. This fulfils the accessibility factor related to industrial investments with improved infrastructure facilities. Outer Circular Highway and interchanges within the planning area and in between location of inter-regional transport corridors will be an added advantage to promote Biyagama as a well-connected industrial city.

One of the main ideas of vision is to promote sustainable industrial development by maintaining the highly sensitive agro wetland network of the area which highly contributes to manage the flood situations, urban heat control and natural aesthetics. In that context, Siyambalape junction and the surrounding area will be a wetland integrated development zone that facilitates for public greenery spaces.

The northern part of the area promoting mixed residential development with four major zones and facilitate for nodal development projects including urban services. High dense residential promotion areas and the high development pressure areas will be protected through the promotion of open wetland parks where having the major consideration of the sensitive wetland network.

As per the conceptual plan, there will be sub town centres that provide urban and industrial services and commonly the upper part of the planning area will be promote the residential mixed commercial development. The lower part of the planning boundary will be guided to the sustainable industrial development with handing hand the protection of sensitive green wetland network and this will lead to achieve the future vision of Biyagama, The Tranquilized Industrial City.

## 6.2 Proposed Land use Plan

Proposed Land use plan displayed the composite image of future Tranquilized Industrial City with the proposed strategic projects under the different sectoral plans of industrial economic, environmental and infrastructure development strategies.

The entire land use plan is divided into two main parts: industrial and mixed residential. Southern part of the planning boundary promotes the horizontal development with two industrial zones that integrating the unique green wetland network of the area. Under this Samurdhi Mawatha & Gonawala road will be the Central Investment Corridor which agglomerate the industrial related utilities and services. This will greatly enhance the utilization of industrial lands of the southern part of Biyagama PS area. Nagahamula and Karabugas junctions will be the main industrial nodes of the area and improved internal road network let the open lands for industrial investments.

**Figure 6.2 Proposed Urban Structure - Cross Section I**



Source: Gampaha District Planning Team, 2021







## 6.3 Infrastructure Development Strategies

### 6.3.1. Service Management Plan

Under the Service Plan, it is discussed about the availability and proposed social and physical infrastructure and relevant analysis that have done for the social infrastructure such as housing, service centres, education, health services, public market service and public recreational activities. Under the physical infrastructure, it is discussed the transport, water supply, electricity supply, road development, sewerage & drainage systems, solid waste management and other facilities.

#### 6.3.1.1. Proposed Housing Density & Distribution Plan

Population forecast for the year 2030 has been carried out in three main ways. The expected future vision as well as the tendency of population increase in Biyagama PS area in terms of national, regional and local levels has been identified. According to the National Physical Plan, the Biyagama PS area belongs to the East-West Economic Corridor and that expected to increase the population by 20% - 25% in 2050. Under this, the expected population density of Biyagama PS area will be 3001-6000 persons per sq. km. According to the National Physical Plan, if population increase at a highest density as 6000 persons per sq.km., the forecasted population by 2050 will be 360,000.

The proposed Western Region Structure Plan - 2030, Biyagama PS area is coming under the Core area of Metro Colombo Region and that region identified as high-density development promotional area. As per the Urban Development Plan, Biyagama is expected to developed as an industrial city and thereby the area will attract the residential and commuting population will be increase due to employment opportunities.

Under these scenarios, the forecasted population and housing density and distribution of the area will be changed according to the zones as well as the promotional uses stipulate for such zones.

### 6.3.1.1. Part A – Forecasted Population & Population Density

**Table 6.1 Forecasted Population & Population Density**

Assumptions of Population Growth	Growth Rate	2011	2021	2030	Proposed Population Density Range by NPP (Sq.km per Person)	Forecasted Population Density under the Assumed Growth Rates (Sq. km per Person)
Natural Growth Rate	1.4%	186,585	212,789	246,243	3000-6000	4090
Average Growth Rate	1.6%			254,589		4129
Growth rate according to Clusters				251,504		4178
Residential						
Clusters Industrial Clusters	1.8% 1.3%					
Population distribution based on the proposed zoning plan	Growth rate assumed according to the promotional use of the zone			246,137		4088

Source: Gampaha District Planning Team, 2021

As per the above table 6.1, the predicted population and its associated housing density distributed according to the density zones mainly based on the future vision of the development plan, results of environmental analysis and the developmental perceptions. The population growth rates have been considered based on the assumptions of the promotional use of proposed density zones. Annexure 32 describes the distribution of forecasted population by GN division and density zone wise with the related assumptions.

Based on these calculations, the expected residential population of the Biyagama PS area is 246,137. Considering the standard of minimum number of householders in a family, the housing distribution and housing density are calculated according to the zone wise and following table 6.2 describes the same. And the Annexure 33 displays the proposed population density by GN wise.

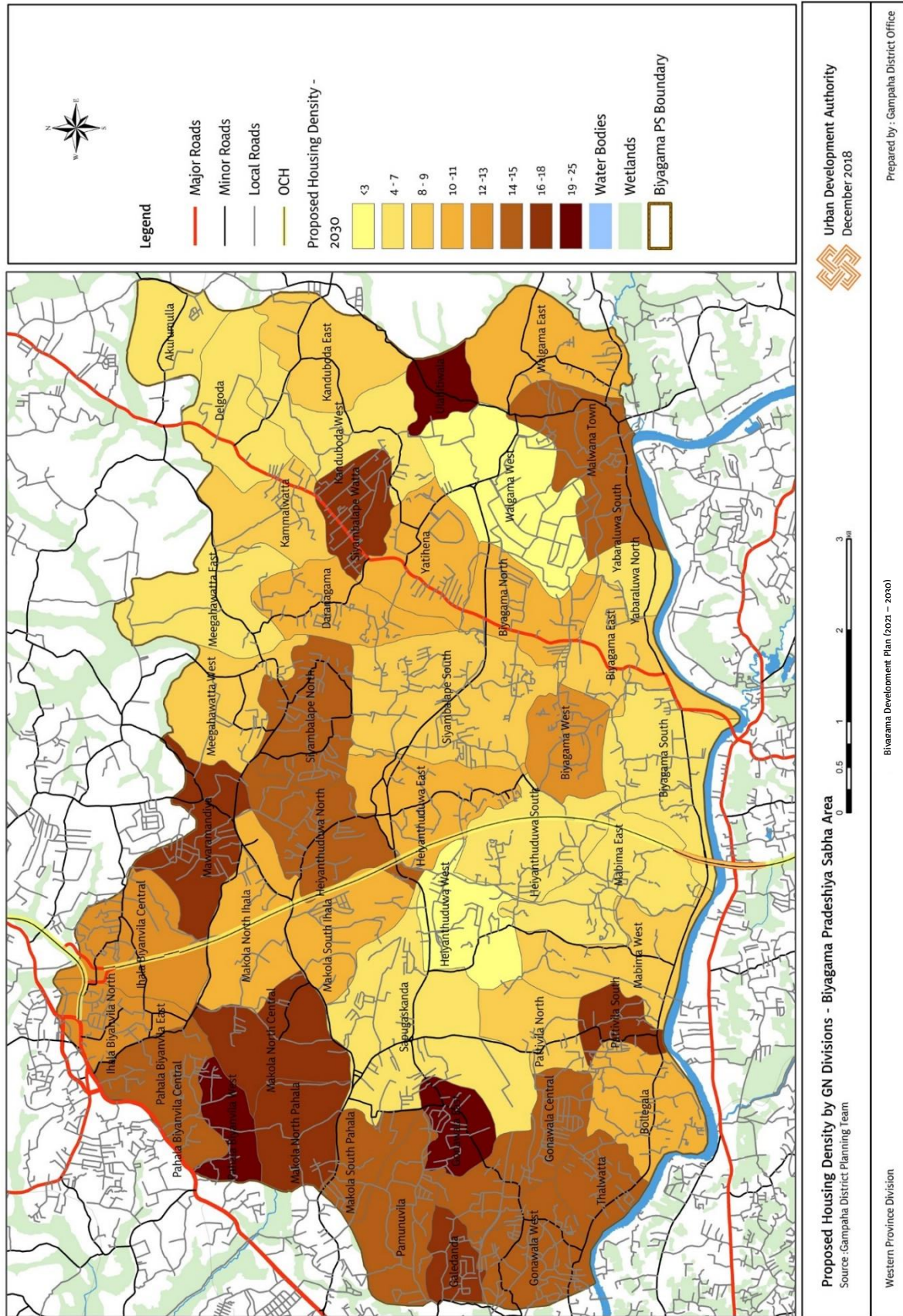
### 6.3.1.1. Zone Wise Population, Population Density & Housing units

Table 6.2 Zone Wise Population, Population Density & Housing units

Zone	Proposed Name	Extent (Ha)	Forecast Population -2030	Proposed Population Density – 2030 (Persons per Ha)	Proposed Housing Units
Zone I	High Dense Urban Transit Zone	419.12	23940	57	5985
Zone II	High Dense Commercial Zone	455.69	25145	55	6286
Zone III	High Dense Urban Service Zone	805.05	38766	48	9692
Zone IV	Moderate Dense Industrial Zone -I	1378.69	52908	29	13227
Zone V	Moderate Dense Industrial Zone -II	1309.52	38495	38	9624
Zone VI	Moderate Dense Urban Service Zone	946.82	29489	31	7372
Zone VII	Moderate Dense Local Business Zone	318.55	17567	55	4392
Zone VIII	Low Dense Special Development Zone	398.31	19827	28	4957
			246,137		61,535

Source: Gampaha District Planning Team, 2021

Map 6.2 : Proposed Housing Density



Prepared By: Gampaha District Office, WP-UDA, 2021

### **6.3.1.1. Part C - Proposed Hostel Facility for Temporary Occupants**

In addition to the residential population, it is expected to provide accommodation facilities for temporary occupants who will attract to the area based on the industries will also be discussed under the housing plan. For this, a research hypothesis based on the employees of the Biyagama Export Processing Zone has been used.

According to the research report, 25% of those employed in the Export Processing Zone are temporary occupants from outside the region and 75% of the population are daily commuters who are living at a distance of 5-10 km. Therefore, based on these implied assumptions, temporary occupants in the Biyagama area of the future have been calculated. The expected total number of industrial workers is 308,356, of which 25% that is 77,089 are temporary occupants. By now there are two hostels managed by the Biyagama Export Processing Zone and there is a need to provide new hostel facilities for the future increasing community.

People of the area earn more income by providing accommodation facilities and there is a tendency of increasing line houses in the future due to the growth of new industrial enterprises and increasing temporary occupants. It is environmentally and socially negative due to the expectation of control the emergence of shocking city. This fact leads to develop required hostel facilities in a regular manner and mix residential zones that closer to the industrial promotional zones will be encourages to hostel facilities developments.

### **6.3.1.2. Proposed Urban Service Centers Priority Plan**

Identification of urban service centers of the Biyagama area based on the Connectivity Analysis which has been done considering the major town centers, sub town centers and local nodes. Similarly, absence of a main town center (CBD) as well as a unique node based spatial setting including sub centers and junctions along with the identified industrial zones have been proved through the Gephi-Network analysis and modularity class feature.

Existing towns, sub towns and junctions considered in accordance with the priority levels and derived priority urban service centers which will be facilitated for residential and commuting population through the intervention of strategic projects. Proposed Urban Service Centers Priority Plan will discuss the objective of “To facilitate 3 multi-nodal neighborhood clusters” under the goal of Create multifaceted clusters while promoting unified industrial economic needs.

For the preparation of Density zoning, Development Pressure Index and Environmental Sensitivity Index has been considered. Also based on the promotional uses of the zones, it has been identified three mix residential promotion zones and one commercial development promotion zone. The high priority urban service centres have been identified through the analysis related to the superimposed image of the potential index, industrial density, cluster analysis, critical wetlands and livability index. Accordingly, existing town centers classified with priority levels and Annexure 34 indicates those node hierarchies.

Based on this prioritization and the concept and density zoning plan, from Kadawatha to Mawaramandiya stretch will be develop as a high dense zone with mix residential uses. Nodal development with urban services of the Mawaramandiya town center will be cater to the expected high population for the area. Delgoda town center will be second priority node and it will cater to the population of Moderate Dense Urban Service Zone with a nodal development. From the SWOT analysis, it is identified that a prime land of the Delgoda town center has been used for solid waste sorting purposes and further, bus stand is also not combined with the urban services. Therefore, through the strategic project it is expected to develop Delgoda town center. As well as Makola “Y” Junction expected to develop as second priority node with integrating the strategic project of nodal development by extracting the advantage of commercial strip form Kiribathgoda area.

**Table 6.3 : Hierarchy of Urban Centers by Priority Levels**

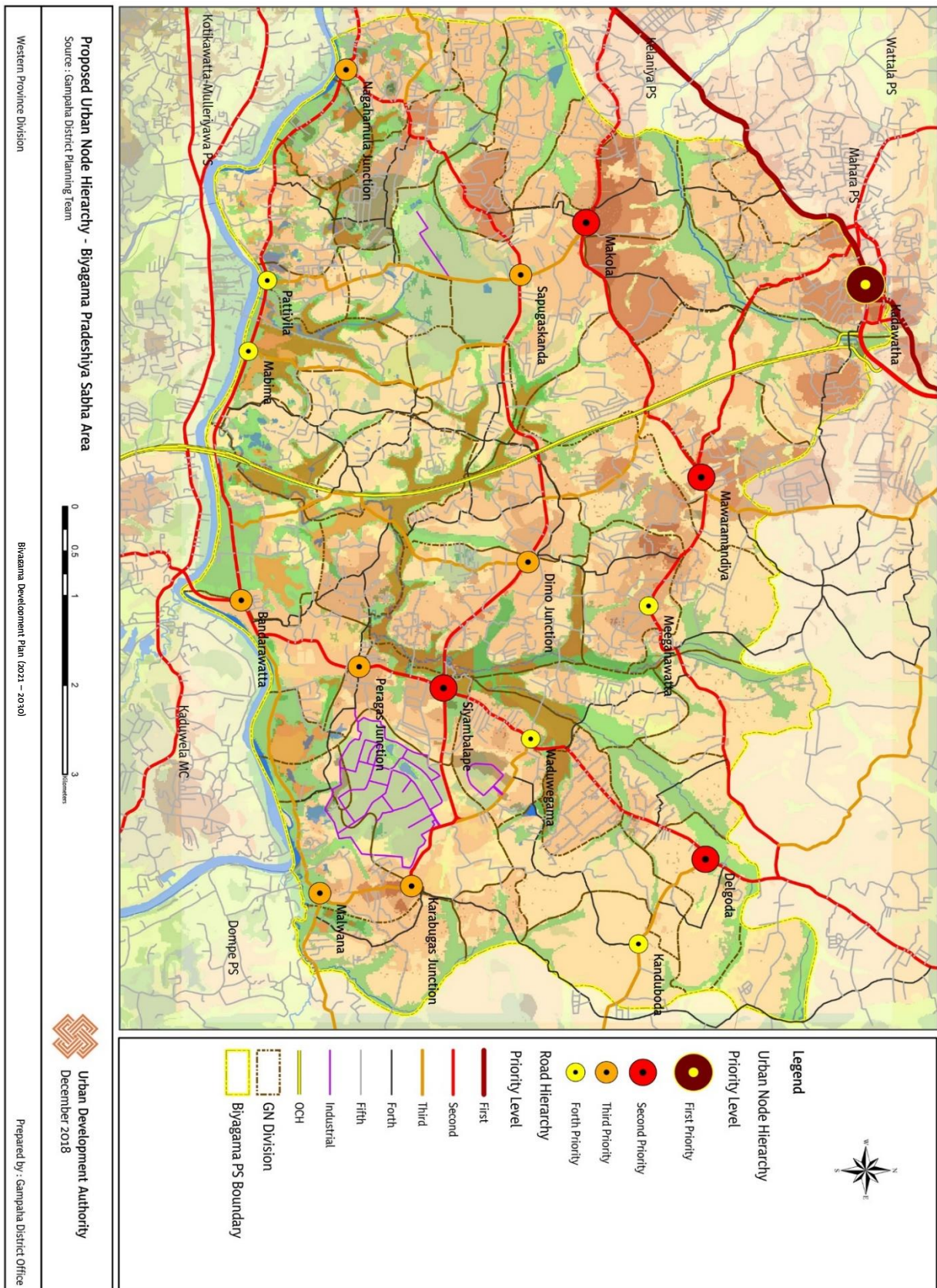
Town Center / Junction	Priority level
Kadawatha	First Priority
Mawaramandiya	Second Priority
Makola	
Delgoda	
Siyambalape	
Nagahamula	Third Priority
Karabugas Junction	
Dimo Junction	
Sapugaskanda	
Malwana	
Peragas Junction	
Mabima	Fourth Priority
Pattiwila	
Bandarawaththa	
Kanduboda	
Meegahawaththa	
Waduwegama	

Source : Gampaha District Planning Team, 2021

Above mentioned table 6.3 & the Map of 6.3 indicates the hierarchy of urban centers by priority levels in Biyagama PS area.



Map 6.3 : Hierarchy of Urban Centers by Priority Levels



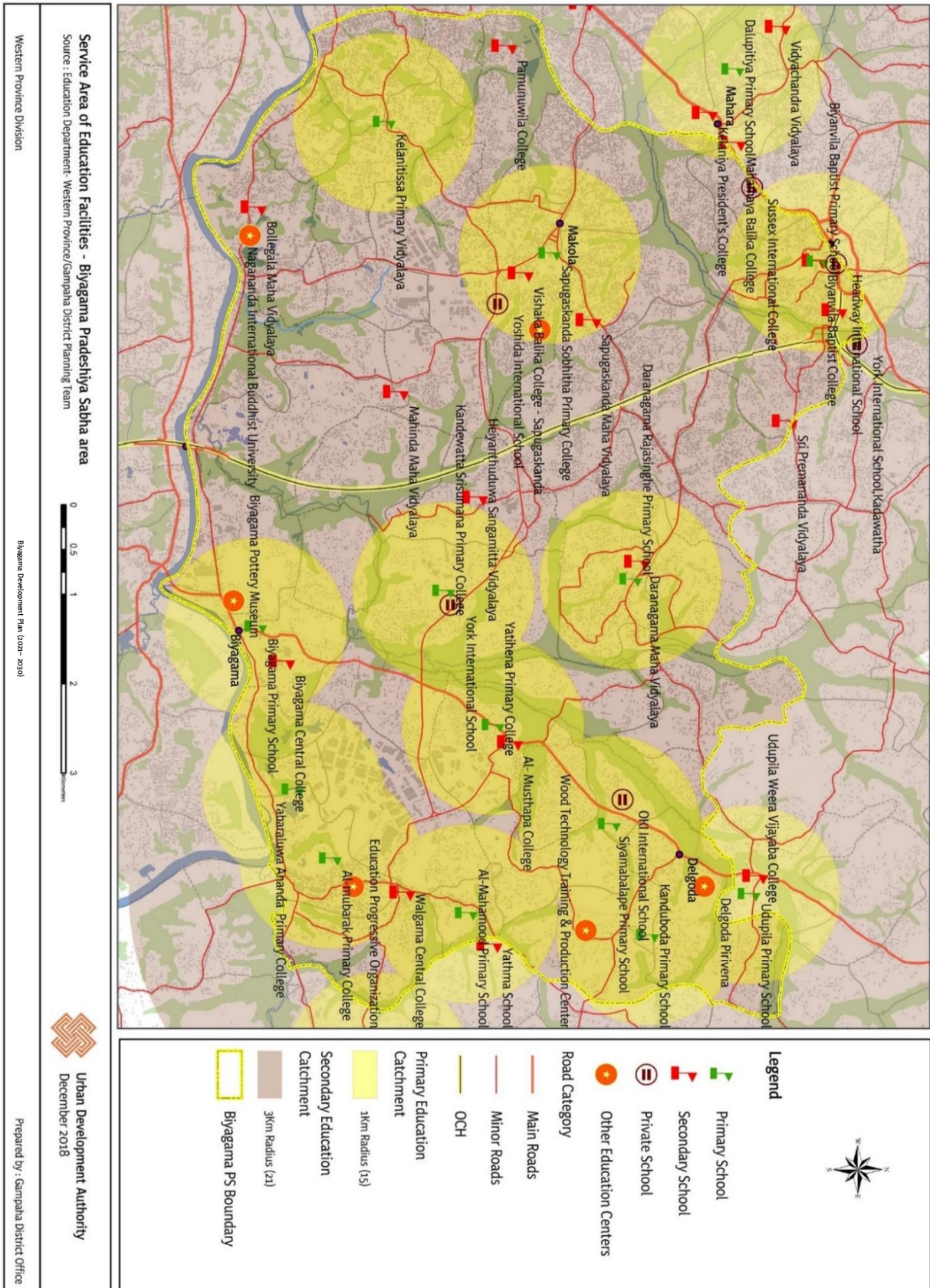
### 6.3.1.3. Education Services

According to the facilities related to the education sector in the Biyagama PS area, there are 27 of National and Provincial schools within planning area. Administrative activities of all these schools are handled by the Kelaniya Zonal Education Division. There are 25 mixed schools and 2 girl schools, but there are no boy schools. Based on the medium of study, there are 20 Sinhala medium schools, 3 Tamil medium schools, 1 English medium school. In addition, there are well known international schools in the area at present.

130 early childhood development centers have already been registered at the Biyagama PS limits and it is clear that the present and future requirements have already been fulfilled in the area according to the international standard as one center for 2500 persons of the resident population. In Biyagama PS area, the number of children for primary education per year is around 1762 and availability of primary schools to cater this requirement can be identified as optimum level based on the service area analysis of primary schools. The analysis covers a service area of a primary school as one-kilometer radius.

The service area analysis of secondary schools used the three-kilometer radius and the result implies the secondary education facilities are also in optimum level and can be facilitate to the whole Biyagama PS area. The current population of the Biyagama PS area recorded as 192,022 while the school education population has recorded as 23,788. It is a percentage of 12% of the residential population of the area and by 2030, the expected school education population will be 29,700. As per the following Map 6.4, available primary and secondary educational facilities are at an optimum level for current and future requirement of the Biyagama PS area under prevailing primary and secondary educational facilities and their service areas.

Map 6.4 : Service Area of Existing Education Facilities



#### 6.3.1.4. Health Facilities

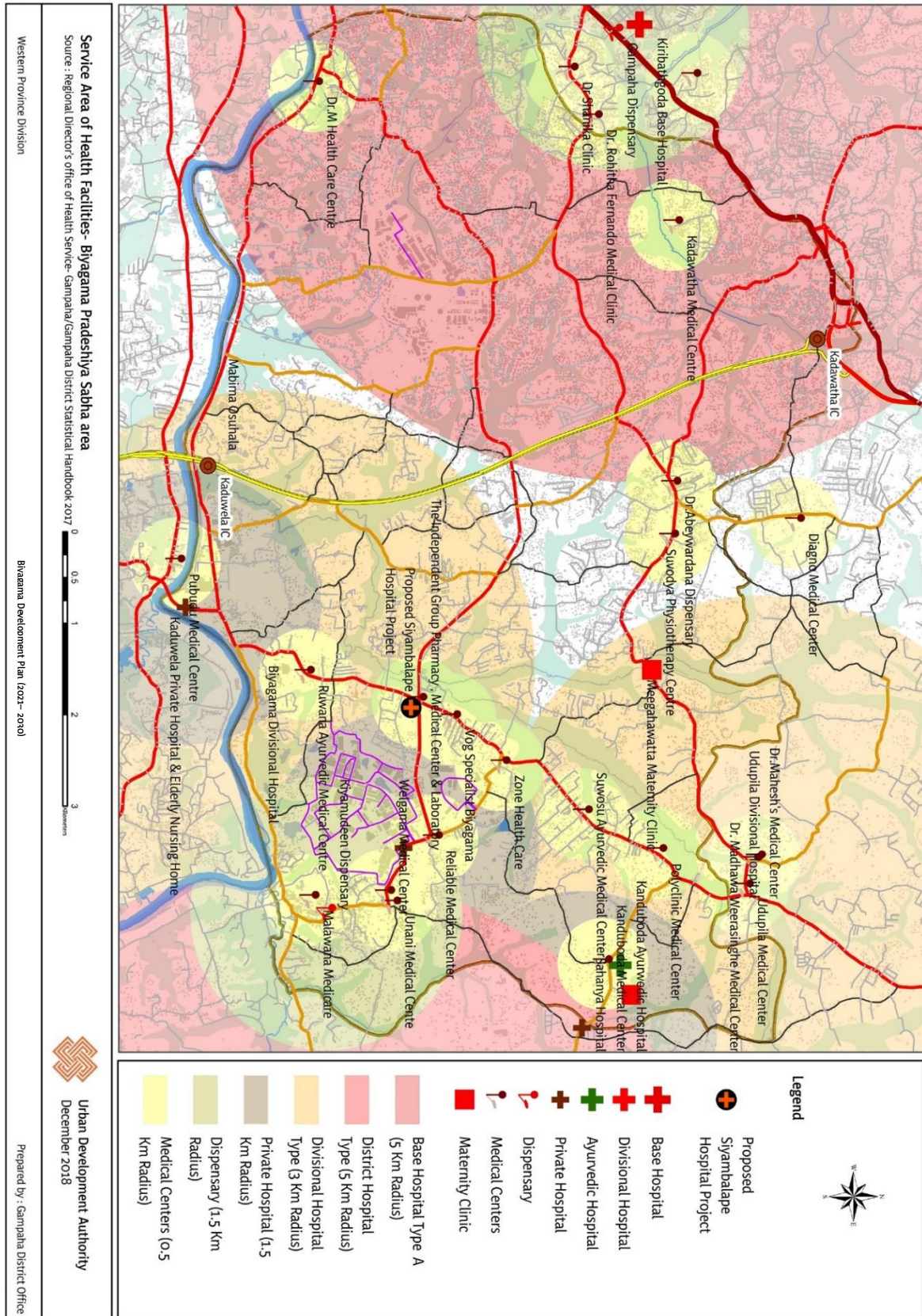
According to the existing health facilities of the Biyagama PS area, Biyagama Divisional Hospital is coming under the “Type C” in the Divisional hospital’s categorization. There are 3 wards and 30 beds capacity. According to the statistical data of the Regional Director’s Office of Health Service, Biyagama Divisional Hospital has been provided health services for 99,263 outdoor patients and 7,672 indoor patients during the past year.

Malawana Central Dispensary and Medical Officer of Health (MOH) are other public health related institutions that located within Biyagama. The Biyagama Medical Officer of Health (MOH) covers the service of maternal and infant clinics at Biyagama, Heiyanthuduwa, Mawaramandiya, Gonawala, Makola, Free Trade Zone, Pahala Biyanwila, Kanduboda and Walgama areas. Moreover, at present small-scale private hospitals are growing and private medical centres are located within small neighborhoods of the area. Even the location of Udupila Divisional Hospital beyond the Biyagama PS area, that also cater to the population of Biyagama PS area.

Considering the major facts like, Biyagama as the second largest employment-based EPZ, distribution of manufacturing plants and the employed commuting population consolidates that only the small-scale divisional hospital is not sufficient to bear the health service requirement. It is necessary to have a hospital with well improved health facilities due to the future vision of Biyagama as an industrial city, where there will be industrial hazards and accidents. Existing Biyagama Divisional Hospital also identified to upgrade with modern health facilities. The following Map 6.5 displays the service area analysis of the existing and proposed health facilities of Biyagama PS area.

Considering the Ayurveda treatment, the Kanduboda Ayurvedic Hospital in the Biyagama PS area has provided services to 235 indoor patients and 3070 outdoor patients in the past year and the Provincial Ayurveda Department has confirmed this as a hospital with 2 wards and 22 bed capacity hospital. Biyagama is popular for traditional medicine and Makola Sapugaskanda, Delgoda, Biyagama Malwana and the Mabima U.C.C. Ayurveda treatments are famous examples.

Map 6.5: Service Area of Health Facilities

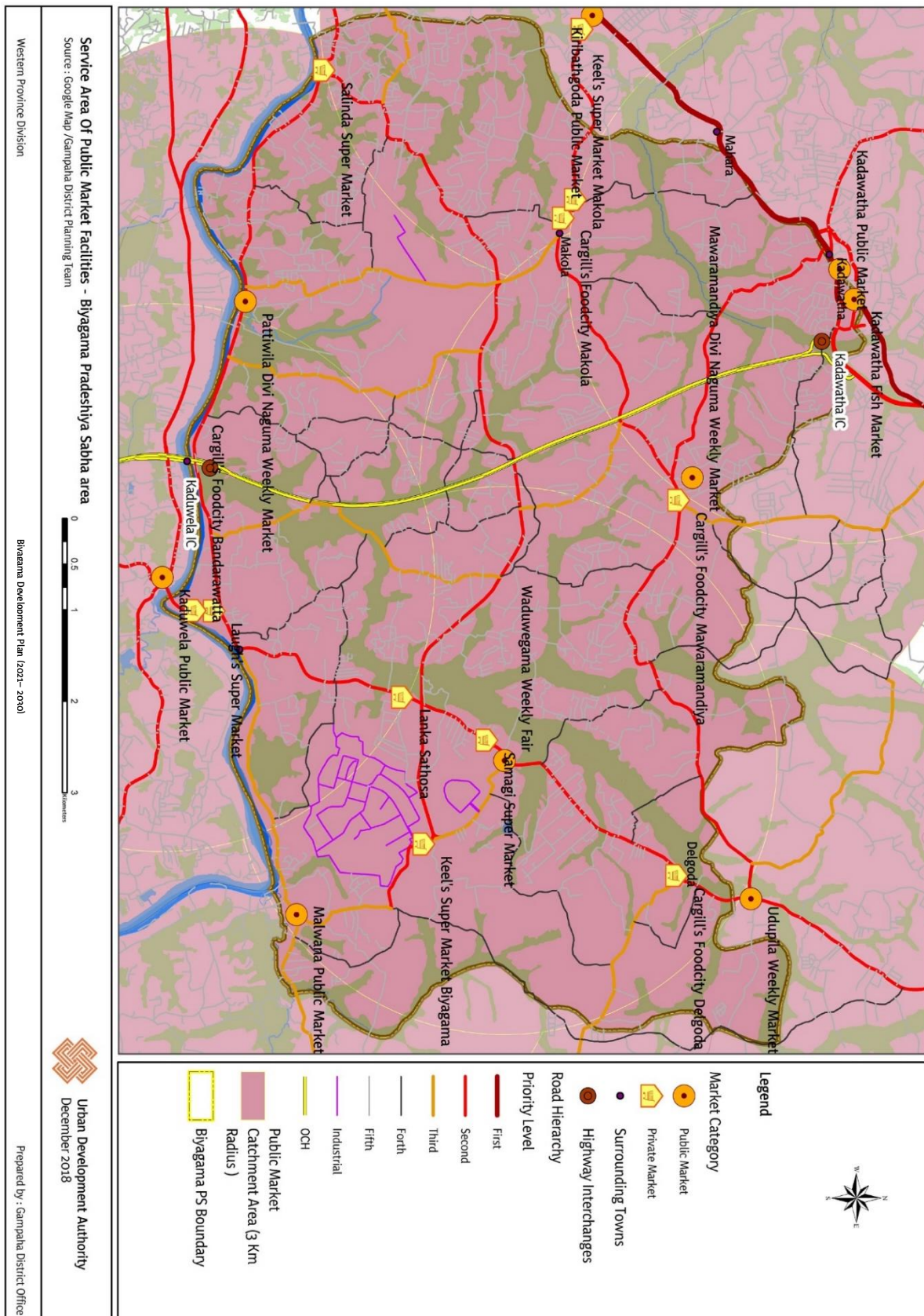


### **6.3.1.5. Public Market Facilities**

Analysis of the public market facilities and the service areas has proved that the Biyagama PS area is presently at an optimum level in relation to the above requirements. Weekly fairs in Kadawatha, Pattiwila, Mawaramandiya, Malwana and Waduwegama can be identified as public markets belongs to the Biyagama PS area. The functional boundary of the area is beyond the administrative limits and that cause to becoming Biyagama residential population into the thresholds of the outer area public markets like Udupila, Kaduwela and Kiribathgoda that are located very closer to Biyagama PS area.

In addition, there are private super markets and service area analysis proved that Biyagama PS area is at an optimum level regarding the availability of existing public market facilities. In that sense, it is a positive fact for cater the current and expected population in the future and following Map 6.6 indicated the service area coverage of public markets within Biyagama PS area.

Map 6.6 : Service Area of Public Market Facilities



### **6.3.1.6. Proposed Open Spaces & Recreation Facilities**

#### **Part A – Public Playgrounds & Recreational Parks**

In the context of public open spaces & recreation facilities, as per the following Map 6.7 displayed the service area analysis of the public playgrounds and recreational parks of the Biyagama PS area. The analysis considered 1.6 Km radius for existing public playgrounds and recreational parks and that figure out the minimum level of facilities compare to the current population.

Malwana Al-Mubarak Kid's Park & Siyambalape walking path belongs to Biyagama PS area and those are under the existing public and recreational parks of the area. Kiribathgoda - Mahara walking path & recently built Suwatha uyana are located beyond the Biyagama PS boundary, but part of the Biyagama PS area included its service area also. There are two private children & recreational parks, namely Kanduboda Rainbow Paradise and Bollegala Water World. For the sport facilities, there is a private owned institution at Siyambalape Panda Multi Sport Arena. Also, private fitness centers are spreading all over the area.

#### **Part B – Public Libraries**

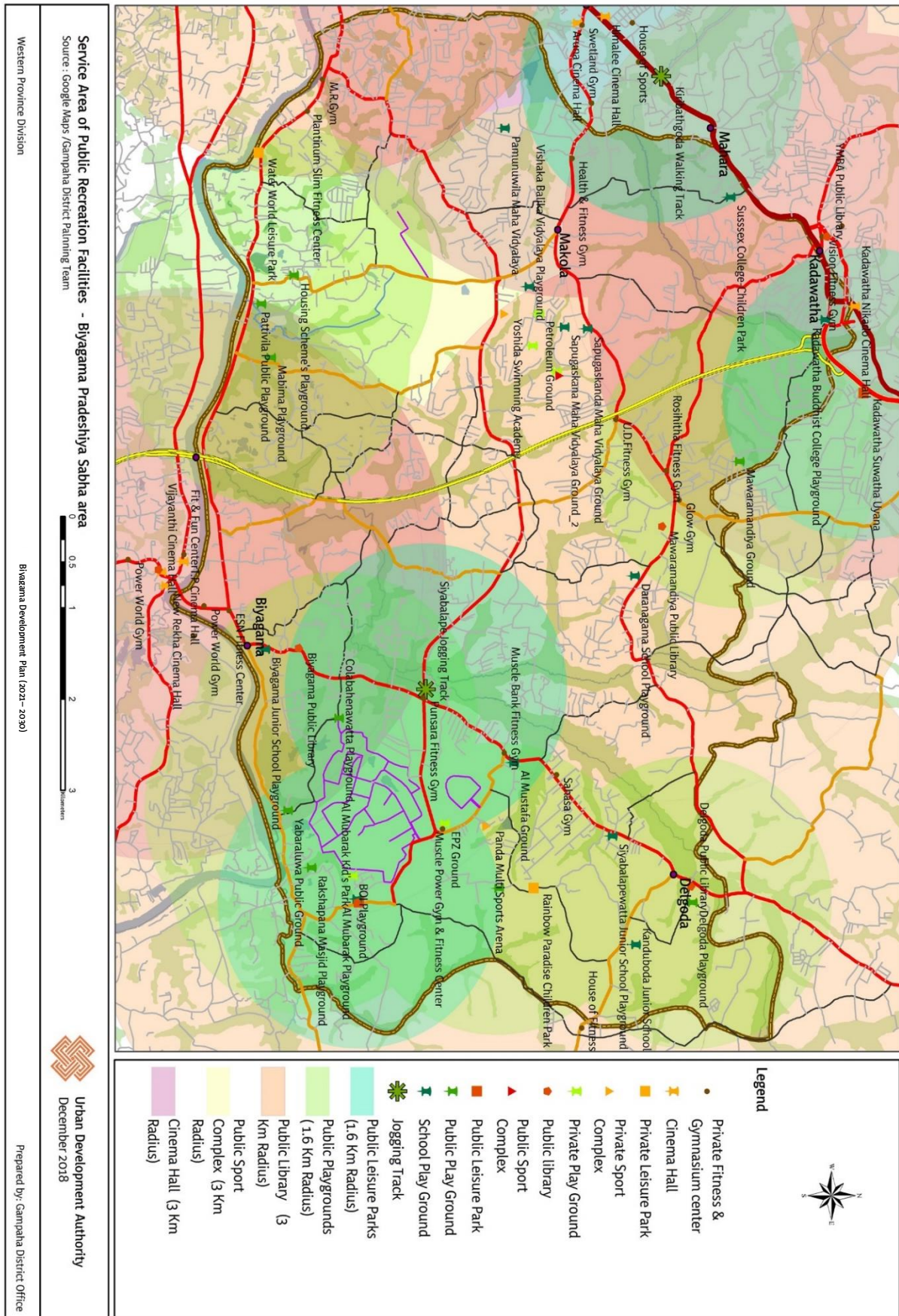
Considering the public library facilities of the Biyagama PS, there are four public libraries, namely Mawaramandiya, Delgoda, Malwana and Biyagama. Service area of the public library considered as the 3 km radius and the results of the analysis displayed 90% of the total area covered by the public libraries service area. Most of these libraries are located in the areas with more residential population. When consider the present and future requirements, it is proved that public library facilities are at an optimum level.

#### **Part C – Cinema Halls & Theatres**

Part of the Kadawatha town center belongs to the Biyagama administrative boundary and if Kadawatha considered as main urban node, the two cinema halls located in the Kadawatha town comprised into Biyagama PS area. As well as Kiribathgoda & Kaduwela town centers also located close proximity to the Biyagama administrative boundary and the cinema halls located within these towns also captured the threshold population from Biyagama PS area also. Based on this context, the proposed high-density development promotion emphasized the need of open spaces & recreation facilities in order to cater the expected population for these zones.



Map 6.7: Service Area of Open Spaces & Recreation Facilities

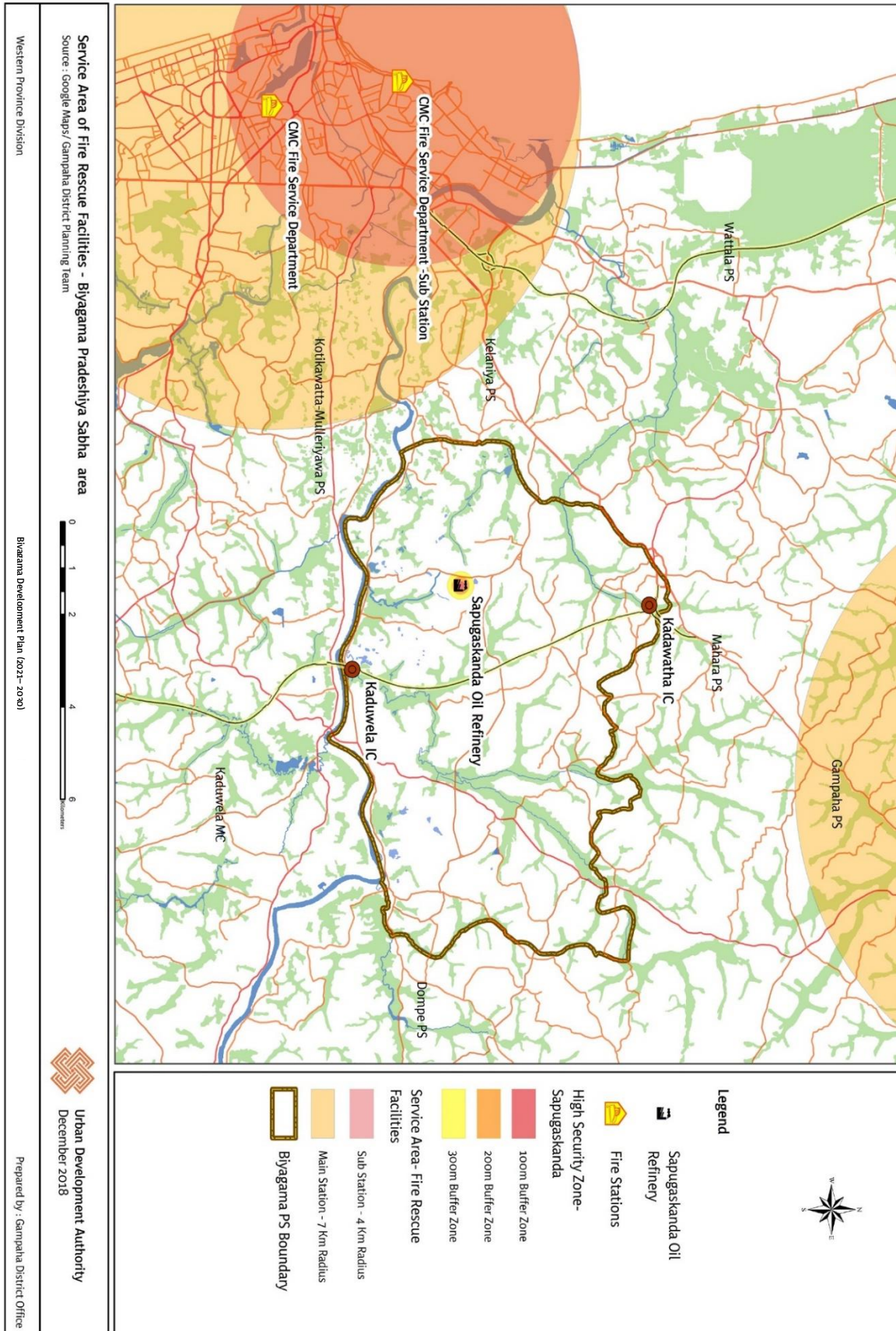


### **6.3.1.7. Proposed Accident & Fire Rescue Facilities**

Future vision of the Biyagama Development plan directed to an industrial city that promote industrial development and industrial cities essentially considered the location of accident and fire rescue units under the service plan. In this section describes the proposed accident and fire rescue facilities and the service area analysis of the Biyagama & surroundings. Since the Sapugaskanda Oil Refinery is located within Biyagama PS area, the Emergency Storage (Emergency Storage Zone) has been introduced according to the Public Security Ordinance No. 1499/24 of 30 May 2017. These legal conditions are described in the annexure 35. The land of the Sapugaskanda Oil Refinery has been ordered to provide public security under the three zones of 100m to 300m as a High Security Zone.

At present, Biyagama EPZ with 57 manufacturing industries, Lindel Industrial Estate and Multi-national manufacturing companies are located within Biyagama PS area. However, there are no fire rescue unit in and around the Biyagama area. Hence, emergency services should be obtained from the fire rescue units located in Colombo and Gampaha. It is also confirmed that the service area of the above-mentioned fire rescue units can't cover the Biyagama PS area according to the relevant standards and emphasized the need of a fire rescue unit for any area. The following Map 6.8 implies the need of fire rescue unit for the moderate dense zones that having the promotional use of industrial development.

Map 6.8: Service Area of Accident & Fire Rescue Facilities



## **6.3.2. Proposed Road & Transportation Strategic Plan**

### **6.3.2.1. The Importance of Road & Transportation Strategic Plan**

Biyagama located in between a strategic location in the National and Regional Road Network, and located between the Colombo-Kandy and Low level - Avissawella Roads which are two main road corridors out of seven main corridors in Sri Lanka. Similarly, road network improvements and development in the past and current periods have made a significant difference in commercial, industrial and other urban service sectors. New Kandy Road Corridor, Samurdhi Mawatha & recently built Outer Circular Highway can be identified as prime examples for this. The need for a strategic road & transport plan emerges on Biyagama PS area through the future development trends and also the integrating the advantage of two main interchanges of Kaduwela & Kadawatha.

Although there are several main road corridors emerged in the area, narrow internal road network displaying the weakness of the thoroughfare development. It has been proved through spatial integration and road development is an integral part of achieving the future vision as a future industrial city. In order to promote industrial activities, the priority of opening 13% of the land area for industrial investment opportunities is mainly based on the development of internal road network. Accordingly, the existing and proposed road developments will be categorizing as priority levels and that will derive a road hierarchy for area.

Through the proposed Biyagama - Kosgama Railway Project, Biyagama PS area will have two new railway stations, namely Sapugaskanda & Siyambalape. As an industrial city, Biyagama can get the value of this railway project by labour & freight transportation. In order to develop the surrounding area of the proposed railway stations in a planned manner as well as to resettlement of the people in these areas, proper action is required.

Biyagama PS area include to the service areas of Kadawatha, Mahara & Kiribathgoda LRT Stations of the Proposed Light Railway Project. Proposed LRT stations will be located in the eastern part of the Biyagama PS area and Road & Transport Strategic Plan should be incorporate the expected attraction of residential uses and "Park & Ride" multi-storied car parks to cater the future requirements.

### **6.3.2.2. Proposed Road Development Corridors & Road Hierarchy**

The entire road network of the Biyagama and the proposed road developments has been included in the road plan, with a priority basis. Initially, provision of central investment corridor and local industrial collector strategies are considered which are coming under the Industrial Economic Plan.

Accordingly, the road network of the area has been included into a road hierarchy and following table 6.4 indicates the proposed road developments in order to promote industrial and mix residential uses in Biyagama PS area limits.

Table 6.4: Hierarchy of Road Developments by Priority Levels

First Priority	
Name of the Road	Proposed Road Width
Colombo – Kandy Road	Four lane road with the center island of LRT service corridor, parking & bicycle lane & side walk with landscaping & utility service lines. Total width of the road will be 30 meters.  Figure 6.4 displays the proposed cross section.
Second Priority	
Name of the Road	Proposed Road Width
Approach Road to Kaduwela Bridge (AB 4)	Four lane road with the center island, parking & bicycle lane & side walk with landscaping & utility service lines. Total width of the road will be 30 meters.  Figure 6.5 displays the proposed cross section.
Delgoda – Dompe – Giridara Road (B 95)	
Kadawatha – Mawaramandiya Road (B 169)	
Kelaniya – Mudungoda Road (B 214)	
Kiribathgoda – Oil Refinery – Sapugaskanda Road (B 221)	
Makola – Udupila Road (B 262)	
Pattiwila – Makola Road (B 362)	
Sapugaskanda Oil Refinery Junction – Biyagama Free Trade Zone (Samurdhi Mawatha - B 362)	
Third Priority	
Name of the Road	Proposed Road Width
Mabima-Ganewala Road & Jayanthi Mawatha Connection	Two lane road with the parking & bicycle lane & side walk with landscaping & utility service lines. Total width of the road will be 15 meters.  Figure 6.6 displays the proposed cross section.
Sapugaskanda-Talwatta Road	
Biyagama - Malwana Road	
Mawaramandiya-Gonahena Road - Ranmuthugala	
Yatihena-Dekatana Road	

Fourth Priority	
Name of the Road	Proposed Road Width
Biyagama-Kottunna Road	<p>Two lane road with the parking &amp; bicycle lane &amp; side walk with landscaping &amp; utility service lines. Total width of the road will be 15 meters.</p> <p>Figure 6.7 displays the proposed cross section.</p>
Bollegala-Wijermamawata	
Daranagama-Meegahawatta Road	
Gonawala – Koholwila Road	
Heiyantuduwa-Minipitiya Road	
Horape-Siriwardana Mawatha Road	
Kanduboda Temple Road	
Kanduboda-Walgama Road	
Makola – Koholwila Road	
Siyabalapa-Daranagama Road	
Siyabalape-Heiyntuduwa Road	
Siyane-Neelammahara-Polhena-Pasgammanna Road	
Udupila-Akurumulla Road	
Walgama – Malwana Road	
Walgama-Temple Road	
Walgama-Ulhitwala Road	
Fifth Priority	
<p>Apart from the proposed fourth priority, all the local roads must be at least 6 meters wide. Figure 6.8 displays the proposed cross section.</p>	

**Source: Gampaha District Planning Team, 2021**

According to the above-mentioned table 6.4 and the following Map 6.9 displaying the proposed road widths and the priority levels. Also, existing and proposed road developments will create a hierarchical road pattern and that will lead the attraction of industrial, commercial and residential developments to the Biyagama PS area.

Figure 6.4 : Cross Section of First Priority Road Corridor

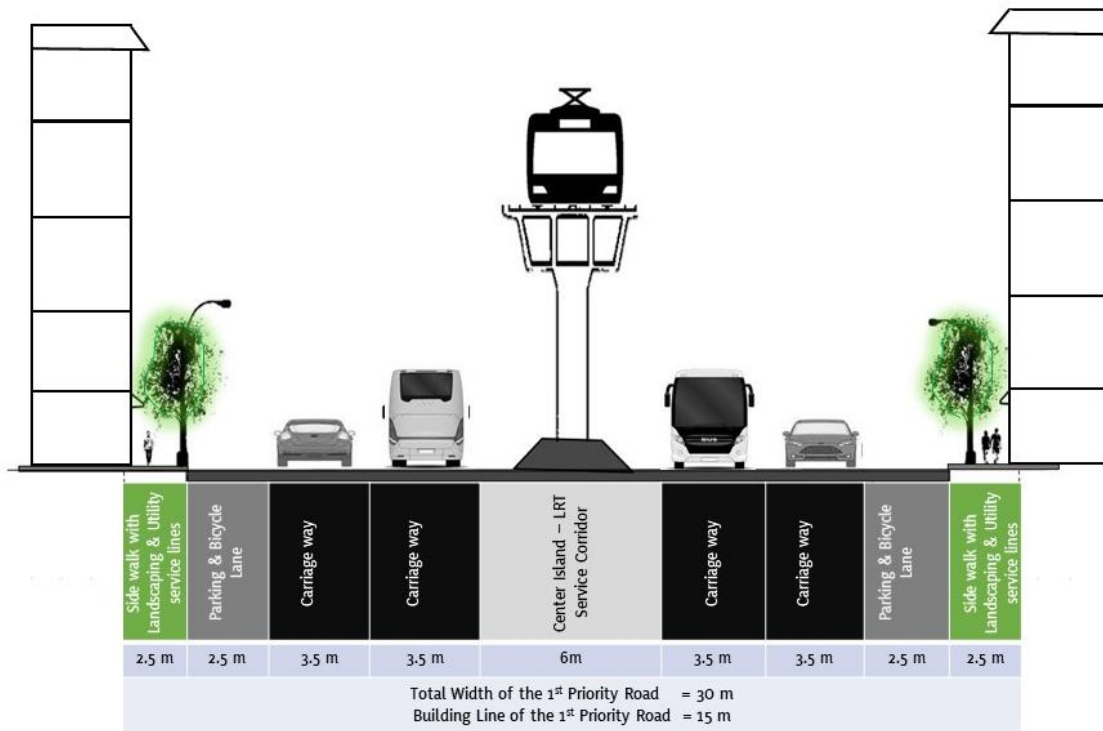


Figure 6.5 : Cross Section of Second Priority Road Corridor

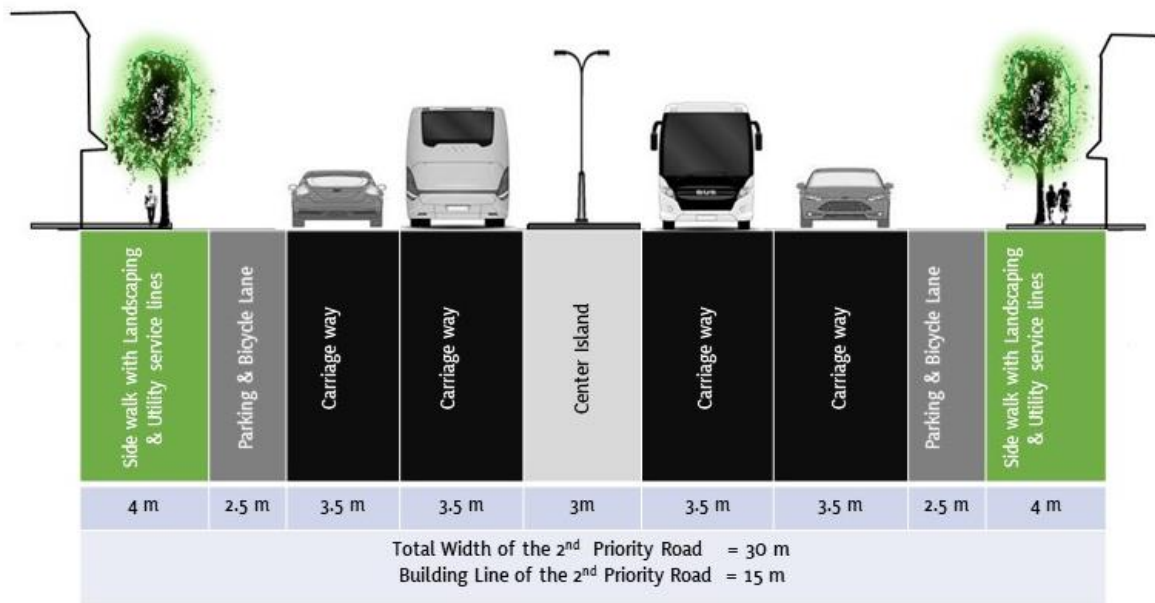


Figure 6.6 : Cross Section of Third Priority Road Corridor

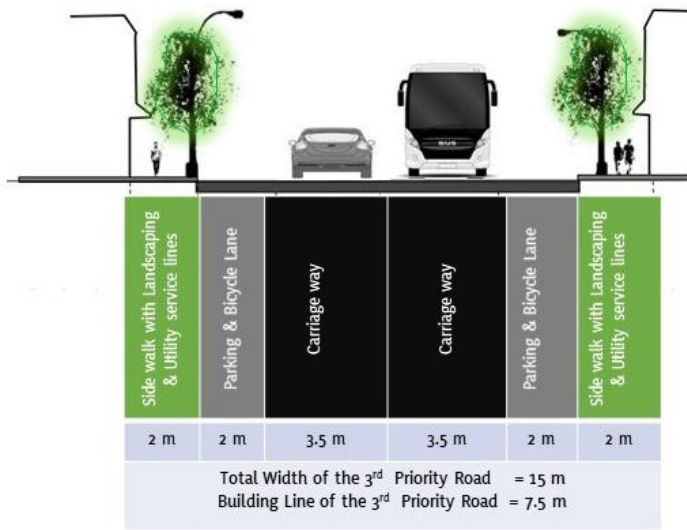


Figure 6.7 : Cross Section of Fourth Priority Road Corridor

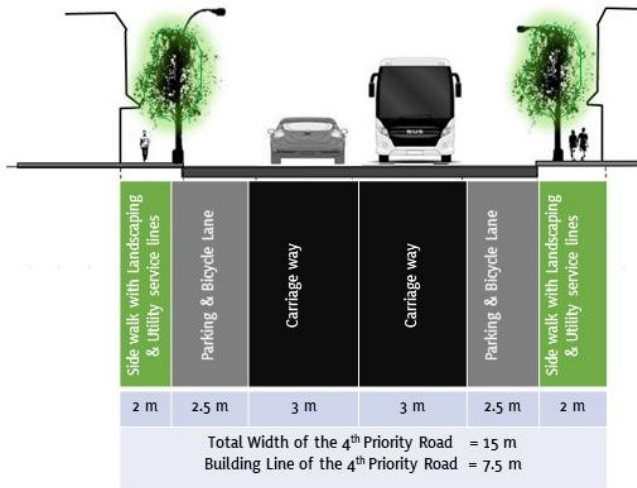
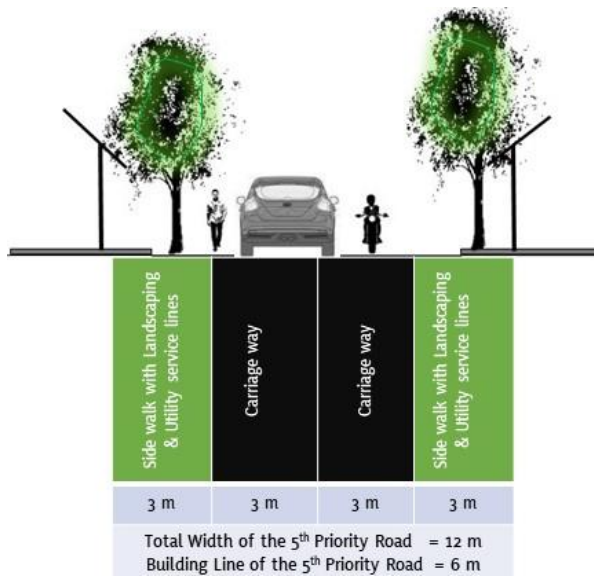


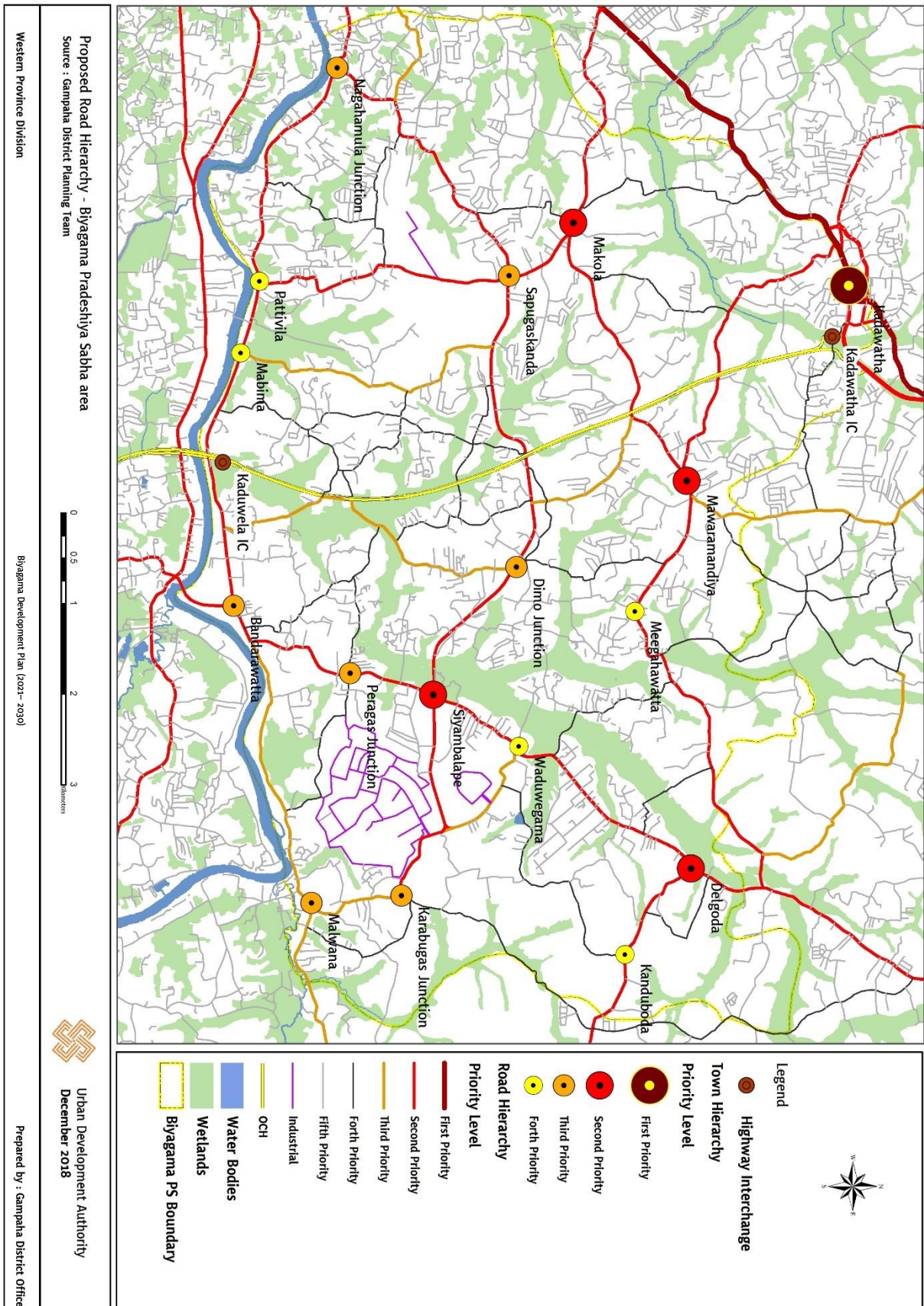
Figure 6.8 : Cross Section of Fifth Priority Road Corridor



Source : Gampaha District Planning Team, 2021



Map 6.9: Hierarchy of Road Developments by Priority Level

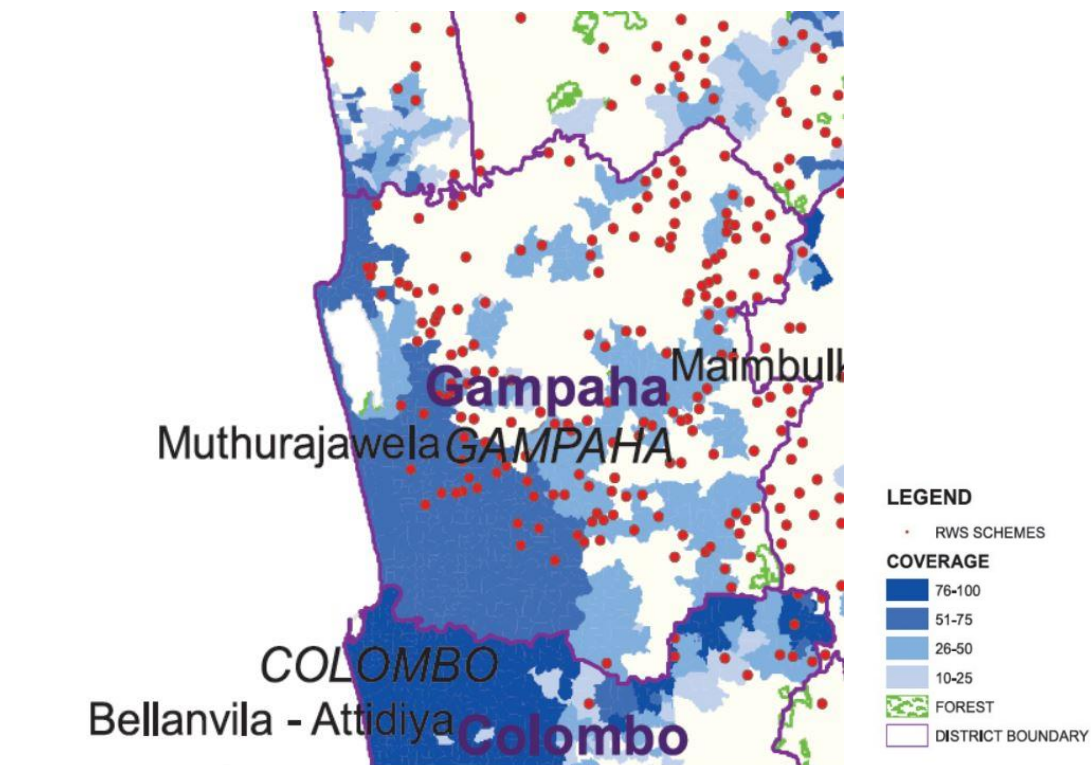


### 6.3.3. Water Supply Plan

Under the physical infrastructure facilities, the water supply plan including proposed actions and projects for future water consumption in the Biyagama PS area. Data of 2011, Census & Statistics Department related to the population and housing shows that 51% of the housing units in the Biyagama PS area depend on the well water. 47% of the population is depend on piped born water and the water is obtained from the Kelani river. At present, Kelani River Right Bank Water Treatment Plant treated and distributed 180,000 cubic meters per day by covering the areas of North Colombo (TNC Area). As well as Lindel Water Treatment Plant administrate by BOI treated and consumed 9000 cubic meters of water.

According to the current national manifesto of “Vistas of prosperity & Splendor” emphasized the intention to ensure the 100% of the population is provided with clean & safe drinking and pipe – borne water. Therefore, NWS&DB has been prepared the Cooperate Plan of 2020 -2025 regarding the national water supply & its related projects. This plan mentioned about the exiting district wise water supply coverage & total western region having 63.6%. From that entire western regional coverage, 43.8 % belong to the Gampaha District. Following figure 6.9 shows how Biyagama PS area covers with the exiting water supply coverage & its coverage range as 51 -75.

Figure 6.9: Exiting Gampaha District Water Supply Coverage



Source: NWS & DB - Cooperate Plan of 2020 -2025, 2020

Cooperate Plan of 2020 – 2025 of NWS & DB formulated major 6 goals & the very first goal is “Existing schemes and ongoing projects (service level improvements and service coverage enhancement strategies)”. With this strategy, it is categorized the ongoing projects in terms of the funding source. Kelaniya Right Bank Water Treatment Plant is located within Biyagama PS area & that project is a foreign funded project. Following table 6.5 indicates its current capacity, new connections & the completion dates.

**Table 6.5: Proposed projects and the increase the water distribution capacity**

<b>Kelani River Right Bank (Biyagama- Pattiwila) Water Treatment Plant</b>	<b>WTP Capacity (m<sup>3</sup>/d)</b>	<b>New Connections (Domestic Nos)</b>	<b>Expected Date of Completion</b>
	180,000	12750	Oct - 20
<b>Distribution &amp; Infilling &amp; Expansion</b> Supply & laying of pipes from Delgoda to Belummahara	<b>Length of the Pipe line laying (Km)</b>		<b>Total New Connections</b>
	10		2000
<b>Water Supply Projects Proposed for implementation beyond 2025</b>	<b>WTP Capacity (m<sup>3</sup>/d)</b>	<b>Total New Connections (Domestic Nos)</b>	
Mabima Water Supply Project – Stage 1	180,000	20,000	

Source: NWS & DB - Cooperate Plan of 2020 -2025, 2020

Present water demand & 2030 water demand has been calculated by considering the existing & estimated population of 2030 with the standards related to the water supply demand practices by the NWS & DB. Following table 6.6 indicates the 2021 Water demand zone wise & 6.8 indicated the 2030 water demand.

**Table 6.6 : Daily Water Demand within Biyagama PS area – 2021**

Proposed Density Zone	Domestic Demand 2021 - (l/day)	Non-Domestic Demand 2021 - 15% coverage (l/day)	NRW 2021 (l/day)	Total Demand 2021 (l/day)
High Dense Urban Transit Zone	2618606	392791	602279	3613676
High Dense Urban Service Zone	4141239	621186	952485	5714910
High Dense Commercial Zone	1092463	163870	251267	1507600
Moderate Dense Industrial Zone-I	3468393	520259	797730	4786382
Moderate Dense Industrial zone-II	6963452	1044518	1601594	9609564
Moderate Dense Urban Service Zone	4634493	695174	1065933	1065933
Moderate Dense Local Business Zone	1991136	298670	457961	457961
Low Dense Special Development Zone	2384569	357685	548451	3290705
<b>Existing Water Demand of Biyagama PS Area – 2021 (l/day)</b>				<b>37,666,206</b>
<b>Existing Water Demand of Biyagama PS Area – 2021 (m<sup>3</sup>/d)</b>				<b>37,666 m<sup>3</sup></b>

Source : NWS&DB , Gampaha District Planning Team, 2021

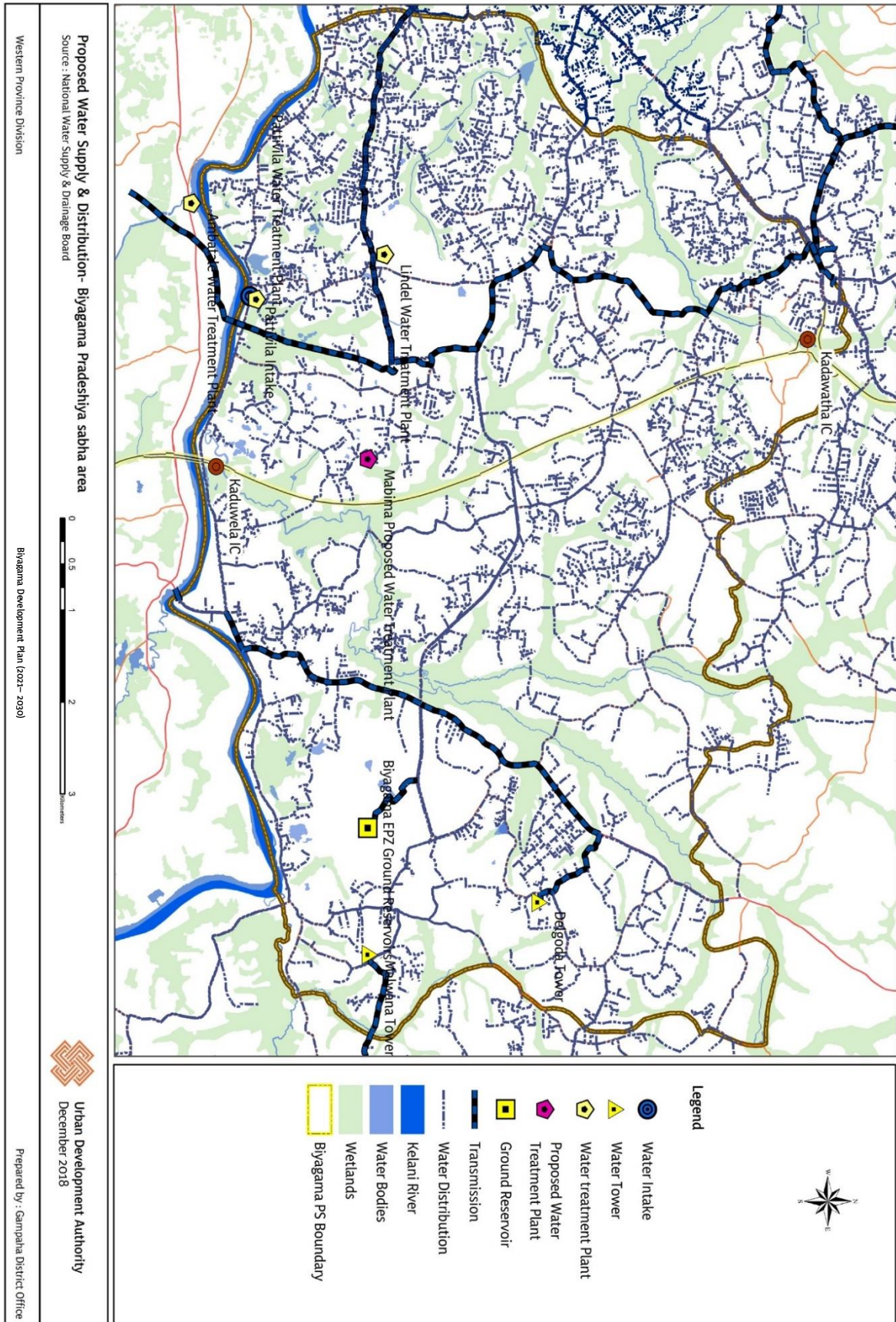
Accordingly, the current distribution of the 18,000 cubic meters from the Kelani River Right Bank (Biyagama-Pattiwila) Water Treatment Plant is not sufficient to cater the exiting daily water requirement of the area. However, after the completion of the entire project with overall design capacity of 36,000 cubic meters that will be great relief to the exiting demand. Following table 6.7 describes the daily water demand of 2030 within Biyagama PS area & that figured out the requirement as 42, 687 cubic meters per day. Accordingly, proposed Mabima water treatment plant which is proposed to implement beyond the 2025, can be fulfilling the future water demand of Biyagama PS area.

**Table 6.7 : Daily Water Demand within Biyagama PS area – 2030**

Proposed Density Zone	Domestic Demand 2030 (l/day)	Non-Domestic Demand 2030- 15% coverage (l/day)	NRW 2030 (l/day)	Total Demand 2030 (l/day)
High Dense Urban Transit Zone	3047620	457143	700953	4205715
High Dense Urban Service Zone	4600398	690060	1058092	6348550
High Dense Commercial Zone	2617350	392602	601990	3611943
Moderate Dense Industrial Zone-I	5311671	796751	1221684	7330106
Moderate Dense Industrial zone-II	7457845	1118677	1715304	10291825
Moderate Dense Urban Service Zone	3441765	516265	791606	4749636
Moderate Dense Local Business Zone	2055177	308277	472691	2836145
Low Dense Special Development Zone	2400629	360094	552145	3312868
<b>Future Water Demand of Biyagama PS Area - 2030 (l/day)</b>				<b>42,686,788</b>
<b>Future Water Demand of Biyagama PS Area - 2030 (m<sup>3</sup>/d)</b>				<b>42,687 m<sup>3</sup></b>

Source : NWS&DB , Gampaha District Planning Team, 2021

Map 6.10: Water Supply & Distribution Plan



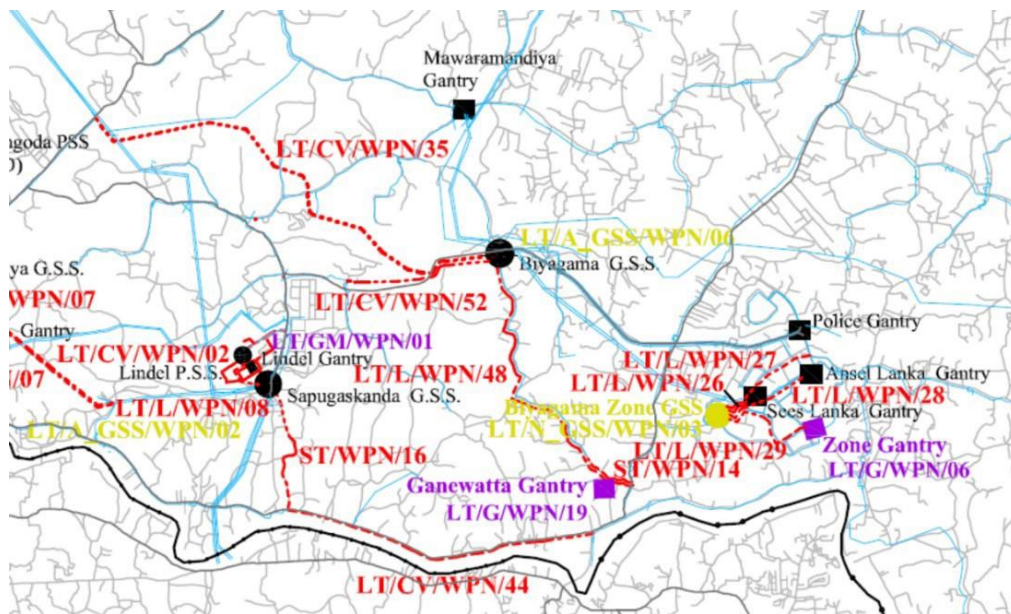
### 6.3.4. Electricity Supply Plan

Electricity Supply Plan coming under the physical infrastructure sector and discussed the proposed methodologies to cater the future electricity demand of Biyagama PS area. To promote Biyagama as an industrial city, this electricity supply plan is in the forefront. With the existing facilities, the gap between the existing and future requirements and new projects has been considered in this plan. According to the electricity distribution zoning, Gampaha District is coming under Northern part of the Western Province and the Biyagama Urban Development Area comes under the Kelaniya sub-region.

Records of the principal type of lighting in the Census of Population and Housing in 2012, 98% of the housing units in the Biyagama PS area depend on the electricity service. In order to discuss the physical resources for providing electricity supply to the Biyagama and surrounding area, it should be mentioned mainly the Biyagama Grid sub-station. It is a major power station of the Sri Lanka Electrical Transmission System which has been built through the Mahaweli Transmission System in the year 1984. The transmit power from Mahaweli Complex hydro plants to main load centers around Colombo, this GSS is having the connection of Biyagama - Kotmale transmission line.

According to the short-term project plan prepared by the Ceylon Electricity Board for the period of 2016- 2025, the following figure 6.9 & the table 6.9 indicates the projects have been introduced to provide electricity to Biyagama PS area.

Figure 6.10: Proposed Electricity Supply Projects



Source: Short Term Project Plan-CEB, 2016

**Table 6.8: Existing & Proposed new power transmission stations in the Biyagama**

Classification of Power Transmission Station	Suggested Project Area Codes	Existing and Proposed Areas
Grid Sub Station - GSS	-	Grid Sub Station at Biyagama, Samurdhi Mawatha
	-	Sapugaskanda
	LT/N_GSS/WPN/03	Proposed Biyagama EPZ - Grid Sub Station
Primary Sub Station - PSS	-	Sapugaskanda Lindel Industrial Estate
Gantry	-	Mawaramandiya
	-	Dekatana
	-	Biyagama Police Circle
	-	Ansel Lanka
	-	Sees Lanka
	LT/N_GSS/WPN/03	Proposed Biyagama EPZ Gantry
LT/G/WPN/19	Proposed Ganewaththa Gantry	

Source: Short Term Project Plan - CEB, 2016

**Table 6.9 : New power supply lines and reform proposals**

Classification of Power Transmission	Suggested Project Area Codes	Existing and Proposed Areas
Electrical lines systems	LT/L/WPN/08	From Sapugaskanda GSS to Sapugaskanda Lindel Industrial Estate gantry (33kV SC Lynx Pole - Length 0.45 Km)
	LT/CV/WPN/52	From Biyagama GSS to Wee Mola Junction (33kV SC Raccoon Pole into 33kV SC Lynx Pole)
	LT/CV/WPN/35	From Biyagama GSS to Kiribathgoda, Gala Junction (33kV DC Cockroach Pole line into 33kV DC Lynx Pole (1.6 Km)/ Tower- Length 6 Km)
	LT/CV/WPN/02	From Lindel Industrial Estate PSS to All outgoing electrical line systems (11kV SC Raccoon Pole into 33kV SC Raccoon Pole - Length - 2.5 Km)
	LT/L/WPN/26	From Proposed Biyagama EPZ - GSS to Gantry of Sees Lanka (33kV DC Lynx Pole - 0.6 Km)
	LT/L/WPN/27	From Proposed Biyagama EPZ - GSS to Gantry of Biyagama Police Circle (33kV DC Lynx Pole – 1.7 Km)
	LT/L/WPN/28	From Proposed Biyagama EPZ - GSS to Gantry of Ansel Lanka (33kV DC Lynx Pole - 2 Km)
	LT/L/WPN/29	From Proposed Biyagama EPZ GSS to Gantry of Biyagama EPZ (33kV DC Lynx Pole – 1.5 Km)

Source : Short Term Project Plan - CEB, 2016

Accordingly, the above-mentioned table 6.10 describes the projects fulfill the electricity requirement for industrial and mixed residential development, which will meet the electricity needs of the whole area through the new power transmission lines and reforms.

### **6.3.5 Sewerage & Waste Water Management Plan**

The Sewerage & Waste Water Management of the Biyagama area is discussed under the Sewerage & Waste Water Management Plan. Accordingly, there is no sewerage and waste water management system with the coverage of total urban declared area of Biyagama. Since the minimum plot size for residential development is 10 perches, the waste water of the residential units are managed within the sites itself.

However, there are industrial waste water discharging methods for Biyagama EPZ and Sapugaskanda Lindel Industrial Estate. The daily water consumption of the Biyagama EPZ is 20,000 cubic meters and daily 16,000 cubic meters of waste water is discharged to the Kelani river through the Raggahawaththa canal after the waste water treatments.

Water Treatment Plant located at Lindel Industrial Estate consumed 9000 cubic meters of water to the factories in Sapugaskanda Oil Refinery Centre, Lindel Industrial Estate and the Gas production centers nearby and it is calculated that 80% is discharge as waste water. It is about 7200 cubic meters of waste water.

It has been assumed that by 2030, the region would have to discharge as much as 80% of the waste water based on the future water demand. The calculations of total amount of waste water discharge considered the present waste water discharges have been done considering the present waste water discharges such as also, 16,000 cubic meters of waste water from Biyagama EPZ & 7200 cubic meters of waste water from Lindel Industrial Estate. With this context, the two zones with industrial promotional use implies the need of proper waste water management system for the Biyagama area. The table 6.11 displaying the calculations related to waste water discharge.

Especially under the need of the plan, highlighted the fact of water quality in Kelani river that used for the Biyagama Pattiwila & Ambathale water treatment plants to fulfil the water demand of the people in Colombo North and South area. The Biyagama Pattiwila Water Treatment Plant, which distributes water to the North Colombo water supply system, has been severely inconvenienced due to the industrial waste water in Biyagama. There are several complaints regarding the waste water of Biyagama EPZ, which is being released after the treatments for Alavinna and Raggahawatta canals and those are examined by the Biyagama Agrarian Service Centre of Biyagama, Divisional Secretariat of Biyagama and responsible offices and institutions.



**Table 6.10 : Calculated Total Amount of Waste Water**

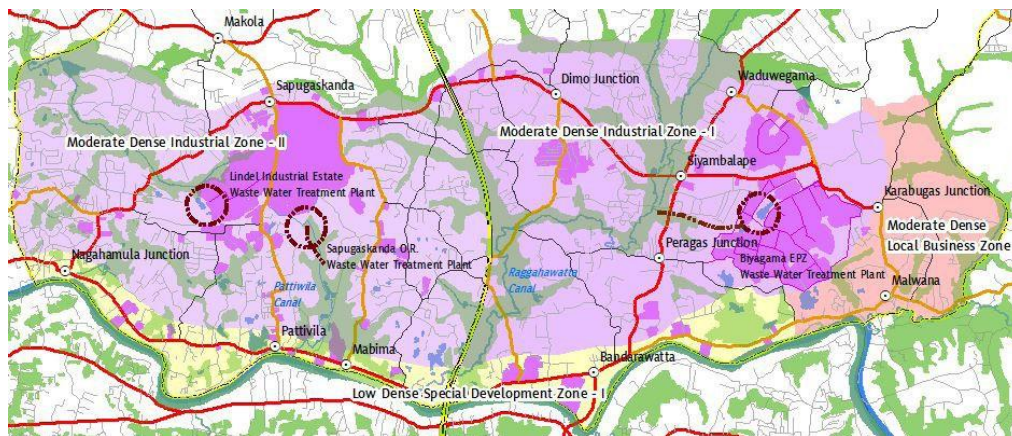
Proposed Density Zone	Domestic & Non-Domestic Water Consumption - 2021	Wastewater Generation – 2021	Domestic & Non-Domestic Water Consumption - 2030	Wastewater Generation – 2030
High Dense Urban Transit Zone	3011397	2409117	3504763	2803810
High Dense Urban Service Zone	4762425	3809940	5290458	4232366
High Dense Commercial Zone	1256333	1005066	3009952	2407962
Moderate Dense Industrial Zone-I	3988652	3190922	6108422	4886737
Moderate Dense Industrial zone-II	8007970	6406376	8576521	6861217
Moderate Dense Urban Service Zone	5329667	4263734	3958030	3166424
Moderate Dense Local Business Zone	2289807	1831845	2363454	1890763
Low Dense Special Development Zone	2742254	2193803	2760723	2208579
<b>Total Water Consumption &amp; Wastewater Generation - (l/day)</b>	31388505	25110804	35572323	28457858
<b>Total Water Consumption &amp; Wastewater Generation - (m<sup>3</sup>/d)</b>	<b>31,389</b>	<b>25,111</b>	<b>35,572</b>	<b>28,458</b>

Source : NWS & DB, Gampaha District Planning Team, 2021

Due to the problem arising out of the supply of drinking water to the people of the North Colombo, the conventional methodology for waste water treatments should be changed into modern waste water treatment methods and guidelines must be arisen. Considering this situation, it is expected to provide a stable solution by Western Region Water Supply Plan for the water pollution caused by the oil leakage with Pattiwila canal. Also, it is proposed to introduce Interceptor Sewer system to dispose refined waste water from the Biyagama EPZ through the Raggahawatta canal. As per the figure 6.10, the proposed industrial promotional density zones indicate the high waste water discharge values when compared with the other density zones and that ensure the need of modern technology-based waste water treatment plant for Biyagama.

The vision of the Biyagama as an industrial city which handing hand with wetlands & environmental management emphasized the value of modern waste water treatment methodologies to control the arrival of shocking city.

Figure 6.11 : Proposed & Existing Waste water treatment plants & the mechanism



Source : Gampaha District Planning Team, 2021

### 6.3.6. Solid Waste Management Plan

Solid waste management is key section of physical infrastructure and the procedures for solid waste management and the proposed projects have been discussed in this Solid Waste Management Plan.

Biyagama PS is primarily responsible for the management of solid waste in the Biyagama PS area. Garbage collection is carried out for two days a week at the housing unit level in the area. The amount of garbage collection is about 15 to 16 tons of degradable garbage and 3 to 4 tons of non-degradable garbage. This garbage is sorted out in a land closer to Delgoda Bus terminal and Biyagama PS building as degradable and non-degradable waste. Then, these sorted degradable wastes send to Muthurajawela - Kerawalapitiya solid waste dumping yard and power generation project land and non-degradable waste to Dompe sanitary landfilling site.

However, the Biyagama PS is expected to relocate this solid waste sorting plant at a different location considering as a weakness of locating such a service in a valuable land with public utility service area. According to the physical utilities, Biyagama PS has one compacter, one tipper, 10 tractors and 35 handcarts as well as human resources, there are 44 workers and 10 drivers for the purpose of collecting garbage.

**Table 6.11 : Calculated Daily Solid Waste Generation**

Name of the Zone	Present Population (Residential and Commuting)	Expected Population by 2030 (Residential and Commuting)	Standard of Solid waste generated in a DS Area (Kg / person)	Amount of solid waste generation at Present - per day (Ton)	Amount of solid waste generation in Future - 2030 - per day (Ton)
High Dense Urban Transit Zone	39689	85682	0.4	15.9	34.3
High Dense Urban Service Zone	42916	93684	0.4	17.2	37.5
High Dense Commercial Zone	53208	105565	0.4	21.3	42.2
Moderate Dense Industrial Zone-I	102,398	237521	0.4	41.0	95.0
Moderate Dense Industrial zone-II	103828	232541	0.4	41.5	93.0
Moderate Dense Local Business Zone	37703	71076	0.4	15.1	28.4
Moderate Dense Urban Service Zone	17018	26014	0.4	6.8	10.4
Low Dense Special Development Zone	47925	65639	0.4	19.2	26.3
<b>Total Solid Waste Generation Per Day</b>				<b>177.9</b>	<b>367.1</b>

**Source : Gampaha District Planning Team, 2021**

Accordingly, the daily collection of solid waste has been calculated considering the current residential population and commuting population. Further it is calculated that it will be increased up to 367.1 tons by 2030 and it is given in the following table 6.12.

Although the amount of solid waste generated in proposed zones of industrial activities are used for the calculations. The Biyagama PS does not collect solid waste from industrial enterprises. Until recent times in the Biyagama EPZ, the management of solid waste has been done within their own land, and a new solid waste management program introduced in 2018 has been taken to manage the solid waste. In the new procedure, it is proposed to manufacture electricity using non-hazardous waste, which is identified as a sustainable environmental development strategy in the BEPZ.

## 6.4. Economic Development Strategies

### 6.4.1. Industrial Economic Plan

According to the Current National Manifesto: Vistas of Prosperity & Splendour - Chapter VIII (Sustainable Environmental Policy) discussed the national guidance of the industrial sector based on the Green Economy by creating Eco Industrial Zones. That specifically mentioned about the way of creating “Eco Industrial Zones” through promoting linear economy in which manufacturers produce goods using the existing raw materials and dispose of waste into the environment will be replaced with the Circular Economy in which waste in one industry can be used as raw material in another. (Re-use, Recycle, Re-purpose). Under the section of “Atmosphere” & “Bio Diversity” mentioned the guidelines & measures that reduce carbon emissions, air pollution & increasing the greenery environment within the industrial premises. Above facts emphasized the national level guidance to the industrial sector & how those facts are in cooperating with the Biyagama Development Plan.

The vision of the Biyagama as “The Tranquilized Industrial City ” has mainly based on the industrial development to uplift the local economy of the area and also the national & regional economy. Accordingly, the main goal under that vision was to Create multifaceted clusters while promoting unified industrial economic needs. The background for industrial promotion has been formed through provision of basic needs such as economic and physical requirements for industrial development. Under this goal, it is expected to open up 13% from the total land area through collector road pattern for industrial investments, to promote industrial oriented business zone around central investment corridor and to facilitate 30% of manufacturing sector employment contribution.

Accordingly, proposed industrial economic plan with four main strategies will be provided to achieve the above-mentioned objectives. The current job market focusing manufacturing industries of the area will be further developed and the daily commuting industrial workers will be increased up to two lakhs. According to the calculations, it will be 200,996. Based on the research hypothesis regarding the Biyagama EPZ workers, it is estimated that 25% employees are temporary occupants who prefer to reside closer to the employment centers. Using that the predicted temporary occupants will be 77,089 in Biyagama area by 2030. Further, it is confirmed through calculations that there will be 308,356 daily commuter workers based on the industrial enterprises in 2030.

Following sections will describe the proposed four main strategies of Industrial Economic Plan that proposed to develop Biyagama as a place where 300,000 daily commuters for industrial sector works.

#### 6.4.1.1 Central Investment Corridor Strategy

The Central Investment Corridor Strategy is expected to promote the Samurdhi Mawatha and Gonawala-Sapugaskanda road as a connected road stretch where agglomerates basic industrial needs and services. With this proposal it will be a main priority road corridor that connects to the Biyagama - Colombo Road via Nagahamulla junction. This road will connect with proposed Kelani Temple access road via Gonawala - Koholvila road and later it will join with the proposed crescent road (Biyagama – Colombo Road) which will demarcate the outer sacred boundary of Kelani Temple. Also, it will give the access for Colombo port through the proposed Elevated Port Highway from Peliyagoda.

In order to develop the accessibility for Biyagama industrial promotional area, Nagahamulla junction will be developed as the first main industrial access from Colombo port side. Karabugas junction will be developed as the second main industrial access to the Biyagama industrial promotional area through the country side such as Dompe, Dekatana areas. With this nodal development, Central Investment Corridor will be a well-integrated road stretch by incorporating these two main industrial nodes and internal road network of the area. Establishing a center for industrial oriented banking & financing is a key strategic project in the Central Investment Corridor & Dima junction was the most suitable location for this purpose as a well-connected node of the area. This is particularly beneficial to industrial investors and employees, who have fulfilled their needs from the banks that located in outer areas.

It has also been identified to allocate a site for a skill up-gradation center in the Central Investment Area as a strategic project to generate the labor force for manufacturing industries and creating a skilled workforce for the future requirements. From this it will expect to reduce the unemployment rate of 3.6 % in the Gampaha District and reduce the total youth unemployment rate to 20.29 by 2021. Also, this will be a plus point for future industrial sector which handing hand with the new technology to get the advantage of talented youth labor pool.

As per the service area analysis of existing health facilities under the social infrastructure category, it is necessary to have a hospital with well improved health facilities within Central Investment Corridor due to the major facts like, Biyagama as the second largest employment-based EPZ, distribution of manufacturing plants and the employed commuting population who always in a risk with industrial hazards and accidents. And also, existing Biyagama Divisional Hospital should upgrade with modern health facilities which can link with the new hospital to cater the basic health needs for future industrial related commuting population.

The Central Investment Corridor is lying through three sensitive wetland eco systems and with the face of increased development pressure, developments should be allowed by protecting the wetland network character of the area. For the purpose of this, it is expected to develop wetland park which integrating the Siyambalape walking path, Raggahawatta canal and the surrounded agro wetlands. From these environmental positive impacts, it is expecting to lead the Biyagama PS area as “Tranquilized Industrial City” which will be “A Greenscape Industrial City Idol” that incorporates the unique wetland network of Biyagama.

#### **6.4.1.2 Local Industrial Collector Strategy**

Under this strategy, it is expected to cover the Objective of open up 13% from the total land area through collector road pattern for industrial investments and identification of major internal road corridors to develop with four lanes. Accordingly, the developable lands in the Mabima and Pattiwila will be open for industrial investments through Mabima & Pattiwila -Makola Road developments. It is also proposed to connect Jayanthi Mawatha, which connects with the Kaduwela Interchange, with the Mahena road and develop Malwana - Dompe Road up to Biyagama -Thotupola junction. Similarly, the road runs from Waduwegama junction up to Biyagama Zone and Gonawala - Kohalwila road coming under the category of proposed internal road development proposals.

It is expected to attract the industrial investments to the southern part of Biyagama planning area and upgrade the value with the promotion of manufacturing industries. Mabima - Ganawela Road, Power house road which runs near the Biyagama Grid station, Kottunna - Mahena road, Manguruwila road and Bollagala - Wijerama road are the other proposed road developments with two lanes plus service lines.

The internal road network will be connected to Central investment corridor on the north direction and Biyagama - Colombo road on the south direction. It is also proposed to develop the junctions that connecting to the Central Investment Corridor as sub industrial nodes of the area. It is proposed to construct Biyagama - Kosgama Railway line according to the Master Plan of Railway Department and to construct two new railway stations for Sapugaskanda and Siyambalape. Therefore, it is expected to provide transport facilities for the employees of the industrial areas linking the respective stations through the internal road network. Similarly, construction of this railway line facilitates the freight transportation and that can facilitate the future transport requirements also.

#### **6.4.1.3 Plug & Play Industrial Parks Strategy**

The third strategy under the Industrial Development Plan is to create industrial parks with all required infrastructure facilities. It has been identified that the southern part of the planning area that link with Central Investment Corridor as the most suitable locations for promotion of industrial development with the considerations of economic, physical, social and accessibility. This can be referred in the Annexure 18 of industrial suitability analysis.

At the same time, it is proposed to develop access of the Dimo junction and the area of Dimo utility vehicle workshop cluster with basic infrastructure facilities to attract the large-scale manufacturing industries. There are about 20 acres of land that can be considered as developable land & it is expect to create Plug & Play industrial park as a catalyst for investment opportunities.

Accordingly, three lands associated with wetland environment have been identified in Heiyanthuduwa area and it is expected to open up these lands for value added industrial investment with wetland associated conservation requirements. It is expected that the three industrial parks will provide a model for industries in the surrounding area

as well as the industries which are to be attracted to the area in the future or otherwise to design as a sustainable industrial model under the strategic projects.

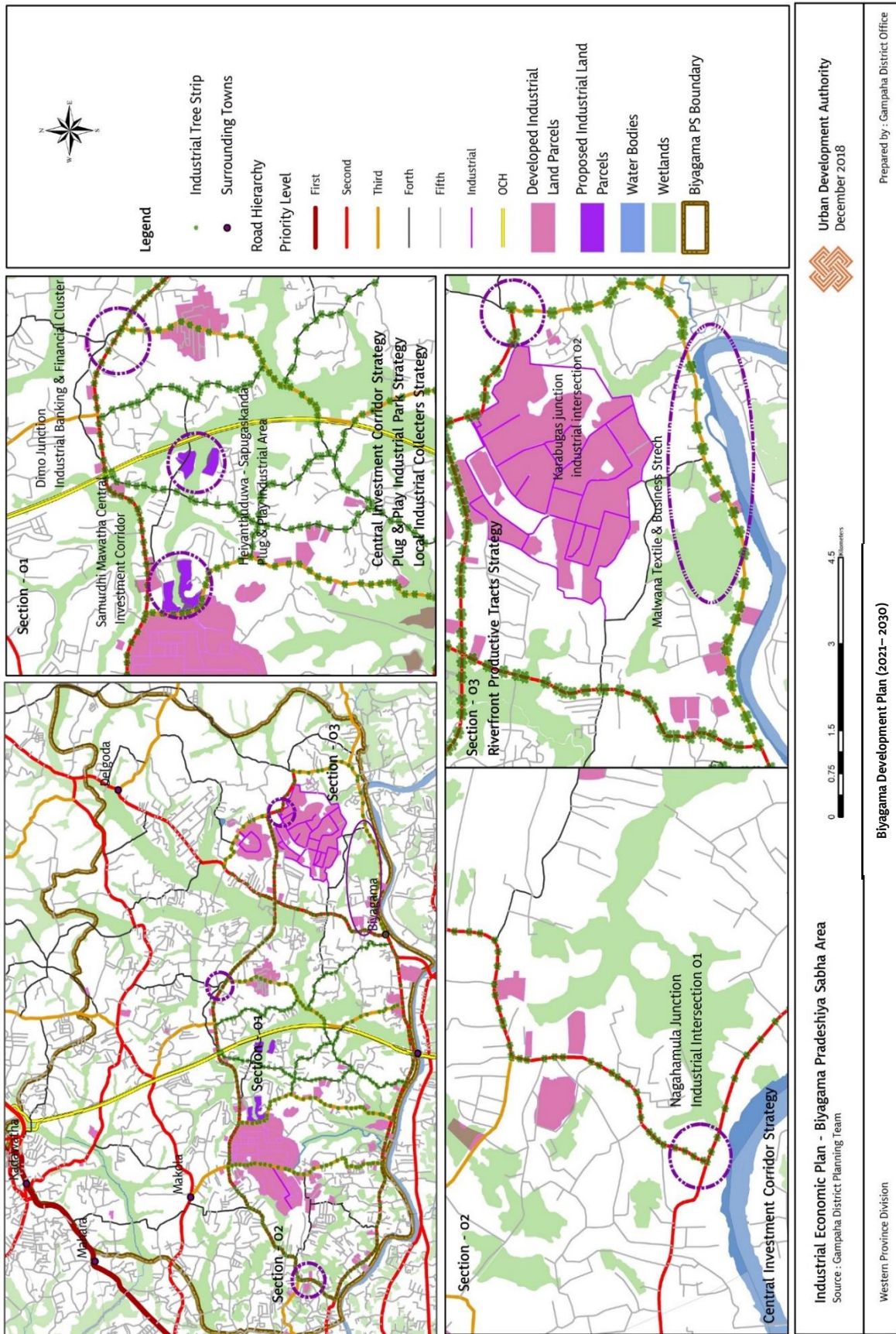
#### **6.4.1.4. Riverfront Productive Tracts Strategy**

The Walgama and Malwana area has already been developed for by products of textile and fabric related businesses due to the influence of the Biyagama EPZ. This businesses character which is related to fabric and related raw material are expanded from the Karabugas junction to Malwana Town area. Considering this situation, River front Productive Tracts Strategy is proposed to develop the local business of the area under the Industrial Economic Plan.

It is expected to create textile related raw material-based business stretch by taking the advantage of scenic view in Kelani River as a plus point to the business promotion. As the first step, there should be a relocation of unauthorized sales outlets which become the backyards for Kelani river. Also, this strategy will incorporate the CRIP-Project that mitigate the flood impact through a flood mitigation wall and Malwana town area will be develop by integrating the natural landscape view of Kelani river for the local business development as per this strategy.

The following Map 6.11 displaying the proposed four strategies under Biyagama Industrial Economic Plan.

Map 6.11 : Proposed Industrial Economic Plan



Prepared By: Gampaha District Office, WP-UDA, 2021



## 6.5. Environmental Sustainable Strategies

Land use composition of the Biyagama PS area indicates the 19% of environmental features and it is emphasized achievement of economic development from the promotion of industrial sector should be balance growth by integrating the sustainable development principles. The proposed sustainable environment development strategies have been identifying to conserve the sensitive wetland ecosystem of the area with the ambition of developing the Biyagama as the Tranquilized Industrial City with wetlands. Through this, it can be address to the planning need of the Biyagama development plan in order to minimize the conflict between the industrial development & sensitive wetlands and also the protection of water retention areas to mitigate the flood impact.

### 6.5.1. Wetland Conservation Plan

The need for a Wetland Conservation Plan for Biyagama is to minimize the negative impacts for wetland eco system on the promotion of industrial development of the Biyagama area. Density of green spaces are decreased with the intensity of industrial and residential development and furthermore, that gradually reduced the sensitive wetland ecosystem of the area. At this context the proposed wetland conservation plan will lead the physical development of the area in sustainable way.

#### 6.5.1.1 Conservation Area - Wetlands Classification

- i. Structural and natural canals between Kelani River Reserves and Centers, fresh waterways including streams and their overflow plains.
- ii. Deep freshwater marshes including freshwater shallow wetland lands less than 01 or 01 m deep and marsh forests more than 1 m deep.
- iii. Freshwater reservoirs and waterways including reservoirs, canals etc.
- iv. Paddy lands, subsidiary low-lying lands such as Deniya, Ovita, etc. belonging to the local land classification associated with paddy lands.
- v. Non-paddy agricultural lowland areas.
- vi. Abandoned paddy lands

### **6.5.1.2 Goals & Objectives Western Province Wetland Zoning**

#### **(a) The Goal**

To facilitate environmentally & economically sustainable use of low-lying areas, considering their intrinsic potential while maintaining essential flood storage capacity and other environmental benefits.

#### **(b) The Objectives**

- Establishment of eco-friendly cities by reducing the impact of natural and human activities on floods in the Biyagama PS area.
- Wetland use for scientific research and educational awareness.
- Wetlands use to enhance ecological, tourism and recreational opportunities while increasing biodiversity

### **6.5.1.3 Wetlands Zoning in Biyagama PS area**

- I. Wetland Nature Conservation Zone
- II. Paddy Cultivation & Wetland Agriculture Zone

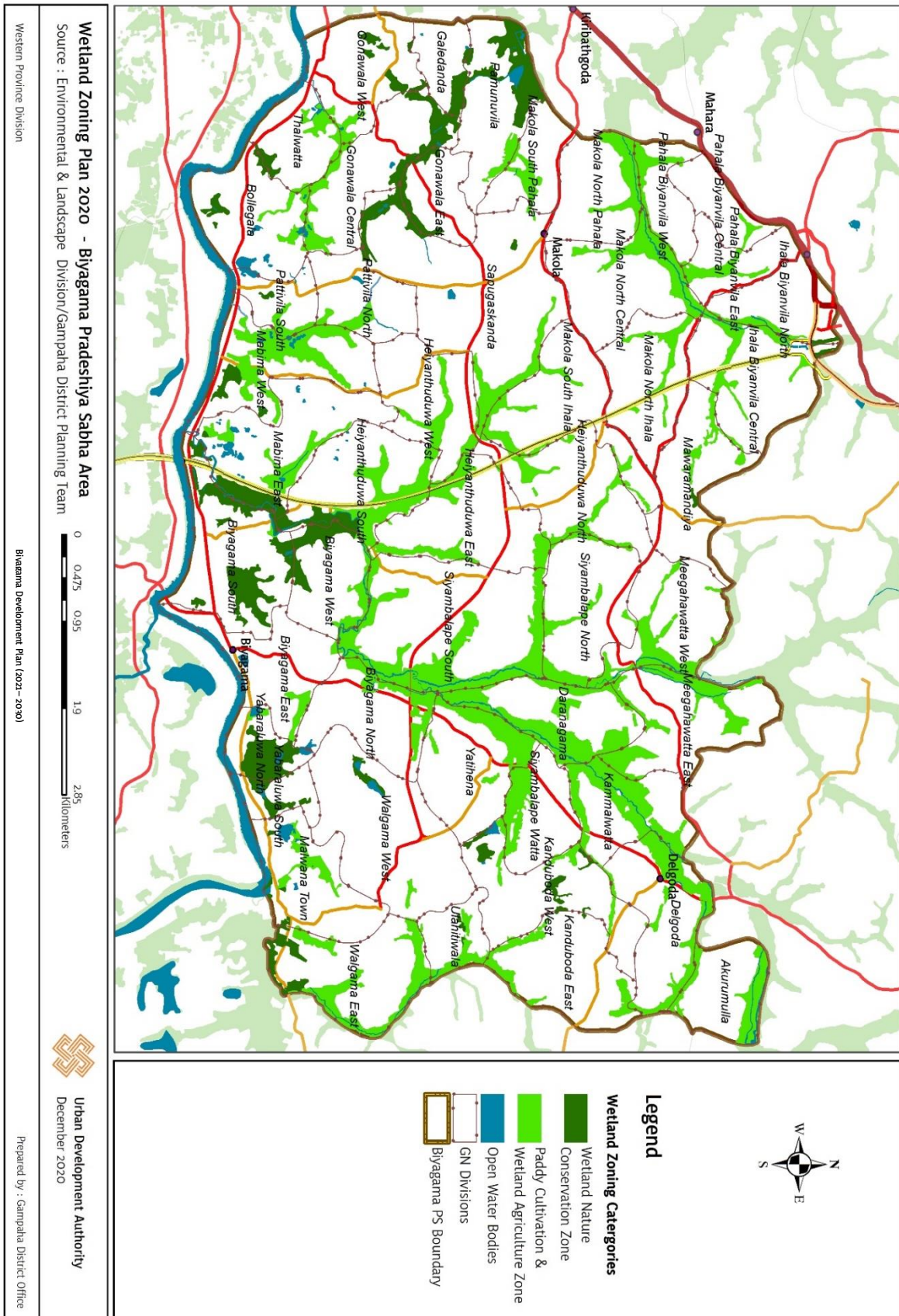
#### **i. Wetland Nature Conservation Zone**

This zone includes wetland areas with high biodiversity and areas that should be subjected to flood hazard reduction and control, as well as areas with water retention and drainage.

#### **II. Paddy Cultivation & Wetland Agriculture Zone**

This area includes the existing cultivated paddy fields, abandoned paddy fields and associated areas such as Deniyaya and Ovita.

Map 6.12 : Wetland Conservation Plan



## 6.5.2 Landscape Plan

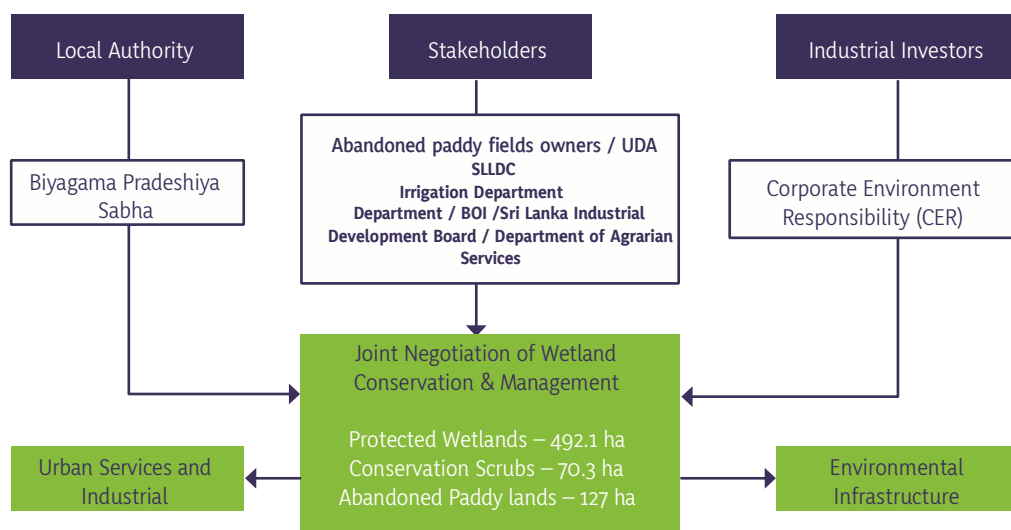
The future vision of the Biyagama emphasized the industrial city development with associating the unique wetland network highlight the need of landscape plan and that is a combination of the environmental sustainable strategies in wetland conservation plan and the industrial economic plan. With that basis, it is expected to promote the Co-operate Environmental Responsibility (CER) in industrial enterprises and expected to facilitate the future industrial development and the environment management with the base of Wetland Conservation Plan.

According to the zones described in the Wetland Conservation Plan, 127 hectares of wetland areas identified for Wetland Environment Conservation Zone and these wetlands will be taken into wetland stewardship mechanism for the purpose of creating public outdoor recreation spaces and wetland parks for the area.

Wetland Stewardship means,

"Long-term conservation of ecosystems in wetlands using purchasing, donations, conservation conciliation "(this can provide direct eco-ecological, social and economic benefits)."

Figure 6.12 : Responsible Implementation Mechanism of the Wetland Stewardship



Source : Gampaha District Planning Team, 2021

Industrial investors who willing to invest in Biyagama and industrial employers who already established in the area are committed to investing in the wetland stewardship for 127 hectares of wetlands with co-operate environmental responsibilities. Under this strategy, industrial enterprises are involving with the institutional contribution to achieve this “Tranquilized Industrial City” vision.

Wetlands that connecting with proposed Central Investment Corridor will be promote as wetland parks which enhance the public outdoor recreation and that will indirectly minimize the unauthorized wetland fillings. Siyambalape wetland park, Yatihena tank & surrounding area development are the examples for these wetland park developments. As well as, small wetland parks, linear parks will be developing in High Dense Urban Service Zone for the purpose of integrating wetland based industrial environment with the residential development. Landscape plan with these wetland parks development will be guide to the future vision of “Tranquilized Industrial City” and the responsible implementation mechanism of the wetland stewardship displaying from the figure 6.11.

Local industrial collectors’ development strategy under the proposed industrial economic plan expected to develop internal road network of the industrial promotional area. These road developments will be integrating the strategic project of tree strips development which is under the sustainable environment strategies. This will provide an opportunity for relief of environmental problems, such as air pollution, noise pollution and urban heat resulting from industrial development and this tree strips development will add a landscape value to the area. It is proposed to provide landscaping and service line maintenance area for road corridors and 4.75-meter-wide corridor for first & second priority road corridors, 2.5-meter-wide corridor for third priority roads and 2.25m wide corridor for fourth priority roads. The following map 6.13 displays the proposed landscape plan of the area.



### 6.5.3. Disaster Risk Reduction Plan

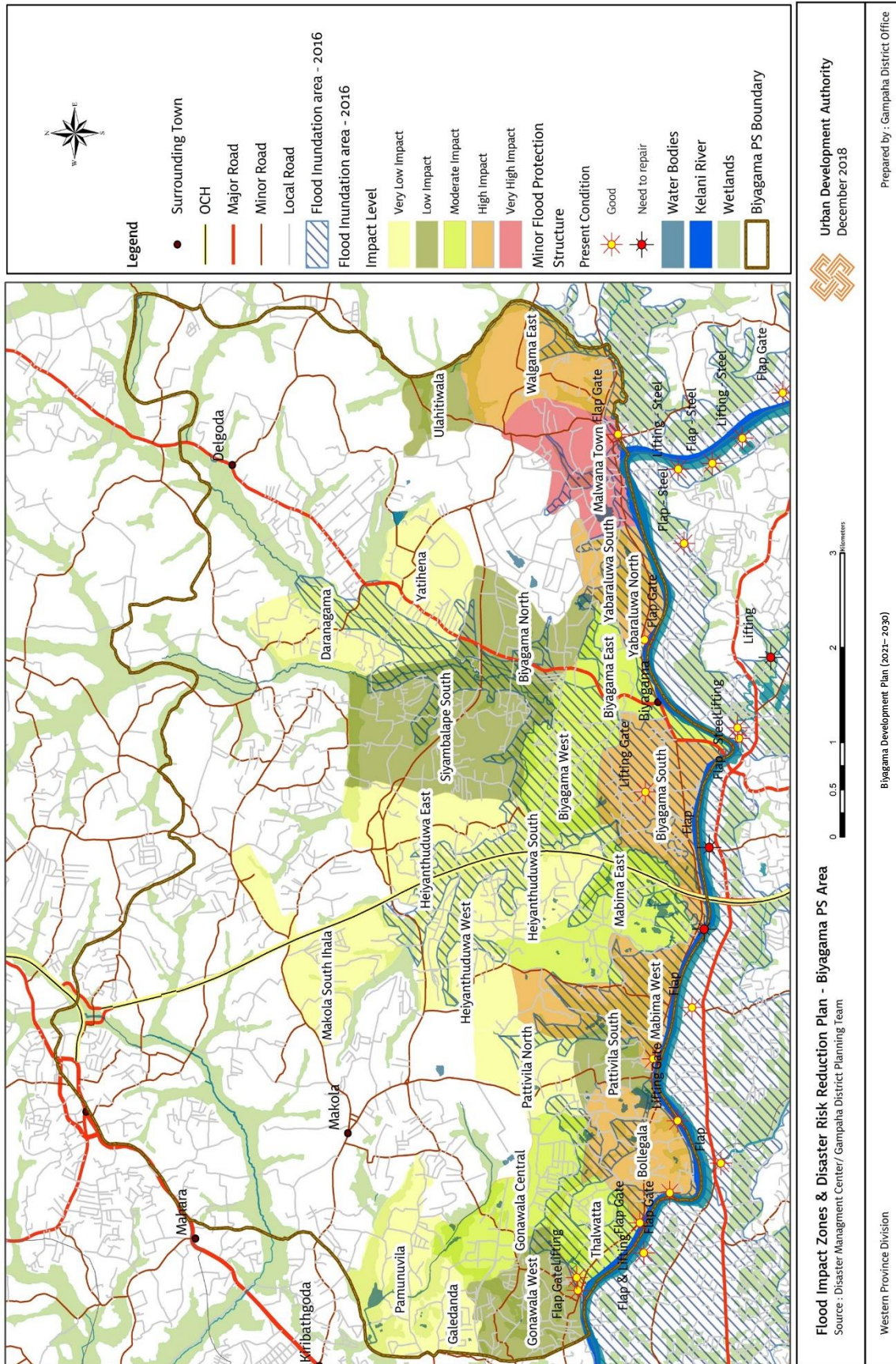
The socio-economic impact of the Kelani river flood can be identified as the key issue under the planning need of the Biyagama development plan. This has been proved with rational base in the discussions of key planning issues related to the economic loss of local and national level. The livelihood of the people also disturbed and Malwana, Yabaraluwa, Mabima, Pattiwila & Biyagama South GN divisions highly affected due to the floods. Even today, Sri Lankan government spends billions of money every year to manage & risk reduction actions for Kelani river flooding. As per the National Manifesto: Vistas of Prosperity & Splendour discussed about the National level influence to disaster risk reduction actions within the “Disaster Management Component”. In that section, utilizing the money to proactively manage these situations by developing a flood control mechanism with prevention and forewarning systems and water storage and pumping methods to dry areas through drainage and canals systems.

As local context, Biyagama Development Plan identifies the urgent need of actions to Disaster Risk Reduction for the Biyagama PS area & Disaster Risk Reduction Plan is indirectly linked to the proposed environmental conservation plan under the sustainable environmental strategies. In here, the sensitive wetland network will be managing through the identification of critical wetlands that retain the flood water in high capacity. The reservations of the Kelani river and connected tributaries, canals will strengthen the legal framework for unauthorized constructions as well as the mitigation of the flood impact.

As the physical development interventions in local level aspect, Malwana Samba Wela canal which is frequently affected by the floods has been identified to restore and conserve the associated wetland system. This restorative work is based on the study in a sequence of flood events and that will cause to identify five major impact zones by using flood affected GN divisions as per the following Map 6.4.

Under that categorization, the very high flood impact zone was the Malwana GN division. In order to minimize the negative environmental impacts, the current commercial and residential development pressure and the promotion of existing development potentials also considered. The need of restoration of the minor flood protection structures due to damage from the 2016 flood event has also been identified under the Disaster Risk Reduction Plan.

Map 6.14: Flood Impact Zones and DRR Plan



Prepared By: Gampaha District Office, WP-UDA / Environmental & Landscape Division - UDA, 2021



## 6.5.4 Public Outdoor Recreational Space Plan

According to accepted standards of the UDA, 1.0 hectare of open space should be provided for 1000 people. The current recorded population is 192,022 and the population projections in the Biyagama Development Plan, it is expected to reach approximately 248,000 by the year 2030. With this fact, Biyagama PS area need 247 ha of Public Outdoor & Recreation Spaces for cater to the total expected population in the future.

### 6.5.4.1 Details of Public Outdoor & Recreation Spaces Biyagama PS area

At present, 11.7 ha of total public outdoor & recreation spaces are located in the Biyagama PS area. These public outdoor & recreation spaces are listed in following table 6.14 and the Annexure 36 with the categorization standards followed by UDA.

**Table 6.12 : Existing Public Outdoor & Recreation Spaces in Biyagama - 2018**

No	Type of Park	Extent (ha)
1.	Pocket Parks (EPP)	1.2
2.	Mini Park (EMP)	4.0
3.	Local Parks (ELP)	5.5
4.	Linear Park (ELiP)	1.0
	Total	11.7

Source : Landscape & Environment Division - UDA, 2021

The analysis of the public outdoor & recreation spaces for future requirement has been indicated through the annexure 37.

**Table 6.13: Proposed Public Outdoor Recreation Space Plan for Biyagama - 2021 -2030**

No	Type of Park	Extent (ha)
1.	Pocket Parks (EPP)	1.1
2.	Mini Park (EMP)	1.4
3.	Linear Park (ELiP)	215.9
	Total	218.4
4.	Existing Public Outdoor Recreation Space	11.7
	Total	230.1

Source: Landscape & Environment Division - UDA, 2021

In addition, the Public Outdoor Recreation Space Plan also incorporates the following suggestions:

**1. Reconstruction of existing parks and play grounds.**

The existing parks and gardens should be developed according to a proper landscape plan under the guidance of the qualified persons. The 10% land from the land subdivisions should be developed as Pocket Park. Annexure 37 indicated the details of 10% land from the subdivisions

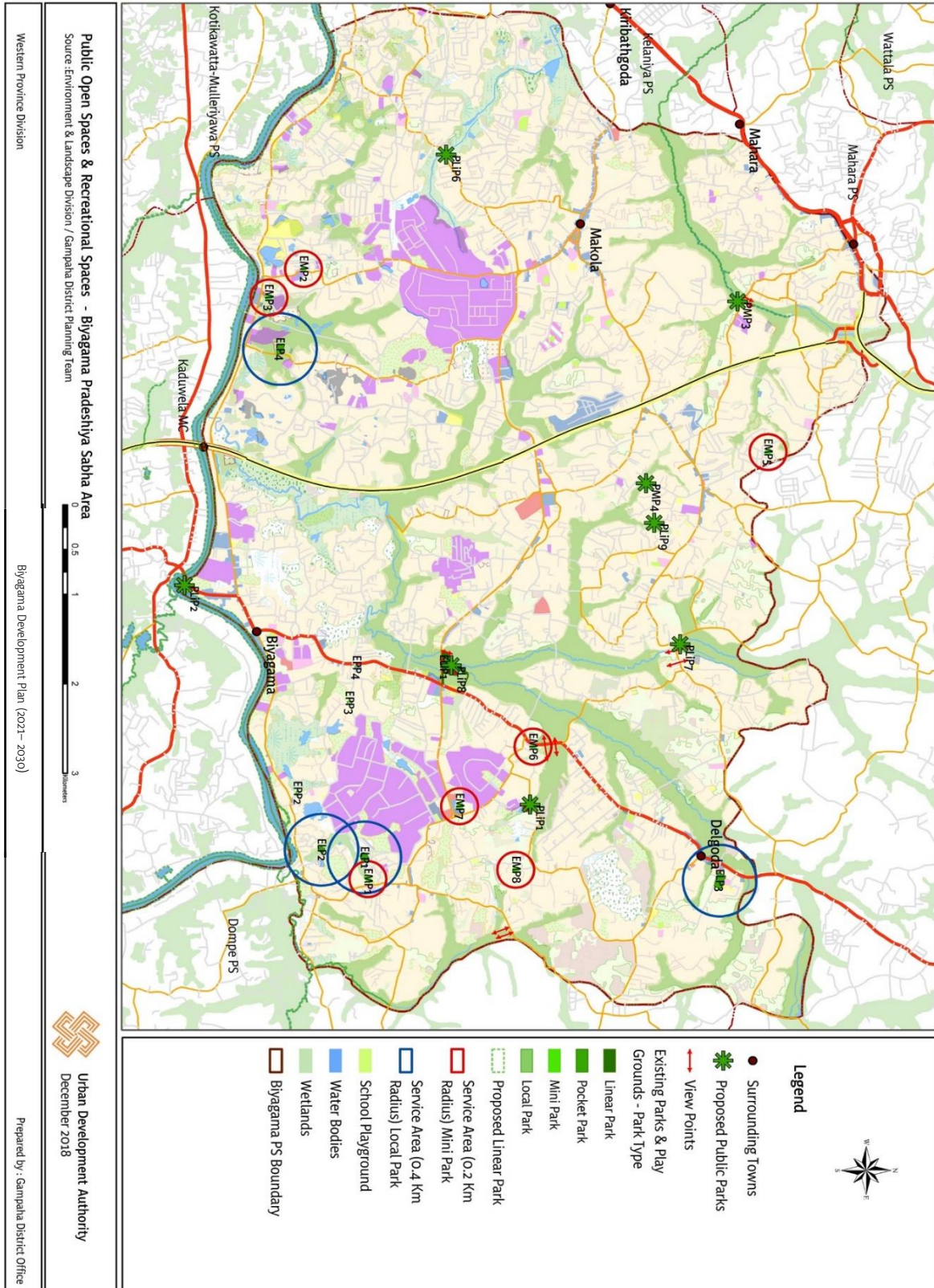
**2. Developing the Linear park concept.**

The Kelani River and the canal reservations should be developed as Linear park concept. Under that it is expected to minimize the flood impact of the Kelani River, improve the public outdoor facilities for people and minimize unauthorized constructions in the river and canals reservations.

**3. Flood prevention, retention and paddy cultivation**

Considering the Kelani River flood impact, it is necessary to protect the existing paddy lands & abandoned paddy lands for flood prevention and retention in the area. The development activities should be structured in accordance with the relevant laws, regulations and guidelines with regard to the recommendations of the relevant institutions.

Map 6.15 : Proposed Public Outdoor Recreation Space Plan



## 6.6. Implementation Strategies

### 6.6.1 Strategic Projects & Other Projects

As the future vision of the Biyagama “The Tranquilized Industrial City” under the Biyagama Urban Development plan, it is expected to integrate physical, social, environmental and economic aspects all together by implementing the identified strategic projects on the real ground. In that, all the strategic projects have been categorizing under four sections to identify the priority levels of each projects and Annexure 34 indicate that mechanism.

#### First Priority Projects

1. Central Investment Corridor Development Project
  - Develop Gonawala – Sapugaskanda Road with four lanes
  - Develop Karabugas Junction – Yatihena Road with four lanes
2. Main Industrial Nodal Development in Central Investment Corridor
  - Nagahamula Junction Industrial Nodal Development
  - Karabugas Junction Industrial Nodal Development
3. Major Local Industrial Collector Development Project
  - Develop Biyagama - Colombo Road with four lanes
  - Develop Malwana - Dompe Road with four lanes
  - Develop Mabima Road with four lanes
4. Plug & Play Industrial Parks Development Project
  - Develop Sapugaskanda Plug & Play Industrial Park – I
  - Develop Sapugaskanda Plug & Play Industrial Park – II
5. Malawana Fabric & Commercial Riverfront Corridor Development Project
6. Malawana Sambawela Canal Restoration Project & Riverfront Park Development Project
7. Siyambalape Wetland Park Development Project
8. Mawaramandiya Linear Park Development Project
9. Yatihena Tank & Surroundings Park Development Project
10. Biyagama Technological Waste Water Treatment Plant Project
11. Industrial Oriented Smart Business Centre Development Project
12. Delgoda Town Centre Development Project
13. Mawaramandiya Town Centre Development Project
14. Makola Town Centre Development Project

## **Second Priority Projects**

1. Sub Local Industrial Collector Development Project
  - Develop Pattiwila - Makola Road with four lanes
  - Develop Thai Temple Road with two lanes
  - Develop Dimo Road with four lanes
  - Develop Mankada Road with four lanes
  - Develop Mawaramandiya - Makola Road with four lanes
  - Develop Jayanthi Mawatha with two lanes
  - Develop Kanduboda Tank Road with two lanes
2. Develop Plug & Play Industrial Park in Dimo Industrial Cluster Area
3. Tree strips development along the local industrial collector roads
4. Establish a Solid Waste Sorting Centre
5. Develop the Mabima Water Treatment Plant
6. Sapugaskanda Waste Water Treatment Project
7. Kadawatha Public Market Development Project

## **Third Priority Projects**

1. Biyagama - Kosgama Railway Project
2. Siyambalape Hospital Development Project
3. Siyambalape Skill Up-gradation Centre Development Project
4. Biyagama Hostel Facilities Development Project
5. Develop Gonawala - Koholvila Road with two lanes
6. Makola Middle Income Housing Project

# Project Brief for First Priority Projects

Project : 01


Name of the Project	Central Investment Corridor Development Project		
Division of the Project	Improvement of Infrastructure facilities for Industrial Promotion		
Project Description			
Province	District	DS Division	GN Division
Western	Gampaha	Biyagama	Walgama West & East, Biyagama North, Siyambalape South, Heiyanthuduwa North, West & East, Sapugaskanda, Gonawala West, East & Central
Location			
Current Status / Land Use in the Surrounding	<p>Industries and related commercial activities are agglomerated in &amp; around Samurdi Mawatha and Gonawala area with mixed residential development.</p>		
Land Ownership	RDA & Private Owners		

Expected Status							
Type of Project	New		Improvement		Extension	Land Improvement only	
			X				
Project Category	Conservation (Environment or Archaeological)	Commercial	Landscape & Recreational Activities		Relocation	Infrastructure Development	Others
						X	
<b>Rational of the Project</b>	<p>Samurrdhi Mawatha which built by the Board of Investment &amp; Biyagama - Colombo Main Road provide more potential for industrial promotion within Biyagama area. The distance to the port is a considerable factor of attraction of industrial investments. However, Samurrdhi Mawatha which getting access to the Colombo harbor through Makola, Kiribathgoda via the Colombo - Kandy main road is facing a 10-15 km/h heavy traffic congestion every day. Also, vehicles below 3.5m are not allowed to enter from the Peliyagoda 4th mile post in the Colombo - Biyagama Road. Therefore, they have to use the Waragoda Road to enter the Colombo - Kandy Road &amp; this situation leads to discourage the freight transportation. According to the industrial economic plan, it is proposed to connect Samurrdhi Mawatha, Gonawala - Sapugaskanda road each other and develop as a Central Investment Corridor with the basic infrastructure facilities. Accordingly, this road develops as a priority lane via Nagahamula junction and connect to the Biyagama Colombo road. According to the Kelani-via Development Plan Koholvila - Gonawala road via proposed Kelani temple access road and Crescent Road connected to each other. And It will give the access to Colombo harbor via proposed elevated port access highway.</p>						
<b>Project Objectives</b>	<ul style="list-style-type: none"> <li>To provide basic facility corridor to enhance the industrial economy.</li> <li>To improve the efficiency of freight transportation through connecting to the harbor within a short time.</li> </ul>						
<b>Imaginary Situation</b>	<p style="text-align: center;">Total Width of the 2<sup>nd</sup> Priority Road = 30 m Building Line of the 2<sup>nd</sup> Priority Road = 15 m</p>						
<b>Project Period</b>	Short term (1> Year)		Medium term (1-3 Years)		X	Long term (3< Years)	
<b>Project Related Zone</b>	<p>Moderate Dense Industrial Zone I and II, Moderate Dense Local Business Zone, Low Dense Special Development Zone</p>						

## Project : 02

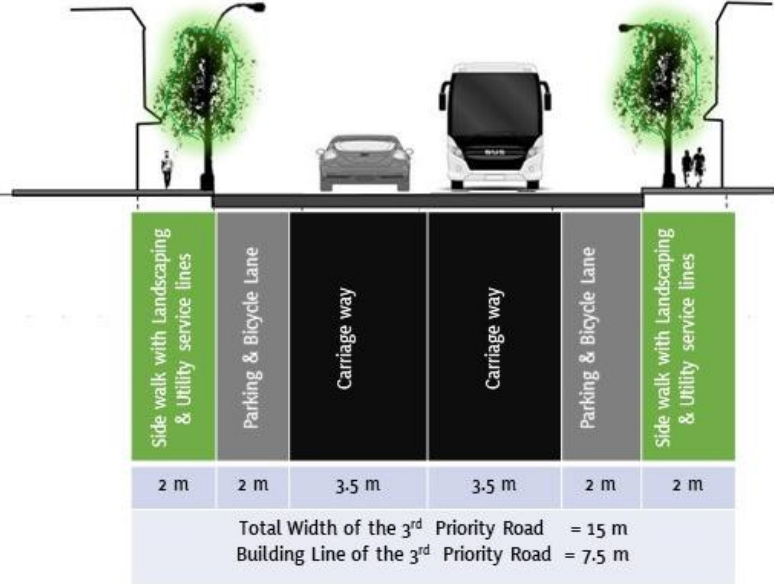
Project	Main Industrial Nodal Development in Central Investment Corridor					
Division of the Project	Improvement of Infrastructure facilities for Industrial Promotion					
Project Description						
Province	District	DS Division	GN Division			
Western	Gampaha	Biyagama	Gonawala West & Walgama West			
Location						
<p>Nodal Point 1 - Nagahamula Junction Existing Situation</p>		<p>Nodal Point 2 - Karabugas Junction Existing Situation</p>				
Current Status / Land use of the Surrounding	Commercial uses are developed in the surrounding area of Nagahamula and Karabugas junction.					
Land Ownership	RDA & Private Owners					
Expected Status						
Type of Project	New	Improvement	Extension	Land Improvement only		
		X				
Project Category	Conservation (Environment or Archaeological)	Commercial	Landscape & Recreational Activities	Relocation	Infrastructure Development	Others
					X	



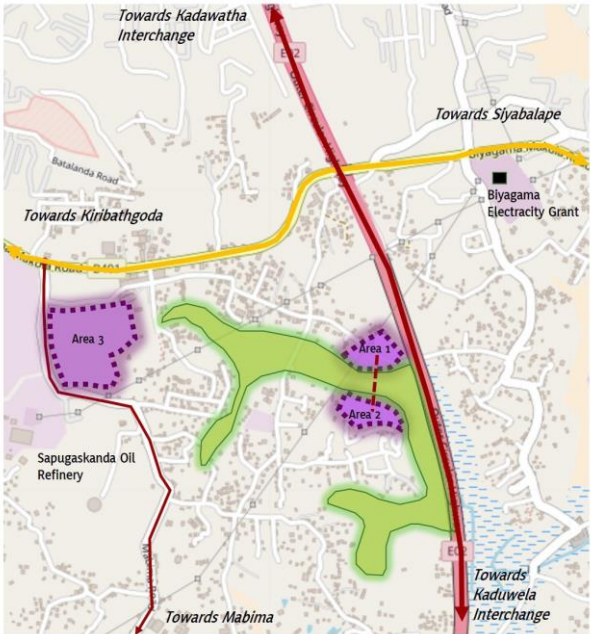
<b>Rational of the Project</b>	<p>As per the future vision of Biyagama Development Plan, “Tranquilized Industrial City”, it is proposed to promote industrial based economy within Biyagama. In order to achieve this, it is expected to develop the Central Investment Corridor which will be constructed by connecting Sapugaskanda-Gonawala Road and Samurधि Mawatha as agglomerated industrial related ser-vices into a main corridor.</p> <p>Nagahamulla Junction is providing the access to the Moderate Dense Industrial Zone - II from the Colombo side &amp; Karabugas Junction giving access for Moderate Dense Industrial Zone – I from the internal areas of country side like Dompe, Dekatana.</p>			
<b>Project Objectives</b>	<ul style="list-style-type: none"> <li>• Provision of efficient transportation for export and import goods of the manufacturing plants as well as the employees from the internal areas</li> </ul>			
<b>Imaginary Situation</b>				
<b>Project Period</b>	Short term (1> Year)	Medium term (1-3 Years)	X	Long term (3< Years)
<b>Project Related Zone</b>	Moderate Dense Local Business Zone and Low Dense Special Development Zone			


## Project : 03

Name of the Project		Major Local Industrial Collector Development Project					
Division of the Project		Improvement of Infrastructure Facilities for Industrial Promotion					
Project Description							
Province	District	DS Division			GN Division		
Western	Gampaha	Biyagama			Walgama West & East, Biyagama North, Siyambalape South, Heiyanthuduwa North, West & East, Sapugaskanda, Gonawala West, East & Central		
Location							
Current Status / Land use of the Surrounding -		Along both sides of these roads represent the commercial, industrial and residential mixed land use pattern.					
Land Ownership		RDA & Private Sector					
Expected Status							
Type of Project		New	Improvement		Extension		Land Improvement only
			X				
Project Category		Conservation (Environment or Archaeological)	Commercial	Landscape & Recreational Activities	Relocation	Infrastructure Development	Others
						X	


<p><b>Rational of the Project</b></p>	<p>As per the future vision of Biyagama Development Plan, “Tranquilized Industrial City”, it is proposed to promote industrial based economy within Biyagama. Under this, it is proposed to open up 13% from the total land area through collector road pattern for industrial investments. Improvement of the internal road pattern giving the access for proposed moderate dense industrial zones and indirectly this project supports to the industrial investments by opening the suitable lands for industrial promotions.</p> <p>The Main Port Access Road and the Biyagama - Colombo Road which is a part of as the New Kandy Road and the Mabima Road that gives access to the inner lands are expected to develop with 4 lanes. Further it is proposed to widen Malwana - Dompe Road up to 4 lanes which provide access to Malwana where industrial related business activities as well as homestead industries are expanded.</p>																					
<p><b>Project Objectives</b></p>	<ul style="list-style-type: none"> <li>• Open up internal lands for industrial investment opportunities in the area.</li> <li>• Promote industrial related commercial uses through improving the main access roads associated with the Central Investment Corridor.</li> </ul>																					
<p><b>Imaginary Situation</b></p>	 <p>The diagram illustrates the cross-section of a 3rd Priority Road. It features a central section with two 3.5 m wide carriage ways. On either side of these are 2 m wide parking and bicycle lanes, and further out are 2 m wide side walks with landscaping and utility service lines. The total width of the road is 15 m, and the building line is 7.5 m.</p> <table border="1" data-bbox="512 965 1118 1339"> <tr> <td>Side walk with Landscaping &amp; Utility service lines</td> <td>Parking &amp; Bicycle Lane</td> <td>Carriage way</td> <td>Carriage way</td> <td>Parking &amp; Bicycle Lane</td> <td>Side walk with Landscaping &amp; Utility service lines</td> </tr> <tr> <td>2 m</td> <td>2 m</td> <td>3.5 m</td> <td>3.5 m</td> <td>2 m</td> <td>2 m</td> </tr> <tr> <td colspan="6" style="text-align: center;">                 Total Width of the 3<sup>rd</sup> Priority Road = 15 m                  Building Line of the 3<sup>rd</sup> Priority Road = 7.5 m             </td> </tr> </table>				Side walk with Landscaping & Utility service lines	Parking & Bicycle Lane	Carriage way	Carriage way	Parking & Bicycle Lane	Side walk with Landscaping & Utility service lines	2 m	2 m	3.5 m	3.5 m	2 m	2 m	Total Width of the 3 <sup>rd</sup> Priority Road = 15 m Building Line of the 3 <sup>rd</sup> Priority Road = 7.5 m					
Side walk with Landscaping & Utility service lines	Parking & Bicycle Lane	Carriage way	Carriage way	Parking & Bicycle Lane	Side walk with Landscaping & Utility service lines																	
2 m	2 m	3.5 m	3.5 m	2 m	2 m																	
Total Width of the 3 <sup>rd</sup> Priority Road = 15 m Building Line of the 3 <sup>rd</sup> Priority Road = 7.5 m																						
<p><b>Project Period</b></p>	<p>Short term (1&gt; Year)</p>	<p>Medium term (1-3 Years)</p>	<p>X</p>	<p>Long term (3&lt; Years)</p>																		
<p><b>Project Related Zone</b></p>	<p>Moderate Dense Industrial Zone I and II, Moderate Dense Local Business Zone, Low Dense Special Development Zone.</p>																					

## Project : 04

Name of the Project	Development of Sapugaskanda Industrial Park - I & II		
Division of the Project	Improving the Infrastructure for Industrial Promotion		
Project Description			
Province	District	DS Division	GN Division
Western	Gampaha	Biyagama	Sapugaskanda and Heiyantuduwa West
Location			
 <p>The map shows the Sapugaskanda Industrial Park area with three designated zones: Area 1 (green), Area 2 (purple), and Area 3 (pink). Area 3 is the largest and is located near the Sapugaskanda Oil Refinery. The map also shows major roads like the E2 and E3, and interchanges towards Kadawatha, Siyabalape, and Kaduwela. Other landmarks include the Biyagama Electricity Grant and the Sri Seelarithana Nahimi Mawatha.</p>		<p>Current Status / Land use of the Surrounding</p> <p>The Area number 3 is located very close to the Sapugaskanda Oil Refinery Centre and Lindel Industrial Estate &amp; the access is provided through the Mabima Road. Sri Seelarithana Nahimi Mawatha provides access to the area 1 &amp; 2 and the proposed land is located very close to the Central Investment Corridor. Industry related storage facilities, Warehouse facilities as well as commercial uses are also located near the proposed land.</p>	
Land Ownership	Private		
Land Extent	Area 01 - 7.5 Acre Area 02 - 5.5 Acre Area 03 - 30.3 Acre		

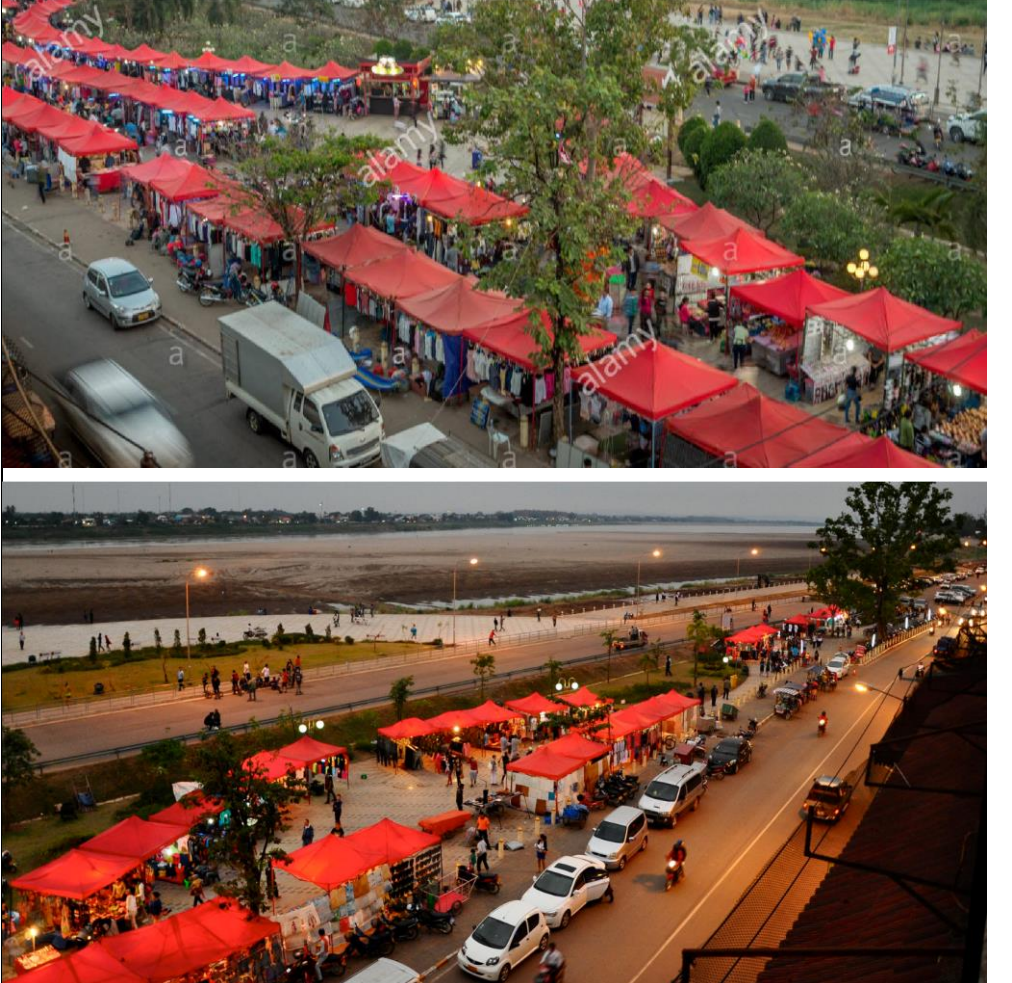
Expected Status						
Type of Project	New		Improvement		Extension	Land Improvement only
						X
Project Category	Conservation (Environment or Archaeological)	Commercial	Landscape & Recreational Activities	Relocation	Infrastructure Development	Others
						X
<b>Rational of the Project</b>	As per the future vision of Biyagama Development Plan, "Tranquilized Industrial City", it is proposed to promote industrial based economy with sustainable environment principles. Through this process the wetlands which are distributed throughout the area will be harmonizing to the brownfield development by minimizing the negative impacts to create sustainable industrial environment. Also, this project will be guided model industrial park for Western region with the development of economic and environment values.					
<b>Project Objectives</b>	<ul style="list-style-type: none"> <li>Regularization of Industrial Development under Sustainable Environmental Principles</li> <li>Minimizing the negative impacts on sensitive wetlands</li> </ul>					
<b>Imaginary Situation</b>						
<b>Project Period</b>	Short term (1> Year)	X	Medium term (1-3 Years)		Long term	
<b>Project Related Zone</b>	Moderate Dense Industrial Zone II					

## Project : 05

<b>Name of the Project</b>		Malwana Fabric & Commercial Riverfront Corridor Development Project					
<b>Division of the Project</b>		Promotion of small-scale industries related to large scale industries					
<b>Project Description</b>							
<b>Province</b>	<b>District</b>	<b>DS Division</b>		<b>GN Division</b>			
Western	Gampaha	Biyagama		Malwana			
<b>Location</b>							
							
<b>Current Status / Land use of the Surrounding</b>		There are some unauthorized commercial and business activities developed along the Right Bank of Kelani River reservation. Most of the businesses are fabric related industries which are inter connected with the Biyagama EPZ.					
<b>Land Ownership</b>		Reservations of Irrigation Department and Private Owners					
<b>Expected Status</b>							
<b>Type of Project</b>	<b>New</b>		<b>Improvement</b>		<b>Extension</b>	<b>Land Improvement only</b>	
			X				
<b>Project Category</b>	<b>Conservation (Environment or Archaeological)</b>	<b>Commercial</b>	<b>Landscape &amp; Recreational Activities</b>		<b>Relocation</b>	<b>Infrastructure Development</b>	<b>Others</b>
							X

<b>Rational of the Project</b>	<p>Malwana town is a sub town located in the Biyagama PS area and closer to the Biyagama EPZ. Fabric related subindustries and commercial activities are spread along the Biyagama – Dompe Road. Under the current development pressure, these commercial uses are also being expanded, covering the Kelani River Reservation and always this commercial strip affected by Kelani River seasonal flood events. Accordingly, the project will be introduced on the basis of the local business promotion &amp; development with proper regulatory framework by making the advantage of aesthetic value of the Kelani River.</p> <p>Further it is proposed the Recreational Park Development Project along the canal bank of Malwana Sambawela in order to promote the land use of the area as a Moderate Dense Local Business Zone in the future as well as base on sustainable economy and environmental values.</p>
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<b>Project Objectives</b>	<ul style="list-style-type: none"> <li>• Combine the Kelani River Reservation with its natural landscape to economic value generations.</li> <li>• Reduce the impact of flood situations to the local economy and people.</li> </ul>
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<b>Imaginary Situation</b>	 <p>The top photograph shows a busy street market with numerous stalls covered by red awnings. People are walking along the sidewalk, and vehicles, including a white van and a silver car, are on the road. The bottom photograph shows a waterfront promenade at dusk or night. The area is illuminated by streetlights, and there are people walking along the path. In the background, a large body of water is visible under a dark sky.</p>			
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<b>Project Period</b>	Short term (1> Year)	X	Medium term (1-3 Years)	Long term (3 Years)
<b>Project Related Zone</b>	Moderate Dense Local Business Zone			

## Project : 06

<b>Name of the Project</b>		Malwana Sambawela Canal Restoration Project & Riverfront Park Development Project		
<b>Division of the Project</b>		Public Open Space & Environmental Management		
<b>Project Details</b>				
<b>Province</b>	<b>District</b>	<b>DS Division</b>	<b>GN Division</b>	
Western	Gampaha	Biyagama	Malwana	
<b>Location</b>				
<p>The map shows the Malwana area with the Sambawela Canal flowing into the Kelani River. Key features include: <ul style="list-style-type: none"> <li><b>Industrial Establishments (Waste dumping site):</b> Located in the north of the canal.</li> <li><b>Residential Expansion:</b> Indicated by purple arrows pointing towards the canal.</li> <li><b>Commercial &amp; Urban Mix Expansion:</b> Indicated by red arrows pointing towards the canal.</li> <li><b>Proposed Projects:</b> <ul style="list-style-type: none"> <li>River drive</li> <li>Non-structural recreation park</li> <li>Rakshapana rock plain area as a Heritage site</li> <li>Bathing place Improvement</li> </ul> </li> </ul> Other map labels include: Public, Park &amp; Playground, Bank, Industrial, Residential, Educational, Religious, Water Bodies, Marshy, Malwana Stream, Kelani River, and various agricultural areas like Coconut, Paddy, and Other Plantation.</p>				
<b>Current Status / Land use of the Surrounding</b>	Biyagama EPZ and its solid waste dumping area located in north of Sambawela Canal. Commercial and mix residential environment can be seen in that area. The Sambawela Canal flows into the Kelani river through an abandoned paddy field and Dompe main road. Due to recent floods, the canal is eroded. Also, Commercial uses are widely used as unauthorized constructions on both sides of the canal reservation.			
<b>Land Ownership</b>	Canal Reservation and Private			



Expected Status						
Type of Project	New		Improvement		Extension	Land Improvement only
	X					
Project Category	Conservation (Environment or Archaeological)	Commercial	Landscape & Recreational Activities	Relocation	Infrastructure Development	Other
			X			
<b>Rational of the Project</b>	Biyagama Development Plan identified Malwana town as sub town center within Biyagama PS area which is having current high development pressure and also as the highest flood affected GN division. Accordingly, it is expected to protect river and canal reservation with a proper environmental management, while regulating the pressure of local economy and mixed residential development based on indirect economic benefits from the Biyagama EPZ. Further it is proposed to develop Malwana - Sambawela Canal and its surrounding as a river front recreational park through sustainable economic and environmental considerations. Also, this project proposed to promote this area as a Moderate Dense Local Business Zone in the future.					
<b>Project Objectives</b>	<ul style="list-style-type: none"> <li>Combine the Kelani River Reservation with its natural landscape to economic value generations.</li> <li>Reduce the impact of flood situations to the local economy and people.</li> </ul>					
<b>Imaginary Situation</b>						
<b>Project Period</b>	Short term (1> Year)	X	Medium term (1-3 Years)		Long term (3 Years)	
<b>Project Related Zone</b>	Moderate Dense Local Business Zone					

## Project : 07

<b>Name of the Project</b>	Siyambalape Wetland Park Development Project						
<b>Division of the Project</b>	Public Open Spaces & Environmental Management						
<b>Project Description</b>							
<b>Province</b>	<b>District</b>	<b>DS Division</b>	<b>GN Division</b>				
Western	Gampaha	Biyagama	Biyagama North & Siyambalape South				
<b>Location</b>							
<b>Current Status / Land use Surroundings</b>	Commercial activities are concentrated at the main junction linking Samurdhi Mawatha which is the main access to the Biyagama EPZ & New Kandy Road. In addition, Technical Training Institutions, warehouses and logistic facilities are located in the surrounding area. Also, the Siyambalape Walking Path and playgrounds are available public spaces of this project area.						
<b>Land Ownership</b>	Canal Reservation and Private Owners						
<b>Expected Status</b>							
<b>Type of Project</b>	<b>New</b>	<b>Improvement</b>		<b>Extension</b>		<b>Land Improvement only</b>	
	X						
<b>Project Category</b>	<b>Conservation (Environment or Archaeological)</b>	<b>Commercial</b>	<b>Landscape &amp; Recreational Activities</b>	<b>Relocation</b>	<b>Infrastructure Development</b>	<b>Others</b>	
			X				

<b>Rational of the Project</b>	<p>In order to balance the sensitive wetland ecosystem and industrial development, it is proposed in the Biyagama Development Plan to promote wetland park development with sensitive wetland systems that are mostly exposed to the negative impact of development pressure. Due to the future expectation of agglomerating industrial and commercial uses for the Central Investment Corridor, this project has been proposed on the basis of protection of aesthetic and ecological importance of the Siyambalape paddy field and the Raggahawatta canal ecosystem.</p>			
<b>Project Objectives</b>	<ul style="list-style-type: none"> <li>To balance the Industrial development and wetland environmental values.</li> <li>To create a resting place within the Central Investment Corridor.</li> </ul>			
<b>Imaginary Situation</b>				
<b>Project Period</b>	Short term (1> Year)	X	Medium term (1-3 Years)	Long term (3 years)
<b>Project Related Zone</b>	Moderate Dense Industrial Zone - I			

## Project : o8

<b>Name of the Project</b>	Mawaramandiya Linear Park Development Project						
<b>Division of the Project</b>	Public Open Spaces & Environmental Management						
<b>Project Description</b>							
<b>Province</b>	<b>District</b>	<b>DS Division</b>	<b>GN Division</b>				
Western	Gampaha	Biyagama	Mawaramandiya				
<b>Location</b>							
<p>The map shows the Mawaramandiya sub-town center. A red line indicates the proposed linear path along the canal, starting from Makola and ending near Dikwela Road. Key landmarks include the Mawaramandiya Multi-Purpose Building, Sudharshi Mawatha, and Priyankara Mawatha. A proposed children's park is marked with a yellow circle, and wetlands with small ponds are marked with a blue circle. Roads shown include Biyagama Road, Dikwela Road, and Makola Road.</p>							
<b>Current Status / Land use of the Surrounding</b>	Most of the residential uses are spread over the area between Sudarshi Mawatha, Priyankara Mawatha and Dikwela Road of the Mawaramandiya sub town center. Multipurpose building of Biyagama PS, Public Library & Pre - Childhood Development Centre are located closer to that area.						
<b>Land Ownership</b>	Canal Reservation and Private Land						
<b>Expected Status</b>							
<b>Type of Project</b>	<b>New</b>		<b>Improvement</b>		<b>Extension</b>		<b>Land Improvement only</b>
	X						
<b>Project Category</b>	<b>Conservation (Environment or Archaeological)</b>	<b>Commercial</b>	<b>Landscape &amp; Recreational Activities</b>	<b>Relocation</b>	<b>Infrastructure Development</b>	<b>Others</b>	
			X				

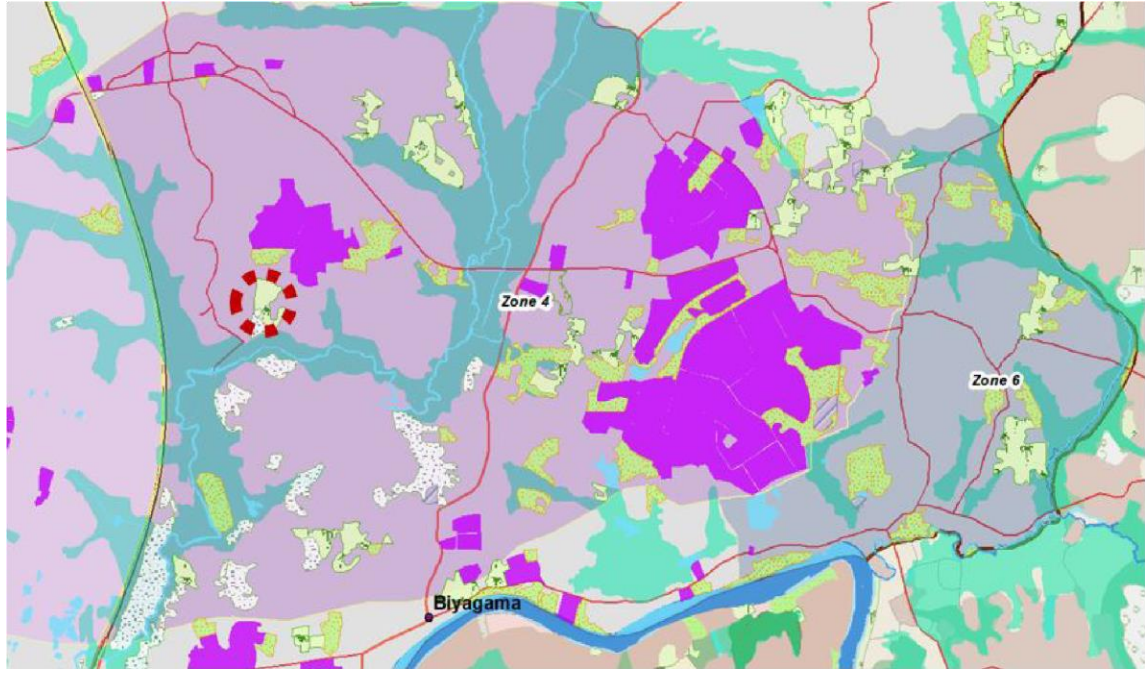
<b>Rational of the Project</b>	Under the density zoning, it has been proposed a High Dense Urban Service Zone centralizing Mawaramandiya Sub town center in the Biyagama Urban Development Plan. The project has been proposed to minimize the unauthorized filling of the abandoned paddy lands as well as to promote recreation and public spaces within this zone. This will also lead to attract the vertical developments with residential complexes and mix development for undeveloped lands in the area.				
<b>Project Objectives</b>	<ul style="list-style-type: none"> <li>• Establishment of a resting place in the High dense urban area</li> <li>• Promotion of mixed residential uses in the undeveloped lands.</li> </ul>				
<b>Conceptual Images</b>					
<b>Project Period</b>	Short term (1> Year)	X	Medium term (1-3 Years)	Long term (3 Years)	
<b>Project Related Zone</b>	High Dense Urban Service Zone				

Project : 09


<b>Name of the Project</b>		Yatihena Tank & Surroundings Park Development Project				
<b>Division of the Project</b>		Public Open space & Environmental Management				
<b>Project Description</b>						
<b>Province</b>	<b>District</b>	<b>DS Division</b>	<b>GN Division</b>			
Western	Gampaha	Biyagama	Kanduboda West, Yatihena			
<b>Location</b>						
<b>Current Status / Land use of the Surrounding</b>	Located in close proximity to the Biyagama EPZ. Hostels for temporary employees, mixed residential and industrial land uses are commonly identified & well connected agro - wetland system also around this area					
<b>Land Ownership</b>	Tank Reservation and Private Owners					
<b>Expected Status</b>						
<b>Type of Project</b>	<b>New</b>	<b>Improvement</b>	<b>Extension</b>	<b>Land Improvement only</b>		
	X					
<b>Project Category</b>	<b>Conservation (Environment or Archaeological)</b>	<b>Commercial</b>	<b>Landscape &amp; Recreational Activities</b>	<b>Relocation</b>	<b>Infrastructure Development</b>	<b>Others</b>
			X			

<b>Rational of the Project</b>	<p>The Biyagama Urban Development Plan attempts to balance the wetland environment and industrial development through developing wetland systems as wetland parks, which are most exposed to negative impacts on development pressure. Under the Density Zoning, Moderate Dense Urban Service Zone and the Moderate Dense Industrial Zone I connected through Wawa Road or else Yatihena road. Accordingly, it is expected to develop the Yatihena tank and the surrounding environment as a recreational area. This project will also contribute to the flood control as well as agricultural activities while aesthetic and important ecological system will be protected in the face of emerging residential and industrial development.</p>			
<b>Project Objectives</b>	<ul style="list-style-type: none"> <li>To balance the Industrial, mixed residential and wetland environmental protection</li> </ul>			
<b>Imaginary Situation</b>	 <p>The top photograph shows a wide view of a wetland park with a wooden walkway crossing a pond. The pond is filled with lily pads and water lilies. In the background, there are trees and a clear sky. The bottom photograph shows a closer view of the wooden walkway. A person is crouching down, possibly taking a photo or observing the water. There are large sunflowers and other plants along the walkway. In the distance, some buildings are visible under a cloudy sky.</p>			
<b>Project Period</b>	Short term (1> Year)	X	Medium term (1-3 Years)	Long term (3 Years)
<b>Project Related Zone</b>	Moderate Dense Urban Service Zone			

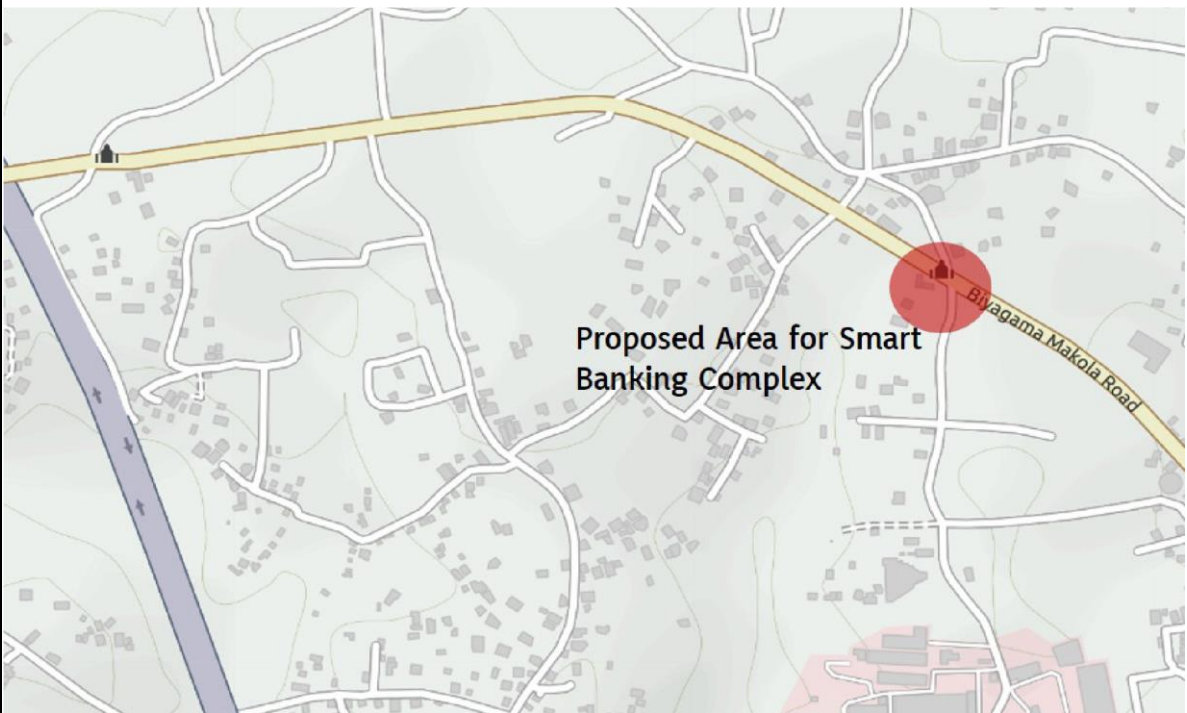
Project : 10

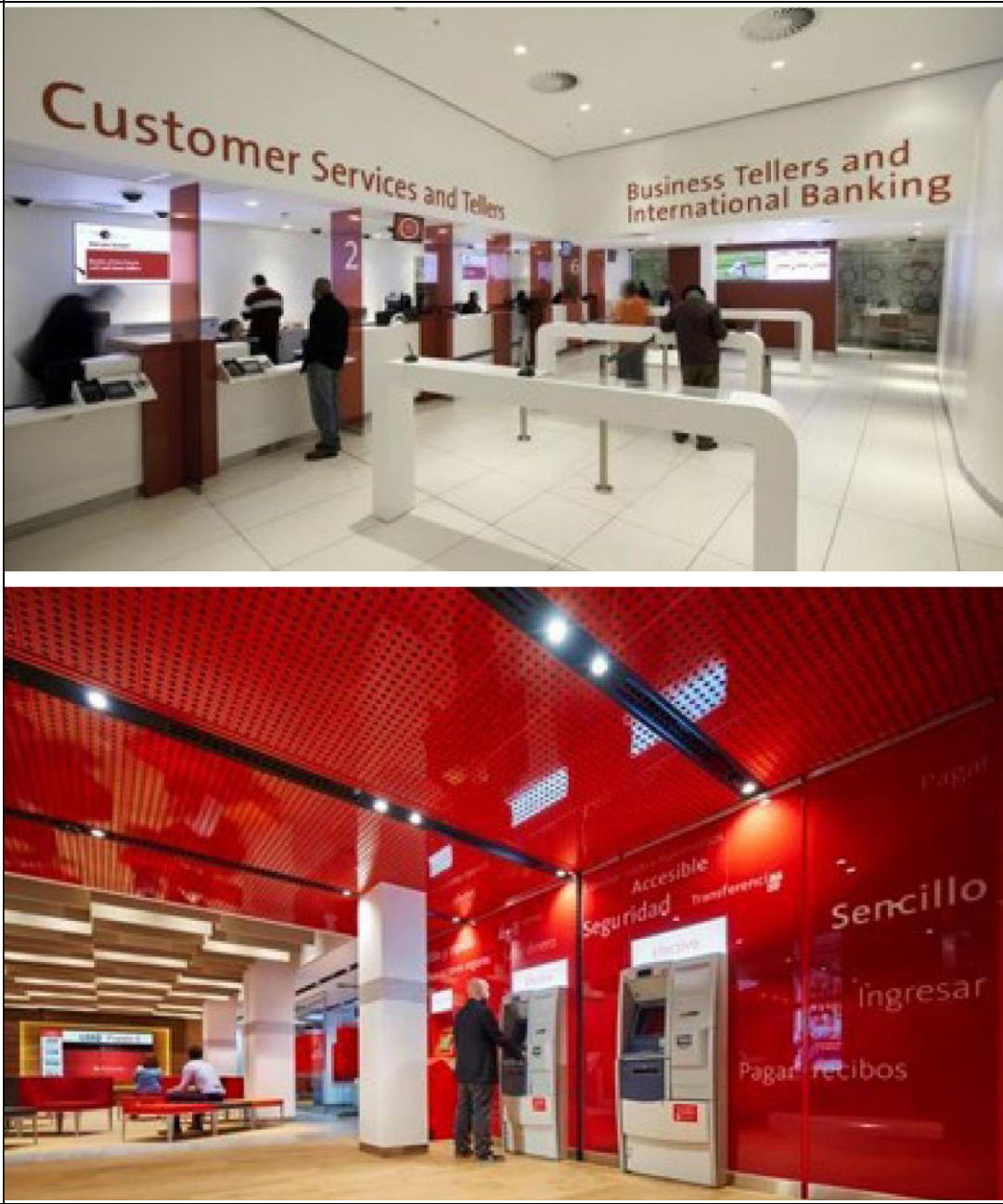
Name of the Project		Biyagama Technological Waste Water Treatment Plant Project				
Division of the Project		Development of Infrastructure for promotion of industries				
Project Description						
Province	District	DS Division		GN Division		
Western	Gampaha	Biyagama		Siyambalape South		
Location						
						
Current Status / Land use of the Surrounding		Multi- national manufacturing companies, Industrial related infrastructure facilities, Container yards, Commercial enterprises & residential developments are common land uses of the area. Biyagama EPZ, Dima industrial cluster are the two main industrial clusters within this area & scrublands are identified as developable lands in this zone.				
Land Ownership		Private	Land Extent	6.5 Acre		
Expected Status						
Type of Project	New		Improvement		Extension	Land Improvement only
	X					
Project Category	Conservation (Environment or Archaeological)	Commercial	Landscape & Recreational Activities	Relocation	Infrastructure Development	Others
					X	



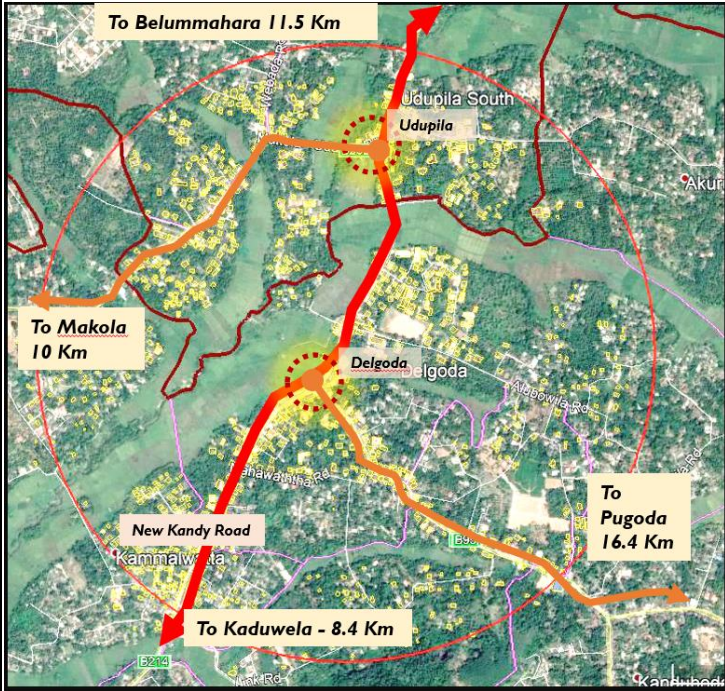
<p><b>Rational of the Project</b></p>	<p>Kelani River Right Bank Water Treatment Plant which is located in the Pattiwila area in Biyagama fulfil the drinking water requirement of the North Colombo area. The treated industrial waste water discharge into the Kelani river through the canals &amp; waterways of the area and during the flood situations this situation led many issues related to the quality of water in Kelani river.</p> <p>The Biyagama Development Plan envisages further development under a sustainable eco principles by the vision of the Tranquilized Industrial City. Proposed Waste Water Treatment Project identified by the Biyagama Development Plan will focus to protect the water quality of the Kelani River which is the main drinking water source of Colombo. Also, according to the predicted waste water discharging calculations in industrial uses in promotional zones, it is higher in this zone in relation to other density zones.</p>			
<p><b>Project Objectives</b></p>	<ul style="list-style-type: none"> <li>• Protection of the quality of drinking water of the people of North Colombo.</li> <li>• Promote industries under the sustainable environmental principles.</li> </ul>			
<p><b>Imaginary Situation</b></p>				
<p><b>Project Period</b></p>	<p>Short term (1&gt; Year)</p>	<p>Medium term (1-3 Years)</p>	<p>X</p>	<p>Long term (3 Years)</p>
<p><b>Project Related Zone</b></p>	<p>Moderate Dense Industrial Zone - I</p>			

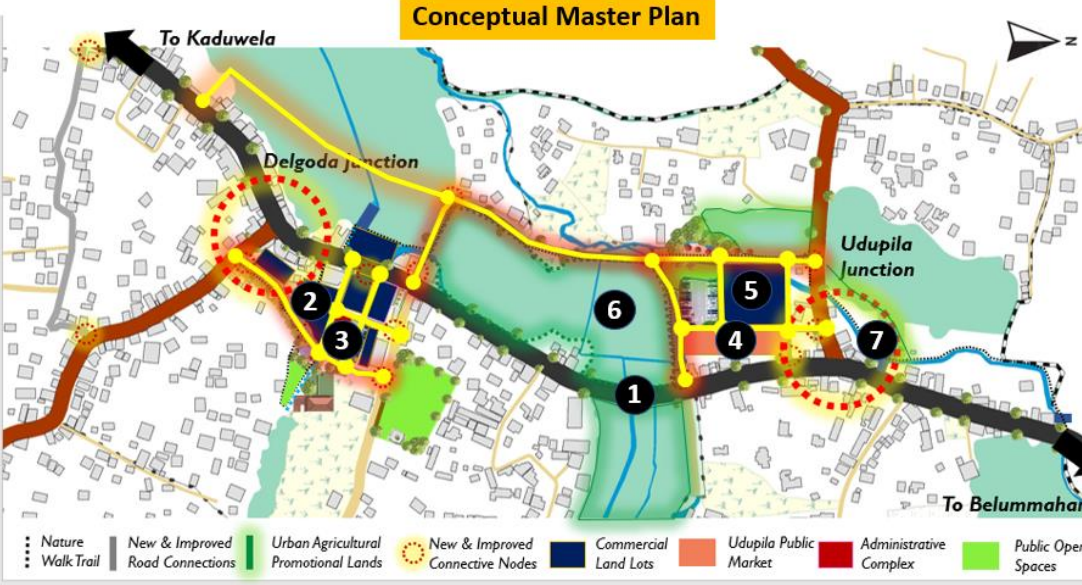
## Project : 11

<b>Name of the Project</b>		Industrial Oriented Smart Business Centre Development Project					
<b>Division of the Project</b>		Modern Infrastructure Development related to Industries					
<b>Project Description</b>							
<b>Province</b>	<b>District</b>	<b>DS Division</b>		<b>GN Division</b>			
Western	Gampaha	Biyagama		Heiyanthuduwa East			
<b>Location</b>							
							
<b>Current Status / Land use of the Surrounding</b>		Both sides of the Samurghi Mawatha having industries & its related land uses as well as residential & commercial uses. Dimo industrial cluster located close proximity to this proposed site & access getting from the Mahena Road.					
<b>Land Ownership</b>		Private					
<b>Land Extent</b>		0.4 Acre					
<b>Expected Status</b>							
<b>Type of Project</b>	<b>New</b>		<b>Improvement</b>		<b>Extension</b>	<b>Land Improvement only</b>	
	X						
<b>Project Category</b>	<b>Conservation (Environment or Archaeological)</b>	<b>Commercial</b>	<b>Landscape &amp; Recreational Activities</b>	<b>Relocation</b>	<b>Infrastructure Development</b>	<b>Others</b>	
					X		

<b>Rational of the Project</b>	<p>Biyagama Development Plan is expected to promote basic infrastructure required for the industrial development &amp; direct Biyagama as Tranquilized Industrial City. All the financial &amp; business sector related banks are not located in Delgoda, Makola and Mawaramandiya in the Biyagama sub town centers. Therefore, people have to fulfill those services from the banks of Kiribathgoda, Kaduwela and Kadawatha which are located outside the city limits. Proposed Smart Banking Centre targeting mainly the manufacturing industries and employment centers as well as Biyagama residential community. With this, it is expected to provides an efficient service through a combination of modern technology in order to fulfil all banking activities, financial institutions and commercial facilities at one place.</p>				
<b>Project Objectives</b>	<ul style="list-style-type: none"> <li>• Creating a financing chain with efficient services for promoting industrial economy</li> </ul>				
<b>Imaginary Situation</b>					
<b>Project Period</b>	Short term (1> Year)	Medium term (1-3 Years)	X	Long term (3 Years)	
<b>Project Related Zone</b>	Moderate Dense Industrial Zone - I				

## Project : 12

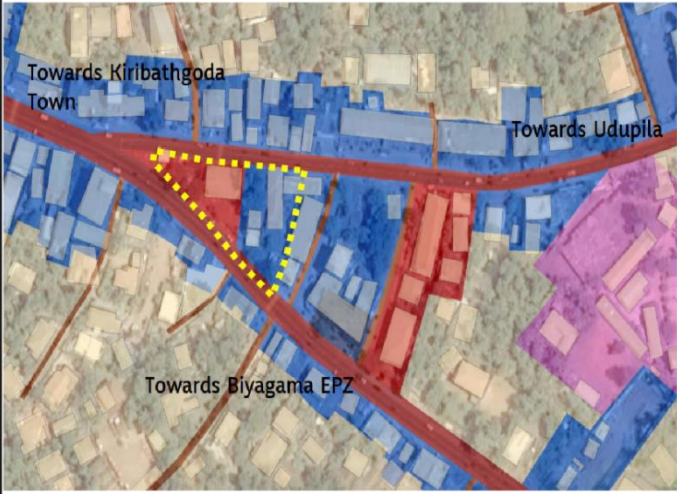
Name of the Project		Delgoda – Udupila Integrated Township Development Project				
Division of the Project		Nodal Development				
Project Description						
Province	District	DS Division		GN Division		
Western	Gampaha	Biyagama		Delgoda		
Location				Current Status/Land use of the Surrounding		
				<p>Delgoda Sub town center creates by the connection of Delgoda - Pugoda Road and New Kandy Road. At present several commercial and administrative requirements are concentrated around this junction.</p>		
Land Ownership	Private					
Land Extent	1.79 Ha (4.4 Acres) 128 perches (Low lying land – 61.5/High Land - 66.5)					
Expected Status						
Type of Project	New		Improvement		Extension	Land Improvement only
	X					
Project Category	Conservation (Environment or Archaeological)	Commercial	Landscape & Recreational Activities	Relocation	Infrastructure Development	Others
						X

<p><b>Rational of the Project</b></p>	<p>Delgoda town center could be identified as the main urban center in the Moderate Dense Urban Service Zone, according to the proposed density zoning of Biyagama Development Plan. Delgoda town center which is located in close proximity to Biyagama EPZ &amp; with a rapid development pressure of the area lead the need of planned manner nodal development. This project aims to link the existing bus terminal and the commercial development with improved urban services. With this nodal development, it serves over 6,000 housing units and getting benefits about 24,000 residential community. Through this project, that will facilitate the urban service nodes as an integrated service-oriented urbanity through the blends of agro - landscape.</p>			
<p><b>Project Objectives</b></p>	<ul style="list-style-type: none"> <li>• Expansion of commercial &amp; urban services in the Moderate Dense Urban Service Zone.</li> <li>• Reduce the congestion of the main artery</li> <li>• Encourage the safe, linked &amp; effective walkability within the urbanity</li> </ul>			
<p><b>Imaginary Situation</b></p>	 <p><b>Conceptual Master Plan</b></p> <p>The map illustrates the urban layout with nodes 1 through 7. Key locations include 'To Kaduwela' (top left), 'Delgoda Junction' (center left), 'Udupila Junction' (center right), and 'To Belummahara' (bottom right). A legend at the bottom identifies various land use zones: Nature Walk Trail (dotted line), New &amp; Improved Road Connections (thick grey line), Urban Agricultural Promotional Lands (green), New &amp; Improved Connective Nodes (yellow circle), Commercial Land Lots (blue), Udupila Public Market (orange), Administrative Complex (red), and Public Open Spaces (light green). A north arrow is located in the top right corner.</p>			
<p><b>Project Period</b></p>	<p>Short term (1&gt; Year)</p>	<p>Medium term (1-3 Years)</p>	<p>X</p>	<p>Long term (3 Years)</p>
<p><b>Project Related Zone</b></p>	<p>Moderate Dense Urban Service Zone</p>			

## Project : 13

<b>Name of the Project</b>	Mawaramandiya Town Center Development Project						
<b>Division of the Project</b>	Nodal Development						
<b>Project Description</b>							
<b>Province</b>	<b>District</b>	<b>DS Division</b>			<b>GN Division</b>		
Western	Gampaha	Biyagama			Mawaramandiya		
<b>Location</b>							
						<b>Current Status / Land use of the Surrounding</b>  Mankada Road from Kadawatha to Udupila & part of Delgoda - Pettah bus route from Kiribathgoda to Udupila links with Mawaramandiya town center. It is one of the sub town center within the Biyagama Urban Declared Area which provides commercial and urban services.	
<b>Land Ownership</b>	Private						
<b>Expected Status</b>							
<b>Type of Project</b>	New		Improvement		Extension		Land Improvement only
	X						
<b>Project Category</b>	Conservation (Environment or Archaeological)	Commercial		Landscape & Recreational Activities	Relocation	Infrastructure Development	Others
							X
<b>Rational of the Project</b>	Mawaramandiya could be identified as the main urban centre in the proposed High Dense Urban Service Zone of the density zoning plan of Biyagama Development Plan. Due to the close proximity to the Kadawatha, Mawaramandiya obtained high development pressure under the Development Pressure Index. This identification has been proved by an area which gets access from Colombo - Kandy main road, Kadawatha interchange of the Outer Circular Highway which will be the gateway of proposed Central Expressway and proposed light rail project. Through these future transport-oriented developments will cause to attract commercial and residential uses to the area. That emphasized the need of proper management of these uses & providing all services and facilities to satisfy the requirements of the future generations. With this project, there will be nodal development which provides services for more than 7000 housing units and around 30,000 of people as beneficiaries.						
<b>Project Objectives</b>	<ul style="list-style-type: none"> <li>Facilitate urban services in High Dense Urban Service Zone for residential &amp; commuting population.</li> </ul>						
<b>Project Period</b>	Short term (1> Year)		Medium term (1-3 Years)		X	Long term	
<b>Project Related Zone</b>	High Dense Urban Service Zone						

Project : 14

<b>Name of the Project</b>		Makola Town Center Development Project				
<b>Division of the Project</b>		Nodal Development				
<b>Project Description</b>						
<b>Province</b>	<b>District</b>	<b>DS Division</b>	<b>GN Division</b>			
Western	Gampaha	Biyagama	Sapugaskanda			
<b>Location</b>						
			<b>Current Status / Land use of the Surrounding</b>  Makola Junction creates the connection of the Makola road which starts from Colombo – Kandy Main Road at Kiribathgoda town up to the Biyagama EPZ and the road which runs up to Udupila Junction. It is developed with the commercial and administrative landuses.			
<b>Land Ownership</b>	Private					
<b>Land Extent</b>	0.80 Ha					
<b>Expected Status</b>						
<b>Type of Project</b>	<b>New</b>		<b>Improvement</b>		<b>Land Improvement only</b>	
			X			
<b>Project Category</b>	<b>Conservation (Environment or Archaeological)</b>	<b>Commercial</b>	<b>Landscape &amp; Recreational Activities</b>	<b>Relocation</b>	<b>Infrastructure Development</b>	<b>Others</b>
						X
<b>Rational of the Project</b>	Makola junction can be identified as the main urban service centre of the High Dense Commercial Zone according to the density-based zoning of Biyagama Development Plan. Due to the development pressure in Kiribathgoda area, presently a commercial corridor has been developed towards Makola from Kiribathgoda and it has become the main reason of developing Makola junction as a main urban centre centralised with banking facilities, commercial facilities such as super markets. Also, location of the main job creation centres such as Sapugaskanda Oil Refinery and Lindel Industrial Park in the surrounding area and located very closer to Colombo – Kandy main road and become Makola junction as the main urban service providing centre for resident and commuting population. Accordingly, this project has been proposed to develop a nodal development in Makola junction by using the advantage of commercial development on both sides of the road.					
<b>Project Objectives</b>	<ul style="list-style-type: none"> <li>Expansion of urban service requirements of the High-Density Commercial Zone.</li> </ul>					
<b>Project Period</b>	Short term (1> Year)		Medium term (1-3 Years)		X	Long term (3 Year)
<b>Project Related Zone</b>	High Dense Commercial Zone					

## 6.6.2 Responsible Institutional Framework

Table 6.14 : Responsible Institutional Framework

Plan/Sub Plans & Action projects	Relevant Institutions	Responsibilities of the Institute for Implementing the project
<b>A. Industrial Economic Plan</b>		
1. Central Investment Corridor Development Project - Develop Gonawala-Sapugaskanda Road with four lanes - Develop Karabugas Junction- Yatihena Road with four lanes	RDA Ministry of Urban Development and Housing and UDA	Consultation for the Road design works, Planning and Implementation of the project
2. Main Industrial Nodal Development in Central Investment Corridor - Nagahamula Junction Industrial Nodal Development - Karabugas Junction Industrial Nodal Development	RDA Ministry of Urban Development and Housing and UDA	Consultation for the Road design works. Planning and Implementation of the project
3. Major Local Industrial Collector Development Project - Develop Biyagama - Colombo Road with four lanes - Develop Malwana - Dompe Road with four lanes	RDA Ministry of Urban Development and Housing and UDA	Consultation for the Road design works, Planning and Implementation of the project
4. Sub Local Industrial Collector Development Project - Develop Pattiwila - Makola Road with four lanes - Develop Thai Temple Road with two lanes - Develop Dimo Road with four lanes - Develop Jayanthi Mawatha with two lanes - Develop Gonawala - Koholvila Road with two lanes	RDA Ministry of Urban Development and Housing and UDA	Consultation for the Road design works, Planning and Implementation of the project
5. Biyagama - Kosgama Railway Project	Sri Lanka Railway Department National Housing Development Authority	Planning and Implementation of the project
6. Plug & Play Industrial Parks Development Project - Develop Sapugaskanda Plug & Play Industrial Park – I - Develop Sapugaskanda Plug & Play Industrial Park – II - Develop Plug & Play Industrial Park in Dimo Industrial Cluster Area	Ministry of Urban Development and Housing and UDA Board of Investments Sri Lanka Central Environment Authority	Planning and Implementation of the project and Preparing environmental assessment reports
7. Industrial Oriented Smart Business Centre Development Project	Ministry of Urban Development and Housing and UDA Board of Investments Sri Lanka	Planning and Implementation of the project
8. Malwana Fabric & Commercial Riverfront Corridor Development Project	Ministry of Urban Development and Housing and UDA Irrigation Department SLDC	Funding, Redevelopment of streams, removing unauthorized uses, Planning and Implementation of the project



Plan/Sub Plans & Action projects	Relevant Institutions	Responsibilities of the Institute for Implementing the project
<b>B. Environmental Conservation &amp; Management plan</b>		
9. Malawana Sambawela Canal Restoration Project & Riverfront Park Development Project	Ministry of Urban Development and Housing and UDA Irrigation Department SLLDC	Redevelopment of streams, removing unauthorized uses, Planning and Implementation of the project
10. Tree strips development along the local industrial collector roads	Ministry of Urban Development and Housing and UDA RDA Biyagama PS	Planning and Implementation of the project
11. Siyambalape Wetland Park Development Project	Ministry of Urban Development and Housing and UDA SLLDC Biyagama PS	Planning and Implementation of the project
12. Mawaramandiya Linear Park Development Project		
13. Yatihena Tank & Surroundings Park Development Project		
<b>C. Infrastructure Development Plan</b>		
<b>C.1 Road and Transportation Plan</b>		
14. Develop Mankada Road with four lanes	Ministry of Urban Development and Housing and UDA RDA	Planning and Implementation of the project
15. Develop Mawaramandiya - Makola road for four lanes		
16. Develop Kanduboda Tank Road with two lanes		
<b>C.2 Sewerage &amp; Waste Water Management Plan</b>		
17. Biyagama Technological Waste Water Treatment Plant Project	Central Environment Authority	Planning and Implementation of the project
18. Sapugaskanda Waste Water Treatment Project		
<b>C.3 Solid Waste Management Plan</b>		
19. Establish a Solid Waste Sorting Centre	Biyagama PS	Planning and Implementation of the project
<b>C.4 Water Supply Plan</b>		
20. Develop the Mabima Water Treatment Plant	National Water Supply and Drainage Board	Planning and Implementation of the project

C.5 Service Management Plan		
21. Siyambalape Hospital Development Project	Ministry of Health	Planning and Implementation of the project
22. Siyambalape Skill Up-gradation Centre Development Project	Sri Lanka Vocational Training Authority Board of Investments Sri Lanka	Planning and Implementation of the project
23. Makola Middle Income Housing Development Project	National Housing Development Authority	Planning and Implementation of the project
24. Biyagama Hostel Facilities Development Project	Board of Investments Sri Lanka National Housing Development Authority	Planning and Implementation of the project
C.6 Urban Services Improvement Plan		
25. Mawaramandiya Town Centre Development Project	Ministry of Urban Development and Housing and UDA Biyagama PS	Planning and Implementation of the project
26. Delgoda Town Centre Development Project		
27. Makola Town Centre Development Project		
28. Kadawatha Public Market Development Project		

Source: Gampaha District Planning Team, 2021





## Part II

### Land & Building Development Strategic Plan



# 07

## Chapter



## Development Zones & Zoning Guidelines

## Chapter 07

### Development Zones & Zoning Guidelines

#### 7.1 Introduction

The Biyagama Development Plan (2021-2030) is based on the vision of the “Tranquilized Industrial City”, which is aimed at the next ten years with formulated goals & objectives. Three strategic plans are introduced to achieve the above visionary base and formulated development zones and zoning guidelines are the prime mechanism for implement those strategies in the real ground. Specifically, proposed zoning methodology goes beyond the traditional land use zoning plans and provides a great opportunity for density-based development which aims to create the proposed city model through the vision.

This chapter describes the development zones and zoning guidelines that have been prepared and mainly on the development zones, zone specific guidelines, zone factor, boundaries of the development zones with geo-coordinates, permitted uses of the development zones and the common guidelines applicable to them.

The formulation and determination of this zoning plan was a result of scientific & logical analytical base. This is mainly directed with the concept plan of the Biyagama Development Plan, anticipated city model and the key practices that are intended to be promoted. It also incorporates the goals and objectives set out to achieve that conceptual plan.

As per the preliminary study & base of environmental sensitivity index emphasized the fact of harmonized development promotion with sensitive wetland eco system of Biyagama. As well as Livability index, Development potential index which based on the distance of major town centers, and availability of infrastructure are some of the factors that decided the development zones. Accordingly, the superimposed layer of the above mentioned three analytical findings and the other factors directed the introduction of the development zones, their priority use & the density promotion. This was displayed through the Annexure 39.

#### 7.2 Development Zones

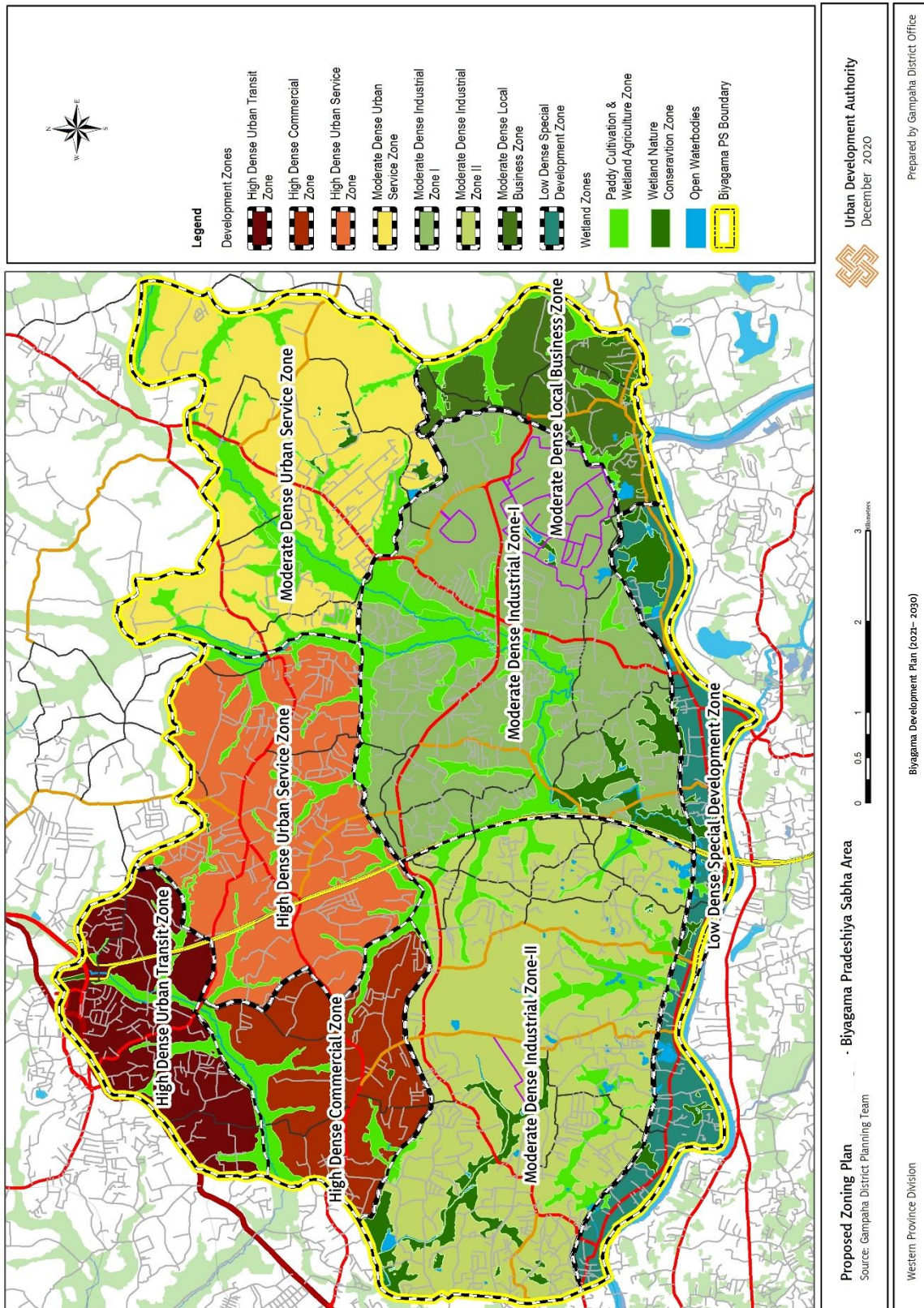
The proposed development zones area:

1. High Dense Urban Transit Zone
2. High Dense Commercial Zone
3. High Dense Urban Service Zone
4. Moderate Dense Industrial Zone - I
5. Moderate Dense Industrial Zone - II
6. Moderate Dense Local Business Zone
7. Moderate Dense Urban Service Zone
8. Low Dense Special Development Zone
9. Wetland Nature Conservation Zone
10. Paddy Cultivation & Wetland Agriculture Zone

Proposed zoning Plan is shown in Map 7.1.

# 7.2.1 Proposed Zoning Plan 2021 -2030

Map 7.1 Proposed Zoning Plan



Prepared By: Gampaha District Office, UDA - WP 2021



### 7.3 Zone Factor

The zonal factor is calculated to determine the density of the proposed development zones in accordance with the density-based zoning plan. This will take into account the total commuting population of each zone within permitted built-up land use, existing residential population, expectable commuting and residential population in 2030. Identification of the way how managing the available developable space of the area will be determine based on total forecasted population of the area.

Existing commercial, residential, institutional, vacant & other plantation lands considered as “Developable space” and environmental reservations area, water bodies, religious & archeological sites, road & reservations that considered as “Un -developable lands” that was neglected from developable space.

The zone factors for proposed density zones were carried out in five complex steps, as shown in Annexure 39. The following table displays the zone factors of each density zones with developable space in 2030 which is a combination of total permitted space & vacant lands.

**Table 7.1: Zone factor for development zones**

Zone	Total Required Space for 2030 (m2)	Total Developable Space (m2)	Zone Factor
High Dense Urban Transit Zone	7768709	3372552	<b>2.30</b>
High Dense Commercial Zone	7884351	3621879	<b>2.17</b>
High Dense Urban Service Zone	9853997	6646718	<b>1.48</b>
Moderate Dense Industrial Zone - I	11966320	9944471	<b>1.20</b>
Moderate Dense Industrial Zone - II	12203816	10321314	<b>1.18</b>
Moderate Dense Urban Service Zone	6907676	7395944	<b>0.93</b>
Moderate Dense Local Business Zone	1928801	2319413	<b>0.83</b>
Low Dense Special Development Zone	2262608	2946635	<b>0.76</b>

Source: Gampaha District Planning Team, 2021

As per the above table, the proposed Zoning Plan of the Biyagama Development Plan has introduced a relevant zoning factor for each zone. The zone factor variations of above zones, implies how city form & land uses will be promote using three high dense development zones, two moderate dense industrial promotion zones, two moderate dense urban service & local business zones & 1 low dense special development promotional zone.

Determination of Permissible Floor area for developments According to the Form 'A' 'B' in Schedule 6 to Part IV of the Extraordinary Gazette Notification No. 2235/54 dated Thursday 08th July 2021, the coefficients applicable to the Biyagama Development Plan indicated by table number 7.2 and 7.3.

In determining the open space of the building pertaining to the said permissible floor area, the form 'E' of the above Gazette is indicated and it is specified in the Biyagama Development Plan in the table number 7.4.

# Schedule 1

Table 7.2 Form A - Permissible Floor Area Ratio

Land extent (Sq.m)	Zone factor = 0.50 - 0.74				Zone factor = 0.75-0.99				Zone factor = 1.00-1.24				Zone factor = 1.25-1.49			
	Minimum Road Width				Minimum Road Width				Minimum Road Width				Minimum Road Width			
	**6m	9m	12m	15 m & above	**6m	9m	12m	15 m & above	**6m	9m	12m	15 m & above	**6m	9m	12m	15 m & above
150 less than 250	0.8	0.9	0.9	0.9	1.3	1.3	1.4	1.4	1.6	1.7	1.8	1.9	2.0	2.2	2.3	2.4
250 less than 375	0.9	1.0	1.2	1.3	1.3	1.6	1.8	2.0	1.8	2.2	2.4	2.7	2.2	2.7	3.0	3.3
375 less than 500	0.9	1.0	1.2	1.4	1.3	1.6	1.9	2.1	1.9	2.2	2.5	2.8	2.3	2.8	3.2	3.4
500 less than 750	1.0	1.1	1.3	1.5	1.4	1.7	2.0	2.2	2.0	2.3	2.7	3.0	2.4	3.0	3.4	3.5
750 less than 1000	1.0	1.2	1.4	1.7	1.5	1.8	2.2	2.5	2.1	2.4	2.9	3.3	2.6	3.0	3.6	4.0
1000 less than 1500	1.1	1.3	1.5	1.8	1.6	1.9	2.3	2.7	2.2	2.5	3.0	3.6	2.7	3.1	3.8	4.5
1500 less than 2000	1.1	1.4	1.7	2.0	1.7	2.1	2.5	3.0	2.3	2.7	3.4	4.0	2.9	3.4	4.2	5.0
2000 less than 2500	1.2	1.5	1.8	2.1	1.8	2.3	2.7	3.1	2.4	2.8	3.5	4.2	3.0	3.5	4.4	5.4
2500 less than 3000	1.2	1.6	2.0	2.4	1.9	2.4	3.0	3.6	2.5	3.2	4.0	4.7	3.1	3.8	4.7	5.8
3000 less than 3500	1.3	1.7	2.1	2.5	2.0	2.5	3.1	3.7	2.6	3.4	4.2	5.0	3.2	4.0	5.0	6.2
3500 less than 4000	1.4	1.8	2.2	2.6	2.2	2.6	3.3	3.9	2.8	3.6	4.3	5.3	3.3	4.3	5.5	6.6
More than 4000	1.5	1.9	2.3	2.8	2.5	2.8	3.5	4.0	3.0	3.8	4.5	5.5	3.5	4.5	6.0	7.0
	Zone factor = 1.50-1.74				Zone factor = 1.75-1.99				Zone factor = 2.00-2.24				Zone factor = 2.25-2.49			
Land extent (Sq.m)	Minimum Road Width				Minimum Road Width				Minimum Road Width				Minimum Road Width			
	**6m	9m	12m	15 m & above	**6m	9m	12m	15 m & above	**6m	9m	12m	15 m & above	**6m	9m	12m	15 m & above
	2.4	2.6	2.7	2.8	2.8	3.0	3.2	3.3	3.0	3.4	3.6	3.8	3.0	3.4	3.6	4.0
150 less than 250	2.6	3.2	3.6	4.0	3.0	3.4	4.3	4.7	3.2	3.6	4.5	4.5	3.5	3.8	4.5	5.0
250 less than 375	2.7	3.3	3.8	4.2	3.2	3.5	4.5	5.0	3.4	3.7	4.8	5.2	3.6	4.5	4.7	5.5
375 less than 500	2.8	3.4	4.0	4.5	3.4	3.6	4.7	5.5	3.5	4.0	5.0	6.0	3.7	5.0	5.0	6.0
500 less than 750	3.1	3.6	4.3	5.0	3.5	3.8	5.1	6.0	3.6	4.5	5.7	6.5	3.8	5.1	6.0	6.5
750 less than 1000	3.2	3.8	4.6	5.5	3.6	4.0	5.4	6.5	3.7	5.0	6.1	8.0	3.9	5.3	6.5	8.5
1000 less than 1500	3.4	4.0	5.0	6.0	3.7	4.2	5.8	7.0	3.8	5.1	6.7	9.0	4.0	5.4	7.0	*10
1500 less than 2000	3.5	4.2	5.2	6.5	3.8	4.4	6.2	7.5	3.9	5.2	7.1	*10	4.0	5.5	7.5	*10.5
2000 less than 2500	3.6	4.4	5.5	7.0	3.9	4.6	6.5	8.0	4.0	5.3	7.4	*10.5	4.0	5.6	7.5	*11
2500 less than 3000	3.7	4.6	6.0	7.5	4.0	4.8	6.9	8.5	4.0	5.4	7.6	*11	4.0	5.7	8.0	*11.5
3000 less than 3500	3.8	4.8	6.3	7.7	4.0	5.0	7.3	9.0	4.0	5.5	7.8	*11.5	4.0	5.8	8.0	*12
3500 less than 4000	4.0	5.0	6.5	8.0	4.0	5.2	7.5	9.5	4.0	5.6	8.0	*12	4.0	5.9	8.0	*UL

UL - Unlimited

Floor area allocated for parking facilities are not calculated for FAR.

Above Floor Area Ratio shall not be applicable for the zones where number of floors or FAR indicated under the zoning regulations.

Above Permissible FAR may be restricted under the development plan based on the slope of the land.

Clearance shall be taken from National Building Research Organization for the lands having slope more than 11° .

\* FAR more than or equal to 10.0 shall be permitted only for the roads having minimum of 12m (from road center) Building Line, if not maximum FAR shall be limited to 9.0.

\*\*Minimum road width of 7m shall be considered for the roads identified as 7m wide road in the particular development Plan

Source: UDA,2021

Table 7.3 Form B - Number of Floors for 3.0m & 4.5m wide Roads

Form B - Number of Floors for 3.0m & 4.5m wide Roads						
Minimum Road Width	Minimum Site Frontage	* Plot Coverage	Maximum Number of Floors			
			Zone Factor 0.5 - 0.74	Zone Factor 0.75 - 1.24	Zone Factor 1.25 - 3.49	Zone Factor 3.50 - 4.00
3.0m	6m	65%	1 (G)	2 (G+1)	3 (G+2)	3 (G+2)
4.5m	6m	65%	1 (G)	2 (G+1)	3 (G+2)	4 (G+3)
Number of floors are indicated including parking areas.						
Number of units allowed for each road shall not be change.						
* Where no plot coverage specified under the zoning regulations.						

Source: UDA,2021

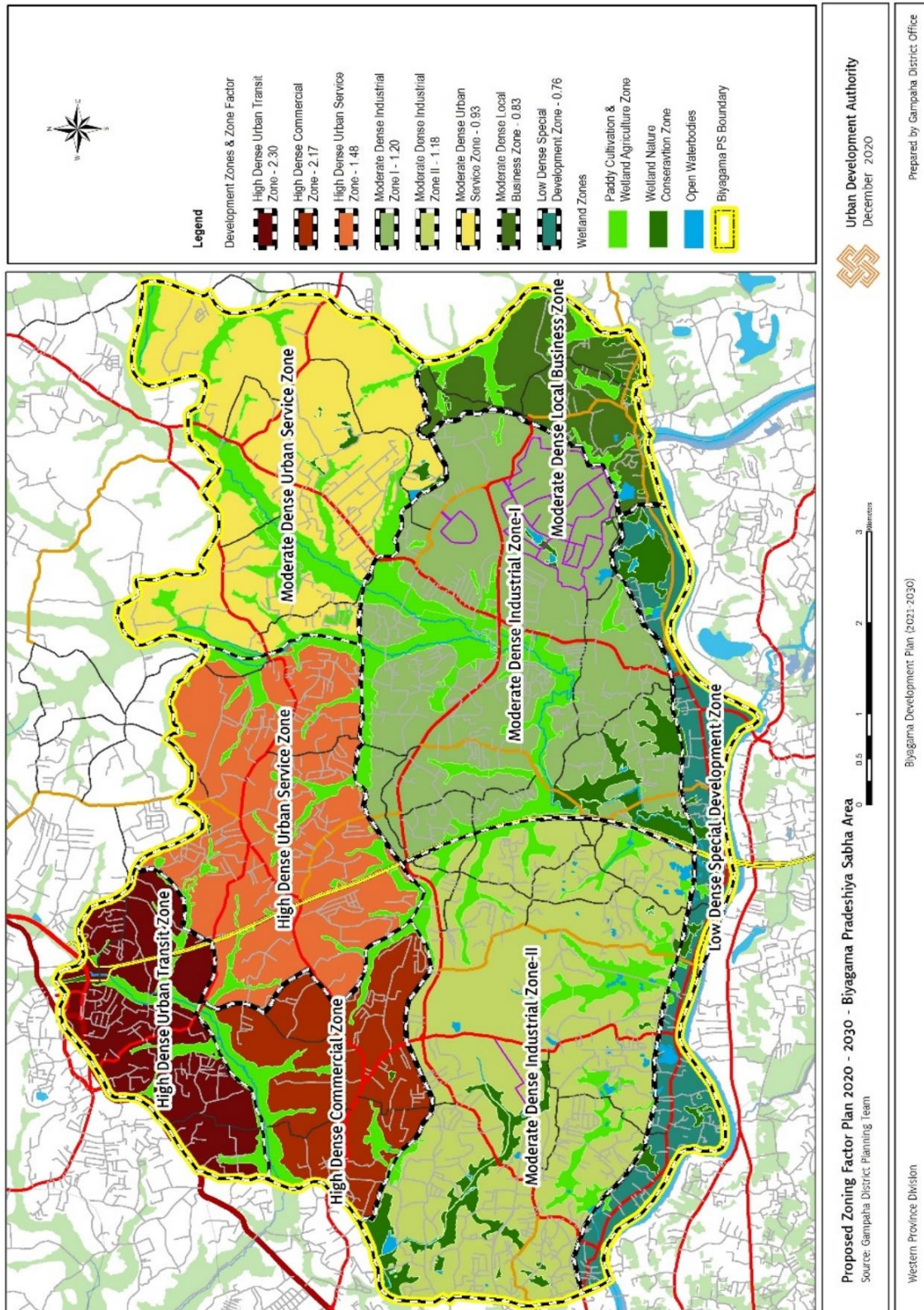
Table 7.4 Form E - Setbacks & Open Spaces

Form E - Setbacks & Open Spaces										
Building Category	Building Height (m)	Minimum Site Frontage (m)	* Plot Coverage		Rear Space (m)		Side Space (m)		Light Well for NLV	
			Non - Residential	Residential	When no NLV is taking this end	When NLV is taking this end	When no NLV is taking this end	When NLV is taking this end	Minimum width	Minimum Area
Low Rise	less than 7	6	80%**	65%	2.3m	2.3m	-	2.3m	2.3m	5 Sq.m
	7 less than 15	6	65%	65%	3.0m	3.0m	-	3.0m	3.0m	9 Sq.m
Inter Mediate Rise	15 less than 30	12	65%	65%	4.0m	4.0m	1.0m and 3.0m	4.0m	4.0m	16 Sq.m
Middle Rise	30 less than 50	20	65%	65%	4.0m	5.0m	3.0m both side	5.0m	5.0m	25 Sq.m
High Rise	50 less than 75	30	50%***	50%***	5.0m	6.0m	4.0m both side	6.0m	6.0m	36 Sq.m
	75 and above	Above 40m	50%***	50%***	5.0m	6.0m	5.0m both side	6.0m	6.0m	****
NLV - Natural Light & Ventilation Building Height - Height between access road level to roof top or roof level (Including parking floors). * Where no Plot Coverage specified under the zoning regulations. ** The entire development is for non-residential activities. *** 65% plot coverage can be allowed only for the podium level not exceeding 20% of the tower height or 12 floors which ever is less. **** Minimum area shall be increased by 1 Sq.m for every additional 3m height.										

Source: UDA,2021

### 7.3.1 Zone Factor of each Zone 2021 -2030

Map 7.2. Proposed Zoning Factor Plan



Urban Development Authority  
December 2020



Proposed Zoning Factor Plan 2020 - 2030 - Biyagama Pradeshiya Sabha Area  
Source: Gampaha District Planning Team

Western Province Division  
Biyagama Development Plan (2021-2030)

Prepared by Gampaha District Office

## 7.4 Common Guidelines for Planning Area

This chapter describes the common guidelines for the planning area, in addition to that, the permissible uses and zoning guidelines that have been introduced in each zone of the proposed zoning plan as outlined in Chapter 8.

7.4.1 These guidelines apply to the entire area within the administrative limits of the Biyagama Pradeshiya Sabha area which has been declared as an Urban Development Area in the Extraordinary Gazette Notification No. 1171/10 and 13.02.2001 under Section 3 of the Urban Development Authority Act No. 41 of 1978.

7.4.2 In addition to the provisions of this zoning plan, the Planning and Development Regulations applicable to any development work is regulated by the Gazette Notification No 2235/54 dated 08th July 2021. The said legalized Planning and Development Regulations also apply to the Biyagama Pradeshiya Sabha planning area.

7.4.3 As per the zoning plan, the UDA is the final decision-making authority the approval for any use not mentioned in permissible uses category.

7.4.4 In determining the proposed uses for the first plot of land adjoining the boundaries of the two zones or for plots of land within 100 m on either side of the boundary, it should be limited to one of the two proposed uses in the existing zone or adjacent zone. And also, Authority has the power to determine the proposed development according to the zone category.

7.4.5 All planning zones are subject to the Acts, Gazette Notifications and Circulars issued by other state agencies.

7.4.6 When conserving, rehabilitating or modernizing any of the buildings or places with archaeological importance, such developments should be in accordance with the recommendations given by a committee appointed by UDA with the representation of other stakeholder agencies.

7.4.7 Boundary walls exceeding 3 feet height are not allowed within these areas, & any construction which at as visual or physical barricade between access roads and waterfronts will not be approved.

7.4.8 Any building which will use solar power as energy solutions, additional 5% of either relevant FAR or of plot coverage will be granted as decided by the Authority.

7.4.9 Any development activity within the area which has identified by the Department of Archelogy as an Archaeological Sites, clearance and recommendation should be obtain by the Department of Archelogy.

7.4.10 All low-lying lands & paddy lands, water retention and detention areas included in proposed Wetland Management Plan should be in accordance with the planning & building guidelines of Western Province Wetland Management Plan Accordingly when referring the guidelines in every sub zone.

7.4.11 When a particular land plot is located adjacent to a certain waterfront, if the remaining open space left excluding the built-up plot coverage is open and used to provide public access to the particular waterfront, the developer will be granted with an additional 10% of relevant FAR as a development promotional provision.

7.4.12 The facades and backyards of all buildings should be well-maintained as it suits with particular waterfront development.

7.4.13 All developments adjoining waterfronts should be accompanied with waste water management plan and waste water management should be in compliance with Regulations of Central Environmental Authority.

7.4.14 When constructing buildings in waterfront development projects,  $\frac{1}{4}$  of land width should be arranged as the waterfront can be viewed from the access road. Where there are several land plots with the access road & waterfront areas; buildings on other lands should be designed in order to maintain  $\frac{1}{4}$  of open space above the width of the land. (Ground floor)

7.4.15 If the water from open space of any development activity is open for the public, permission for the maximum 20% of floor area will be granted with the relevant inspections.

7.4.16 Landscape Plans should be submitted when submitting building plans which are in association with waterfronts for approval.

7.4.17 Buildings coming under waterfront developments should be designed & constructed as it suits with the surrounding environment. The building colors & materials (non-reflective materials) should be carefully selected with the surrounding environment.

7.4.18 Regarding a building adjoining a particular street dominated fully or partially with shopping and commercial buildings, the façade of the building should be designed with specified characteristics and should have an arcade of specified width that will be bound to the edge of the façade and shall be exceeding four stories

as specified by the Authority. Regarding such development approval, the Authority has the power to release any of the other regulations and requirements.

7.4.19 The special development project areas and special development guide plans areas will have separate regulations as per the relevant plans and projects.

7.4.20 The authority has a power to release and decide the building regulation for low-income settlements regarding the relevant planning area.

7.4.21 The authority has a power to approve the land subdivisions among the children, if the plot size is on or below the 10 perch but not less than the 6 perch.

7.4.22 **General Conditions & Guidelines for Wetland Zones of Biyagama PS area**

7.4.22.1 Flood storage capacity shall be maintained as specified by the Sri Lanka Land Reclamation & Development Corporation (SLLR & DC) in co-ordination with the other relevant agencies of the schedule 02. Increased storm water run-off owing to increase in built-up areas and owing to expected extreme climatic events as a result of global warming and climate change shall be taken into account.

7.4.22.2 Clearance shall be obtained from the agencies of No. 01, 03, 04, 05 and 09 mentioned in schedule 02 prior to development of low-lying lands/ abandoned paddy lands. Where necessary clearance or approval of the other relevant agencies mentioned in schedule 02 shall also be obtained when the ownership of wetland is delegated to them by an act.

7.4.22.3 The environmental clearance or Environmental Protection License (EPL) shall be obtained for any development which effects wetland environment from no.03, 05 agencies of the schedule 02 and shall be renewed annually.

7.4.22.4 Recommendation / Approval (final clearance certificate) of No. 01 agency of schedule 02 shall be annually renewed as per the decision of planning committee.

7.4.22.5 Canal reservation of no.1662/17 published by the gazette notification dated 14.01.2010 of the agency No.01 and reservation of reservoirs of agency No.02 at the schedule 02 shall be maintained.

7.4.22.6 In general, there shall not be any construction within water bodies and waterways which disturbs the water retention and water flow. But exceptions may be made for focal features/buildings, piers, picnic shelters, cabanas on stilts, fishing decks, boardwalks, etc. in keeping with a project masterplan or design guide

plan approved by the UDA, not compromising drainage or flood detention capacity. Recommendation and Approval shall be obtained from relevant agencies of No. 01 & 02-22 of the schedule 02.

7.4.22.7 Areas of special ecological interest shall be preserved and in such areas no vegetation or animals except invasive species of plants and animals shall be removed.

7.4.22.8 All permitted buildings shall be designed according to the Green Building Concept.

7.4.22.9 Alternative places shall be established for decrease flood storage capacity and the other impacts of environmental services when practicing Permitted uses in wetland where flood storage capacity is important. Approval shall be obtained from the relevant agencies of the schedule 02.

7.4.22.10 In any wetland areas permitted for filling under the no. 01 agency of schedule 02, sustainable storm water drainage systems should be used. Approval shall be obtained from the CEA for materials to be used for wetland filling.

7.4.22.11 Areas of outstanding landscape/cultural/historical value shall be conserved.

7.4.22.12 Legal public footpaths and public bathing wells shall be preserved or replaced in suitable nearby locations.

7.4.22.13 The services of relevant qualified professionals shall be obtained by developers for planning, design and supervision, as necessary.

7.4.22.14 All areas shall be preserved where fish and other aquatic animals breed.

7.4.22.15 In general, waste dumping shall not be permitted (Residential, Institutional, Commercial, Industrial, E-waste and Clinical waste) in to wetlands.

7.4.22.16 Release of waste water to wetlands is not allowed. Treated water with the approval of CEA shall only be permitted to release to the wetland areas.

**These guidelines should be included as conditions in the licenses issued by the institutions mentioned in the schedule 02 regarding the development activities in the wetland areas and the violation of those conditions will lead to the cancellation or imposition of penalties.**



## **02. Schedule**

01. Sri Lanka Land Development Cooperation
02. Irrigation Department
03. Central Environment Authority
04. UDA
05. Biyagama PS
06. Forest Conservation Department
07. Wildlife Conservation Department
08. National Building Research Organization
09. Agrarian Development Department
10. Archeological Department
11. National Aquatic Resource Research & Development Agency
12. Geological Survey & Mines Bureau
13. Western Provincial Council
14. Water Resources Board
15. National Aquaculture Development Authority of Sri Lanka
16. Sri Lanka Electricity Board
17. Department of Buildings Sri Lanka
18. RDA
19. Fisheries Department
20. Sri Lanka Navy
21. Gampaha District Secretariat
22. Biyagama Divisional Secretariat

# 08

## Chapter

## Zoning Guidelines



## Chapter 08

### Zoning Guidelines

The zoning plan of the Biyagama Development Plan has identified 10 development zones and the development guidelines applicable to each zone in as follows.

#### 8.1 High Dense Urban Transit Zone

Expected to incentivize a rapid vertical development within the High Dense Urban Transit Zone by taking the maximum advantage of the proposed transport related development opportunities based in Kadawatha. Basically, Kadawatha Interchange which links the Outer Circular Highway & proposed Central Expressway, the proposed Light Railway line & the Kadawatha light railway station, and the Kadawatha Multi - modal transport station is considered as transport related development opportunities.

##### 8.1.1. Guidelines & Permissible Uses for High Dense Urban Transit Zone

The Guidelines and Permissible Uses of High Dense Urban Transit Zone of proposed zoning plan listed below in Table 8.1 and 8.2

**Table 8.1 Guidelines in High Dense Urban Transit Zone**

<b>Zone boundaries (Coordinates)</b>	Mentioned in annexure 40
<b>Zoning Factor</b>	2.30
<b>Approved height limits</b>	If the height is not restricted by the zoning, building height determined with the extent of the land proposed for development and other regulations of the UDA
<b>Permissible maximum plot coverage</b>	Residential 65% Non - Residential 80%
<b>General Terms Related to the Zone</b>	<p>I. At least four floors or more must be designed for commercial purposes in this area.</p> <p>II. The building constructions should be allocated a width of 2.5 m front shaded archways for roads corridors belonging to the RDA that lying within 1 Km of Kadawata town center, the additional share (Fare Share) will be given to the building for two times base on the amount that allocated.</p> <p>III. Develop the necessary guidance to promote newer technological infrastructure facilities and the planning and building regulations are being relaxed at the discretion of the Authority to encourage these commercial industries.</p>

(f.)	General Terms Related to the Zone	<p>IV. More space will provide for land amalgamation processes &amp; projects to Achieve the quality commercial development.</p> <p>V. The Green Building Concept is in force for all buildings in the zone.</p> <p>VI. Minimum Land subdivision plot sizes are as follows;</p> <ul style="list-style-type: none"> <li>▪ Residential - 10 Perches</li> <li>▪ Non - Residential - 20 Perches</li> </ul> <p>VII. Wetlands of this Zone comply with regulations and guidelines of the Western Province Wetland Master Plan.</p> <p>VIII. The Outer Circular Expressway which runs through the Biyagama PS area, have to maintain a green belt of 5m from the boundary of the RDA reservation as planned.</p>
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**Table 8.2 Permissible uses in High Dense Urban Transit Zone**

Permissible uses	Minimum Extent of the land (Perches)	Achievable Maximum Floor Area
<b>Residential</b>		
Housing Units	10	Achievable maximum floor area is according to the schedule 01 & that is apply to all permitted uses.
Housing Complexes	20	
Hostels	10	
Quarters	10	
Child Care Centers	20	
<b>Health</b>		
Medical Centers		10
Medical Consulting & Channeling Service Centers		20
Animal Hospitals		40
Veterinary Clinics and Treatment Centers		20
<b>Educational</b>		
Early Childhood Development Centers		20
Tertiary Education Centers		40
Technical Colleges/Vocational Training Centers		40
Research & Development Centers		40
Private Tuition Classes		20
Art Centre / Dance Academy		20

<b>Institutional</b>	
Offices	10
Office Complexes	40
Professional Offices	10
Banks, Insurance & Financial Institutions	20
Auto Mated Money Transfer Centers (ATM)	Decisions are made subject to the recommendations of the relevant institutions.
<b>Social services &amp; public amenities</b>	
Community Development Centers	20
<b>Commercial</b>	
Shops	10
Super Markets	20
Shopping Malls	20
Restaurants /Cafeterias	10
Open Markets	40
Pharmacies	10
Laboratory Services & Collection Centers	10
Wholesale stores	12
Customer Service Centers	10
Meat & Fish Stalls	10
Liquor /Wine Stores	10
Funeral Hall	20
Funeral Hall with Reception Halls	40
Hardware Stores	40
Filling stations	40, Decisions are made subject to the recommendations of the relevant institutions.
Filling stations with vehicle service centers	60, Decisions are made subject to the recommendations of the relevant institutions.
Filling stations with shopping complexes	60, Decisions are made subject to the recommendations of the relevant institutions.
Gas stations & Electric Charging Stations	40
Communication towers on buildings	10, Permits are issued under Development Regulation No 19.
Communication towers	12, Permits are issued under Development Regulation No 19.
Multi-storied Vehicle Parks	20
Open Vehicle Parks	40
Vehicle Showrooms	20

<b>Tourism</b>	
Holiday Resorts	40
Guest Houses	10
Lodges	20
Tourist Hotels	40
City Hotels	20
Tourist Information Centers	10
Ayurvedic Panchakarma Center	20
Cabana Hotels	20
<b>Manufacturing Industries</b>	
Homestead Industries	10 - Permission is granted only for crafts and traditional industries that are not harmful to the environment.
<b>Service Industries</b>	
Vehicle Service Centers	20 - Permission is only granted for light vehicles.
Taxi Service Centers	20
Electronic Equipment Repair Centers	10
<b>Utility Services</b>	
Railway & Bus Terminals	Decisions are made subject to the recommendations of the relevant institutions.
<b>Public Open Spaces &amp; Recreational Facilities</b>	
Pocket Park	Decisions are made subject to the relevant project.
Mini Park	
Local Park	
Community Park	
Town Park	
Central Urban Park/City Park	
Linear Park	
Indoor Sports Complexes	40
Cinema Halls/Theaters	40
Clubs	20
Art Galleries / Museums	20
Open Air Theaters	10

## 8.2 High Dense Commercial Zone

Makola is a sub town center closely linked with Kiribathgoda & its development pressure caused to create a commercial corridor towards Makola area. That influence having positive impacts on further developed and incentivized the industrial commercial services and financing activities within Makola area. Therefore, the area surrounding the Makola sub town center has been identified as High Dense Commercial Zone.

### 8.2.1 Guidelines & Permissible Uses for High Dense Commercial Zone

Table 8.3 Guidelines in High Dense Commercial Zone

<b>Zone boundaries (Coordinates)</b>	Mentioned in annexure 40
<b>Zoning Factor</b>	2.17
<b>Approved height limits</b>	If the height is not restricted by the zoning, building height determined with the extent of the land proposed for development and other regulations of the UDA.
<b>Approved plots coverage's</b>	Residential 65% Non - Residential 80%
<b>General Terms Related to the Zone</b>	<ol style="list-style-type: none"> <li>I. At least four floors or more must be designed for commercial purposes in this area.</li> <li>II. Develop the necessary guidance to promote newer technological infrastructure facilities and the planning and building regulations are being relaxed at the discretion of the Authority to encourage these commercial industries.</li> <li>III. More space will provide for land amalgamation processes &amp; projects to achieve the quality commercial development.</li> <li>IV. The Green Building Concept is in force for all buildings in the zone.</li> <li>V. Minimum Land subdivision plot sizes are as follows; <ul style="list-style-type: none"> <li>▪ Residential - 10 Perches</li> <li>▪ Non - Residential - 20 Perches</li> </ul> </li> <li>VI. Wetlands of this Zone comply with regulations and guidelines of the Western Province Wetland Master Plan.</li> </ol>

**Table 8.4 Permissible Uses in High Dense Commercial Zone**

Permissible uses	Minimum Extent of the land (Perches)	Achievable Maximum Floor Area
<b>Residential</b>		
Housing Units	10	Achievable maximum floor area is according to the schedule O1 & that is apply to all permitted uses.
Housing Complexes	20	
Hostels	10	
Quarters	10	
Child Care Centers	20	
<b>Health</b>		
Medical Centers	10	
Medical Consulting & Channeling Service Centers	20	
Child and Maternity Clinics	20	
Animal Hospitals	40	
Veterinary Clinics and Treatment Centers	20	
Ayurvedic Medical Centers	20	
<b>Educational</b>		
Early Childhood Development Centers	20	
Tertiary Education Centers	40	
Technical Collages/ Vocational Training Centers	40	
Research & Development Centers	40	
Private Tuition Classes	20	
Art Centre / Dance Academy	20	
<b>Institutional</b>		
Office	10	
Office Complexes	40	
Professional Offices	10	
Banks, Insurance & Financial Institutions	20	
ATM	Decisions are made subject to the recommendations of the relevant institutions.	
<b>Social services &amp; public amenities</b>		
Community Development Centers	20	
Auditoriums and Conference Halls	60	



<b>Commercial</b>	
Shops	10
Super Markets	20
Shopping Malls	20
Restaurants /Cafeterias	10
Open Markets	40
Pharmacies	10
Laboratory Services & Collection Centers	10
Wholesale stores	12
Customer Service Centers	10
Meat & Fish Stalls	10
Liquor /Wine Stores	10
Funeral Hall	20
Funeral Hall with Reception Halls	40
Hardware Stores	40
Filling stations	40, Decisions are made subject to the recommendations of the relevant institutions.
Filling stations with vehicle service centers	60, Decisions are made subject to the recommendations of the relevant institutions.
Filling stations with shopping complexes	60, Decisions are made subject to the recommendations of the relevant institutions.
Gas stations & Electric Charging Stations	40
Communication towers on buildings	10, Permits are issued under Development Regulation No 19.
Communication towers	12, Permits are issued under Development Regulation No 19.
Multi-storied Vehicle Parks	20
Open Vehicle Parks	40
Vehicle Showrooms	20
<b>Tourism</b>	
Holiday Resorts	40
Guest Houses	10
Lodges	20
Tourist Hotels	40
City Hotels	20
Tourist Information Centers	10
Ayurvedic Panchakarma Center	20
Cabana Hotels	20
<b>Manufacturing Industries</b>	
Homestead Industries	10 - Permission is granted only for crafts and traditional industries that are not harmful to the environment.

<b>Service Industries</b>	
Vehicle Service Centers	20 - Permission is only granted for light vehicles.
Vehicle Repair Centers / Spray Painting Centers	40 - Permission is granted subject to the recommendations of the CEA.
Taxi Service Centers	20
Laundries	10 - Permission is granted subject to the recommendations of the CEA.
Grinding & Rice Mills	10
Welding Shops/ Lathe workshops	10
Electronic Equipment Repair Centers	10
<b>Utility Services</b>	
Bus Terminals	Decisions are made subject to the recommendations of the relevant institutions.
<b>Public Open Spaces &amp; Recreational Facilities</b>	
Pocket Park	Decisions are made subject to the relevant project.
Mini Park	
Local Park	
Community Park	
Town Park	
Linear Park	
Indoor Sports Complexes	40
Cinema Halls/Theaters	40
Clubs	20
Art Galleries / Museums	20
Open Air Theaters	10
<b>Agricultural</b>	
Livestock/ Agricultural farms with construction	40

### 8.3 High Dense Urban Service Zone

Mawaramandiya is a sub town center close proximity to Kadawata & Kiribathgoda towns & development pressure of those towns influences to attract residential population to the area. With this development, it is expected the harmonize the agricultural wetlands of the area in environmental conservation aspect to achieve the well-mannered development. Therefore, the area surrounding the Mawaramandiya sub town center has been identified as High Dense Urban Service Zone which cater the required urban services for future demand.

#### 8.3.1 Guidelines & Permissible Uses for High Dense Urban Service Zone

Table 8.5 Guidelines in High Dense Urban Service Zone

<b>Zone boundaries (Coordinates)</b>	Mentioned in annexure 40
<b>Zoning Factor</b>	1.48
<b>Approved height limits</b>	If the height is not restricted by the zoning, building height determined with the extent of the land proposed for development and other regulations of the UDA.
<b>Approved plots coverage's</b>	Residential 65% Non - Residential 80%
<b>General Terms Related to the Zone</b>	<ol style="list-style-type: none"> <li>I. At least four floors or more must be designed for commercial purposes in this area.</li> <li>II. Develop the necessary guidance to promote newer technological infrastructure facilities and the planning and building regulations are being relaxed at the discretion of the Authority to encourage these commercial industries.</li> <li>III. More space will provide for land amalgamation processes &amp; projects to achieve the quality commercial development.</li> <li>IV. Minimum Land subdivision plot sizes are as follows; <ul style="list-style-type: none"> <li>▪ Residential - 10 Perches</li> <li>▪ Non - Residential - 20 Perches</li> </ul> </li> <li>V. Wetlands of this Zone comply with regulations and guidelines of the Western Province Wetland Master Plan.</li> <li>VI. The Outer Circular Expressway which runs through the Biyagama PS area, have to maintain a green belt of 5m from the boundary of the RDA reservation as planned.</li> </ol>

Table 8.6 Permissible Uses in High Dense Urban Service Zone

Permissible uses	Minimum Extent of the land (Perches)	Achievable Maximum Floor Area
<b>Residential</b>		
Housing Units	10	Achievable maximum floor area is according to the schedule 01 & that is apply to all permitted uses.
Housing Complexes	20	
Hostels	10	
Quarters	10	
Adult / Disabled Homes	20	
Children's Home	20	
Child Care Centers	20	
<b>Health</b>		
Hospitals	80	
Medical Centers	10	
Medical Consulting & Channeling Service Centers	20	
Child & Maternity Clinics	20	
Animal Hospitals	40	
Veterinary Clinics and Treatment Centers	20	
Ayurvedic Medical Centers	20	
<b>Educational</b>		
Early Childhood Development Centers	20	
Primary Education Centers	Ha. 0.5	
Secondary Education Centers	Ha. 1.5	
Tertiary Education Centers	40	
Technical Schools/Vocational Training Centers	40	
Research & Development Centers	40	
Private Tuition Classes	20	
Art Centre / Dance Academy	20	
<b>Institutional</b>		
Office	10	
Office Complexes	40	
Professional Offices	10	
Banks, Insurance and Financial Institutions	20	
ATM	Decisions are made subject to the recommendations of the relevant institutions.	

<b>Social services &amp; public amenities</b>	
Community Development Centers	20
Social and Cultural Centers	20
Religious Centers	80 (As per the recommendation of the Divisional Coordinating Committee.)
Auditoriums and Conference Halls	60
Rehabilitation centers	40
Crematoriums	40 (Decisions are made subject to the recommendations of the relevant institutions.)
Libraries	20
<b>Commercial</b>	
Shops	10
Super Markets	20
Shopping Malls	20
Restaurants /Cafeterias	10
Open Markets	40
Pharmacies	10
Laboratory Services and Collection Centers	10
Wholesale stores	12
Customer Service Centers	10
Meat & Fish Stalls	10
Liquor /Wine Stores	10
Funeral Hall	20
Funeral Hall with Reception Halls	40
Hardware Stores	40
Filling stations	40, Decisions are made subject to the recommendations of the relevant institutions.
Filling stations with vehicle service centers	60, Decisions are made subject to the recommendations of the relevant institutions.
Filling stations with shopping complexes	60, Decisions are made subject to the recommendations of the relevant institutions.
Gas stations & Electric Charging Stations	40
Communication towers on buildings	10, Permits are issued under Development Regulation No 19.
Multi-storied Vehicle Parks	20
Open Vehicle Parks	40
Vehicle Showrooms	20

<b>Tourism</b>	
Holiday Resorts	40
Guest Houses	10
Lodges	20
Tourist Hotels	40
City Hotels	20
Tourist Information Centers	10
Ayurvedic Panchakarma Center	20
Cabana Hotels	20
<b>Manufacturing Industries</b>	
Homestead Industries	10 - Permission is granted only for crafts and traditional industries that are not harmful to the environment.
<b>Service Industries</b>	
Vehicle Service Centers	20 - Permission is only granted for light vehicles.
Vehicle Repair Centers / Spray Painting Centers	40 - Permission is granted subject to the recommendations of the CEA.
Taxi Service Centers	20
Laundries	10 - Permission is granted subject to the recommendations of the CEA.
Grinding & Rice Mills	10
Welding Shops/ Lathe workshops	10
Electronic Equipment Repair Centers	10
<b>Utility Services</b>	
Bus Terminals	Decisions are made subject to the recommendations of the relevant institutions.
<b>Public Open Spaces &amp; Recreational Facilities</b>	
Pocket Park	Decisions are made subject to the relevant project.
Mini Park	
Local Park	
Community Park	
Town Park	
Linear Park	
Indoor Sports Complexes	40
Cinema Halls/Theaters	40
Clubs	20
Art Galleries / Museums	20
Open Air Theaters	10
<b>Agricultural</b>	
Livestock/ Agricultural farms with construction	40

## 8.4 Moderate Dense Industrial Zone - I

It is expected to focus on new industrial investments through the promotion of industry-related infrastructure, and the adoption of planning and building regulations that targeting the sustainable eco - industrial practices align with the existing industrial zones & sensitive wetland ecosystems of the area. Therefore, the area surrounding the Biyagama EPZ & Siyambalape has been identified as Moderate Dense Industrial Zone - I which cater the required industrial & commercial related activities & services for future demand.

### 8.4.1 Guidelines & Permissible Uses for Moderate Dense Industrial Zone – I

Table 8.7 Guidelines in Moderate Dense Industrial Zone - I

<b>Zone boundaries (Coordinates)</b>	Mentioned in annexure 40
<b>Zoning Factor</b>	1.20
<b>Approved height limits</b>	If the height is not restricted by the zoning, building height determined with the extent of the land proposed for development and other regulations of the UDA.
<b>Approved plots coverage's</b>	Industrial 80% Commercial 80% Other 65%
<b>General Terms Related to the Zone</b>	<p>I. For all constructions of industries and warehouses, three-meter buffer zone should be kept as tree strip with a suitable landscape plan &amp; that should be submitted to the Authority.</p> <p>II. If any industrial investment is made in close proximity (100m - 200m) to a water source or wetland, the wastewater management plan must be submitted and accordance to the CEA regulations.</p> <p>III. Permission will not be granted to the boundary walls, if the industrial-based constructions border with any kind of water source or wetland &amp; will be granted only for fences that fit with the environment.</p> <p>IV. Encourage the industrial related residential facilities through the promotion of hostel developments when improving the existing residential spaces of the zone.</p>

<b>General Terms Related to the Zone</b>	<p>V. 50% of the space for light vehicles (Cars / Motorcycles) that are in force for industrial use (Warehouses/Stores) is exempted from the existing traffic parking regulations as per the vehicle parking regulations of UDA.</p> <p>VI. For industrial uses, the minimum access width should be 30 ft (9 m) and when the width of the existing roadway is not less than 7 meters, the land may be considered for disposal to meet the proposed road width.</p> <p>VII. Wetlands of this Zone comply with regulations and guidelines of the Western Province Wetland Master Plan.</p> <p>VIII. The Outer Circular Expressway which runs through the Biyagama PS area, have to maintain a green belt of 5m from the boundary of the RDA reservation as planned.</p>
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**Table 8.8 Permissible Uses in Moderate Dense Industrial Zone - I**

Permissible uses	Minimum Extent of the land (Perches)	Achievable Maximum Floor Area
<b>Residential</b>		
Housing Units	10	Achievable maximum floor area is according to the schedule 01 & that is apply to all permitted uses.
Housing Complexes	20	
Hostels	10	
Quarters	10	
<b>Health</b>		
Hospitals		80
Medical Centers		10
Medical Consulting & Channeling Service Centers		20
<b>Educational</b>		
Technical Collages/ Vocational Training Centers		40
Research & Development Centers		40
<b>Institutional</b>		
Office		10
Office Complexes		40
Professional Offices		10
Banks, Insurance and Financial Institutions		20
ATM		Decisions are made subject to the recommendations of the relevant institutions.



<b>Commercial</b>	
Shops	10
Super Markets	20
Shopping Malls	20
Restaurants /Cafeterias	10
Pharmacies	10
Wholesale stores	12
Warehouses	40
Customer Service Centers	10
Meat & Fish Stalls	10
Liquor /Wine Stores	10
Hardware Stores	40
Filling stations	40, Decisions are made subject to the recommendations of the relevant institutions.
Filling stations with vehicle service centers	60, Decisions are made subject to the recommendations of the relevant institutions.
Filling stations with shopping complexes	60, Decisions are made subject to the recommendations of the relevant institutions.
Gas stations & Electric Charging Stations	40
Communication towers	12, Permits are issued under Development Regulation No 19.
Communication towers on buildings	10, Permits are issued under Development Regulation No 19.
Multi-storied Vehicle Parks	20
Open Vehicle Parks	40
Vehicle Showrooms	20
<b>Tourism</b>	
Guest Houses	10
City Hotels	20
Cabana Hotels	20

<b>Manufacturing Industries</b>	
Mining & Excavation related extraction Industries	40
Metal Products & foundries related extraction industries	40
Oil refineries, petroleum-based chemicals & distillation industries	40
Chemicals, polythene, plastics, rubber & glass-based industries	40
Cement, concrete & ceramic based products industries	40
Clay products industries	20
Natural fiber-based manufacturing industries	20
Textile, Clothing & Leather Products Industries	40
Electrical & Electronics goods related industries	40
Heavy Machinery & Assembly industries	40
Paper Products and Printing Industries	40
Wood / Wood Products & Furniture Manufacturing Industries	40
Food and non-alcoholic beverage industries	40
Alcohol / local pharmaceuticals, spirits & extracts	40
Recycling activities related industries	40
Industrial Infrastructure Facilities Centers	40
<i>Permits are granted subject to the recommendations of the CEA for the above-mentioned industrial practices.</i>	
Homestead Industries	10 - Permission is granted only for crafts and traditional industries that are not harmful to the environment.
<b>Service Industries</b>	
Vehicle Service Centers	20 - Permission is only granted for light vehicles.
Vehicle Repair Centers / Spray Painting Centers	40
Taxi Service Centers	20
Laundries	10 - Permission is granted subject to the recommendations of the CEA.
Grinding & Rice Mills	10
Welding Shops/ Lathe workshops	10
Electronic Equipment Repair Centers	10

<b>Utility Services</b>	
Railway & Bus Terminals	Decisions are made subject to the recommendations of the relevant institutions.
<b>Public Open Spaces &amp; Recreational Facilities</b>	
Pocket Park	Decisions are made subject to the relevant project.
Mini Park	
Local Park	
Community Park	
Town Park	
Linear Park	
Open Air Theaters	10
<b>Agricultural</b>	
Livestock/ Agricultural farms with construction	40

## 8.5 Moderate Dense Industrial Zone – II

It is expected to focus on new industrial investments through the promotion of industry-related infrastructure, and the adoption of planning and building regulations that targeting the sustainable eco industrial practices align with the existing industrial zones & sensitive wetland ecosystems of the area. Therefore, the area surrounding the Sapugaskanda Oil Refinery & Gonawala has been identified as Moderate Dense Industrial Zone - II which cater the required industrial & commercial related activities & services for future demand.

### 8.5.1 Guidelines & Permissible Uses for Moderate Dense Industrial Zone – II

Table 8.9 Guidelines in Moderate Dense Industrial Zone - II

<b>Zone boundaries (Coordinates)</b>	Mentioned in annexure 40
<b>Zoning Factor</b>	1.18
<b>Approved height limits</b>	If the height is not restricted by the zoning, building height determined with the extent of the land proposed for development and other regulations of the UDA.
<b>Approved plots coverage's</b>	Industrial 80% Commercial 80% Other 65%
<b>General Terms Related to the Zone</b>	<p>I. For all constructions of industries and warehouses, three-meter buffer zone should be kept as tree strip with a suitable landscape plan &amp; that should be submitted to the Authority.</p> <p>II. If any industrial investment is made in close proximity (100m -200m) to a water source or wetland, the wastewater management plan must be submitted and accordance to the CEA regulations.</p> <p>III. Permission will not be granted to the boundary walls, if the industrial-based constructions borders with any kind of water source or wetland &amp; will be granted only for fences that fit with the environment.</p> <p>IV. Encourage the industrial related residential facilities through the promotion of hostel developments when improving the existing residential spaces of the zone.</p> <p>V. 50% of the space for light vehicles (Cars / Motorcycles) that are in force for industrial use (Warehouses/Stores) is exempted from the existing traffic parking regulations as per the vehicle parking regulations of UDA</p>

<b>General Terms Related to the Zone</b>	<p>VI. For industrial uses, the minimum access width should be 30 ft (9 m) and when the width of the existing roadway is not less than 7 meters, the land may be considered for disposal to meet the proposed road width.</p> <p>VII. Regulations set forth accordance with the Public Safety Ordinance Emergency Regulations - Gazette Notification 1499/24 of Fuel Storage in relation to the development activities in &amp; around (100m-300m) of the Sapugaskanda Oil Refinery. (Refer Annexure 35)</p> <p>VIII. Wetlands of this Zone comply with regulations and guidelines of the Western Province Wetland Master Plan.</p> <p>IX. The Outer Circular Expressway which runs through the Biyagama PS area, have to maintain a green belt of 5m from the boundary of the RDA reservation as planned.</p>
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**Table 8.10 Permissible Uses in Moderate Dense Industrial Zone – II**

Permissible uses	Minimum Extent of the land (Perches)	Achievable Floor Area	Maximum
<b>Residential</b>			
Housing Units	10	Achievable maximum floor area is according to the schedule 01 & that is apply to all permitted uses.	
Housing Complexes	20		
Hostels	10		
Quarters	10		
<b>Health</b>			
Hospitals		80	
Medical Centers		10	
Medical Consulting & Channeling Service Centers		20	
<b>Educational</b>			
Technical Collages/ Vocational Training Centers		40	
Research & Development Centers		40	
<b>Institutional</b>			
Office		10	
Office Complexes		40	
Professional Offices		10	
Banks, Insurance and Financial Institutions		20	
ATM	Decisions are made subject to the recommendations of the relevant institutions.		

<b>Commercial</b>	
Shops	10
Super Markets	20
Shopping Malls	20
Restaurants /Cafeterias	10
Pharmacies	10
Wholesale stores	12
Warehouses	40
Customer Service Centers	10
Meat & Fish Stalls	10
Liquor /Wine Stores	10
Hardware Stores	40
Filling stations	40,Decisions are made subject to the recommendations of the relevant institutions.
Filling stations with vehicle service centers	60, Decisions are made subject to the recommendations of the relevant institutions.
Filling stations with shopping complexes	60, Decisions are made subject to the recommendations of the relevant institutions.
Gas stations & Electric Charging Stations	40
Communication towers	12, Permits are issued under Development Regulation No 19.
Communication towers on buildings	10, Permits are issued under Development Regulation No 19.
Multi-storied Vehicle Parks	20
Open Vehicle Parks	40
Vehicle Showrooms	20
<b>Tourism</b>	
Guest Houses	10
City Hotels	20
Cabana Hotels	20

<b>Manufacturing Industries</b>	
Mining & Excavation related extraction Industries	40
Metal Products & foundries related extraction industries	40
Oil refineries, petroleum-based chemicals & distillation industries	40
Chemicals, polythene, plastics, rubber & glass-based industries	40
Cement, concrete and ceramic based products industries	40
Clay products industries	20
Natural fiber-based manufacturing industries	20
Textile, Clothing & Leather Products Industries	40
Electrical & Electronics goods related industries	40
Heavy Machinery & Assembly industries	40
Paper Products and Printing Industries	40
Wood / Wood Products & Furniture Manufacturing Industries	40
Food and non-alcoholic beverage industries	40
Alcohol / local pharmaceuticals, spirits & extracts	40
Recycling activities related industries	40
Industrial Infrastructure Facilities Centers	40
<b><i>Permits are granted subject to the recommendations of the CEA for the above-mentioned industrial practices.</i></b>	
Homestead Industries	10 - Permission is granted only for crafts and traditional industries that are not harmful to the environment.
<b>Service Industries</b>	
Vehicle Service Centers	20 - Permission is only granted for light vehicles.
Vehicle Repair Centers / Spray Painting Centers	40
Taxi Service Centers	20
Laundries	10 - Permission is granted subject to the recommendations of the CEA.
Grinding & Rice Mills	10
Welding Shops/ Lathe workshops	10
Electronic Equipment Repair Centers	10
<b>Utility Services</b>	
Railway & Bus Terminals	Decisions are made subject to the recommendations of the relevant institutions.

<b>Public Open Spaces &amp; Recreational Facilities</b>	
Pocket Park	Decisions are made subject to the relevant project.
Mini Park	
Local Park	
Community Park	
Town Park	
Linear Park	
Open Air Theaters	10
<b>Agricultural</b>	
Livestock/ Agricultural farms with construction	40



## 8.6 Moderate Dense Urban Service Zone

Delgoda is a sub town center which getting the positive impact of development through New Kandy Road Corridor & the Biyagama EPZ. Therefore, the area surrounding Delgoda town center has been identified as Moderate Dense Urban Service Zone which cater the required urban services for future residential & commuter demand.

### 8.6.1 Guidelines & Permissible Uses for Moderate Dense Urban Service Zone

**Table 8.11 Guidelines in Moderate Dense Urban Service Zone**

<b>Zone boundaries (Coordinates)</b>	Mentioned in annexure 40
<b>Zoning Factor</b>	0.93
<b>Approved height limits</b>	If the height is not restricted by the zoning, building height determined with the extent of the land proposed for development and other regulations of the UDA.
<b>Approved plots coverage's</b>	Residential 65% Non-Residential 80%
<b>General Terms Related to the Zone</b>	I. Minimum Land subdivision plot sizes is as follows; Residential - 10 Perches II. Wetlands of this Zone comply with regulations and guidelines of the Western Province Wetland Master Plan.

**Table 8.12 Permissible Uses in Moderate Dense Urban Service Zone**

Permissible uses	Minimum Extent of the land (Perches)	Achievable Maximum Floor Area
<b>Residential</b>		
Housing Units	10	Achievable maximum floor area is according to the schedule 01 & that is apply to all permitted uses.
Housing Complexes	20	
Hostels	10	
Quarters	10	
Adult / Disabled Homes	20	
Children's Homes	20	
Child Care Centers	20	
<b>Health</b>		
Hospitals		80
Medical Centers		10
Medical Consulting & Channeling Service Centers		20
Child and Maternity Clinics		20
Animal Hospitals		40
Veterinary Clinics and Treatment Centers		20
Ayurvedic Medical Centers		20

<b>Educational</b>	
Early Childhood Development Centers	20
Tertiary Education Centers	40
Technical Collages/ Vocational Training Centers	40
Research & Development Centers	40
Private Tuition Classes	20
Art Centre / Dance Academy	20
<b>Institutional</b>	
Office	10
Office Complexes	40
Professional Offices	10
Banks, Insurance and Financial Institutions	20
ATM	Decisions are made subject to the recommendations of the relevant institutions.
<b>Social services &amp; Public amenities</b>	
Community Development Centers	20
Social and Cultural Centers	20
Religious Centers	80 (As per the recommendation of the Divisional Coordinating Committee.)
Auditoriums and Conference Halls	60
Libraries	20
Rehabilitation Centers	40
Crematoriums	40 (Decisions are made subject to the recommendations of the relevant institutions.)
<b>Commercial</b>	
Shops	10
Super Markets	20
Shopping Malls	20
Restaurants /Cafeterias	10
Open Markets	40
Pharmacies	10
Laboratory Services and Collection Centers	10
Wholesale stores	12
Customer Service Centers	10
Meat & Fish Stalls	10
Liquor /Wine Stores	10

Funeral Hall	20
Funeral Hall with Reception Halls	40
Hardware Stores	40
Filling stations	40, Decisions are made subject to the recommendations of the relevant institutions.
Filling stations with vehicle service centers	60, Decisions are made subject to the recommendations of the relevant institutions.
Filling stations with shopping complexes	60, Decisions are made subject to the recommendations of the relevant institutions.
Gas stations & Electric Charging Stations	40
Communication towers on buildings	10, Permits are issued under Development Regulation No 19.
Communication towers	12, Permits are issued under Development Regulation No 19.
Multi-storied Vehicle Parks	20
Open Vehicle Parks	40
Vehicle Showrooms	20
<b>Tourism</b>	
Holiday Resorts	40
Guest Houses	10
Lodges	20
Tourist Hotels	40
City Hotels	20
Tourist Information Centers	10
Ayurvedic Panchakarma Center	20
Cabana Hotels	20
<b>Manufacturing Industries</b>	
Natural fiber-based manufacturing industries	20, Permits only for industries that are not harmful to the environment by using natural fiber materials and should have a maximum of 10 employees.
Recycling activities related industries	40, Considered only for solid waste recycling / Recycling or processing industries, Compost manufacturing centers using solid waste & permission is granted subject to the recommendations of the CEA.
Homestead Industries	10 - Permission is granted only for crafts and traditional industries that are not harmful to the environment.

<b>Service Industries</b>	
Vehicle Service Centers	20 - Permission is only granted for light vehicles.
Vehicle Repair Centers / Spray Painting Centers	40
Taxi Service Centers	20
Laundries	10 - Permission is granted subject to the recommendations of the CEA.
Grinding & Rice Mills	10
Welding Shops/ Lathe workshops	10
Electronic Equipment Repair Centers	10
<b>Utility Services</b>	
Bus Terminals/Bus Bays	Decisions are made subject to the recommendations of the relevant institutions.
<b>Public Open Spaces &amp; Recreational Facilities</b>	
Pocket Park	Decisions are made subject to the relevant project.
Mini Park	
Local Park	
Community Park	
Town Park	
Linear Park	
Indoor Sports Complexes	40
Cinema Halls/Theaters	40
Clubs	20
Art Galleries / Museums	20
Open Air Theaters	10
<b>Agricultural</b>	
Livestock/ Agricultural farms with construction	40

## 8.7 Moderate Dense Local Business Zone

Malwana is a closely connected sub town center with Biyagama EPZ. Therefore, the area surrounding Malwana town center has been identified as Moderate Dense Local Business Zone, that expected to expand the by-product industries & commercial developments associated with Biyagama EPZ. And also, promote homestead & service industries through the planning & building regulations of the zone. It also envisages sustainable development through a combination of ecological conservation practices including wetlands and water resources spread throughout the area.

### 8.7.1 Guidelines & Permissible Uses for Moderate Dense Local Business Zone

Table 8.13 Guidelines in Moderate Dense Local Business Zone

<b>Zone boundaries (Coordinates)</b>	Mentioned in annexure 40
<b>Zoning Factor</b>	0.83
<b>Approved height limits</b>	If the height is not restricted by the zoning, building height determined with the extent of the land proposed for development and other regulations of the UDA.
<b>Approved plots coverage's</b>	Residential 65% Non-Residential 80%
<b>General Terms Related to the Zone</b>	<p>I. Minimum Land subdivision plot sizes is as follows; Residential - 10 Perches</p> <p>II. This zone is granted for homestead by -product industries that are not less than 100 sq.m</p> <p>III. The Authority shall determine the minimum access width of 7 meters for such industries.</p> <p>IV. 100m reservation of Kelani River from the riverine area consists with two sections, the 40m and the 60m, and no new construction is permitted within that 40m reserve.</p> <p>V. But permission will be considered for industrial and commercial uses only for lands within the 40-meter reserve area that facing the Malwana - Dekatana main road.</p> <p>VI. Constructions should be carried out on pillars in accordance with flood control procedures and the ground floor should be used only for parking.</p>

General Terms Related to the Zone	<p>VII. Approvals for constructions are granted only with the base of environmental compatibility within 60-meter reserve.</p> <p>VIII. No boundary walls are allowed and only a natural fence is allowed to fit the environment.</p> <p>IX. All developments should be authorized through the relevant agencies (Irrigation Department / Central Environmental Authority).</p> <p>X. Wetlands of this Zone comply with regulations and guidelines of the Western Province Wetland Master Plan.</p>
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**Table 8.14 Permissible Uses in Moderate Dense Local Business Zone**

Permissible uses	Minimum Extent of the land (Perches)	Achievable Maximum Floor Area
<b>Residential</b>		
Housing Units	10	Achievable maximum floor area is according to the schedule 01 & that is apply to all permitted uses.
Housing Complexes	20	
Hostels	10	
Quarters	10	
Child Care Centers	20	
<b>Health</b>		
Medical Centers	10	
Medical Consulting & Channeling Service Centers	20	
Veterinary Clinics and Treatment Centers	20	
Ayurvedic Medical Centers	20	
<b>Educational</b>		
Early Childhood Development Centers	20	
Technical Colleges/Vocational Training Centers	40	
Research & Development Centers	40	
Private Tuition Classes	20	
Art Centre / Dance Academy	20	

<b>Institutional</b>	
Office	10
Office Complexes	40
Professional Offices	10
Banks, Insurance and Financial Institutions	20
ATM	Decisions are made subject to the recommendations of the relevant institutions.
<b>Social services &amp; public amenities</b>	
Community Development Centers	20
Auditoriums and Conference Halls	60
<b>Commercial</b>	
Shops	10
Super Markets	20
Shopping Malls	20
Restaurants /Cafeterias	10
Open Markets	40
Pharmacies	10
Laboratory Services and Collection Centers	10
Wholesale stores	12
Customer Service Centers	10
Meat & Fish Stalls	10
Liquor /Wine Stores	10
Funeral Hall	20
Funeral Hall with Reception Halls	40
Hardware Stores	40
Filling stations	40, Decisions are made subject to the recommendations of the relevant institutions.
Filling stations with vehicle service centers	60, Decisions are made subject to the recommendations of the relevant institutions.
Filling stations with shopping complexes	60, Decisions are made subject to the recommendations of the relevant institutions.
Gas stations & Electric Charging Stations	40
Communication towers on buildings	10, Permits are issued under Development Regulation No 19.
Communication towers	12, Permits are issued under Development Regulation No 19.
Multi-storied Vehicle Parks	20
Open Vehicle Parks	40
Vehicle Showrooms	20

<b>Tourism</b>	
Holiday Resorts	40
Guest Houses	10
Lodges	20
Tourist Hotels	40
City Hotels	20
Tourist Information Centers	10
Ayurvedic Panchakarma Center	20
Cabana Hotels	20
<b>Manufacturing Industries</b>	
Pottery & Clay Products Industries	20, permission is granted for pottery and clay related industries will be considered subject to CEA recommendations.
Natural fiber-based manufacturing industries	20, Permits only for industries that are not harmful to the environment by using natural fiber materials and should have a maximum of 10 employees.
Textile, Clothing and Leather Products Industries	40, permission is granted for textile & fabric related by-products industries which are associated with Biyagama EPZ & will be considered subject to CEA recommendations.
Recycling activities related industries	40, Considered only for solid waste recycling / Recycling or processing industries, Compost manufacturing centers using solid waste & permission is granted subject to the recommendations of the CEA.
Homestead Industries	10 - Permission is granted only for crafts and traditional industries that are not harmful to the environment.
<b>Service Industries</b>	
Vehicle Service Centers	20 - Permission is only granted for light vehicles.
Vehicle Repair Centers / Spray Painting Centers	40
Taxi Service Centers	20
Laundries	10 - Permission is granted subject to the recommendations of the CEA.
Grinding & Rice Mills	10
Welding Shops/ Lathe workshops	10
Electronic Equipment Repair Centers	10



<b>Utility Services</b>	
Bus Terminals/Bus Bays	Decisions are made subject to the recommendations of the relevant institutions.
<b>Public Open Spaces &amp; Recreational Facilities</b>	
Pocket Park	Decisions are made subject to the relevant project.
Mini Park	
Local Park	
Community Park	
Town Park	
Linear Park	
Art galleries/museums	20
Open Air Theaters	10
Boat jetty / ferries	-
<b>Agricultural</b>	
Livestock/ Agricultural farms with construction	40

## 8.8. Low Dense Special Development Zone

It is expected to promote special development activities within the zone by associating the Kelani river environmental conservation practices and also adapt to prevention methods of annual flood scenarios. It also envisages sustainable development through a combination of ecological conservation practices including wetlands and water resources spread throughout the area. Therefore, the strip along the Bandarawatta & Nagahamula Junctions has been identified as Low Dense Special Development Zone, that expected to promote special developments in cooperating the Kelani river & surrounding environmental features in sustainable manner.

### 8.8.1 Guidelines & Permissible Uses for Low Dense Special Development Zone

Table 8.15 Guidelines in Low Dense Special Development Zone

<b>Zone boundaries (Coordinates)</b>	Mentioned in annexure 40
<b>Zoning Factor</b>	0.76
<b>Approved height limits</b>	If the height is not restricted by the zoning, building height determined with the extent of the land proposed for development and other regulations of the UDA.
<b>Approved plots coverage's</b>	Residential 55% Non-Residential 70%
<b>General Terms Related to the Zone</b>	<p>I. Minimum Land subdivision plot sizes is as follows; Residential - 10 Perches</p> <p>II. Wetlands of this Zone comply with regulations and guidelines of the Western Province Wetland Master Plan.</p> <p>III. 100m reservation of Kelani River from the riverine area consists with two sections, the 40m and the 60m, and no new construction is permitted within that 40m reserve.</p> <p>IV. But permission will be considered for industrial and commercial uses only for lands within the 40-meter reserve area that facing the Biyagama - Colombo &amp; New Kandy main road.</p> <p>V. Constructions should be carried out on pillars in accordance with flood control procedures and the ground floor should be used only for parking.</p> <p>VI. Approvals for constructions are granted only with the base of environmental compatibility within 60-meter reserve.</p>

<b>General Terms Related to the Zone</b>	<p>VII. The non-residential plot coverage in this zone is 70%, and the land should be maintained with a green cover of 30%.</p> <p>VIII. The Kelani riverine area should be open for public access and all land adjacent to the Kelani river reserve along the Biyagama - Colombo road should be allocated a minimum of 10 feet of road &amp; lands should be disposal for that reason.</p> <p>IX. No boundary walls are allowed and only a natural fence is allowed to fit the environment.</p> <p>X. All developments should be authorized through the relevant agencies (Irrigation Department / Central Environmental Authority).</p> <p>XI. The Outer Circular Expressway which runs through the Biyagama PS area, have to maintain a green belt of 5m from the boundary of the RDA reservation as planned.</p>
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**Table 8.16 Permissible Uses in Low Dense Special Development Zone**

Permissible uses	Minimum Extent of the land (Perches)	Achievable Maximum Floor Area
<b>Residential</b>		
Housing Units	10	Achievable maximum floor area is according to the schedule 01 & that is apply to all permitted uses.
Housing Complexes	20	
<b>Commercial</b>		
Open Markets	40	
Multi-storied Vehicle Parks	20	
Open Vehicle Parks	40	
<p><b>Permission for commercial uses considered (Commercial uses that mentioned within the Moderate Dense Local Business Zone) only for the lands that facing to the Biyagama – Colombo road, Malwana - Dekatana Road &amp; New Kandy Road Corridor within the 40- &amp; 60-meter reservation area.</b></p>		
<b>Tourism</b>		
Holiday Resorts	40	
Guest Houses	10	
Lodges	20	
Tourist Hotels	40	
City Hotels	20	
Tourist Information Centers	10	
Ayurvedic Panchakarma Center	20	
Cabana Hotels	20	
<p><b>The above-mentioned tourism-related uses within the 40- &amp; 60-meter reservation area is considered only with the base of environmental compatibility. Also, all developments should be authorized through the relevant agencies.</b></p>		
<b>Manufacturing Industries</b>		
Pottery & Clay Products Industries	40, Permission is granted for clay bricks, pottery and clay related industries will be considered subject to CEA recommendations.	
<b>Public Open Spaces &amp; Recreational Facilities</b>		
Pocket Park	Decisions are made subject to the relevant project.	
Mini Park		
Local Park		
Community Park		
Town Park		
Linear Park		
Art galleries/museums	20	
Open Air Theaters	40	
Boat jetty / ferries	-	

## 8.9 Wetland Nature Conservation Zone

This zone includes wetland areas with high biodiversity and areas that should be subjected to flood hazard reduction and control, as well as areas with water retention and drainage.

### 8.9.1 Guidelines & Permissible Uses for Wetland Nature Conservation Zone

Table 8.17 Guidelines in Wetland Nature Conservation Zone

Zone boundaries (Coordinates)	GPS coordinates relevant to the Biyagama PS area mentioned in Western Province Wetland Master Plan.
<b>General Terms &amp; Conditions Related to the Zone</b>	
Flood storage capacity	Shall be maintained in accordance with a Master Plan approved by the SLLR & DC and where relevant, the ID as well
Minimum plot size for the purpose of any building construction.	4 ha (10 acres)
	In smaller plots the permitted uses are the same but no buildings shall be allowed.
Maximum area where filling permitted.	2% of the site area (if needed for roads, vehicle parking, toilets and sewage disposal/treatment required for site management).
Maximum plot coverage (area covered by buildings).	1% of the total project area; all buildings on stilts excepting toilets, which may be on filled land.
Maximum area permitted for project infrastructure, i.e. Electricity/Water Supply/ Telecommunication/Roads.	4% of the total project area.
Maximum permitted ground floor area of an individual building.	100 sq. m.
Maximum permitted building height.	7 m from the natural ground level (except in the case of a few look-out posts/observation towers/tower hides which are compatible with the overall concept)
Building type.	All buildings except toilets shall be on stilts in wetland (not filled area). They shall be isolated or in aesthetically pleasing clusters, with visually compatible, attractive “roof-scapes”. They shall not block views of the open area from adjoining public roads and other public areas and they should be environmentally friendly.
Sub-division	Not permitted
Boundary demarcation.	Boundary walls not permitted. Visually compatible boundary fencing which does not hamper storm water flow may be permitted only along the boundary with adjoining existing high land. Any other boundaries may be demarcated only by visually compatible boundary markers at minimum intervals of 10m. Both the above will be subject to approval of the UDA, on a site-specific basis.
Relaxation of above conditions in exceptional cases.	In the rare event of having to accommodate a vital public infrastructure project, the above conditions may be relaxed.

All buildings shall be on stilts in wetlands

All other activities prohibited

Source : Environmental & Landscape Division,2021

**Table 8.18 Permissible Uses in Wetland Nature Conservation Zone**

<p><b>Permitted Uses</b></p>	<ul style="list-style-type: none"> <li>• Wetlands Nature Parks</li> <li>• Eco-friendly Restaurants- 1200 sq.ft.(on still)</li> <li>• Mini Conference Centers – (on still) -1500 sq.ft. Seating Capacity – 75, Stage – 30'« 50'</li> <li>• Outdoor fitness/exercise facilities</li> <li>• Wetland museums – sq.ft. 1000 (on still)</li> <li>• Cabanas – (on still)</li> <li>• Dry weather Playgrounds</li> <li>• Traditional Fishing</li> <li>• Flower collection</li> <li>• Water-transport</li> <li>• National infrastructure projects</li> <li>• New Irrigation constructions /flood protection structures.</li> <li>• Educational &amp; Research activities.</li> </ul>
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Source : Environmental & Landscape Division,2021

## 8.9 Paddy Cultivation & Wetland Agriculture Zone

This area includes the existing cultivated paddy fields, abandoned paddy fields and associated areas such as Deniyaya and Ovita.

### 8.10.1 Guidelines & Permissible Uses for Paddy Cultivation & Wetland Agriculture Zone

Table 8.19 Guidelines for Paddy Cultivation & Wetland Agriculture Zone

<b>Zone boundaries (Coordinates)</b>	GPS coordinates relevant to the Biyagama PS area mentioned in Western Province Wetland Master Plan.
<b>Conditions subject to the implementation of approved uses in the above zones</b>	
(a)	In the rare case where it is necessary to implement an important common infrastructure project, the above conditions can be relaxed. (Maximum Permitted Infrastructure Projects - Electricity, Water Supply, Telephone, Highways, Railways etc.)
(b)	Approval for the proposed development work subject to the recommendations of the organization mentioned in the schedule before obtaining clear certificates for other development activities as the pattern of land use in the wetlands may change according to the <b>new program of re-cultivation of abandoned paddy lands under the new program of creating a people centered economy</b> in the "Vision of Prosperity" policy statement for the year 2019.
(c)	Survey Plan should be considered to determine the boundaries before approving the proposed development activities in the vicinity of a wetland or in the presence of highland areas in a wetland.
(d)	According to wetland aggregation, a distance of about 20m from the boundary of a wetland zone belongs to the approximate wetland zone and must be implemented in accordance with the relevant laws, regulations and approved practices in that zone (to avoid existing erroneous conditions in determining location according to the geographical location system).
<p><b>N.B.</b></p> <p>(a) <b>Additional work site special status of institutions such as the Central Environmental Authority, Sri Lanka Land Development Corporation, UDA, Agrarian Services Development Department and Department of Irrigation, for "specific projects" under the Environment Act when required.</b></p> <p><b>Violation of the above conditions in the development of any wetland may result in legal action under the powers vested in the Scheduled Castes.</b></p>	

Source : Environmental & Landscape Division,2021

**Table 8.20 Permissible Uses in Wetland Nature Conservation Zone**

<p><b>Permitted Uses</b></p>	<ul style="list-style-type: none"> <li>• Only permitted activities in accordance with the Agrarian Development Act can be done in the Subsidiary areas such as the existing cultivated paddy fields and abandoned paddy fields and the adjoining areas such as Deniyaya and Ovita.</li> <li>• Wetland Agriculture industry</li> <li>• Arboriculture</li> <li>• Mining in accordance with (GS &amp; MB) and CEA guidelines, conditions and regulations, including irregular site rehabilitation (Clay Pits and Soil mining)</li> <li>• Environment friendly aquaculture ponds</li> </ul> <p>All other activities &amp; any other construction are prohibited</p>
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**Source : Environmental & Landscape Division,2021**

Permitted uses matrix of each development zones & Definitions of the permitted uses are attached as annexure 41 & 42







# 09

## Chapter

### Proposed Road Width, Building Line & Reservations

## Chapter 09

### Proposed Road Width, Building Line & Reservations

The Biyagama Development Plan considered proposed road widths for roads to be widened on a priority basis of road network development. And also, this chapter describes the railway, expressway & reservation areas for Canals, Streams, Rivers, and Tanks have been declared by the SLLDC under the Gazette Notification No. 1662/17 of 14.07.2010.

#### 9.1 Road Width & Reservations

According to the Biyagama Development Plan, the proposed road width has been allocated for the roads identified on priority basis in the area. The cross sections with the relevant service lines for the proposed road developments under the priority road hierarchy are displays under the transportation plan in chapter 06. Considering the road widening restrictions and proposals made by the RDA and other agencies, this authority has imposed building restrictions on the width of the proposed road and must comply with its restrictions & regulations.

**Table 9.1 Hierarchy of Road Developments by Priority Levels**

First Priority	
Name of the Road	Proposed Road Width
Colombo – Kandy Road	Four lane road with the center island of LRT service corridor, parking & bicycle lane & side walk with landscaping & utility service lines. Total width of the road will be 30 meters.
Second Priority	
Name of the Road	Proposed Road Width
Approach Road to Kaduwela Bridge (AB 4)	Four lane road with the center island, parking & bicycle lane & side walk with landscaping & utility service lines. Total width of the road will be 30 meters.
Delgoda – Dompe – Giridara Road (B 95)	
Kadawatha – Mawaramandiya Road (B 169)	
Kelaniya – Mudungoda Road (B 214)	
Kiribathgoda – Oil Refinery – Sapugaskanda Road (B 221)	
Makola – Udupila Road (B 262)	
Pattiwila – Makola Road (B 362)	
Sapugaskanda Oil Refinery Junction – Biyagama Free Trade Zone (Samurdhi Mawatha - B 362)	

<b>Third Priority</b>	
<b>Name of the Road</b>	<b>Proposed Road Width</b>
Mabima-Ganewala Road & Jayanthi Mawatha Connection	Two lane road with the parking & bicycle lane & side walk with landscaping & utility service lines. Total width of the road will be 15 meters.
Sapugaskanda-Talwatta Road	
Biyagama - Malwana Road	
Mawaramandiya-Gonahena Road - Ranmuthugala	
<b>Fourth Priority</b>	
<b>Name of the Road</b>	<b>Proposed Road Width</b>
Biyagama-Kottunna Road	Two lane road with the parking & bicycle lane & side walk with landscaping & utility service lines. Total width of the road will be 15 meters.
Bollegala-Wijermamawata	
Daranagama-Meegahawatta Road	
Gonawala – Koholwila Road	
Heiyantuduwa-Minipitiya Road	
Horape-Siriwardana Mawatha Road	
Kanduboda Temple Road	
Kanduboda-Walgama Road	
Makola – Koholwila Road	
Siyabalapa-Daranagama Road	
Siyabalape-Heiyntuduwa Road	
Siyane-Neelammahara-Polhena-Pasgammana Road	
Udupila-Akurumulla Road	
Walgama – Malwana Road	
Walgama-Temple Road	
Walgama-Ulhitwala Road	
<b>Fifth Priority</b>	
Apart from the proposed fourth priority, all the local roads must be at least 6 meters wide.	

Source: Gampaha District Planning Team, 2021

### 9.1.1 Building line

As per the below table of 9.2. proposed building line for the road corridors mentioned separately: RDA, PRDA & Local authority roads.

**Table 9.2 Proposed building lines for road corridors**

<b>RDA Roads</b>	
<b>Name of the Road</b>	<b>Proposed Building Line</b>
Colombo – Kandy Road (A 01)	15 meters (50ft) from the centre line
Approach Road to Kaduwela Bridge (AB 4)	
Delgoda – Dompe – Giridara Road (B 95)	
Kadawatha – Mawaramandiya Road (B 169)	
Kelaniya – Mudungoda Road (B 214)	
Kiribathgoda – Oil Refinery – Sapugaskanda Road (B 221)	
Makola – Udupila Road (B 262)	
Pattiwila – Makola Road (B 362)	
Sapugaskanda Oil Refinery Junction – Biyagama Free Trade Zone (Samurdhi Mawatha - B 362)	
<b>PRDA Roads</b>	
<b>Name of the Road</b>	<b>Proposed Building Line</b>
Mabima-Ganewala Road	7.5 meters (25 ft) from the centre line
Sapugaskanda-Talwatta Road	
Walgama-Malwana Road	
Yatihena-Dekatana Road	
Biyagama-Kottunna Road	
Bollegala-Wijermamawata	
Daranagama-Meegahawatta Road	
Heiyantuduwa-Minipitiya Road	
Horape-Siriwardana Mawatha Road	
Kanduboda Temple Road	
Kanduboda-Walgama Road	
Mawaramandiya-Gonahena Road	
Pattiwela-Makola Road	
Siyabalapa-Daranagama Road	
Siyabalape-Heiyntuduwa Road	
Siyane-Neelammahara-Polhena-Pasgammana Road	
Udupila-Akurumulla Road	
Walgama-Temple Road	
Walgama-Ulhitiwala Road	

### Local Authority Roads

All local authority owned roads should be maintained the 6 meters (20ft) building line. If that local authority road is a dead-end street, authority has the power to decide the building line reservation according to the situation.

Source : Gampaha District Planning Team,2021 & RDA/PRDA

## 9.2 Railway & Expressway Reservations

### 9.2.1 Railway Reservations

Although the railway line for the Biyagama PS area is not yet established, the regulations relating to the railway reserves are applicable due to the proposed Biyagama - Kosgama railway project. There are lands that have been acquired within the abandoned railway line area from Kelaniya to Sapugaskanda, but some areas having illegal encroachments.

However, any development work on the abandoned and proposed railway project and adjoining lands should be obtain the clearance from the railway department before the development activities.

### 9.2.2 Expressway Reservations

The Outer Circular Expressway which runs through the Biyagama PS area, have to maintain a green belt of 5m from the boundary of the RDA reservation as planned.

### 9.3 Reservations of Canals, River & Reservoirs

Accordance to the gazette of 1662/17 in 14<sup>th</sup> of July 2010 by Act No.15 of 1968 (Amended Act No 27 of 1976) / Sri Lanka Land Development Corporation (SLLDC) (Amendment) Act No 52 of 1982, No. 35 of 2006 mentioned, allocation of reserve area for all the open & closed canals mentioned. Under that reservations related regulations all the rivers, tributaries, canals, dams, anicuts & all other natural or artificially created waterways for drainage within Biyagama PS area should be continue enforced.

**Table 9.3 Canal Reservation Regulations**

Surface Width (m)	Reservation from the Canal Bank	
	For open canals (m)	For surface covered canals (m)
1.0 - 1.2	1.0	0.3
1.3 - 3.0	2.0	1.0
3.1 – 4.5	2.75	1.0
4.6 – 6.0	3.5	1.5
6.1 – 9.0	4.5	1.5
More than 9	6.5	2.0

Source: SLLDC,2010

Accordingly, the following reservations should be reserved for the canals in the area.

**Table 9.4 Proposed Canal Reservation Regulations**

River/Canal Name	Width of the River/Canal (m)	Reservation width of the River/Canal	
		For open canals (m)	For surface covered canals (m)
Kelani River	-	40	-
Malwana Sambawela Canal/Pahuru Ela/Pattivila Canal/ Raggahawatta Canal	Less than 9	6.5	2.0
Tanks & Reservoirs	Reservation		
Kottunna, Kanduboda (Yatihena)Tank	10-meter reservation should be reserved around the lake.		

Source: SLLDC Corporation (Amendment) Act No. 35 of 2006/ Gampaha District Planning Team, 2021

Reservation areas of the canals should be according to the surface widths & those reservations should be develop as tree strips & only for urban forest areas as green reserves.



## Part III





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# Annexures



Annexure 01: Stakeholder Participation – Group wise

Group Category	Name	Designation
<b>Industry &amp; Commerce</b>	A.K. Jayasinghe	Director, (Biyagama EPZ), BOI
	Nalaka Jayasundara	Director, Export Agriculture Department
	P.F.W. Dayanath	Engineer, Management, Ceylon Petroleum Corporation
	Ananda Ganepola	Chairman, Mawaramandiya Trade Association
	Saman Liyanage	Chairman, Delgoda Trade union
	Sumaeda Bandara	Deputy Chairman, Kadawatha Trade Union
	P.H.Chinthaka	Deputy Secretary, Biyagama Trade Union
	U.A. Sanjeewa Lakmal	Executive Officer, Free Trade Union
	Pradeep Kumara	Secretary, Makola Three wheeler's Association
	B.M. Susil Prasanna	Chairman, Kadawatha Three Wheeler's Association
<b>Administrative &amp; Infrastructure</b>	R. P. Hettiarachchi	Deputy Director, Kachcheriya, Gampaha
	Thamara Herath	Deputy Director, Biyagama Divisional Secretariat Office
	G.D.C Fonseka	Director Zonal Education, Kelaniya
	P.H.S. Bandara	Director Divisional Education, Biyagama
	K.M.G.U. Jayathilaka	Senior District Manager, National Housing Development Authority
	R.A.P.W. Wickramasinghe	Secretary, Biyagama PS
	N.N. Lokuge	Engineer, RDA, Gampaha
	Champika Ranasinghe	Senior Engineer, Biyagama Water Treatment Plant
	L.W. Halgahawatta	Engineer (P&D), National Water Supply & Drainage Board
	R.A.N.K. Ranathunga	Work Officer, Biyagama, National Water Supply & Drainage Board
	J.M.K. Jayasundara	Transport – Assistant, Road & Passenger Transport Authority
	R.P.L. Padmasiri	Engineer Assistant, PRDA (WP)
	T.M. Pushapakumara	Ceylon Electricity Board
	B.S. Madhushanka	Electrical Engineer, LECO
	S. Godage	Engineer, Railway Department
	D.Padmasiri	PHI, Biyagama PS
	J.S. Gunawardhana	Sub Police Inspector, (Motor Traffic Division) - Meegahawatta Police Station
	W.V. Wasantha	Sub Police Inspector, Biyagama Police Station
Danushka Rachinda	Development Officer, Biyagama Divisional Secretariat Office	
<b>Environmental &amp; Agriculture</b>	B.W.S. Priyadarshani	Senior Environmental Officer, Central Environment Authority
	T.D. Wijesooriya	District Irrigation Engineer's Office
	W.R.D. Weerakkodi	District Irrigation Engineer's Office
	W.J.M. Dayarathana	Assistant Director, Land Use Policy Planning Department
	Athula Weerasinghe	Land Use Officer, Biyagama Divisional Secretariat Office
	W.M.P. Kumari	Agrarian Research & Production Assistant, Biyagama Agrarian Office
	S.A.L. Chandana	
	L.W.P.I. Karunasena	
	K.Y. Jayasinghe	
Sharmila Rajakaruna		

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The Gazette of the Democratic Socialist Republic of Sri Lanka  
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No. 2049/11 - MONDAY, DECEMBER 11, 2017

(Published by Authority)

**PART I : SECTION (I) — GENERAL**

**Government Notifications**

**URBAN DEVELOPMENT AUTHORITY ACT, No. 41 OF 1978**

**The Prescription under Section 3**

I, Patali Champika Ranawaka, the Minister of Megapolis and Western Development, declare by this prescription by virtue of the powers vested in me by Section 3 of the Urban Development Authority Act, Number 41 of 1978 that as it is my opinion to name and develop the area comprising the 05 Municipal Councils, 07 Urban Councils, and 07 Pradeshiya Sabhas whose exclusive boundaries and borders have been marked clearly and definitely already by the Ministry of Provincial Councils and Local Government, and detailed in Columns I and II of the 1st Schedule here, as the **Core Area of the Metro Colombo Development Region**.

PATALI CHAMPIKA RANAWAKA,  
Minister of Megapolis and Western Development.

Ministry of Megapolis and Western Development,  
17 and 18 Floors,  
“Suhurupaya”,  
Sri Subuthipura Road,  
Battaramulla,  
08th December 2017.



2A විශේෂ - (I) කොටස - ශ්‍රී ලංකා දුර්වලතාවයට පත්වීමේ අවස්ථාවේ අති විශේෂ ප්‍රකාශන - 2017.12.11  
 Part I: Sec. (I) - GAZETTE EXTRAORDINARY OF THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA 11.12.2017

SCHEDULE I

DECLARATION OF THE CORE AREA OF THE METRO COLOMBO DEVELOPMENT REGION

<i>Column I</i>	<i>Column II</i>
<p>The domain of Colombo Municipal Council, the domain of Dehiwala-Mt. Lavinia, Municipal Council, the domain of Moratuwa Municipal Council, the domain of Sri Jayewardenepura-Kotte Municipal Council and the domain of Kaduwela Municipal Council, the borders of which have been declared under the Municipal Councils Ordinance No. 29 of 1947 in the <i>Extraordinary Gazette</i> of the Democratic Socialist Republic of Sri Lanka.</p>	<ul style="list-style-type: none"> <li>- The Domain of the Colombo Municipal Council located within the borders declared in the <i>Extraordinary Gazette</i> No. 329/8 and dated 10.08.1978</li> <li>- The Domain of the Dehiwala-Mt. Lavinia Municipal Council located within the borders declared in the <i>Extraordinary Gazette</i> No. 329/8 and dated 10.08.1978</li> </ul>
<p>The domain of Maharagama Urban Council, the domain of Kolonnawa Urban Council, the domain of Kesbewa Urban Council, the domain of Boralesgamuwa Urban Council and the domain of Ja-Ela Urban Council, the domain of Wattala-Mabola Urban Council and the domain of Peliyagoda Urban Council, the borders of which have been declared under the Urban Councils Ordinance No. 61 of 1939.</p>	<ul style="list-style-type: none"> <li>- The Domain of the Moratuwa Municipal Council located within the borders declared in the <i>Extraordinary Gazette</i> No. 957/13 and dated 08.01.1997</li> </ul>
<p>The domain of Mahara Pradeshiya Sabha, the domain of Biyagama Pradeshiya Sabha, the domain of Wattala Pradeshiya Sabha, the domain of Ja-Ela Pradeshiya Sabha, the domain Kelaniya Pradeshiya Sabha, the domain of Kotikawatta Pradeshiya Sabha, and the domain of Homagama Pradeshiya Sabha the borders of which have been declared under the Pradeshiya Sabha Act No. 15 of 1987.</p>	<ul style="list-style-type: none"> <li>- The Domain of the Sri Jayawardenapura-Kotte Municipal Council located within the borders declared in the <i>Extraordinary Gazette</i> No. 941/9 and dated 17.09.1996</li> <li>- The Domain of the Kaduwela Municipal Council located within the borders declared in the <i>Extraordinary Gazette</i> No. 1639/11 and dated 02.02.2010</li> </ul>
<p>The total ground area of the domains of the 19 Local Government Institutions as described in the Column II, comprising the domains of the above Local Government Institutions.</p>	<ul style="list-style-type: none"> <li>- The Domain of the Maharagama Urban Council located within the borders declared in the <i>Extraordinary Gazette</i> No. 1218/35 and dated 10.01.2002</li> <li>- The Domain of the Kolonnawa Urban Council located within the borders declared in the <i>Extraordinary Gazette</i> No. 329/8 and dated 10.08.1978</li> <li>- The Domain of the Kesbewa Urban Council located within the borders declared in the <i>Extraordinary Gazette</i> No. 1426/15 and dated 04.01.2006</li> <li>- The Domain of the Boralesgamuwa Urban Council located within the borders declared in the <i>Extraordinary Gazette</i> No. 1426/15 and dated 04.01.2006</li> <li>- The Domain of the Ja-Ela Urban Council located within the borders declared in the <i>Extraordinary Gazette</i> No. 231/13 and dated 09.02.1983</li> </ul>

SCHEDULE I (Contd.)

DECLARATION OF THE CORE AREA OF THE METRO COLOMBO DEVELOPMENT REGION

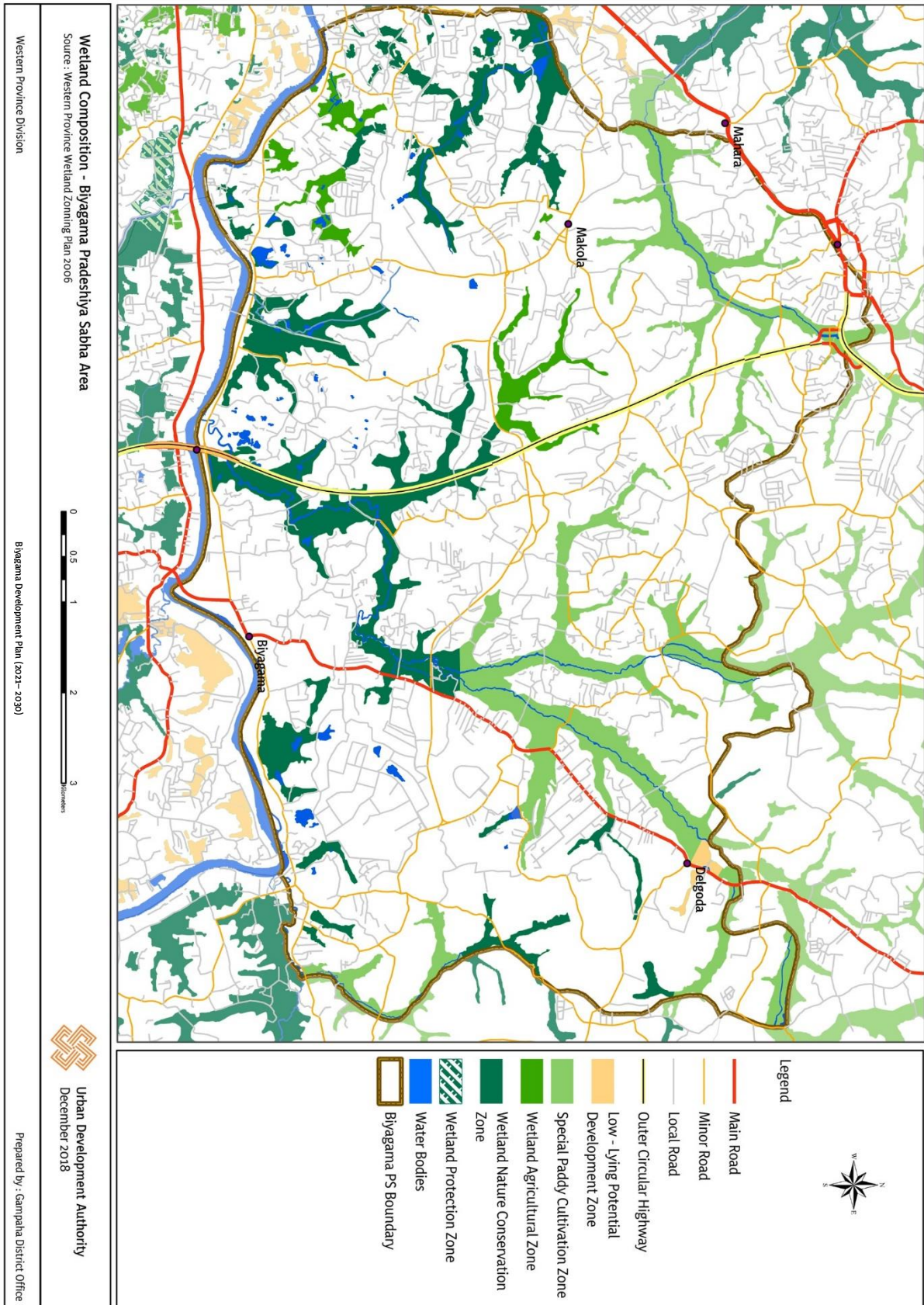
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Column II

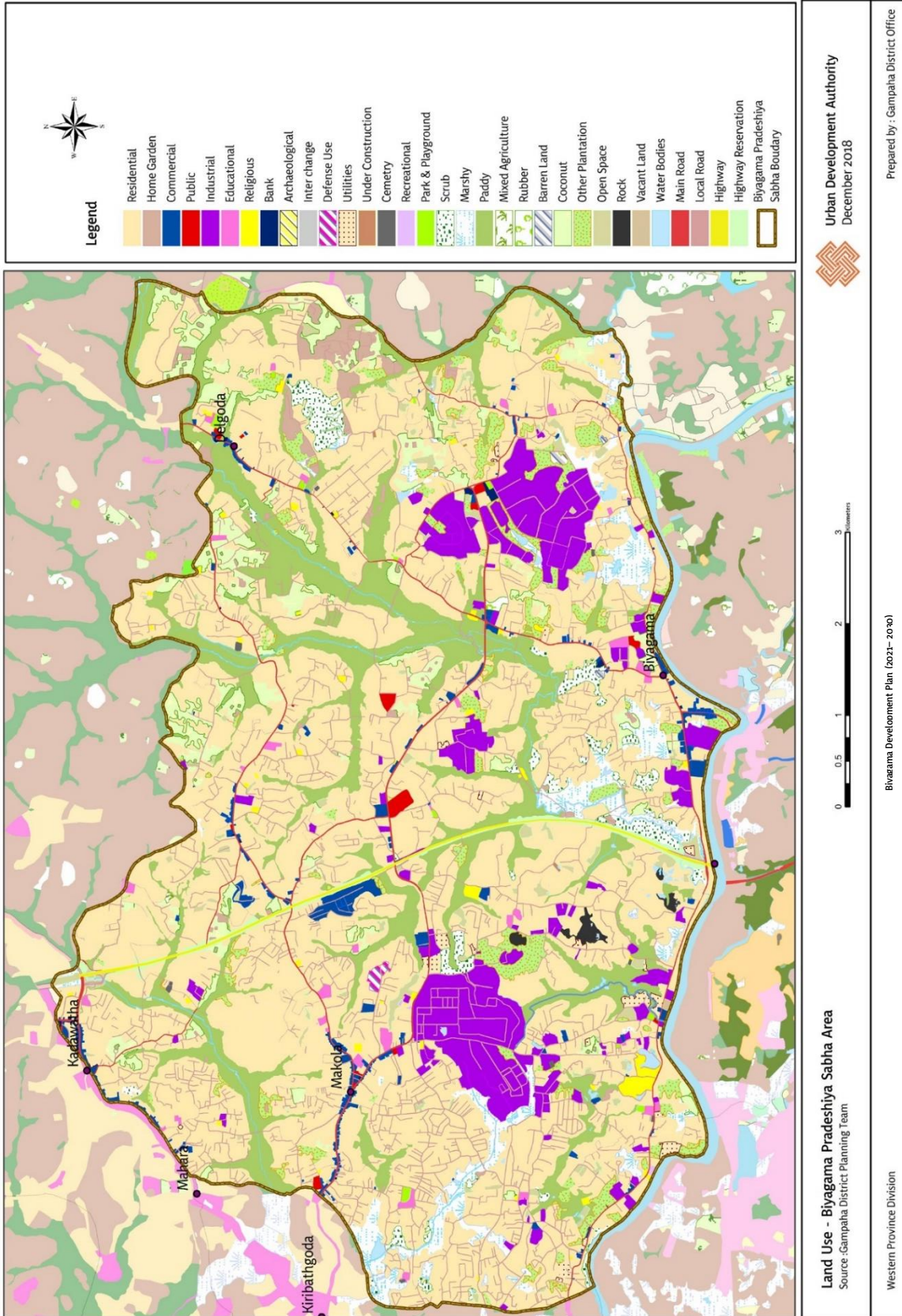
- The Domain of the Wattala-Mabola Urban Council located within the borders declared in the *Extraordinary Gazette* No. 231/13 and dated 09.02.1983
- The Domain of the Peliyagoda Urban Council located within the borders declared in the *Extraordinary Gazette* No. 231/13 and dated 09.02.1983
- The Domain of the Mahara Pradeshiya Sabha located within the borders declared in the *Extraordinary Gazette* No. 453/6 and dated 12.05.1987
- The Domain of the Biyagama Pradeshiya Sabha located within the borders declared in the *Extraordinary Gazette* No. 867/21 and dated 21.04.1995
- The Domain of the Wattala Pradeshiya Sabha located within the borders declared in the *Extraordinary Gazette* No. 453/6 and dated 12.05.1987
- The Domain of the Ja-Ela Pradeshiya Sabha located within the borders declared in the *Extraordinary Gazette* No. 453/6 and dated 12.05.1987
- The Domain of the Kelaniya Pradeshiya Sabha located within the borders declared in the *Extraordinary Gazette* No. 453/6 and dated 12.05.1987
- The Domain of the Kotikawatta Pradeshiya Sabha located within the borders declared in the *Extraordinary Gazette* No. 453/5 and dated 12.05.1987
- The Domain of the Homagama Pradeshiya Sabha located within the borders declared in the *Extraordinary Gazette* No. 453/5 and dated 12.05.1987

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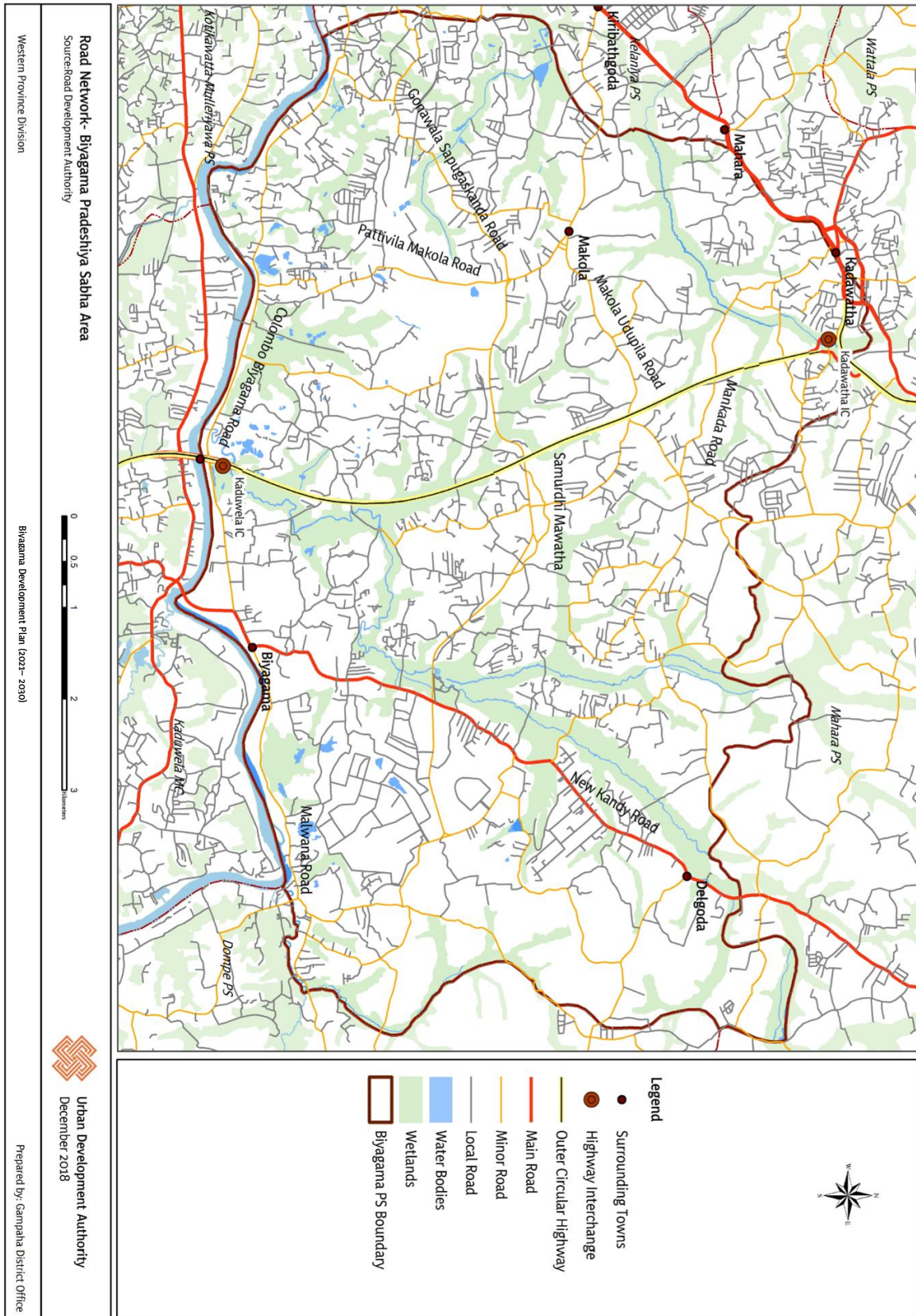
Annexure 03: Wetland Composition of Biyagama PS area



Annexure 04: Land use of Biyagama PS area

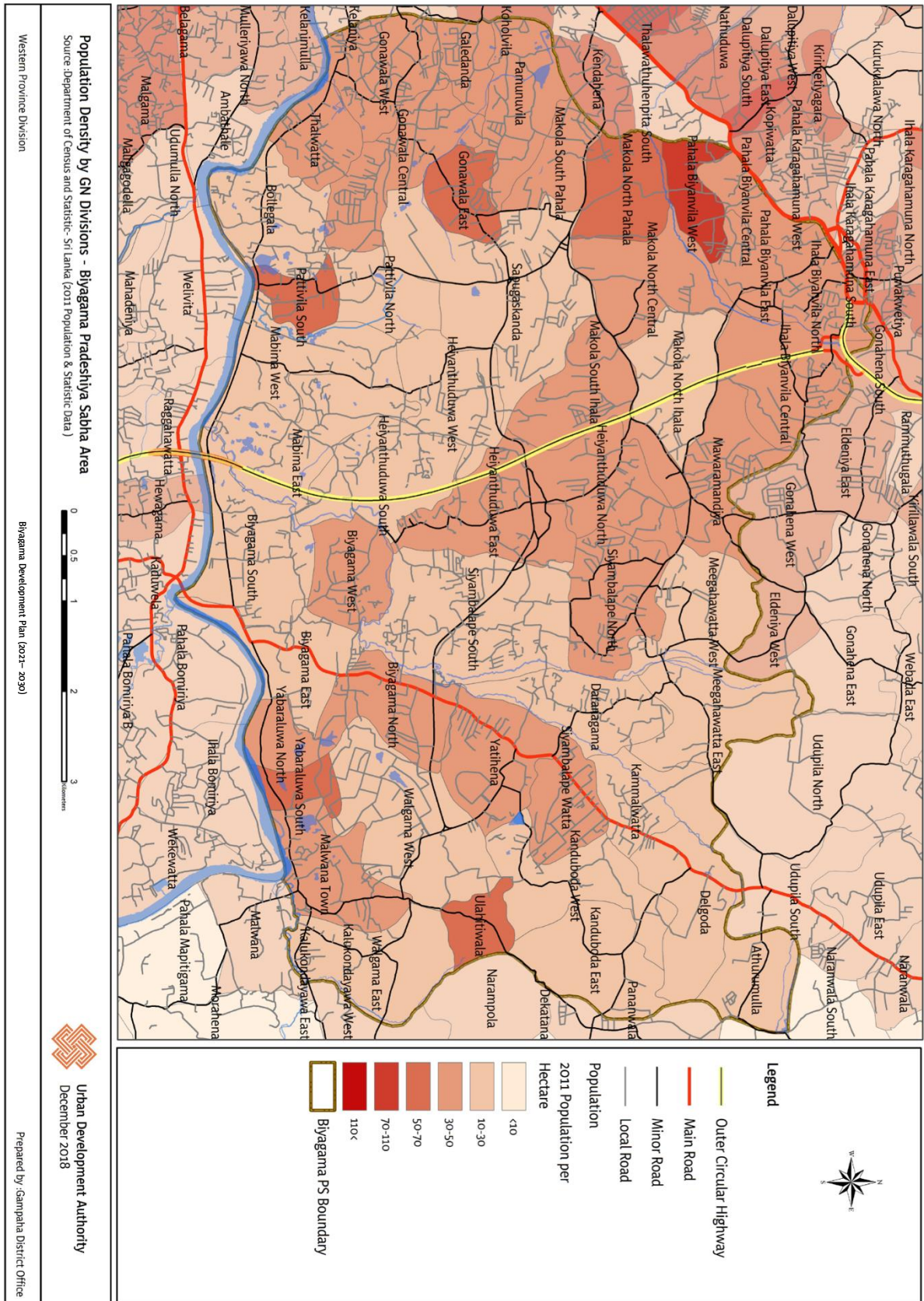


Annexure 05: Road Network of Biyagama PS area

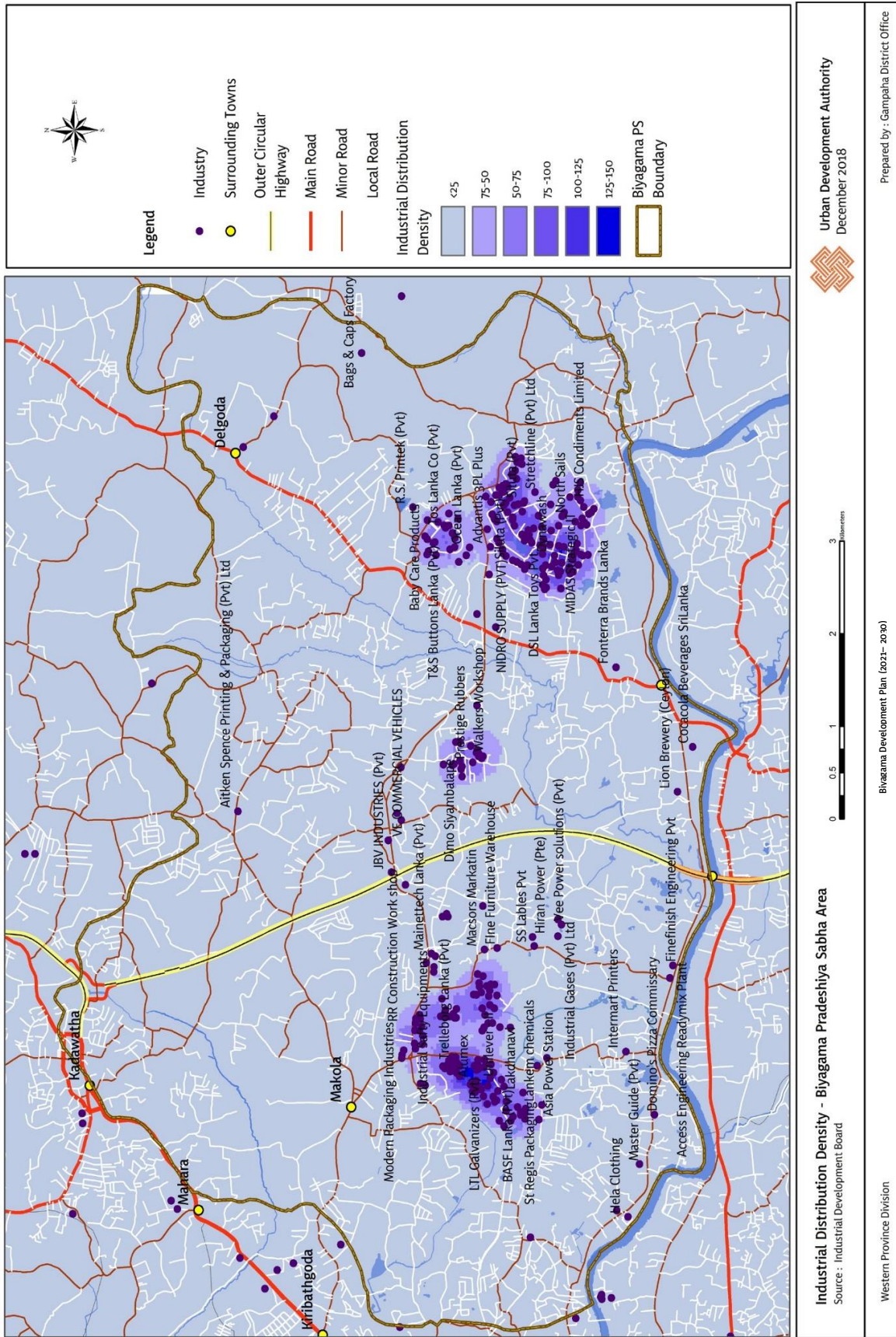




Annexure 07: Population Density by GN division- 2011 Population and statistic Data



Annexure o8: Industrial Distribution Density





Annexure 09: Western Region Structure plan (CESMA)- 2004



Source : Western Region Structure plan (CESMA)- 2004

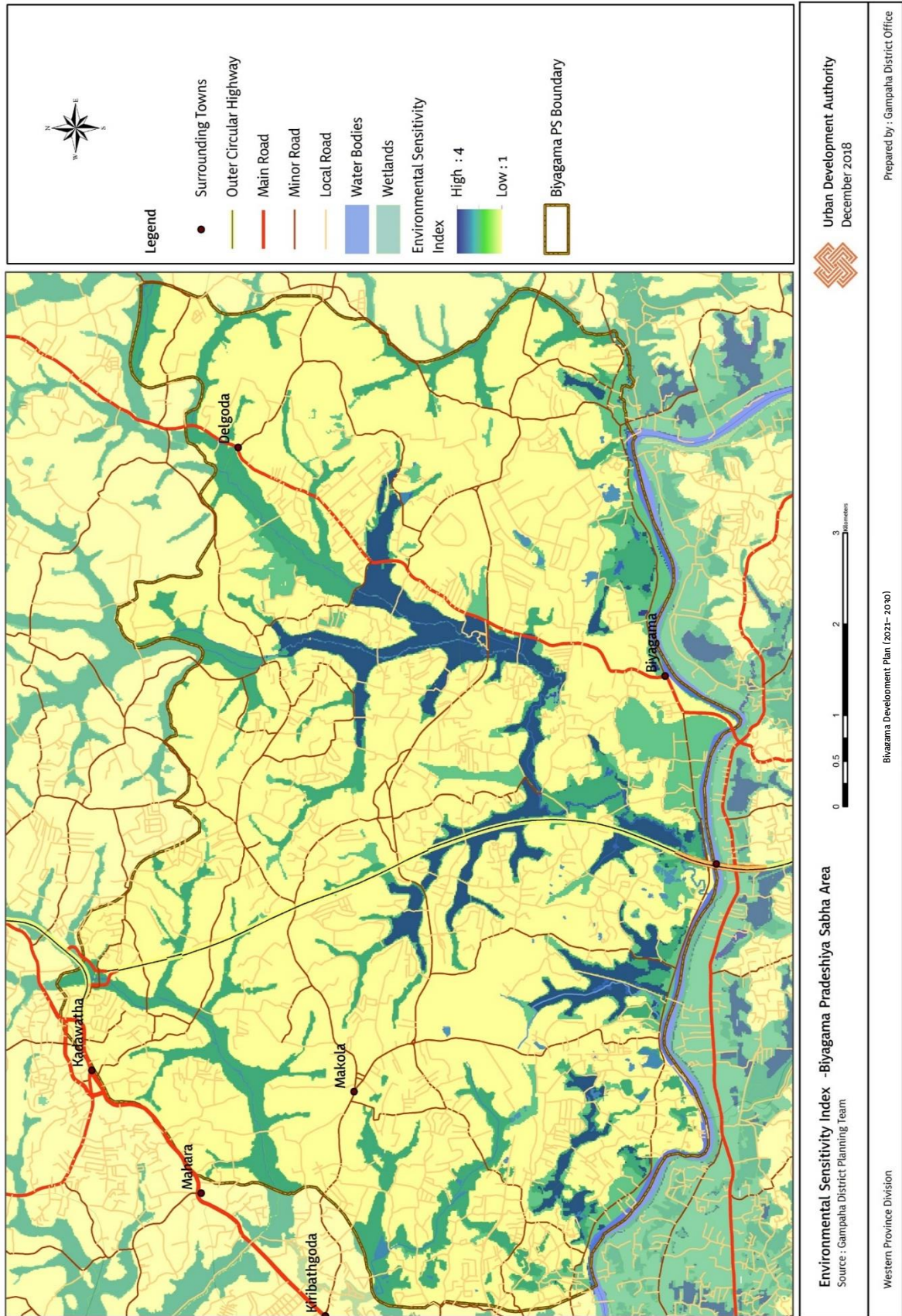
**Annexure 10: Abandoned Paddy Analysis - Biyagama Agrarian Services Department**

GN Division	Total Paddy Land Extent (Ha)	Continuously Cultivated (Ha)	Abandoned Paddy - Can be Cultivated again (Ha)	Abandoned Paddy - Short term use (Ha)	Other Abandoned Paddy (Ha)	Total Paddy - Cultivated 2017/2018 (Ha)
Siyabalape South	44.96	34.92	10.04	0	0	28.45
Delgoda	41.68	30.78	10.9	0	0	26.23
Siyabalapewatta	18.54	18.04	0	0.5	0	18.04
Daranagama	46.21	44.44	0.59	0	1.18	26.77
Kammalwatta	34.86	32.43	1.34	1.09	0	17.99
Meegahawatta East	20.13	20.13	0	0	0	17.41
Yatihena	29.29	24.08	2.09	1.21	1.91	19.15
Kanduboda West	11.33	10.34	0.8	0.19	0	4.66
Walgama East	34.01	25.06	8.05	0	0.9	11.47
Walgama West	5.61	0	1.5	4.11	0	0.6
Ulahitiwala	8.89	8.39	0.45	0.05	0	8.59
Malwana	3.45	0.1	0	0	3.35	3.45
Yabaluwa South	8.24	0	0	0	8.24	0
Yabaluwa East	4	0	0	0	4	0
Biyagama South	19.34	1.1	0	0	18.24	1.1
Biyagama West	24.7	0	0	0	24.7	0
Biyagama East	6.86	0	0	0	6.86	0
Biyagama North	27.26	15.92	3	3	5.34	3.2
Mabima East	24.38	4.13	14.18	2.03	4.04	4.53
Mabima West	31.43	3.69	12.56	4.26	10.92	4.09
Heiyanthuduwa South	43.34	0	6.48	0	36.86	0
Heiyanthuduwa West	27.04	9.43	3.63	0	13.97	0.91
Pattivila East	8.34	0	0	1	7.34	0
Pattivila South	7.89	0	0	1	6.89	0
Meegahawatta West	18.33	17.07	0	1.26	0	13.12
Siyabalape North	17.6	15.88	1.72	0	0	8.36
Heiyanthuduwa East	15.18	11.84	0	3.34	0	7.69
Heiyanthuduwa North	14.17	12.15	0.2	1.82	0	5.8
Thalwatta	11.74	0	0.02	0	11.74	5.26
Bollegala	17.01	0	0	0	17.01	0

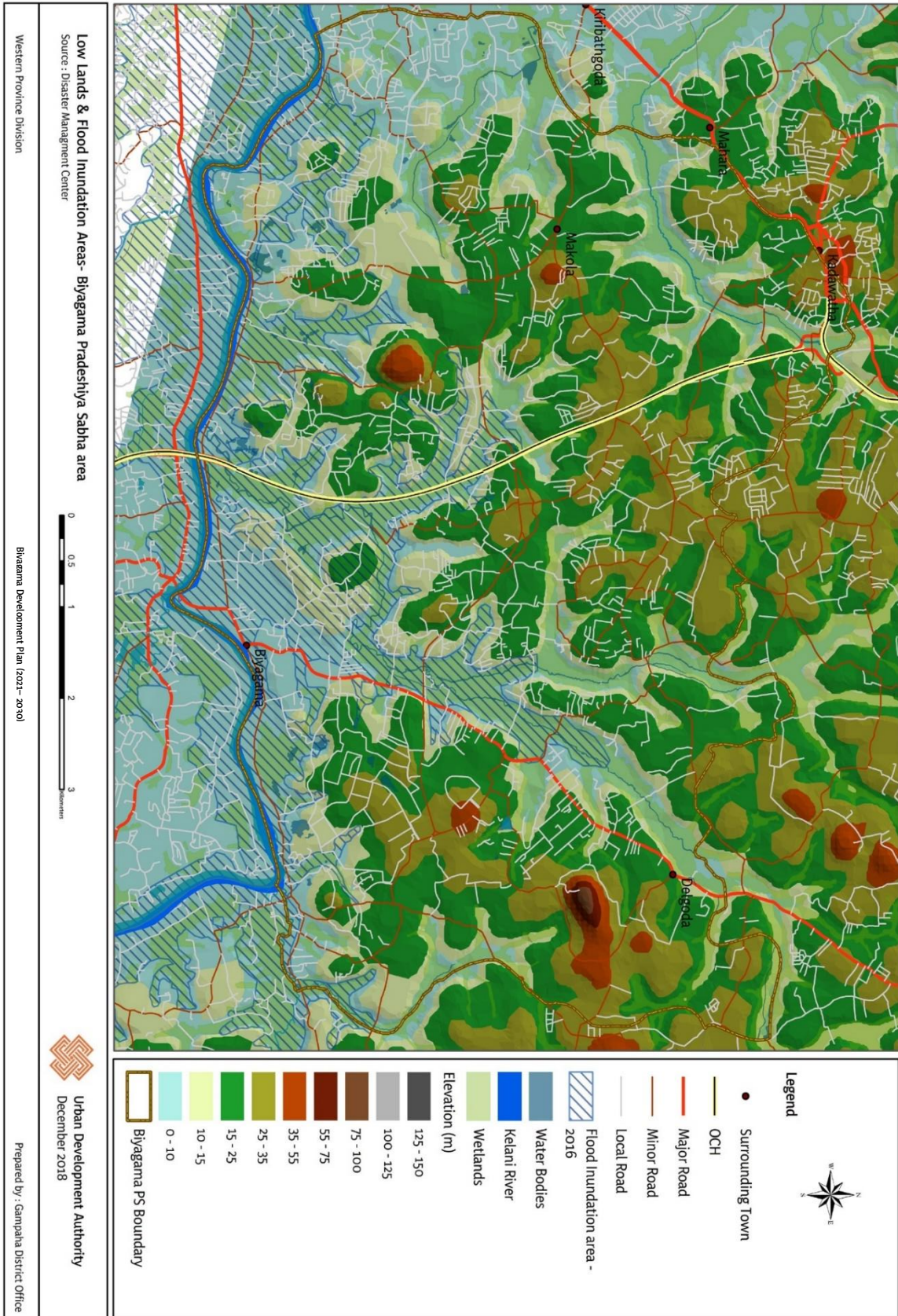
GN Division	Total Paddy Land Extent (Ha)	Continuously Cultivated (Ha)	Abandoned Paddy - Can be Cultivated again (Ha)	Abandoned Paddy - Short term use (Ha)	Other Abandoned Paddy (Ha)	Total Paddy - Cultivated 2017/2018 (Ha)
Makola North Ihala	8.71	6.36	1.94	0	0.41	5.05
Mawaramandiya	11.69	8.13	3.46	0	0.1	3.77
Sapugaskanda	13.09	9.68	1.31	0	2.1	6
Makola South Ihala	18.44	14.92	2.59	0.55	0.38	6.49
Ihala Biyanvila North	2.4	0	0	0	2.4	0
Pahala Biyanvila East	16.67	11.23	5.44	0	0	12.85
Pahala Biyanvila Central	3.3	2.9	0.4	0	0	1.4
Pahala Biyanvila West	23.67	21.17	2.5	0	0	8
Makola North Pahala	24.53	18.48	5.59	0	0.46	6.93
Makola North Central	25.97	20.01	5.29	0.17	0.5	10.3
Gonawala East	6.88	0	0	2	4.88	0
Gonawala Middle	32.91	0	0	4.67	28.24	0
Gonawala West	20.45	0	0	2.67	17.78	0
Pamunuwila	46.58	0	0	0	46.58	0
Galedanda	16.6	0	0	0	16.6	0
Makola South Pahala	15.72	7.94	5.26	0	2.52	5.71
Akurumulla	20.8	19.15	1.65	0	0	16.69
Kanduboda East	12.96	12.08	0.88	0	0	9.41
Ihala Biyanvila Central	22	19.3	2.7	0	0	20.3
Total	969.18	523.42	116.74	36.74	294.7	349.77

Source : Biyagama Agrarian Services Department, 2018

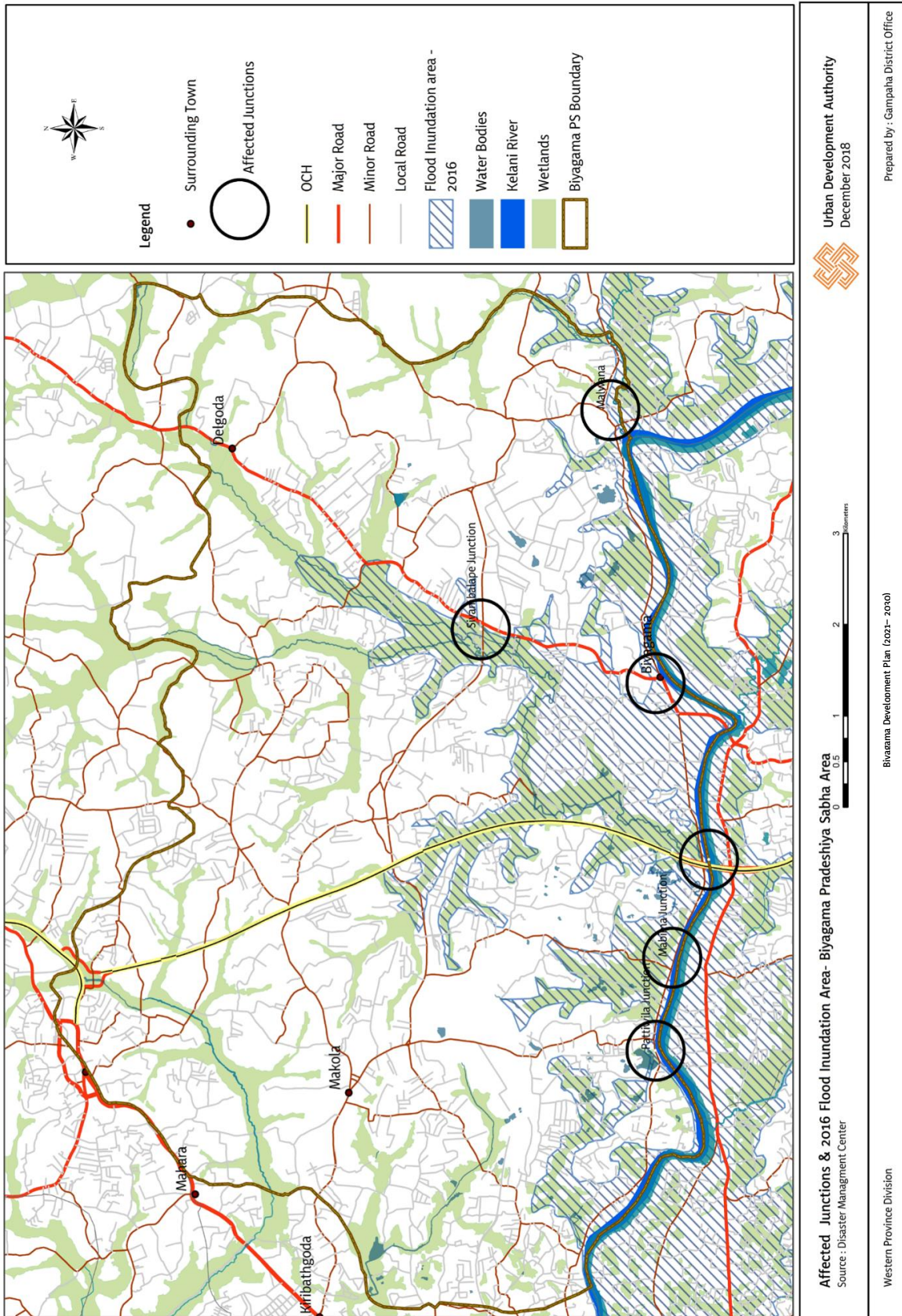
Annexure 11. Environment Sensitivity Index



Annexure 12. Low Lands & 2016 Flood Inundation Areas



Annexure 13. Affected Junctions, Low Lands & 2016 Flood Inundation areas



Annexure 14. Stakeholder Meeting - Analysis Report

## Stakeholder Meeting – Biyagama PS area Urban Development Authority

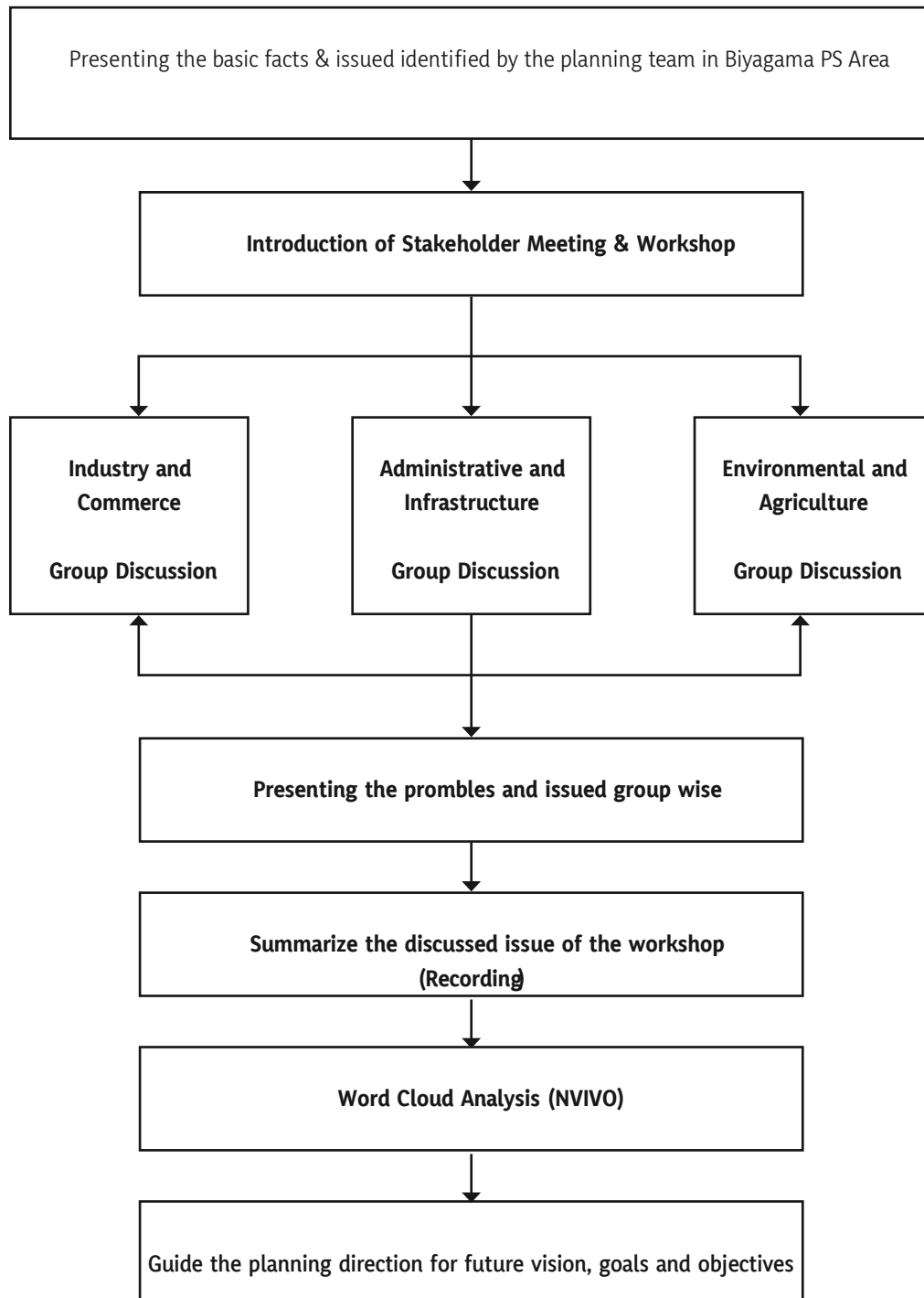


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NVIVO Analysis

Development Planning Division

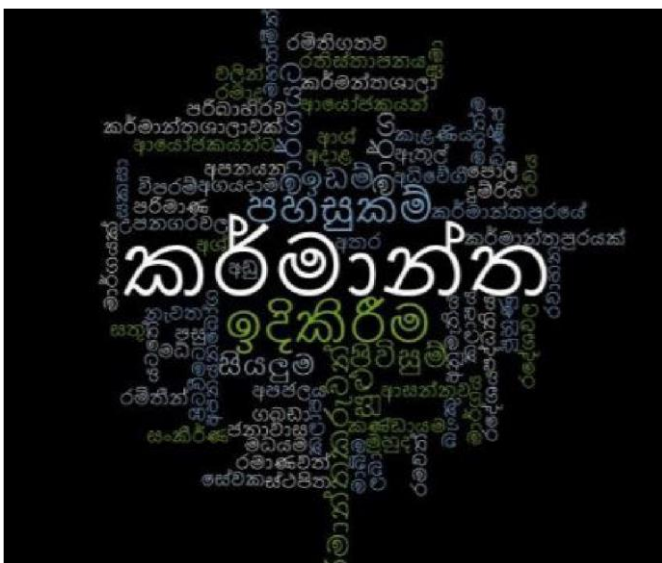
## Stakeholder Meeting – Implementation Mechanism





### Group 01. Industry & Commerce

- All the land parcels of Biyagama EPZ accomadated with industrial enterprises & no spaces for new investors.
- Establish a new industrial estate for small scale & minor industries.
- Delaying the recommendations of industrial related developments.
- Establish a separate expressway access road for Biyagama EPZ.
- Expand the industrial related financial & banking facilities.
- Establish multi-purpose buildings for all the sub town centers of the area.
- Create new industrial areas for export crops with facilities.
- Improve the existing road network for freight transportation.
- Reconstruct the Biyagama – Kelaniya Rail track.
- Recommand the warehouses closer to the access roads & separate from the residential areas.
- Create a zoning mechanism for industrial areas. (Mabima Area)
- Create a pipe system for treated industrial waste water discharge.
- Create a proper mechanisam for industrial waste management.
- Discourage the residential developments closer to the industrial areas.



**Industry & Commerce group  
mainly highlighted the economic  
background the industrial related  
issues of the area**

## **Group 02. Administrative & Infrastructure facilities**

### **01. Water Supply**

- Declare a service line either sides of main roads.
- Water conservation mechanism should be deriving from the planning stage.
- Improvement of pipe - born water system.
- Create a proper waste water discharge system.
- Establish a sewerage disposal system for high commercial activities distributed area.

### **02. Electricity & Telecommunication**

- Need the information of the projects within the planning stage.
- Declare a service line either sides of main roads.

### **03. Road Network**

- Development of main road network of the area.
- Develop main nodes of the area. (Delgoda, Makola, Udupila, Waduwegama)
- Introduce drainage system for all roads & create a mechanism to dispose the water into Kelani river.
- Declare the regulations for canal reservations of the area.
- Road developments of Mabima - Makola, Udupila-Makola & Sapugaskanda - Pattiwila.
- Develop Pahuruwela road as an alternative road.
- Develop the railway line from the Sapugaskanda to Biyagama EPZ area.

### **04. Education Facilities**

- Establish an auditorium with all facilities.

### **05. Health Facilities**

- Establish a hospital complex with all the facilities.
- Establish maternity clinic centers with facilities
- Establish a recycling center of solid waste in Biyagama PS area.

### **06. Law & Peace**

- Establish a new police complex for Meegahawatta.
- Facilitate parking areas.

### **07. Housing**

- Facilitate middle income housing.
- Increase the hostel facilities of Biyagama EPZ.
- Resettlements for river & railway reservations areas.



**Administrative & Infrastructure group mainly highlighted the public urban services & its related issues.**

### Group 03. Environment & Agriculture

- Create a zoning mechanism for environmental sensitive areas & agricultural areas
- Development promotion without blocking the canal network.
- Create a proper mechanism for decrease the sub divisions of other plantation lands.
- Construct walls for river flood mitigation.
- Remove the settlements & industries from the 15m Kelani river reservation.
- Identify the water retention areas & discourage to use those areas for other purposes.  
Ex: Highly sensitive area of Raggahawatta canal area.
- Discourage the industrial developments within residential areas.
- Separate the industrial uses with special zones.
- Discourage the industrial developments within sensitive environmental areas.
- Establish green buffers within industrial zones. Ex: Sapugaskanda oil refinery area & Biyagama EPZ.
- Establish a waste water treatment plant Inco-operating with responsible government agencies.
- Establish open recreation spaces & linear parks.
- Use granite extraction & bricks making pits for inland fishing.
- Create special agro-industrial areas. Ex: Pine apple/Rambutan
- Consideration of mix residential areas for small scale & minor industrial development promotions.
- Low land fillings should be following the regulations & proper mechanism to avoid the flood scenarios.
- Present industrial developments are not based on a proper zoning mechanism & that led to the more public complaints.
- Issues related to the treated industrial waste water discharge mechanisms.
- Ex: Raggahawatta Canal
- Waste water discharge mechanism for residential areas.



Environment and Agricultural Group mainly highlighted the issues related to the sensitive environment of the area

In first step group wise explanations & descriptions are considered separately & later those three ideas got under a one analysis. The following figure implied the result of that.

**Overall World Cloud Analysis**



**Node Analysis**

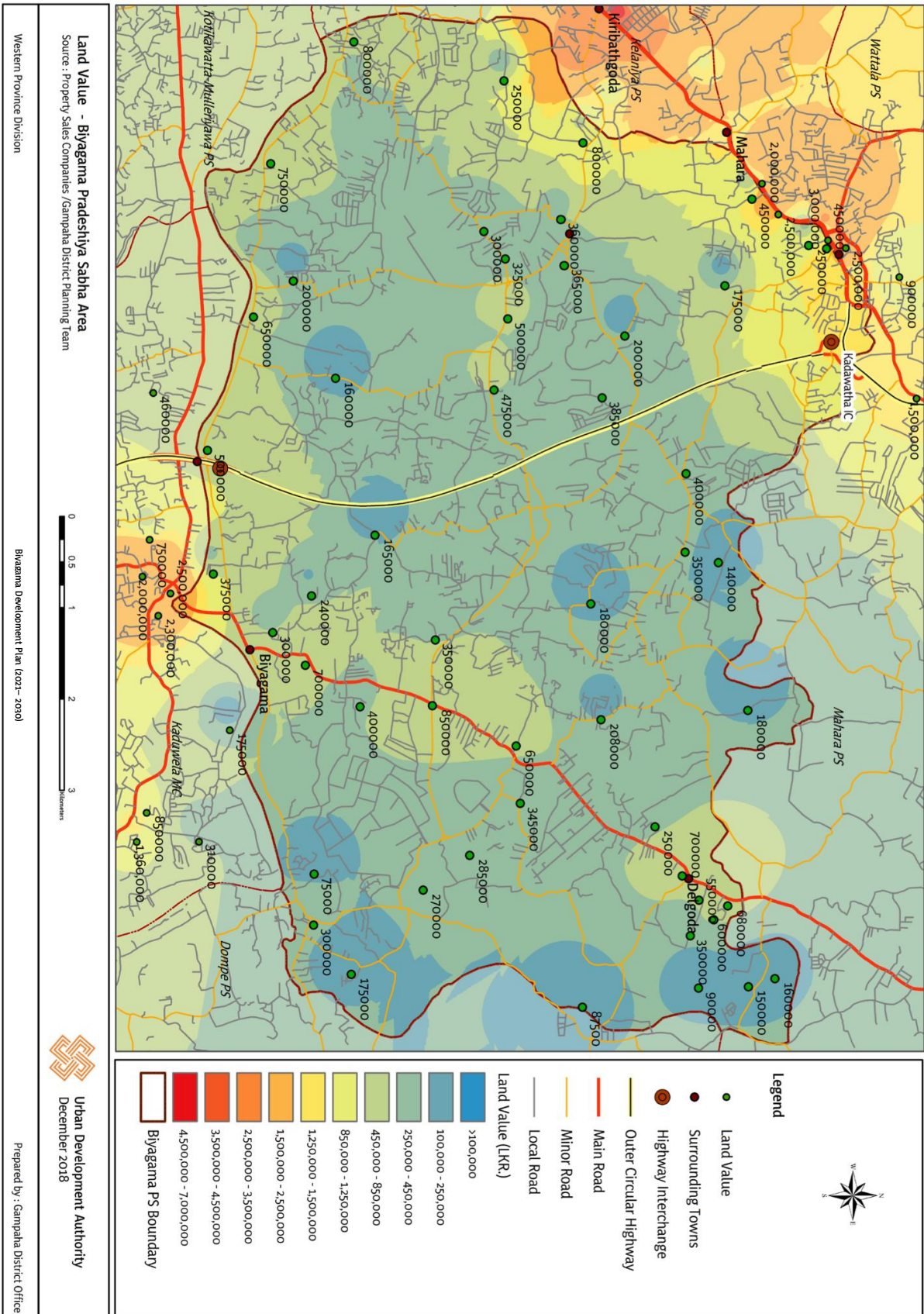


According to the results of overall word cloud analysis & node analysis derive the two basic facts for the preparation of Biyagama Development Plan.

- Improve the urban infrastructure for industrial development promotion
- Environment Management

With the base of these two facts from the analysis of the ideas in stakeholder workshop, Biyagama development direction will align promotion of industries to achieve the economic development & create Biyagama town which protect its sensitive eco system with environment management principles.

Annexure 15. Land Values of Biyagama & Surrounding areas



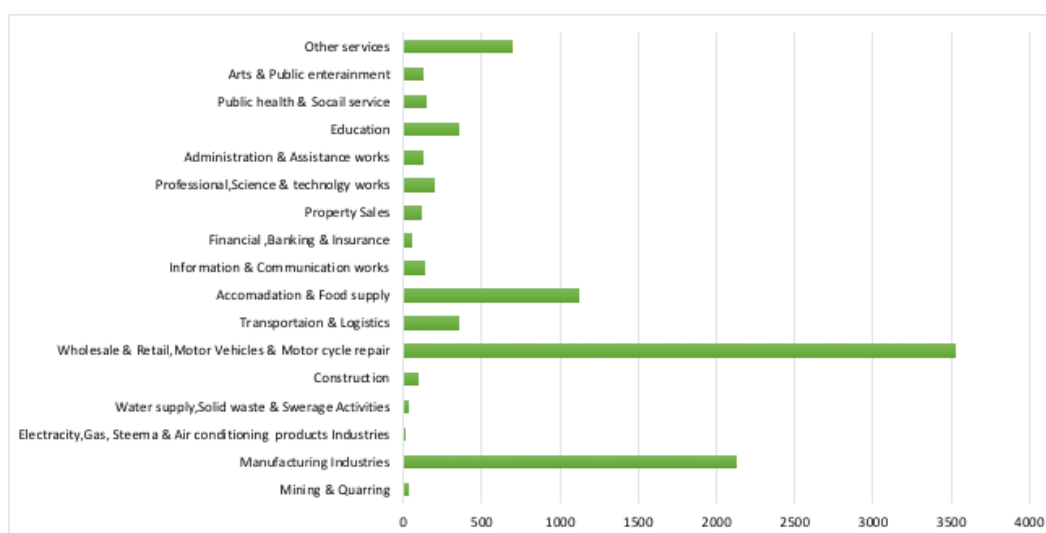
Annexure 16. Comparison of increment of labor force & industries by DS Divisions

DSD	1998 (Status)	Number of Industrial units (1985)	No of People employed (1985)	No of Industrial units (1993)	No of People employed (1993)
Gampaha	PU	10	802	72	3488
Minuwangoda	R	12	2025	9	1054
Ja Ela	C	34	3776	136	22672
Wattla	C	24	1646	121	13531
Weke (Dompe)	R	10	270	8	2108
Mahara	PU	122	2250	31	3534
Kelaniya	C	19	1763	104	13997
Divulapitiya	R	25	2140	12	250
Katana	C	18	1450	149	71289
Mirigama	R	8	589	23	379
Attanagalle	R	13	818	37	4735
Negombo	C	16	2501	62	6839
Biyagama	PU	7	522	60	34059

C - Core / PU- Peri Urban / R – Rural

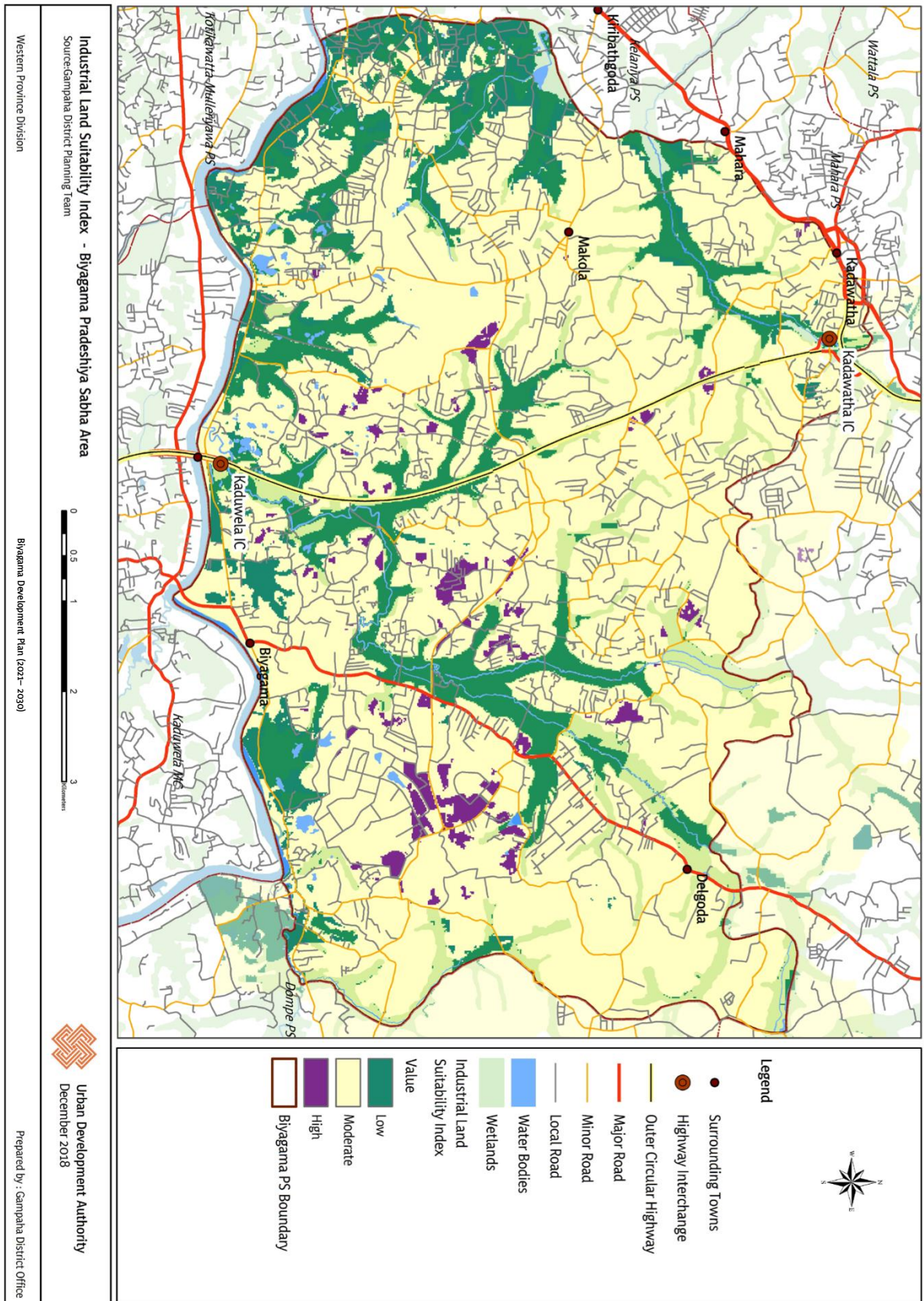
Source: UDA,1998 / The Peri-Urban Interface -Approaches to Sustainable Natural and Human Resource Use (Chapter 12 - Peri-Urban Development in Gampaha District, Sri Lanka by Nimal Dangalle, Anders Narman)

Annexure 17. Economic sector wise employment distribution - Biyagama PS area

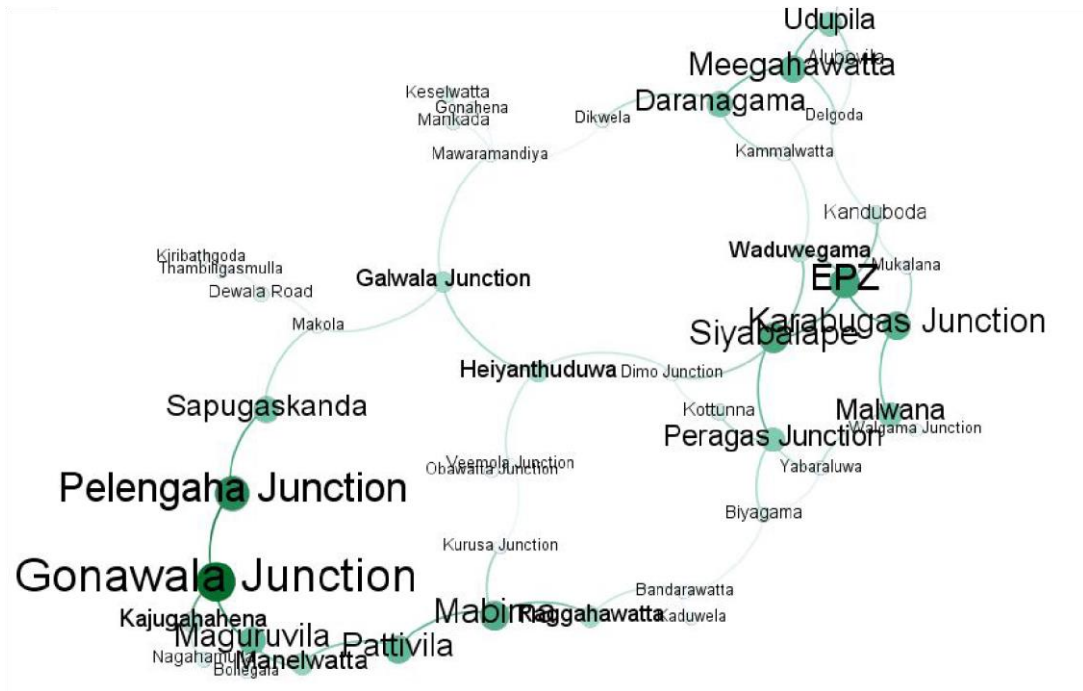


Source : Draft Resource Profile -2017, Biyagama PS area

Annexure 18. Industrial Land suitability Index



Annexure 19. Analysis of Connective Nodes of Biyagama PS area



Source : Gampaha District Planning Team, 2021

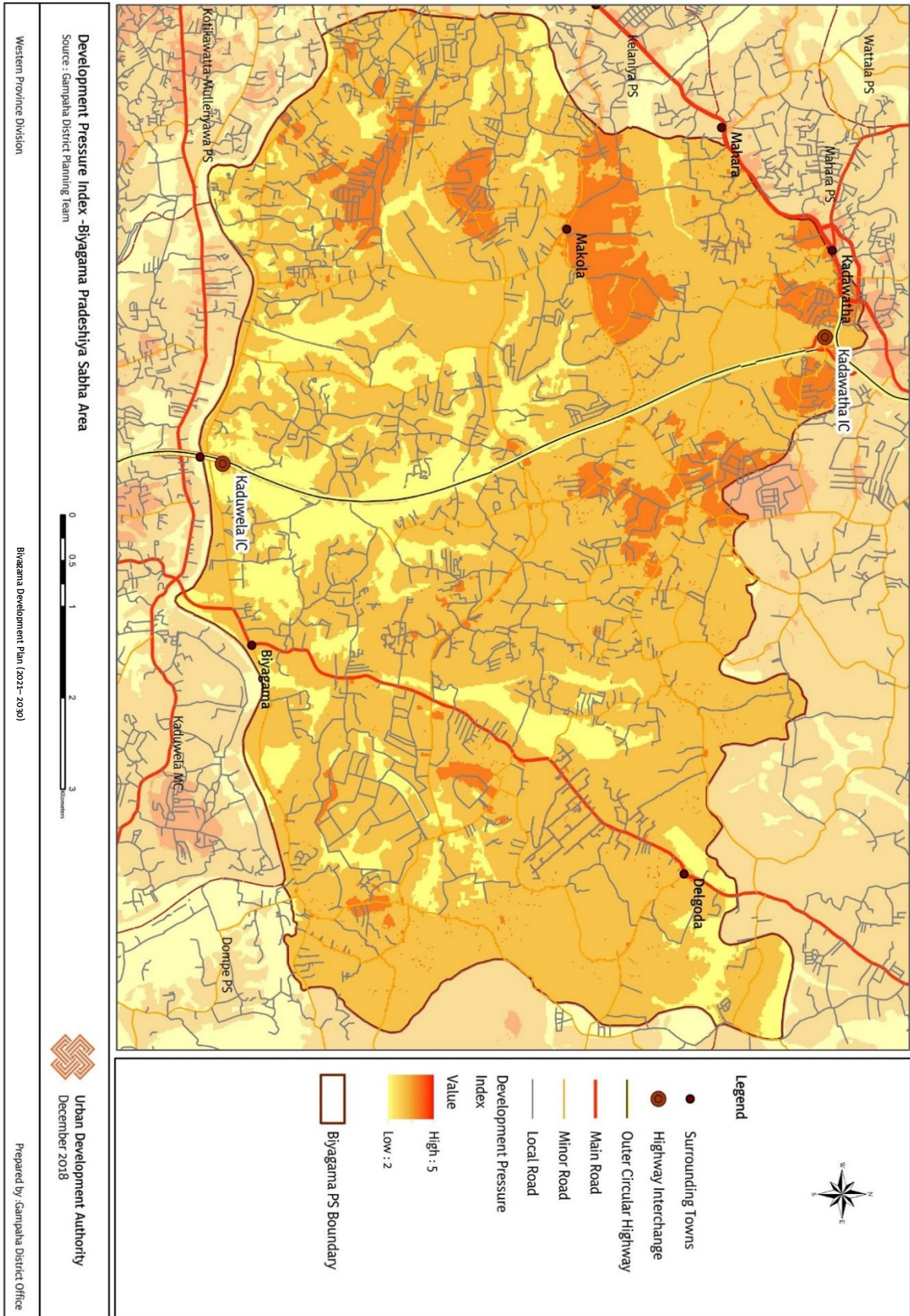
Annexure 20. Growth of the Siyabalape Junction



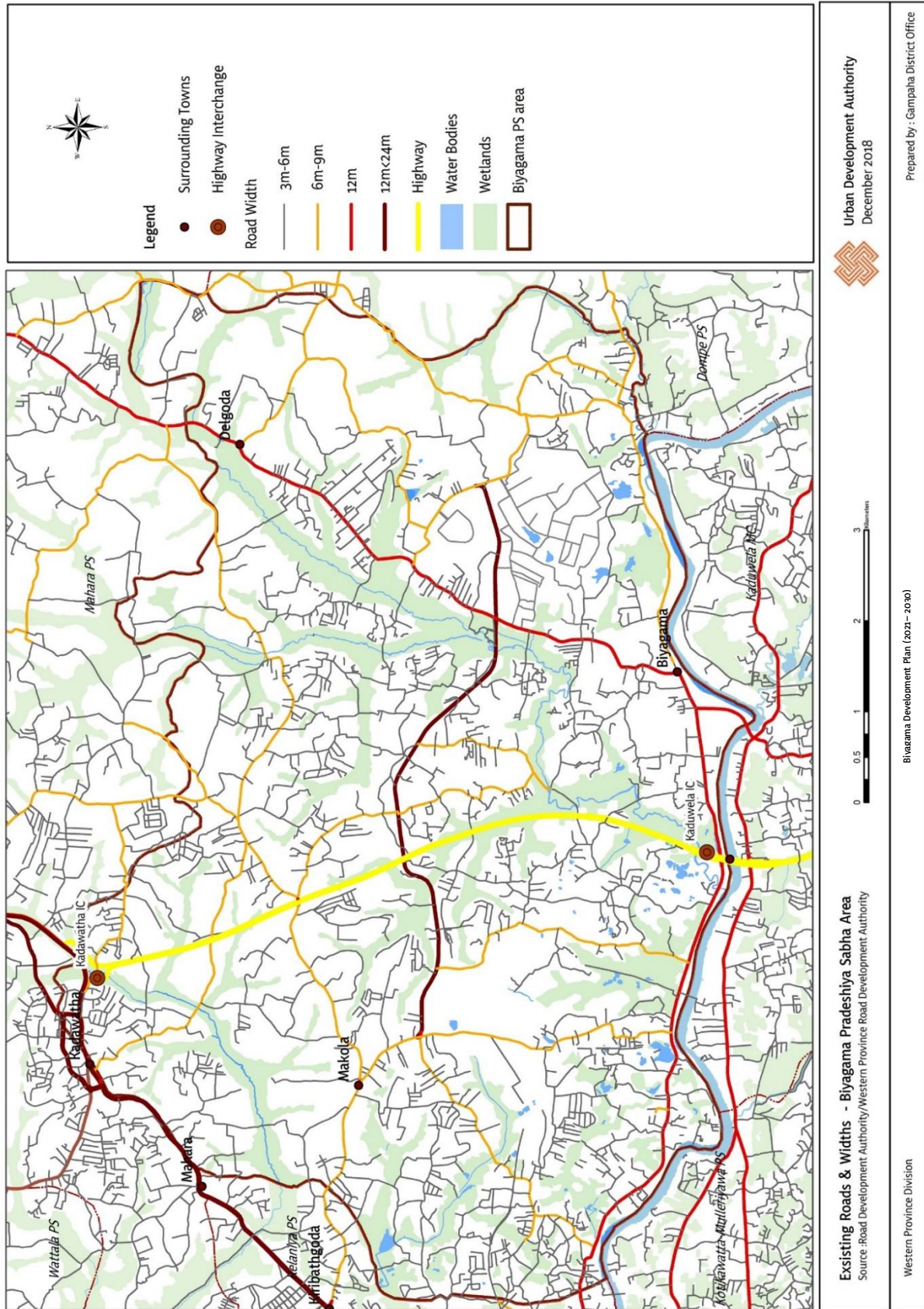
Source : Google Earth – Satellite Images 2004/2010/2013/2017



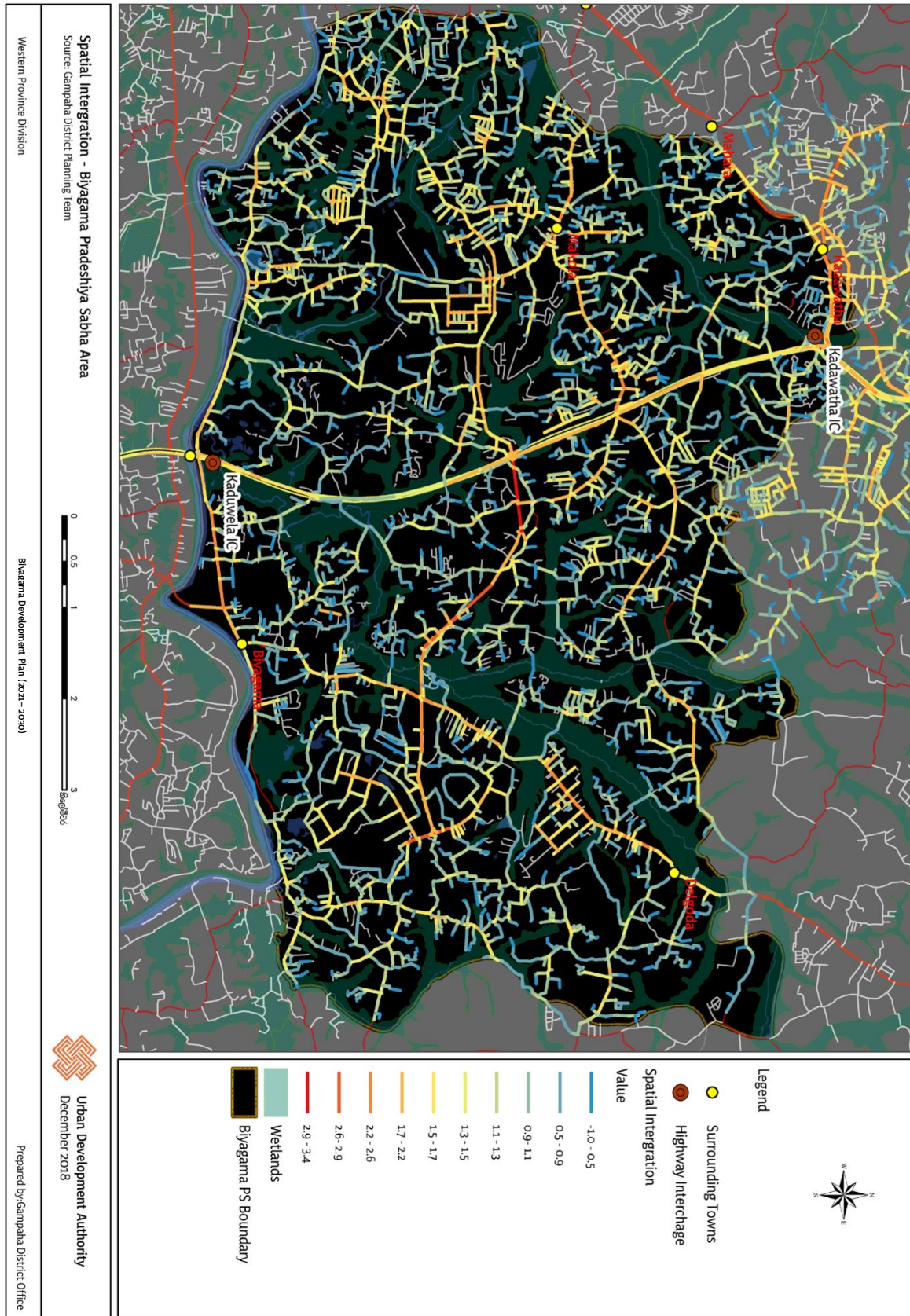
Annexure 21. Development Pressure Index



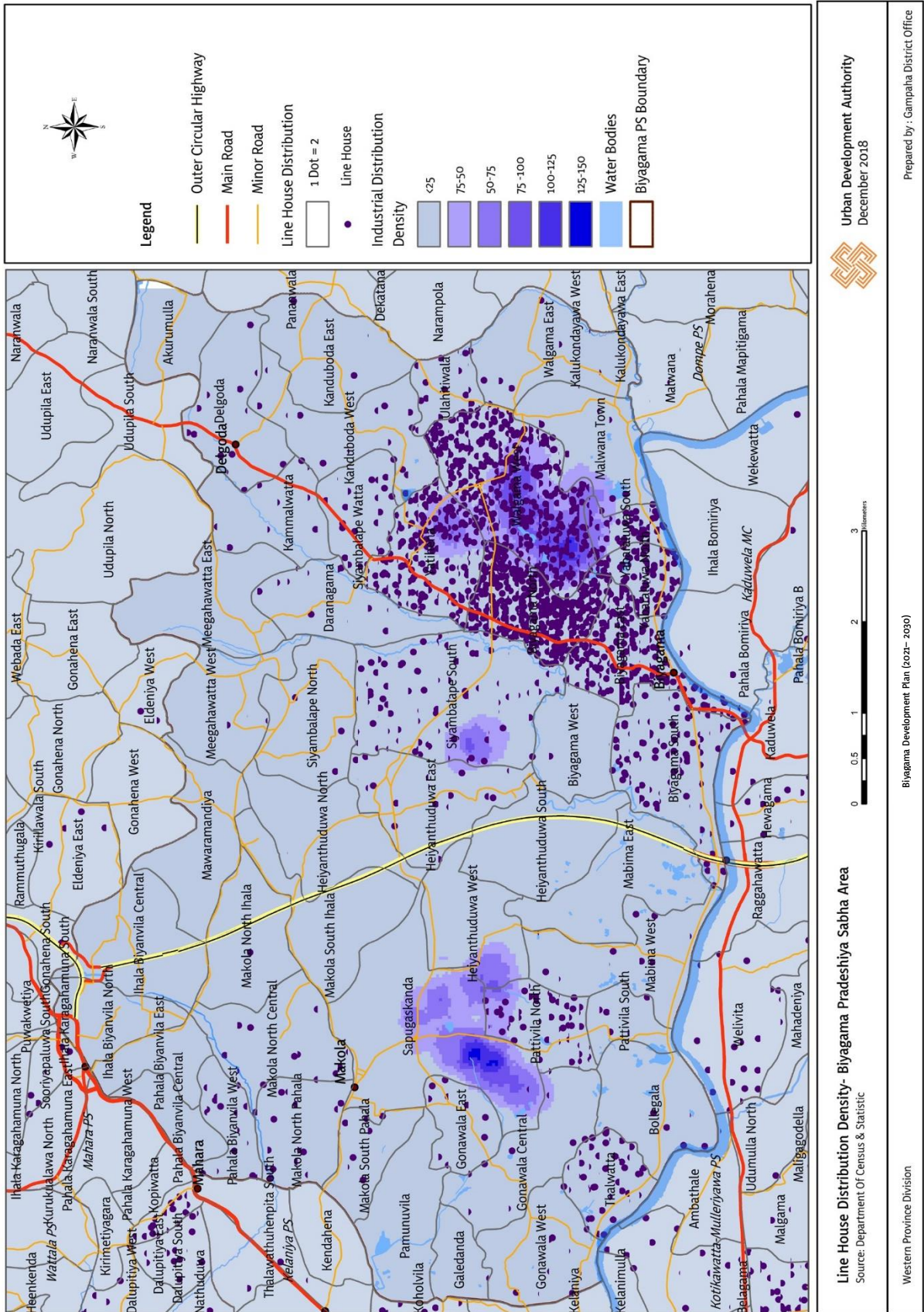
Annexure 22. Existing Road Network & Internal Road Widths of Biyagama PS area



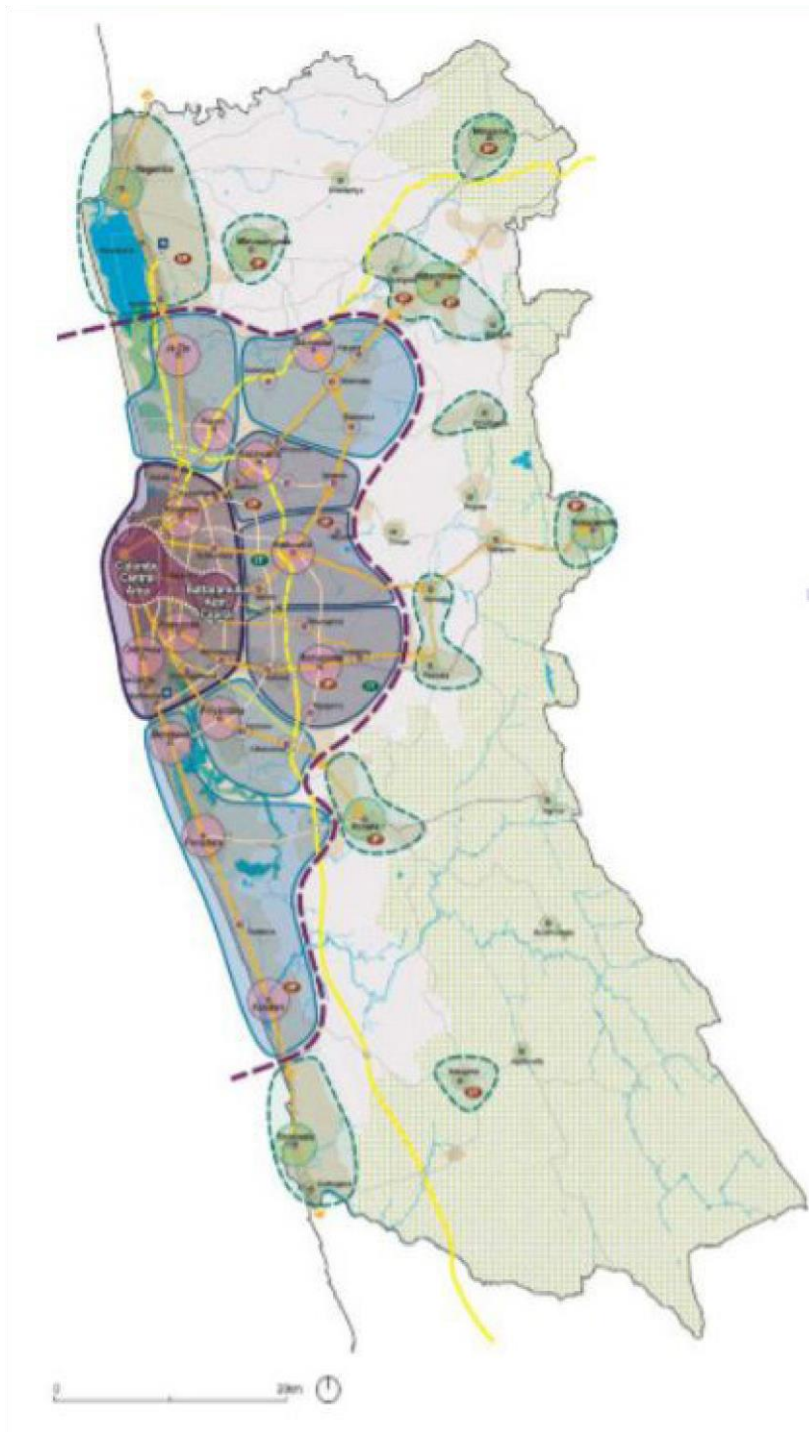
Annexure 23. Spatial Integration of Road Network in Biyagama PS area



Annexure 24. Line House Distribution Density of Biyagama PS area

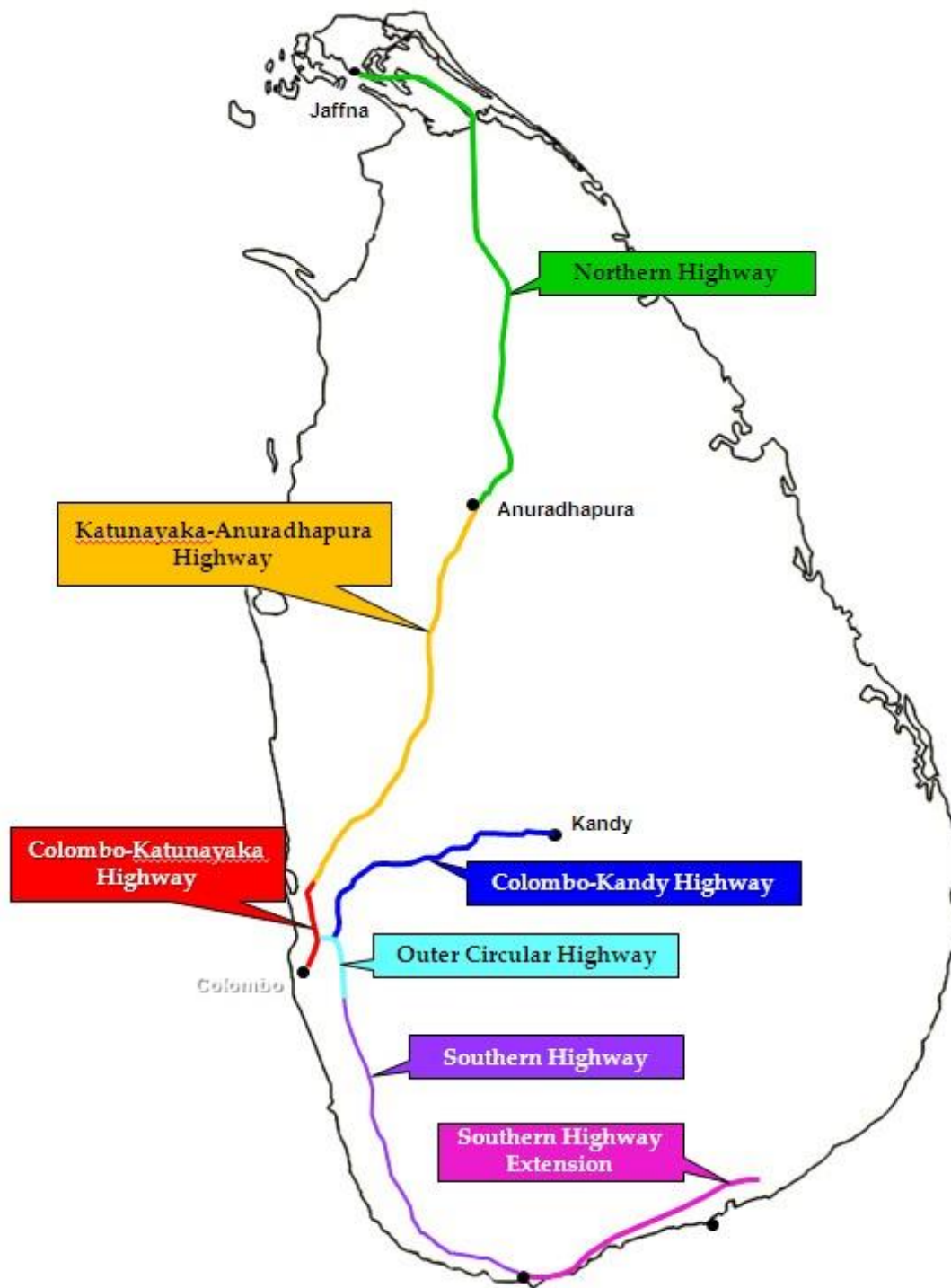


Annexure 25. 3K Area Development Project



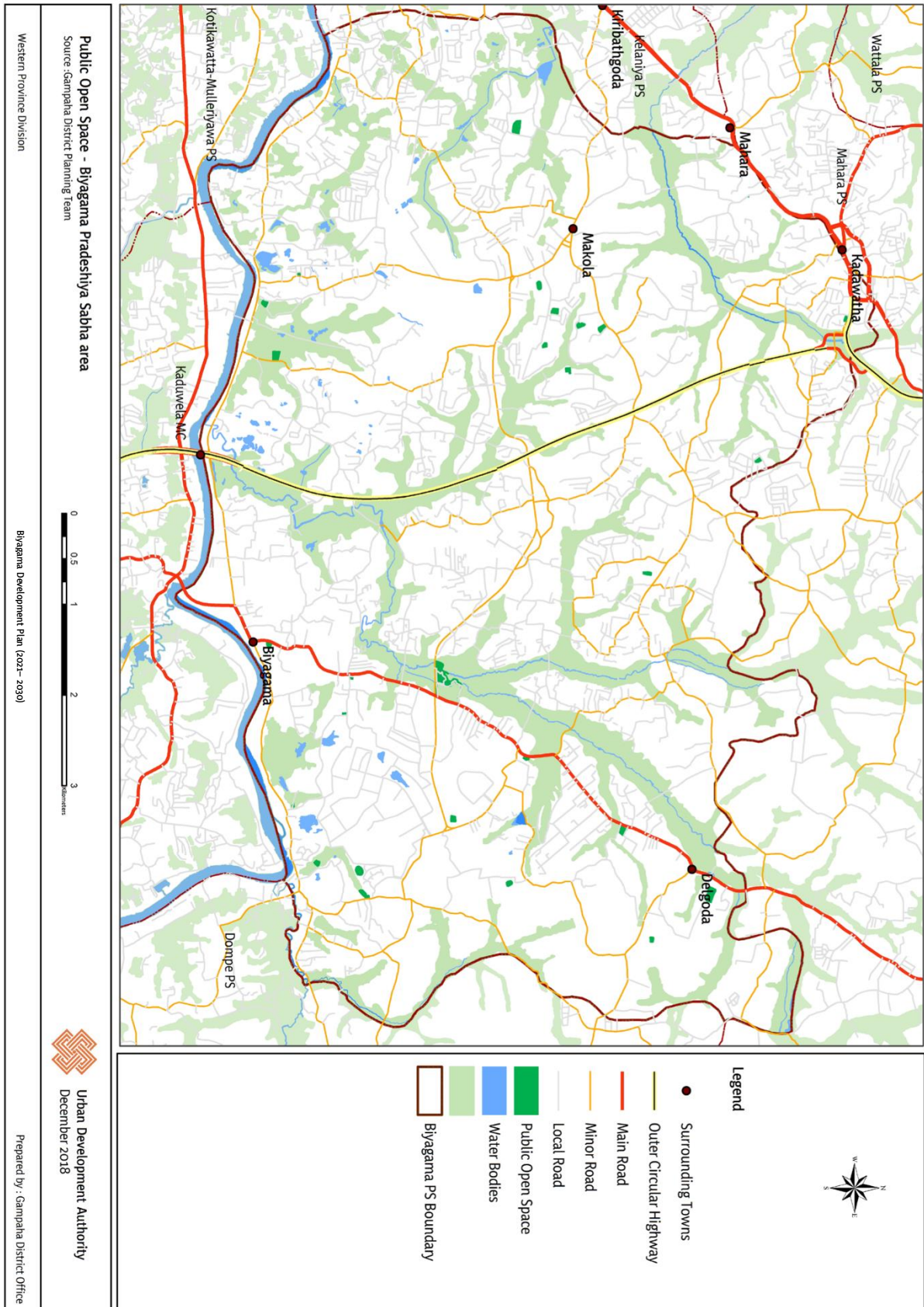
Source : CoMTrans - Urban Transport Master Plan ,2004

Annexure 26. Proposed Expressway Network of Sri Lanka

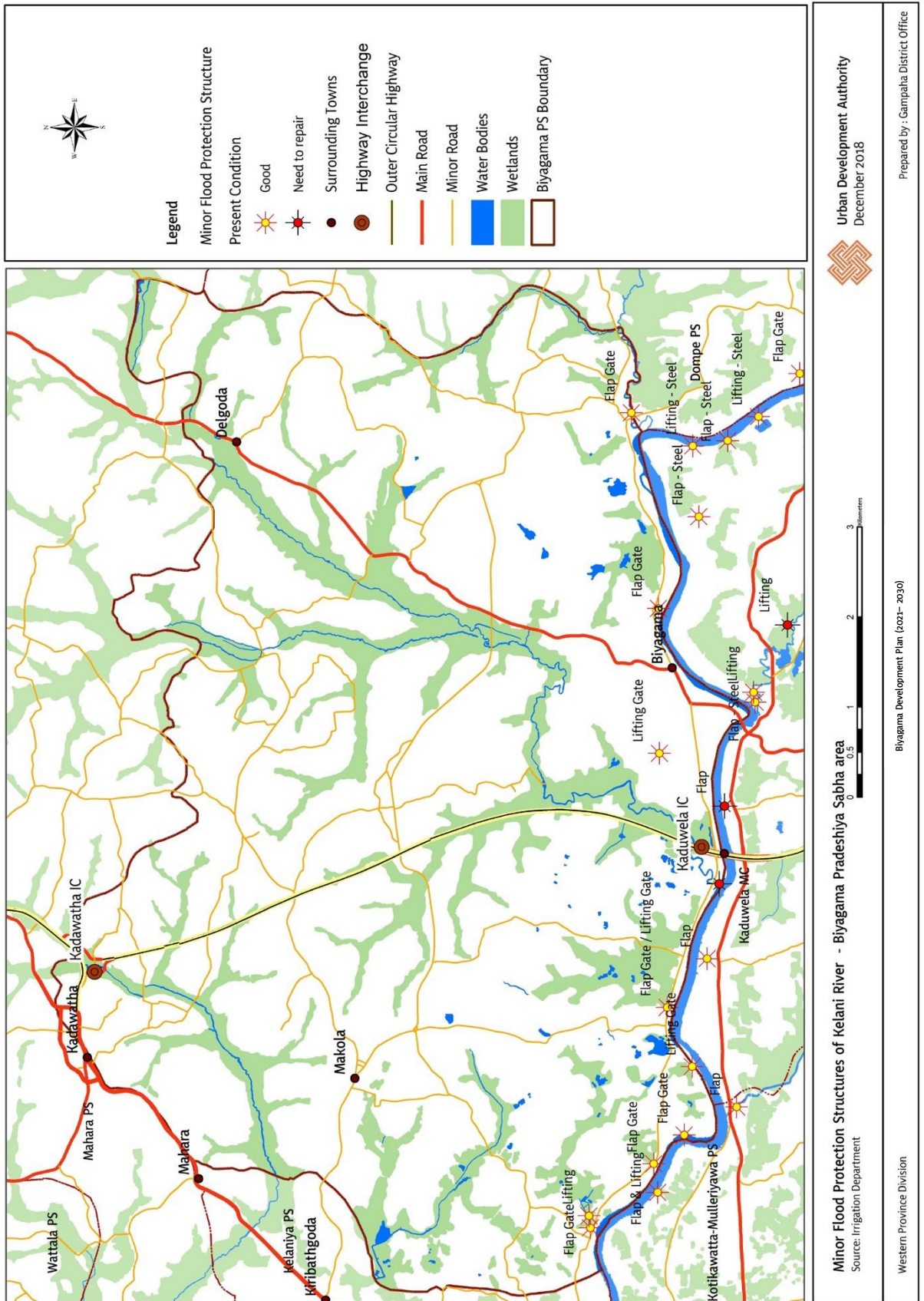


Source : Civil Engineering Design & Construction Website, 2012

Annexure 27. Public Open Recreation Spaces of Biyagama PS area

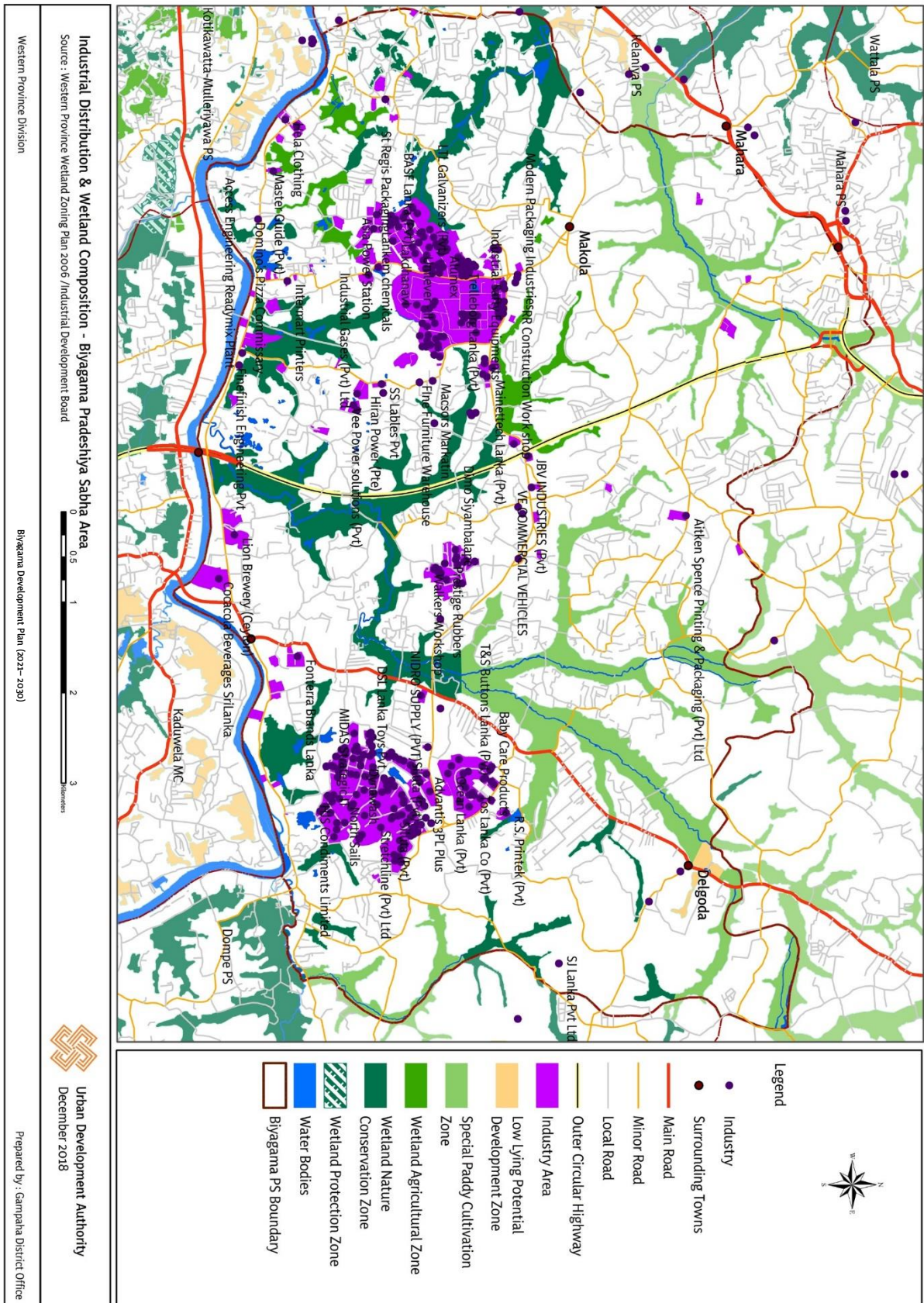


Annexure 28. Locations of Kelani River Minor Flood Protection Structures in Biyagama & Surroundings

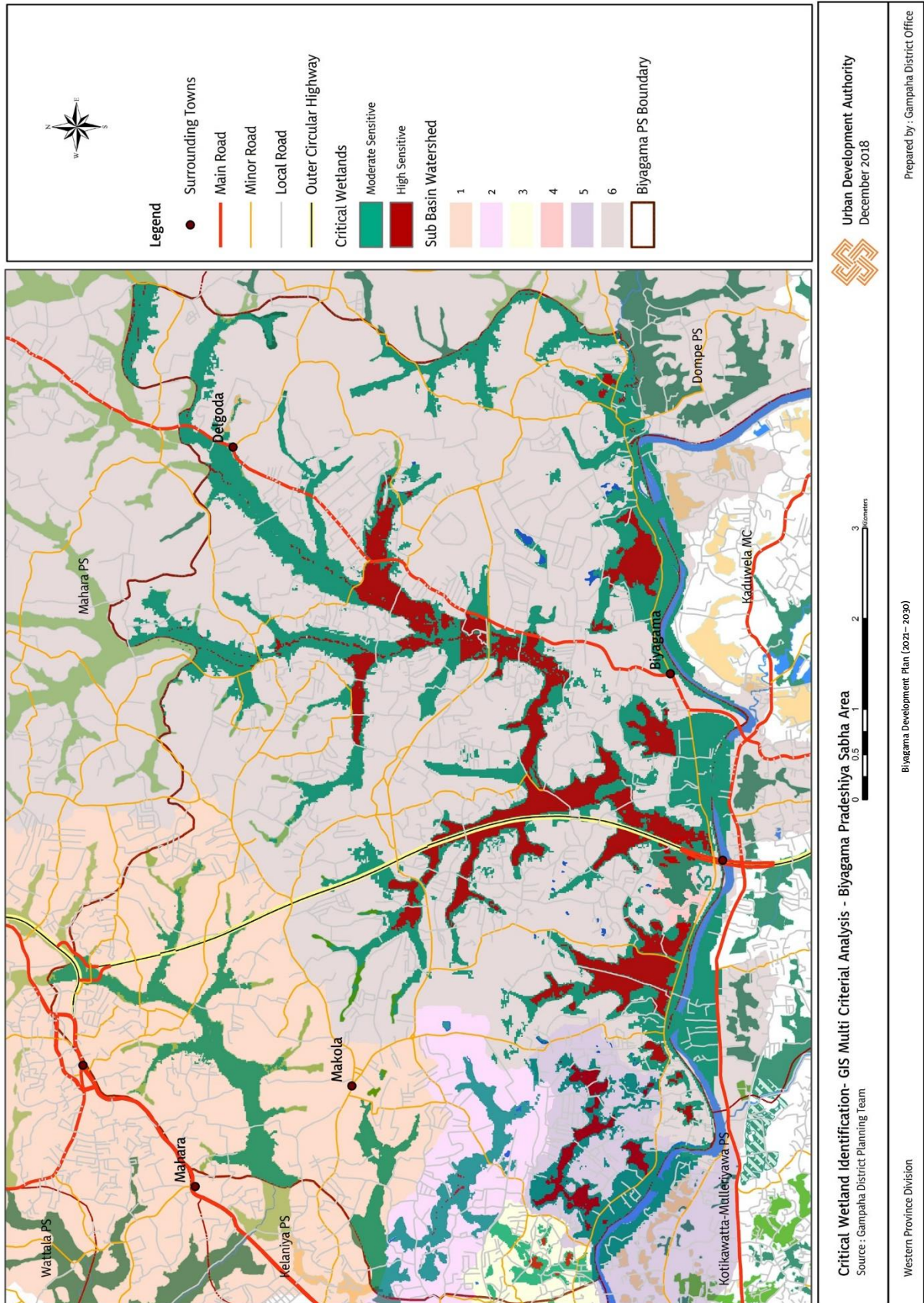




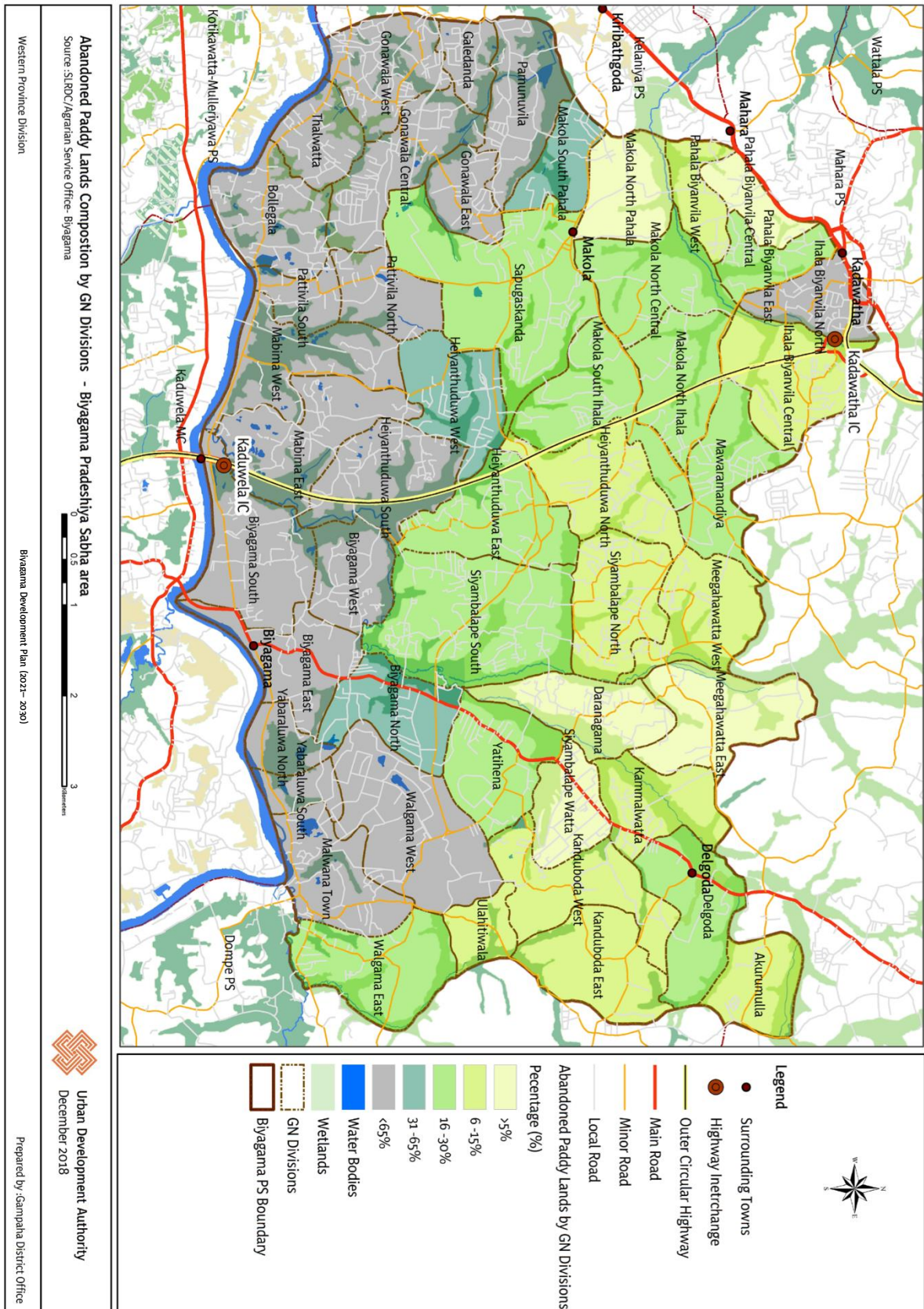
Annexure 29. Industrial Distribution & Wetland Composition



Annexure 30. Critical Wetland Identification – GIS Multi Criteria Analysis



Annexure 31. GN Division Wise Abandoned Paddy Composition



### Annexure 32. Assumptions of Population Prediction in 2030

1. Assumed the population growth rate of these zones as 1.7% which is based on the median growth rate of following GN divisions & will expect the positive impact from the proposed transport sector related projects within & closer to these density zones.

Zone number	Zone	GN Division	Population 2001	Population 2012	Natural growth rate	Existing Population	Population 2030	Expected population within zone
Zone 1	High Dense Urban Transit Zone	Biyawila Central	4359	5003	0.01378	5434	6808	23940
		Ihala Biyawila North	3718	3407	-0.008735	3233	4051	
		Pahala Biyawila Central	2072	2375	0.013648	2578	3229	
		Pahala Biyawila North	2551	2758	0.007802	2890	3621	
		Pahala Biyawila West	4297	4708	0.009135	4973	6231	
Zone 2	High Dense Urban Service Zone	Heiyanthuduwa North	4285	5516	0.025253	6418	8041	38766
		Makola North Ihala	3108	3519	0.01242	3791	4750	
		Makola south Ihala	4690	4856	0.003478	4958	6212	
		Mawaramandiya	4887	5733	0.015966	6309	7905	
		Meegahawatta West	2006	2787	0.032882	3395	4253	
		Siybalape North	4499	5425	0.018716	6070	7605	
Zone 3	High Dense Commercial Zone	Makola North Central	5841	6682	0.013452	7244	9075	25145
		Makola North Pahala	4837	5591	0.014486	6099	7641	
		Makola South Pahala	2651	3109	0.015936	3421	4286	
		Sapugaskanda 1	2929	3160	0.007592	3307	4143	
		Makola North Pahala	4837	5591	0.014486	6099	7641	

02. Moderate Dense Industrial Zone - I have considered the median growth rate of that zone & Moderate Dense Industrial Zone - II has considered the 1.4% growth rate. GN Divisions that having minus growth rate continues as it is.

Zone number	Zone	GN Division	Population 2001	Population 2012	Natural growth rate	Existing Population	Population 2030	Expected population within zone
Zone 4	Moderate Dense Industrial Zone - I	Biyagma North_1	1870	2011	0.007253	2100	2414	38494
		Biyagama North	5705	5277	-0.007799	5036	4550	
		Biyagama South_1	1488	1656	0.010731	1766	2031	
		Biyagama West	1996	2879	0.03663	3587	4124	
		Daranagama_1	801	1370	0.053671	1890	2173	
		Heiyanthuduwa North	3678	4649	0.023428	5351	6152	
		Siyambalape South	4707	6119	0.026235	7162	8234	
		Walgama West	6195	5025	-0.020932	4432	3376	
		Yatihena	4272	4554	0.006392	4732	5440	
Zone 5	Moderate Dense Industrial Zone - II	Sapugaskanda_1	2929	3160	0.007592	3307	4018	52908
		Galedanda	2251	2550	0.012472	2748	3339	
		Gonawala Central	3963	5097	0.025165	5928	7202	
		Gonawala North	3369	4081	0.019173	4579	5563	
		Gonawala	3822	3990	0.004302	4094	4974	
		Heiyanthuduwa South	1565	2342	0.040312	2983	3624	
		Heiyanthuduwa West	2199	2180	-0.000868	2169	2144	
		Mabima North_1	1781	2220	0.022015	2533	3078	
		Maabima West_1	1747	2180	0.022123	2489	3025	
		Pamunuwila	4815	5593	0.014978	6119	7434	
		Pattiwila North	1808	2048	0.012464	2207	2681	
		Thalwatta I	1249	1632	0.026716	1915	2327	
		Pattiwila West	2411	2694	0.011099	2880	3498	

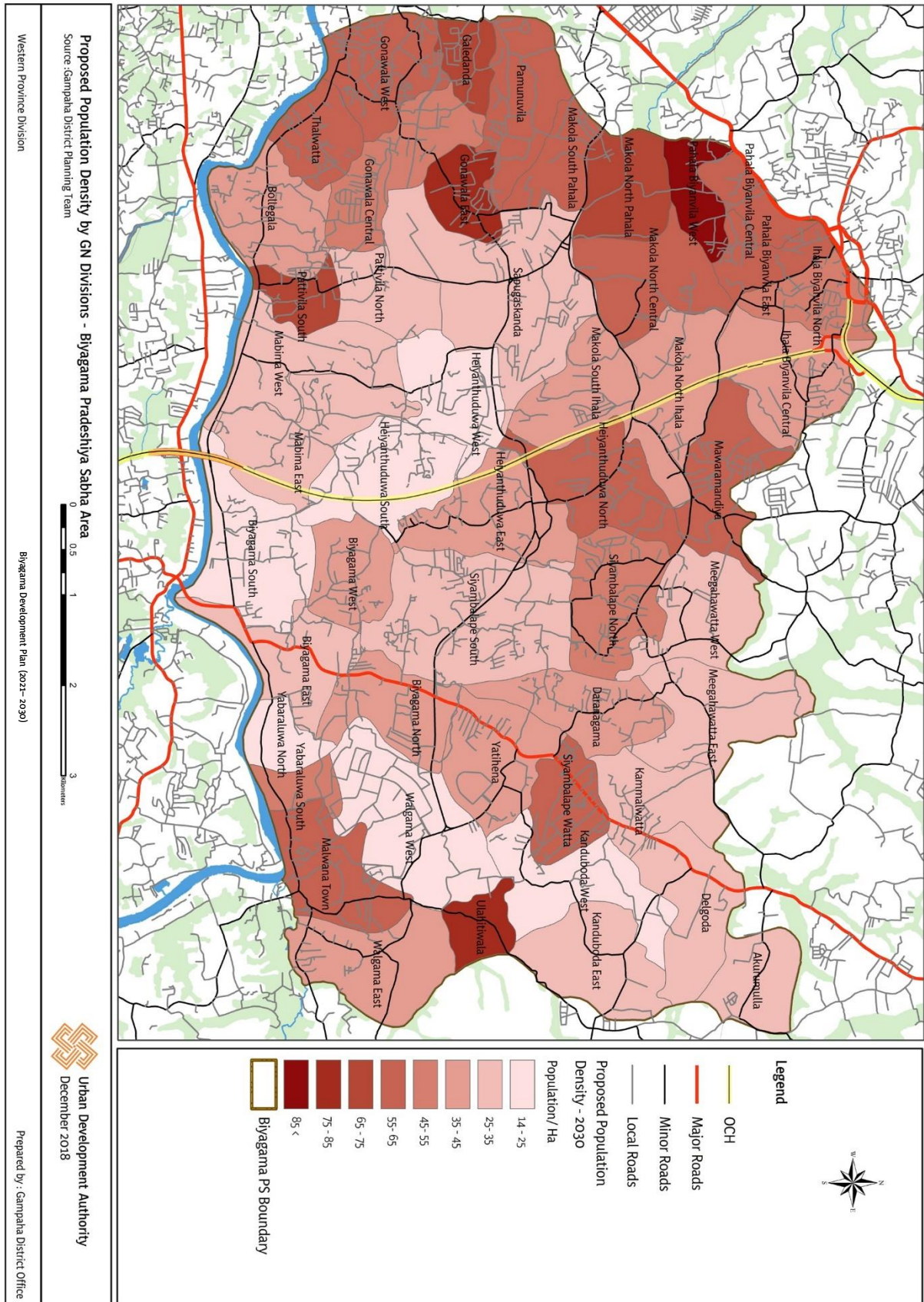
03. Proposed moderate dense urban service & commercial development promotion zones based on the 1.6% of average growth rate for the population predictions.

Zone number	Zone	GN Division	Population 2001	Population 2012	Natural growth rate	Existing Population	Population 2030	Expected population within zone
Zone 6	Moderate Dense Urban Service Zone	Akurumulla	1421	1755	0.021111	1992	2464	29489
		Daranagama_II	801	1370	0.053671	1890	2338	
		Delgoda	2098	2516	0.018169	2806	3471	
		Kammalwatta	1967	2627	0.028933	3125	3865	
		Kanduboda south	1708	2829	0.05046	3829	4737	
		Kanduboda west	1860	2309	0.021624	2629	3252	
		Meegahawatta east	2048	2679	0.026858	3147	3893	
		Siyambalapewatta	3306	3965	0.018177	4422	5470	
Zone 7	Moderate Dense Local Business Zone	Malwana town	4771	5361	0.011659	5749	7112	17567
		Ulahitiwala	2001	2705	0.030145	3241	4009	
		Walgama south	2915	4191	0.036307	5211	6446	

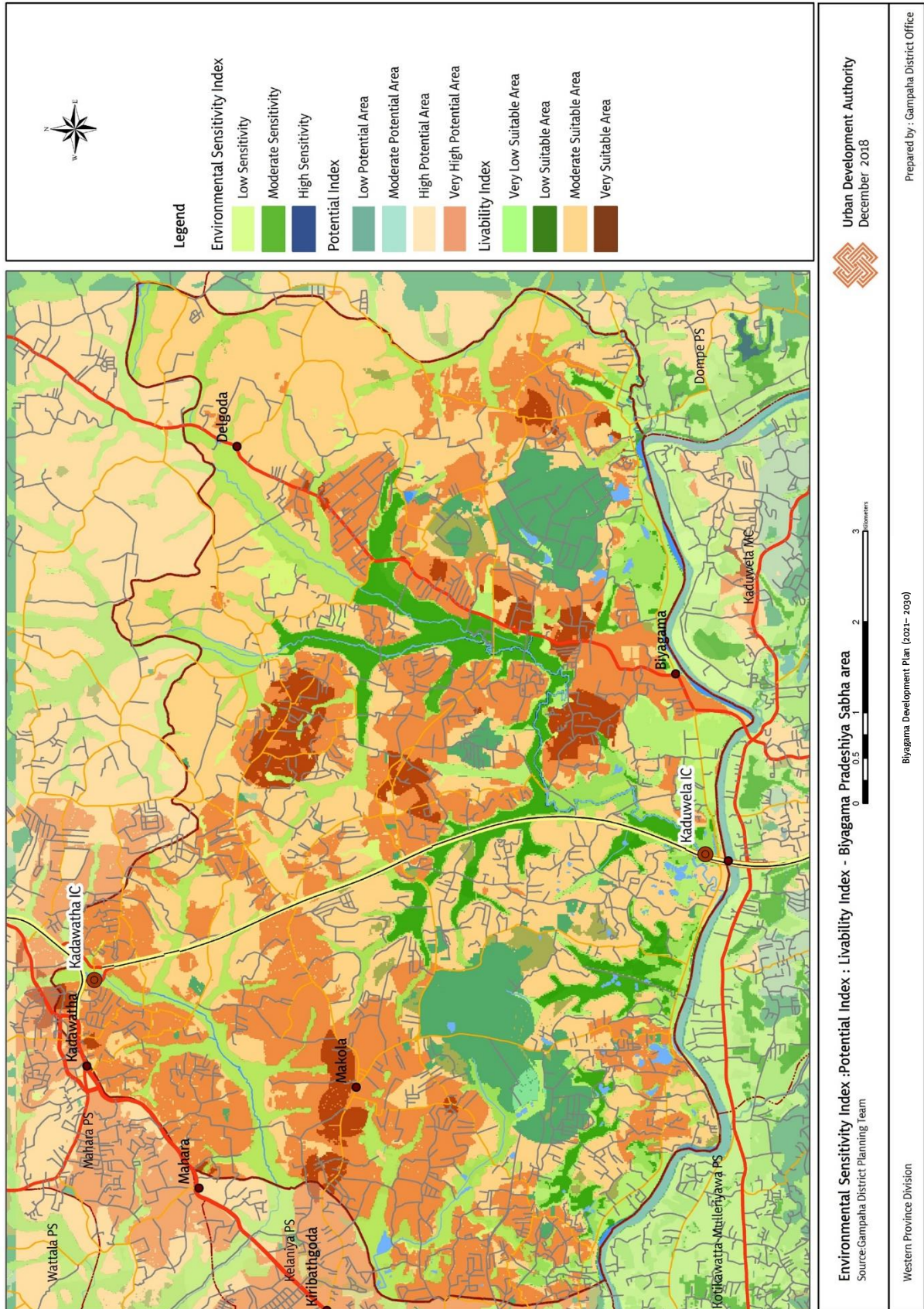
04. High environmental sensitive areas are expecting to develop as low dense development areas & this zone considered the natural growth rate of 1.4% for the population predictions.

Zone number	Zone	GN Division	Population 2001	Population 2012	Natural growth rate	Existing Population	Population 2030	Expected population within zone
Zone 8	Low Dense Special Development Zone	Biyagama South_II	1488	1656	0.010731	1766	2135	19827
		Bollegala	3242	3920	0.01899	4393	5311	
		Gonawala West_II	1911	1995	0.004302	2047	2475	
		Mabima East_II	891	1110	0.022015	1267	1532	
		Mabima West_II	874	1090	0.022123	1245	1505	
		Thalwatta_II	1249	1632	0.026716	1915	2315	
		Yabaraluwa North	2315	1860	-0.021883	1631	1227	
		Yabaraluwa South	2086	2076	-0.000481	2070	2057	
		Biyagama East_II	935	1005	0.00722	1049	1269	

Annexure 33. Proposed Population Density of 2030



Annexure 34. Overlapped Result of the Livability Index, Potential Development Analysis & Environmental Sensitivity Index





Annexure 35. Emergency Regulations under the Public Security Ordinance



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අති විශේෂ

අංක 1499/24 - 2007 මැයි 30 වැනි බදාදා - 2007.05.30

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කොළඹ දී ය.

නියෝග

1. මේ නියෝග 2007 අංක 1 දරන හදිසි අවස්ථා (ඉන්ධන ගබඩා කිරීමේ අධි ආරක්ෂිත කලාප ) නියෝග නමින් හඳුන්වනු ලැබේ.
2. මේ නියෝගවල උපලේඛනයේ පිළිවෙලින් “අ” කොටසෙහි (කොළොන්නාව ) “ආ” කොටසෙහි (මුතුරාජවෙල ) “ඇ” කොටසෙහි (සපුගස්කන්ද) සහ “ඈ” කොටසෙහි (මරුගොඩවත්ත) විස්තර කර ඇති එක් එක් ප්‍රදේශය මේ නියෝගවල කාර්ය සඳහා “ඉන්ධන ගබඩා කිරීමේ” අධි ආරක්ෂිත කලාපය යනුවෙන් ප්‍රකාශයට පත් කරනු ලැබිය යුතු ය.
3. ජනාධිපතිවරයා විසින් මේ නියෝගවල කාර්ය සඳහා නිසි බලධරයකු ලෙස යම් තැනැත්තකු නමින් හෝ ධුරයෙන් පත්කරනු ලැබිය හැකි අතර එම නිසි බලධරයා මෙම නියෝග ක්‍රියාත්මක කිරීම සඳහා වගකිව යුතු වන්නේ ය.
4. පවතින ආරක්ෂක තත්ත්වය සැලකිල්ලට ගනිමින් 2 වැනි නියෝගය මගින් ප්‍රකාශයට පත් කරන ලද ඉන්ධන ගබඩා කිරීමේ අධි ආරක්ෂිත කලාපය තුළ පිහිටි අඩි හතලිහට (40) නොඅඩු උසකින් යුතු වූ ගොඩනැගිල්ලක හෝ ව්‍යුහයක හෝ ඒ ගොඩනැගිල්ලේ හෝ ව්‍යුහයේ යම් හඳුනාගත් කොටසක් තුළ සිදු කරනු ලබන ක්‍රියාකාරකම් ආරක්ෂා කිරීම පිණිස විශේෂ ආරක්ෂක පියවර ගැනීම අවශ්‍ය බව නිසි බලධරයාගේ මතය වන්නේ නම්, ඔහු විසින් නියමයක් මගින් -
  - (අ) යම් ඉන්ධන ගබඩා කිරීමේ අධි ආරක්ෂිත කලාපයක් තුළ පිහිටි ගොඩනැගිල්ල හෝ ව්‍යුහය හෝ එහි යම් කොටසක් “නිශ්චිත ගොඩනැගිල්ලක්” ලෙස හඳුනා ගැනීම ;

“ ඇ ” කොටස

මරුගොඩවත්ත ඉන්ධන ගබඩා කිරීමේ අධි ආරක්ෂිත කලාපය සංයුක්ත වන ප්‍රදේශය

මරුගොඩවත්ත ඉන්ධන ගබඩා කිරීමේ අධි ආරක්ෂිත කලාපය, ඉන්ධන ගබඩා කිරීම සඳහා භාවිත කරනු ලබන්නාවූ ද, මරුගොඩවත්ත පිහිටියාවූ ද, භූමි ප්‍රදේශයෙන් සංයුක්ත වන අතර, එම ප්‍රදේශයට මායිම් පහත දැක්වෙන පරිදි වේ :

- උතුරට : වැල්ලම්පිටිය පොලිස් කොට්ඨාසයේ කැළණි නදී ගම පිහිටි ඇල සහ දුම්රිය මාර්ගය යා කරමින් අදින ලද දළ රේඛාවකින් ;
- නැගෙනහිරට : වැල්ලම්පිටිය පොලිස් කොට්ඨාසයේ කැළණි නදී ගම සිට ගෝතමී හදිය දක්වා අදින ලද රේඛාවකින් ;
- දකුණට : ගෝතමී මාවත, ඇල සහ දුම්රිය මාර්ගය සම්බන්ධ කරමින් ගෝතමී හන්දියේ සිට අදින ලද රේඛාවකින් ;
- බස්නාහිරට : එහි සිට ඇල සහ දුම්රිය මාර්ගය දිගේ ග්‍රැන්ට්පාස් පොලිස් කොට්ඨාසය දක්වා ;

II වැනි උපලේඛනය

(6 වැනි නියෝගය)

I වැනි තීරුව කලාප	II වැනි තීරුව අවසරලත් කාර්යයන්	III වැනි තීරුව කොන්දේසි
<p>කලාප I පිරිපහදු සීමාවෙන් මීටර 100 ක් දක්වා දීර්ඝ කරනු ලැබ ඇත.</p>	<p>තෙල් පිරිපහදුවට අදාළ කටයුතු හැර මෙම කලාපයේ කිසිදු සංවර්ධන කටයුත්තකට අවසර නොදිය යුතු ය.</p>	<p>කලාපය තුළ ඇති සියලුම ගොඩනැගිලි උසින් අඩු දහනකක් (17)ක් නොඉක්මවිය යුතු ය. තනි තවුටු ගෙවල්වලට සීමා විය යුතුයි.</p> <p>පවතින සංවර්ධන කටයුතු ඒ ආකාරයෙන්ම පවත්වා ගැනීමට ඉඩ දෙන අතර, පවතින ගොඩනැගිලිවලට කිසිදු එකතු කිරීමක්, වෙනස් කිරීමක් අලංකරණය කිරීමක් හෝ අලුත්වැඩියාවක් සිදු කිරීමට අවසර නොදිය යුතු ය.</p>
<p>කලාප II මීටර 100 සීමාවේ සිට තවත් මීටර 100ක් දක්වා දීර්ඝ කරනු ලැබේ. මේ කලාපයේ බාහිර සීමාව පිරිපහදුවේ සීමාවේ සිට මීටර 200ක් දුරින් පිහිටා තිබිය යුතු ය</p>	<p>බියගම ප්‍රාදේශීය සභාව සඳහා නාගරික සංවර්ධන අධිකාරිය විසින් පිළියෙල කොට ඇති බියගම ප්‍රාදේශීය සභාවේ කලාපකරණය සැලැස්මේ නිශ්චිතව සඳහන් වූ ද, එකී සභාවේ සීමාව තුළ ක්‍රියාත්මක කළ හැකි වූ ද, නේවාසික, වාණිජ සහ කර්මාන්ත කලාපය තුළ ක්‍රියාත්මක කළ හැකි සියලු අවසරලත් කාර්යයන්</p>	<p>කලාපය තුළ ඇති සියලුම ගොඩනැගිලි උසින් අඩු දහනකක් (17)ක් නොඉක්මවිය යුතු ය. තනි තවුටු ගෙවල් වලට සීමා විය යුතුයි.</p> <p>වහලය මුදුනේ උයන්, කොන්ක්‍රීට් ස්ලැබ් හෝ වහලවල් හෝ වෙනත් කිසිදු පැනලි වහලවල් සඳහා අවසර නොදිය යුතු ය.</p> <p>මේ ගොඩනැගිලිවල ආලින්ද, දොරවල් සහ ජනේල වැනි කවුළු ආදිය පිරිපහදුවට මුහුණලා තිබීමට අවසර නොදිය යුතු ය.</p> <p>අධි ආරක්ෂක කලාපය තුළ මාර්ගයේ වාහන නවතා තැබීමට අවසර නොදිය යුතු ය.</p>
<p>කලාප III මීටර 200 සීමාවේ සිට තවත් මීටර 100ක් දක්වා දීර්ඝ කරනු ලැබේ. මේ කලාපයේ බාහිර සීමාව පිරිපහදු සීමාවේ සිට මීටර 300ක් දුරින් පිහිටා තිබිය යුතු ය.</p>	<p>බියගම ප්‍රාදේශීය සභාව සඳහා නාගරික සංවර්ධන අධිකාරිය විසින් පිළියෙල කොට ඇති බියගම ප්‍රාදේශීය සභාවේ කලාපකරණය සැලැස්මේ නිශ්චිතව සඳහන් වූ ද, එකී සභාවේ සීමාව තුළ ක්‍රියාත්මක කළ හැකි වූ ද, නේවාසික, වාණිජ සහ කර්මාන්ත කලාපය තුළ ක්‍රියාත්මක කළ හැකි සියලු අවසරලත් කාර්යයන්.</p>	<p>කලාපය තුළ ඇති සියලුම ගොඩනැගිලි උසින් අඩු විසිඅටක් (28) ක් නොඉක්මවිය යුතු ය. තවුටු දෙකේ ගෙවල්වලට සීමා විය යුතු යි.</p> <p>වහලය මුදුනේ උයන් කොන්ක්‍රීට් ස්ලැබ් හෝ වහලවල් හෝ වෙනත් කිසිදු පැනලි වහලවල් සඳහා අවසර නොදිය යුතු ය.</p> <p>මේ ගොඩනැගිලිවල ආලින්ද, දොරවල් සහ ජනේල වැනි කවුළු ආදිය පිරිපහදුවට මුහුණලා තිබීමට අවසර නොදිය යුතු ය.</p> <p>අධි ආරක්ෂක කලාපය තුළ මාර්ගයේ වාහන නවතා තැබීමට අවසර නොදිය යුතු ය.</p>

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Annexure 36. Existing Public Open Recreation Spaces of Biyagama PS area

No	Category of Park /Playground	Extent (ha)	Existing Use	GN Division/ Location
	Existing Pocket Parks (EPP)			
1.	EPP1	0.1	Play Ground	Malwana
2.	EPP2	0.1	Play Ground	Yabaraluwa
3.	EPP3	0.2	Colombahenawatta Play Ground	Biyagama North
4.	EPP4	0.2	Lovely Play Ground	Biyagama North
5.	EPP5	0.1	Open Space	Meegahawatta
6.	EPP6	0.1	Open Space	Meegahawatta
7.	EPP7	0.1	Open Space	Siyambalape North
8.	EPP8	0.1	Open Space	Peragashandiya
9.	EPP9	0.1	Open Space	Bandarawatta
10.	EPP10	0.1	Open Space	Biyagama
	<b>Sub Total</b>	<b>1.2</b>		
<b>Existing Mini Park (EMP)</b>				
11.	EMP1	0.7	Colombahenawatta Play Ground	Malwana
12.	EMP2	0.2	Play Ground (Pattiwila Housing Complex)	Pattiwila
13.	EMP3	0.6	Mahawatta Play Ground	Bollegala
14.	EMP4	0.6	Siyambalape School Playground - Kammalwatta	Mabima West
15.	EMP5	0.4	Play Ground	Mawaramandiya
16.	EMP6	0.4	Al –Musthapa Play Ground	Yatihena
17.	EMP7	0.5	Biyagama EPZ Play Ground	Walgama
18.	EMP8	0.4	Play Ground	Pradeegama
19.	EMP9	0.2	Play Ground	Biyawila
	<b>Sub Total</b>	<b>4.0</b>		
<b>Existing Local Parks (ELP)</b>				
20.	ELP1	1.6	Biyagama EPZ Play Ground	Malwana
21.	ELP2	1.2	Rakshapana Mosque Play Ground	Malwana
22.	ELP3	1.4	Delgoda Public Ground	Delgoda
23.	ELP4	1.3	Wakkadawela Play Ground	Mabima West
	<b>Sub Total</b>	<b>5.5</b>		
<b>Existing Linear Park (ELiP)</b>				
12.	ELiP1	1.0	Siyambalape Walking Path	Siyambalape
	<b>Sub Total</b>	<b>1.0</b>		
	<b>Total</b>	<b>11.7</b>		

Source : Environment and Landscape Division, 2018

**Annexure 37. Proposed Public Open Recreation Spaces of Biyagama PS area**

No	Category of Park / Playground	Extent (ha)	Existing Use	Proposed Use	GN Division/Location
	Proposed Pocket Parks (PPP)				
1.	PPP1	0.08	From Land 10%	Pocket Park	Kanduboda
2.	PPP2	0.10	From Land 10%		Ranwimana
3.	PPP3	0.08	From Land 10%		Delgoda
4.	PPP4	0.09	From Land 10%		Siyambalape West
5.	PPP5	0.03	From Land 10%		
6.	PPP6	0.02	From Land 10%		
7.	PPP7	0.08	From Land 10%		Bandarawaththa
8.	PPP8	0.15	From Land 10%		Gonawala West
9.	PPP9	0.10	From Land 10%		Heritage City – Play ground of Land Sale site
10.	PPP10	0.10	From Land 10%		Makola
11.	PPP11	0.16	From Land 10%		Makola
12.	PPP12	0.15	From Land 10%		Makola
	<b>Total</b>	<b>1.1</b>			
<b>Proposed Mini Parks (PMP)</b>					
13.	PMP1	0.2	Open Land	Mini Park	Akurumulla
14.	PMP2	0.3	Open Land		Makola
15.	PMP3	0.37	Open Land		Makola North Central
16.	PMP4	0.51	Open Land		Heiyanthuduwa North
	<b>Total</b>	<b>1.4</b>			
<b>Proposed Linear Parks (PLi.P)</b>					
17.	PLi.P1	0.1	Yatihena Tank Reservation	Linear Park	
18.	PLi.P2	71.0	Kelani River Reservation (60m)	Linear Park	
19.	PLi.P3	57.0	Raggahawatta Canal Reservation (40m)	Linear Park	
20.	PLi.P4	46.0	Raggahawatta Canal Reservation (20m)	Linear Park	
21.	PLi.P5	15.0	Biyawila Canal Reservation (20m)	Linear Park	
22.	PLi.P6	13.6	Gonawala Wetland Environs	Linear Park	Gonawala Eastern Central

23.	PLi.P7	0.43	Meegahawatta Paddy Field	Linear Park	Meegahawatta West
24.	PLi.P8	12	Siyambalape Paddy Field	Linear Park	Siyambalape South, Biyagama North, Daranagama
25.	PLi.P9	0.73	Paddy Land and Canal Reservation	Linear Park	Heiyanthuduwa North
	<b>Total</b>	<b>215.9</b>			
	<b>Sub Total</b>	<b>218.4</b>			

Source : Environment and Landscape Division, 2018

**Annexure 38. Strategic Projects & Priority Mechanism**

Category	Project Title	Concept Plan	Social Value	Environmental Value	Time & Funding	Total	Priority Level
A. Industrial Economy Plan							
	Central Investment Corridor Development Strategy						
Road Development & Improvement	1. Develop Gonawala-Sapugaskanda Road with four lanes	9	7	5	9	30	1
	2. Develop Karabugas Junction- Yatihena Road with four lanes	9	7	5	9	30	1
	3. Nagahamula Junction Industrial Nodal Development	9	7	5	9	30	1
	4. Karabugas Junction Industrial Nodal Development	9	7	5	9	30	1
	5. Develop Gonawala - Koholvila Road with two lanes	3	5	5	7	20	3
	Local Industrial Collector Development Strategy						
	6. Develop Biyagama - Colombo Road with four lanes	9	7	5	9	30	1
	7. Develop Pattiwila - Makola Road with four lanes	7	7	5	7	26	2
	8. Develop Mabima Road with four lanes	9	7	5	9	30	1
	9. Develop Thai Temple Road with two lanes	7	7	5	7	26	2
	10. Develop Dimo Road with four lanes	9	7	5	7	28	2
	11. Develop Jayanthi Mawatha with two lanes	9	9	5	7	30	1
	12. Develop Malwana - Dompe Road with four lanes	9	9	5	7	30	1
13. Biyagama - Kosgama Railway Project	9	7	5	3	24	3	
Investment Attraction & Economic Development	Plug & Play Industrial Parks Strategy						
	14. Develop Sapugaskanda Plug & Play Industrial Park – I	9	7	5	9	30	1
	15. Develop Sapugaskanda Plug & Play Industrial Park – II	9	7	5	9	30	1
	16. Develop Plug & Play Industrial Park in Dimo Industrial Cluster Area	9	7	5	7	28	2
	17. Industrial Oriented Smart Business Centre Development Project	9	9	5	5	28	2

Environment & Social Benefits with Local Economy Enhancement	Riverfront Productive Tracts Strategy						
	18. Malawana Fabric & Commercial Riverfront Corridor Development Project	9	9	9	3	30	1
B. Environment Conservation & Management Plan							
	19. Malawana Sambawela Canal Restoration Project & Riverfront Park Development Project	9	9	9	3	30	1
	20. Tree strips development along the local industrial collector roads	7	5	9	7	28	2
	21. Siyambalape Wetland Park Development Project	9	7	9	5	30	1
	22. Mawaramandiya Linear Park Development Project	9	7	9	5	30	1
	23. Yatihena Tank & Surroundings Park Development Project	9	7	9	5	30	1
C. Infrastructure Development Plan							
C.1 Road and Transportation Plan							
	24. Develop Mankada Road with four lanes	9	7	5	7	28	2
	25. Develop Mawaramandiya - Makola road for four lanes	9	7	5	7	28	2
	26. Develop Kanduboda Tank Road with two lanes	9	9	5	5	28	2
C.2 Sewerage & Waste Water Management Plan							
	27. Biyagama Technological Waste Water Treatment Plant Project	9	7	9	5	30	1
	28. Sapugaskanda Waste Water Treatment Project	9	5	9	3	26	2
C.3 Solid Waste Management Plan							
	29. Establish a Solid Waste Sorting Centre	5	7	7	7	26	2
C.4 Water Supply Plan							
	30. Develop the Mabima Water Treatment Plant	9	9	5	3	26	2

C.5 Service Management Plan							
	31. Siyambalape Hospital Development Project	7	7	3	3	20	3
	32. Siyambalape Skill Up-gradation Centre Development Project	7	7	3	3	20	3
	33. Biyagama Hostel Facilities Development Project	7	9	5	3	24	3
C.6 Urban Services Improvement Plan							
Urban Service Centers Improvement for Residential & Commuting Population	34. Mawaramandiya Town Centre Development Project	9	9	5	7	30	1
	35. Delgoda Town Centre Development Project	9	9	5	7	30	1
	36. Makola Town Centre Development Project	9	9	5	7	30	1
	37. Makola Middle Income Housing Project	7	9	5	3	24	3
	38. Kadawatha Public Market Development Project	9	9	5	3	26	2

Source : Gampaha District Planning Team, 2021



### Annexure 39. Zone Factor Calculation Method

The 'Zone Factor' is a new concept which has been introduced for concept of floor area ratios which have been implemented under previous planning & building regulations. It determines the maximum level of development that can be given within a given land lot. The land owner has a fair opportunity to carry out his development & "Fair Share" concept, which works with this zone factor, determines that the land owner's fair chance of development. According to the "Fair share" concept, any land owner who allocate the land extent for access road, public space purposes and not for development & maintain as open space makes the justification for the amount of space calculated relative to the permitted developable space & that amount can be developed in his land. Often the extra space is added to the height of the building that wish to build. In order to determine the maximum intensity of development in a given area, it is necessary to identify the appropriate areas for development promotion. To determine the high-density, moderate-density and low-density development zones must be done through a combination of practical situation and analysis of the area of conclusions drawn from a detailed analysis. This is because these developments must be balanced across the physical, social, environmental and economic aspects.

These development promotion zones are based on the environmental sensitivity of the land, the intensity of the development and its direction, the distribution & availability of the infrastructure, the extent of the development in the land, the geographical conditions and the density of the population. If the zone factor of a given zone is higher than the other zone, it makes the idea that zone having strong infrastructure network, high commercial development and high population attractiveness. If the zone factor is low that implies the zone having high environmental sensitive areas, lack of land for development, insufficient infrastructure, and the lower level of the expected urban structure.

According to the Biyagama Development Plan (2021 -2030), density-based development is expected by the year 2030 and future development activities will be carried out using zone factor confirmed by calculations for each zone. The density-based zoning plan of the Biyagama Development Plan is primarily divided into two main categories: industrial and mixed residential, while the southern portion of the area is proposed to combine with the green wetland system, with two industrial promotion zones. Under this, the Central Investment Corridor will combine Samurdhi Mawatha and Gonawala Road to create a strip of industrial utilities and services, thereby intensifying the industrial land use in the southern part of the area. It is proposed to promote vertical development with commercial facilities providing services to industries in the central investment corridor and to promote the moderate dense residential development with open spaces beyond the industrial zone and green wetland buffers.

Proposed Landuse Plan expected to promote three majors urban centres, from high dense to moderate dense within the mix residential promotion tracts. Kadawatha, Mawaramandiya and Delgoda respectively will be highlighted as the main urban service centres of the mix residential tracts of the area. Mankada road which starts from Kadawatha town center and Makola Road which starts from Kiribathgoda town center act as a main commercial corridor which bring development pressure to the area. Makola junction is the main urban centre that promotes the commercial development of the area while Mawaramandiya and Delgoda urban centres provide urban services for the residents as well as the commuting population of the area. It is expected to attract the population that migrate to the area due to future transport facilities like proposed light railway for Colombo-Kandy Road and Outer Circular Highway which connects to Kadawatha-Kerawalapitiya. With this context, proposed density-based zoning plan will guide the area to attract high residential community for High Dense Urban Transit and the High Dense Urban Services Zones.

The implementation of the proposed density-based zoning paln in Biyagama area will have a positive impact on the development with its zone factors of each zone. Zones with high zone factor are the areas of high intensity development & it is expected to promote high level of physical development within those zones. Also, zones with low zone factor are promoted physical development with maximizing the protection of sensitive ecosystems and resources.

#### **Basis of Zone Factor Determination**

The zone factor is calculated to determine the densities for each zone in accordance with the density-based zoning plan. This will take into account the total population of each zone currently in use or developed area, total residential population and the total estimated commuting & residential population in each zone & then identifies the total developable space within the area.

Commercial, residential, institutional, vacant and other plantation lands considered as “Developable Space” of the area & environmental conservation areas, reservoirs, religious and archaeological sites, road corridors, highway & reservation areas considered as “Un-developable lands” & were deemed to have been removed.

The zone factor was computed in five complex steps according to the proposed densities of each zone.

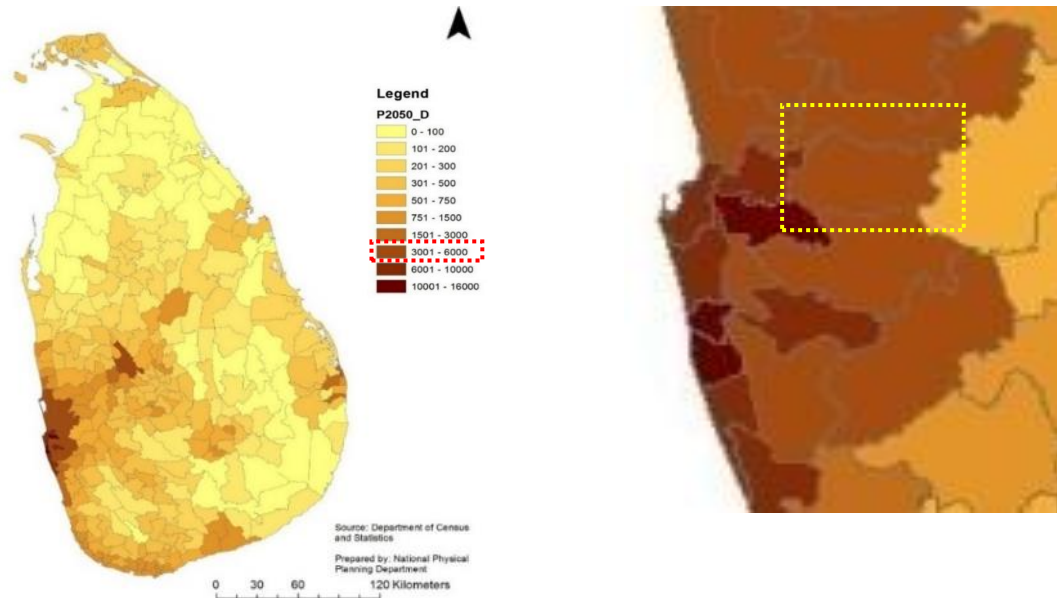
1. Identify the current resident population by region and forecasted population for 2030.

Based on the 2011 census, the growth rate of 1.4% was identified based on the GN Divisions and identified the residential population of proposed zones as 203,669. The national, regional and regional level planning decisions provide further evidence that future residential populations may increase due to the positive impacts of the proposed projects & the development potentials of the area.

As per the following figure 39..1 in National Physical Plan, the Biyagama PS area belongs to the East-West Economic Corridor and that expected to increase the population by 20% - 25% in 2050. Under this, the expected population density of Biyagama PS area will be 3001-6000 persons per sq. km. According to the National Physical Plan, if population increase at a highest density as 6000 persons per sq.km., the forecasted population by 2050 will be 360,000. The proposed Western Region Structure Plan - 2030, Biyagama PS area

is coming under the Core area of Metro Colombo Region and that region identified as high-density development promotional area.

According to the Urban Development Plan, Biyagama is expected to developed as an industrial city and thereby the area will attract the residential and commuting population will be increase due to employment opportunities.



**Figure 39.1: Proposed Population Density of National Physical Plan**  
Source: Draft National Physical Plan, 2019-2050

Under these conditions, the Biyagama residential population is predicted in four main ways and as a final step, the future residential population is calculated based on the assumptions of the proposed density zones. Table 2.1 below illustrates this.

1. Forecasting Resident Population for 2030 - Assumptions

- Assumed the population growth rate of these zones as 1.7% which is based on the median growth rate of following GN divisions & will expect the positive impact from the proposed transport sector related projects within & closer to these density zones.
- Moderate Dense Industrial Zone - I have considered the median growth rate of that zone & Moderate Dense Industrial Zone - II has considered the 1.4% growth rate. GN Divisions that having minus growth rate continues as it is.
- Assumed for proposed moderate dense urban service & commercial development promotion zones based on the 1.6% of average growth rate for the population predictions.
- High environmental sensitive areas are expecting to develop as low dense development areas & this zone considered the natural growth rate of 1.4% for the population predictions.

<i>Zone number</i>	<i>Zone</i>	<i>GN Division</i>	<i>Population 2012</i>	<i>Natural growth rate</i>	<i>Existing Population</i>	<i>Population 2030</i>	<i>Expected population within zone</i>
<i>Zone 1</i>	<i>High Dense Urban Transit Zone</i>	Ihala Biyanwila Central	5003	0.01378	5434	6808	23940
		Ihala Biyanwila North	3407	-0.008735	3233	4051	
		Pahala Biyanwila Central	2375	0.013648	2578	3229	
		Pahala Biyanwila North	2758	0.007802	2890	3621	
		Pahala Biyanwila West	4708	0.009135	4973	6231	
<i>Zone 2</i>	<i>High Dense Urban Service Zone</i>	Heiyanthuduwa North	5516	0.025253	6418	8041	38766
		Makola North Ihala	3519	0.01242	3791	4750	
		Makola south Ihala	4856	0.003478	4958	6212	
		Mawaramandiya	5733	0.015966	6309	7905	
		Meegahawatta West	2787	0.032882	3395	4253	
		Siyabalape North	5425	0.018716	6070	7605	
<i>Zone 3</i>	<i>High Dense Commercial Zone</i>	Makola North Central	6682	0.013452	7244	9075	25145
		Makola North Pahala	5591	0.014486	6099	7641	
		Maakola South Pahala	3109	0.015936	3421	4286	
		Sapugaskanda 1	3160	0.007592	3307	4143	
		Maakola North Pahala	5591	0.014486	6099	7641	

<i>Zone number</i>	<i>Zone</i>	<i>GN Division</i>	<i>Population 2012</i>	<i>Natural growth rate</i>	<i>Existing Population</i>	<i>Population 2030</i>	<i>Expected population within zone</i>
<i>Zone 4</i>	<i>Moderate Dense Industrial Zone - I</i>	Biyagama East_1	2011	0.007253	2100	2414	38495
		Biyagama North	5277	-0.007799	5036	4550	
		Biyagama South_1	1656	0.010731	1766	2031	
		Biyagama West	2879	0.03663	3587	4124	
		Daranagama_1	1370	0.053671	1890	2173	
		Heiyanthuduwa North	4649	0.023428	5351	6152	
		Siyambalape South	6119	0.026235	7162	8234	
		Walgama West	5025	-0.020932	4432	3376	
		Yatihena	4554	0.006392	4732	5440	
<i>Zone 5</i>	<i>Moderate Dense Industrial Zone - II</i>	Sapugaskanda_1	3160	0.007592	3307	4018	52908
		Galedanda	2550	0.012472	2748	3339	
		Gonawala Central	5097	0.025165	5928	7202	
		Gonawala North	4081	0.019173	4579	5563	
		Gonawala West	3990	0.004302	4094	4974	
		Heiyanthuduwa South	2342	0.040312	2983	3624	
		Heiyanthuduwa West	2180	-0.000868	2169	2144	
		Mabima North_1	2220	0.022015	2533	3078	
		Maabima West_1	2180	0.022123	2489	3025	
		Pamunuwila	5593	0.014978	6119	7434	
		Pattiwila North	2048	0.012464	2207	2681	
		Thalwatta_1	1632	0.026716	1915	2327	
		Pattiwila West	2694	0.011099	2880	3498	

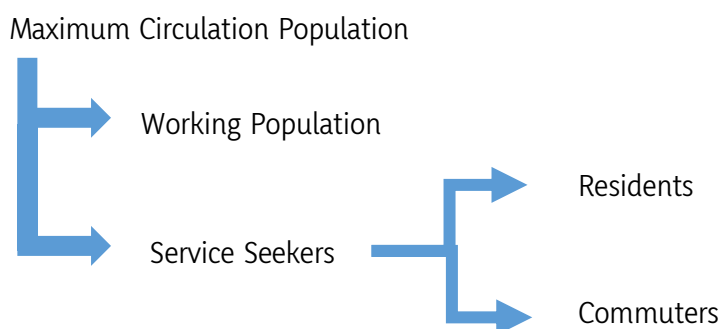
Table 39.1: Forecasted Residential Population of Density Zones

<i>Zone number</i>	<i>Zone</i>	<i>GN Division</i>	<i>Population 2012</i>	<i>Natural growth rate</i>	<i>Existing Population</i>	<i>Population 2030</i>	<i>Expected population within zone</i>
<i>Zone 6</i>	<i>Moderate Dense Urban Service Zone</i>	Akurumulla	1755	0.021111	1992	2464	29489
		Daranagama_II	1370	0.053671	1890	2338	
		Delgoda	2516	0.018169	2806	3471	
		Kammalwatta	2627	0.028933	3125	3865	
		Kanduboda south	2829	0.05046	3829	4737	
		Kanduboda west	2309	0.021624	2629	3252	
		Meegahawatta east	2679	0.026858	3147	3893	
		Siyambalapewatta	3965	0.018177	4422	5470	
<i>Zone 7</i>	<i>Moderate Dense Local Business Zone</i>	Malwana town	5361	0.011659	5749	7112	17567
		Ulahitiwala	2705	0.030145	3241	4009	
		Walgama south	4191	0.036307	5211	6446	
<i>Zone 8</i>	<i>Low Dense Special Development Zone</i>	Biyagama South_II	1656	0.010731	1766	2135	19827
		Bollegala	3920	0.01899	4393	5311	
		Gonawala West_II	1995	0.004302	2047	2475	
		Mabima East_II	1110	0.022015	1267	1532	
		Mabima West_II	1090	0.022123	1245	1505	
		Thalwatta_II	1632	0.026716	1915	2315	
		Yabaraluwa North	1860	0.021883	1631	1227	
		Yabaraluwa South	2076	0.000481	2070	2057	
		Biyagama East_II	1005	0.00722	1049	1269	

Source : Gampaha District Planning Team, 2021

## 2. Forecasting the expected commuting population for 2030

The commuting population is identified under two main categories, as shown in Figure 39.2: It is comprised of working population and service seekers, calculations have been carried out considering the service seekers who are residents of the area & outside commuters. In addition, the three main uses of industrial, institutional, and commercial counting in daily circulation populations are separately identified based on the hypothesized and available numerical data.



**Figure 39.2 Classification of Commuting Population**  
Source : Gampaha District Planning Team, 2021

### ▪ Calculation of current industry daily circulation population based on assumptions

Based on a hypothesis implied by a research report based on the employees of Koggala and Biyagama Investment Promotion Zones, the number of industrial workers in Biyagama area was identified daily. The implied assumption is as follows:

Hypothesis - More than 75% of employees in investment promotion zones report to work within a five-km radius.

Number of employees present in Biyagama EPZ	2708 4	As Temporary Settlers 25%	Employees who travel daily, 5 km from the area and outside the area as 75%
		6771	

**Table 39.2 Daily Circulation of Biyagama EPZ Employees**  
Source : HR Division – Biyagama EPZ / Gampaha District Planning Team, 2021

Accordingly, the current number of employees in the Biyagama EPZ is estimated to be 5km from the area and employees who are daily moving in and out of the area are to be temporary settlers. It is illustrated in Table 39.2.

Using the same assumption, the present Biyagama Industrial Employees have been calculated by dividing the land use area by industry per capita (industrial use - 60 sqm per worker) in the Biyagama PS area. It is illustrated in Table 39.3

Industrial Land use of Biyagama PS area	3837700.55 sq.m
Industrial Land use Within Biyagama EPZ	1415372.4 sq.m
Reducing Biyagama EPZ industrial area from the Total Industrial Land use area	2422328.15 sq.m
Industrial Land use - Per Capita space	2422328.15 / 60
Other Industrial Employees excluding Biyagama EPZ	40372
Present – All Industrial Employees	67456
25% as Temporary Settlers	16864
Daily commuting population within 5km radius in & out from the area	50592

**Table 39.3 Calculation of Daily industrial commuting population of Biyagama PS Area**

Source: Gampaha District Planning Team, 2021

- **Calculating the current commercial and institutional daily circulation population based on assumptions**

In the Biyagama area, there is no written evidence for the quantity of commercial and institutional employees data currently available. The statistical data used in the post-disaster assessment report released in 2016 was used here.

Gampaha District	Agricultural	*1000	Industrial	*1000	Service	*1000
Formal Sector	17.33	17330	146.14	146140	213.18	213180
Informal Sector	26.58	26580	224.19	224190	327.03	327030
Total	43.91	43910	370.33	370330	540.21	540210

**Table 39.4 Total employees in Gampaha District in 2016**

Source: Post Disaster Need Assessment – 2016

According to the Gampaha District Statistical Handbook - Department of Census and Statistics, the percentage of total commercial and institutional distribution in the Biyagama Divisional Secretariat was calculated as a percentage of the total number of commercial and institutional areas in the Gampaha District. Based on the percentage of commercial and institutional expansion found, the number of employees working in the Biyagama Divisional Secretariat was calculated based on the total number of employees in the Gampaha District.



Registered Commercial Spaces of Gampaha District - 2016	2729 8	Ratio	%	Present Commercial Institutional workers	Total
Registered Commercial Spaces of Biyagama DSD - 2016	503	0.01842 6	1.8 4	9954	

**Table 39.5 Number of Registered Commercial Institutions of Gampaha District & Biyagama DSD & Number of Employees Employers**

Source: Gampaha District Planning Team, 2021/ Gampaha District Statistical Handbook – 2016

Accordingly, there are 9954 commercial and institutional e in the area and 67456 industrial clients. To calculate the number of current employees attracted to the area, assumptions are made based on the number of employees identified above. They are as follows

01. Considering that only 20% of the industrial employees will be servicing to service seekers as considered 1: 3 ratio, that is, one employee serving three clients a day.

02. Commercial and institutional total clients are treated at a ratio of 1: 3, that is, one employee serving three clients a day.

Thus the total daily circulation population of the country is as follows.

Present Total Industrial Workers	67456
Service Seekers – Industrial Sector (1 :3 Ratio)	13491 * 3 = 40473
Present Total Commercial Institutional Workers	9954
Service Seekers – Commercial Institutional Sector (1 :3 Ratio)	9954 * 3 = 29, 862
Present Total Commuting Population	147,745

**Table 39.6 Calculation of Present Total Commuting Population**

Source: Gampaha District Planning Team, 2021

Based on the above assumptions and numerical data, the current circulation population is re-examined on the basis of the prevailing land use pattern and the per capita land use norms applicable to different uses. Below are the per capita land use standards applicable to the different uses used for that calculation.

Land use	Per Capita Space (Sq.m)
Whole sale & Retail	20
Tourism	40
Private Office	30
Industrial	60
Institutional	25
Residential	50

**Table 39.7 Per capita land use standards applicable to different uses**

Source: Engineering Tool Box, (2001). [online] Available at: <https://www.engineeringtoolbox.com> Per Capita Activity Space Standards for City of London

It is computed separately for the density zones of the area and provides a comprehensive representation of the daily circulation population according to the different uses of each density zone. Below is the calculation.

Density Zone	Commercial Space	Permitted Commercial Space	Assumed Height class	Total Permitted Commercial Space	Daily commuting population
High Dense Urban Transit Zone	101955.5	81564.4	4	326257.6	16313
High Dense Commercial Zone	139862.90	111890.32	3	335670.96	16784
High Dense Urban Service Zone	227427.87	181942.30	2	363884.60	18194
Moderate Dense Industrial Zone-I	123790.12	99032.09	2	198064.19	9903
Moderate Dense Industrial Zone-II	68797.12	55037.69	2	110075.39	5504
Moderate Dense Urban Service Zone	46219.06	36975.24	2	73950.49	3698
Moderate Dense Local Business Zone	17120.45	13696.36	2	27392.73	1370
Low Dense Special Development Zone	146240.29	116992.23	2	233984.47	11699

**Table 39.8 Present Daily commuting population of Commercial Space**

Source: Gampaha District Planning Team, 2021

Density Zone	Industrial Space	Permitted Industrial Space	Assumed Height class	Total Permitted Industrial Space	Daily commuting population
High Dense Urban Transit Zone	31200	24960	1	24960	416
High Dense Commercial Zone	297.18	237.74	1	237.749	4.0
High Dense Urban Service Zone	39140.45	31312.36	1	31312.36	522
Moderate Dense Industrial Zone-I	1678745.13	1342996.10	2	2685992.21	44767
Moderate Dense Industrial Zone-II	1754766.18	1403812.95	2	2807625.9	46794
Moderate Dense Urban Service Zone	423425.04	338740.03	1	338740.03	5646
Moderate Dense Local Business Zone	4731.53	3785.23	1	3785.23	63
Low Dense Special Development Zone	343073.60	274458.88	2	548917.77	9149

Table 39.9 Present Daily commuting population of Industrial Space

Source: Gampaha District Planning Team, 2021

Density Zone	Institutional Space	Permitted Institutional Space	Assumed Height class	Total Permitted Institutional Space	Daily commuting population
High Dense Urban Transit Zone	49382.84	32098.85	3	96296.55	3852
High Dense Commercial Zone	116517.28	75736.23	2	151472.47	6059
High Dense Urban Service Zone	68274.53	44378.44	2	88756.89	3550
Moderate Dense Industrial Zone-I	224466.71	145903.36	2	291806.73	11672
Moderate Dense Industrial Zone-II	145768.96	94749.82	2	189499.65	7580
Moderate Dense Urban Service Zone	86909.37	56491.09	2	112982.19	4519
Moderate Dense Local Business Zone	26596.45	17287.69	2	34575.39	1383
Low Dense Special Development Zone	186408.51	121165.53	2	242331.06	9693

Table 39.10 Present Daily commuting population of Institutional Space

Source: Gampaha District Planning Team, 2021

▪ **Future Commuting population prediction**

Depending on the proposed land use, per capita land use according to different uses - density zones

Assumptions

1. The commercial migrant population in all regions of high and medium density is assumed to be three times the current immigrant population.
2. It is assumed that about one-third of the current immigrant population will increase, reducing the incentive to commercial use in low-density species.
3. The industrial migration population of all high and medium density regions is assumed to be three times the current migrant population.
4. It is assumed that about 1 / 3rd of the current immigrant population will increase, as industry practices in low-density special development zones are not encouraged.
5. The institutionalized migrant population in all regions of high and medium density is assumed to be three times the current migrant population.
6. Institutional uses of low-density special development zones are not encouraged, so it is assumed that only about one-third of the current immigrant population will increase.

Density Zone	Assumed Total Daily Commuting Population - Commercial	Assumed Total Daily Commuting Population - Industrial	Assumed Total Daily Commuting Population - Institutional	Assumed Total Daily Commuting Population - 2030
High Dense Urban Transit Zone	48939	1248	11556	61742
High Dense Commercial Zone	50351	12	18177	68539
High Dense Urban Service Zone	54583	1566	10651	66799
Moderate Dense Industrial Zone-I	29710	134300	35017	199026
Moderate Dense Industrial Zone-II	16511	140381	22740	179633
Moderate Dense Urban Service Zone	11093	16937	13558	41587
Moderate Dense Local Business Zone	4109	189	4149	8447
Low Dense Special Development Zone	17549	13723	14540	45812
	232,843	308,356	130,387	671,586

**Table 39.11 Assumed Total Daily Commuting Population – 2030 accordance to commercial, industrial & institutional space**

Source: Gampaha District Planning Team, 2021

## ■ Calculation of Developable Space

1. Developable space considered under the density zones including four types of commercial, industrial, institutional and vacant lands based on current land use, ignoring the wetlands and undeveloped areas in the area.
2. It is envisaged that all vacant lands will be developed by 2030.

Density Zone	Commercial	%
High Dense Urban Transit Zone	101955.50	3
High Dense Commercial Zone	139862.90	4
High Dense Urban Service Zone	227427.88	3
Moderate Dense Industrial Zone-I	123790.12	1
Moderate Dense Industrial Zone-II	68797.12	1
Moderate Dense Urban Service Zone	46219.06	1
Moderate Dense Local Business Zone	17120.46	1
Low Dense Special Development Zone	146240.30	5

**Table 39.12 Commercial Developable space based on Density Zones**

Source: Gampaha District Planning Team, 2021

Density Zone	Industrial	%
High Dense Urban Transit Zone	31200.00	1
High Dense Commercial Zone	297.19	0.00
High Dense Urban Service Zone	39140.46	1
Moderate Dense Industrial Zone-I	1678745.13	17
Moderate Dense Industrial Zone-II	1754766.19	17
Moderate Dense Urban Service Zone	46219.06	1
Moderate Dense Local Business Zone	17120.46	1
Low Dense Special Development Zone	146240.30	5

**Table 39.13 Industrial Developable space based on Density Zones**

Source: Gampaha District Planning Team, 2021

Density Zone	Residential	%
High Dense Urban Transit Zone	2988560.74	89
High Dense Commercial Zone	3235524.57	89
High Dense Urban Service Zone	5664054.46	85
Moderate Dense Industrial Zone-I	6353423.90	64
Moderate Dense Industrial Zone-II	7736761.40	75
Moderate Dense Urban Service Zone	5128232.70	69
Moderate Dense Local Business Zone	1880090.51	81
Low Dense Special Development Zone	1712574.76	58

**Table 39.14 Residential Developable space based on Density Zones**

Source: Gampaha District Planning Team, 2021

Density Zone	Institutional	%
High Dense Urban Transit Zone	49382.85	1
High Dense Commercial Zone	116517.29	3
High Dense Urban Service Zone	68274.54	1
Moderate Dense Industrial Zone-I	224466.72	2
Moderate Dense Industrial Zone-II	145768.96	1
Moderate Dense Urban Service Zone	86909.38	1
Moderate Dense Local Business Zone	26596.46	1
Low Dense Special Development Zone	186408.51	6

**Table 39.15 Institutional Developable space based on Density Zones**

Source: Gampaha District Planning Team, 2021

Density Zone	Vacant Land	Total Developable Space
High Dense Urban Transit Zone	201453.14	3372552.22
High Dense Commercial Zone	129677.34	3621879.29
High Dense Urban Service Zone	647821.11	6646718.44
Moderate Dense Industrial Zone-I	1564045.59	9944471.47
Moderate Dense Industrial Zone-II	615220.44	10321314.11
Moderate Dense Urban Service Zone	1711157.95	7395944.13
Moderate Dense Local Business Zone	390874.42	2319413.38
Low Dense Special Development Zone	558337.38	2946634.56

**Table 39.16 Vacant lands within Developable space based on Density Zones**

Source: Gampaha District Planning Team, 2021

▪ **Predicting the need for developmental space for residential and circulating populations**

Depending on the proposed land use, per capita land use according to different uses - density zones

Assumptions

1. Based on the positive impact of the proposed transport-based projects on all high-density zones, it is assumed that 30% of the future population of those zones will be temporary residents in the area.
2. Use of Moderate Density Industries Based on limiting the incentives for residential use in the proposed zones, it is assumed that 10% of the future population of those zones will be temporary residents in the area.
3. Based on limiting the incentives for residential use in the low-density special development zone, it is assumed that 10% of the future population of those zones will be temporary residents in the area.

Density Zone	Total Expected Housing Units	Required space for residential use (Sq. m)	Total Daily Commuting Population	Temporary Settlers	Required space for temporary settlers (Sq. m)	Total required space for residential use
High Dense Urban Transit Zone	5985	1795500	61742	18523	4630667	6426167
High Dense Commercial Zone	6286	942900	71049	21315	5328701	6271601
High Dense Urban Service Zone	9692	3392200	66799	20040	5009935	8402135
Moderate Dense Industrial Zone-I	9624	1443600	199026	19903	995130	2438730
Moderate Dense Industrial Zone-II	13227	1984050	179633	17963	898163	2882213
Moderate Dense Urban Service Zone	7372	2211600	41587	12476	3119058	5330658
Moderate Dense Local Business Zone	4392	1098000	8447	2534	633541	1731541
Low Dense Special Development Zone	4957	495700	45812	4581	229058	724758

**Table 39.17 Total required space for residential use based on density zones**

Source: *Gampaha District Planning Team, 2021*

- Forecasting future development space requirement

Calculations have been carried out on per capita land use norms for different uses, based on resident & commuting population predictions for density zones.

Density Zone	Required Space for Commercial Space	Required Space for Industrial Space	Required Space for Institutional Space	Required Space for Residential Space	Required future Developable Space	Available Developable Space	Zone Factor	Zone Color	Intensity
High Dense Urban Transit Zone	978773	74880	288890	6426167	7768709	3372552	2.3		High Intensity
High Dense Commercial Zone	1007013	151320	454417	6271601	7884351	3621879	2.17		High Intensity
High Dense Urban Service Zone	1091654	93937	266271	8402135	9853997	6646718	1.48		High Intensity
Moderate Dense Industrial Zone-I	594193	8057977	875420	2438730	11966320	9944471	1.2		Medium Intensity
Moderate Dense Industrial Zone-II	330226	8422878	568499	2882213	12203816	10321314	1.18		Medium Intensity
Moderate Dense Urban Service Zone	221851	1016220	338947	5330658	6907676	7395944	0.93		Average Intensity
Moderate Dense Local Business Zone	82178	11356	103726	1731541	1928801	2319413	0.83		Average Intensity
Low Dense Special Development Zone	350977	823377	363497	724758	2262608	2946635	0.76		Average Intensity

Table 39.18 *Zone Factor & Total developable space accordance to the commercial, industrial, institutional & residential spaces of density zones*

Source: *Gampaha District Planning Team, 2021*



## **Annexure 40. Zoning boundaries & Geo Coordinates**

### **Zone 01 - High Dense Urban Transit Zone**

#### **North:**

The last point of the Western boundary of the Biyagama DS area which is starting at the culvert 14/2 on the Colombo-Kandy main road and passing through the Northern boundary of the Biyagama DS area to geo point 43 (6°59'34.85" N, 79°56'35.17" E) from northern boundary of Ihala Biyanwila North GN Division via central point of 10 (7° 0'18.68" N, 79°57'23.78" E) in Colombo- Kandy Road to Northern boundary of Ihala Biyanwila Central GN Division via central point of 20 (6°59'53.59" N, 79°58'10.82"E) across the point of 21 (6°59'51.39" N, 79°58'17.42" E) in Northern boundary of Mawaramandiya GN Division.

#### **East:**

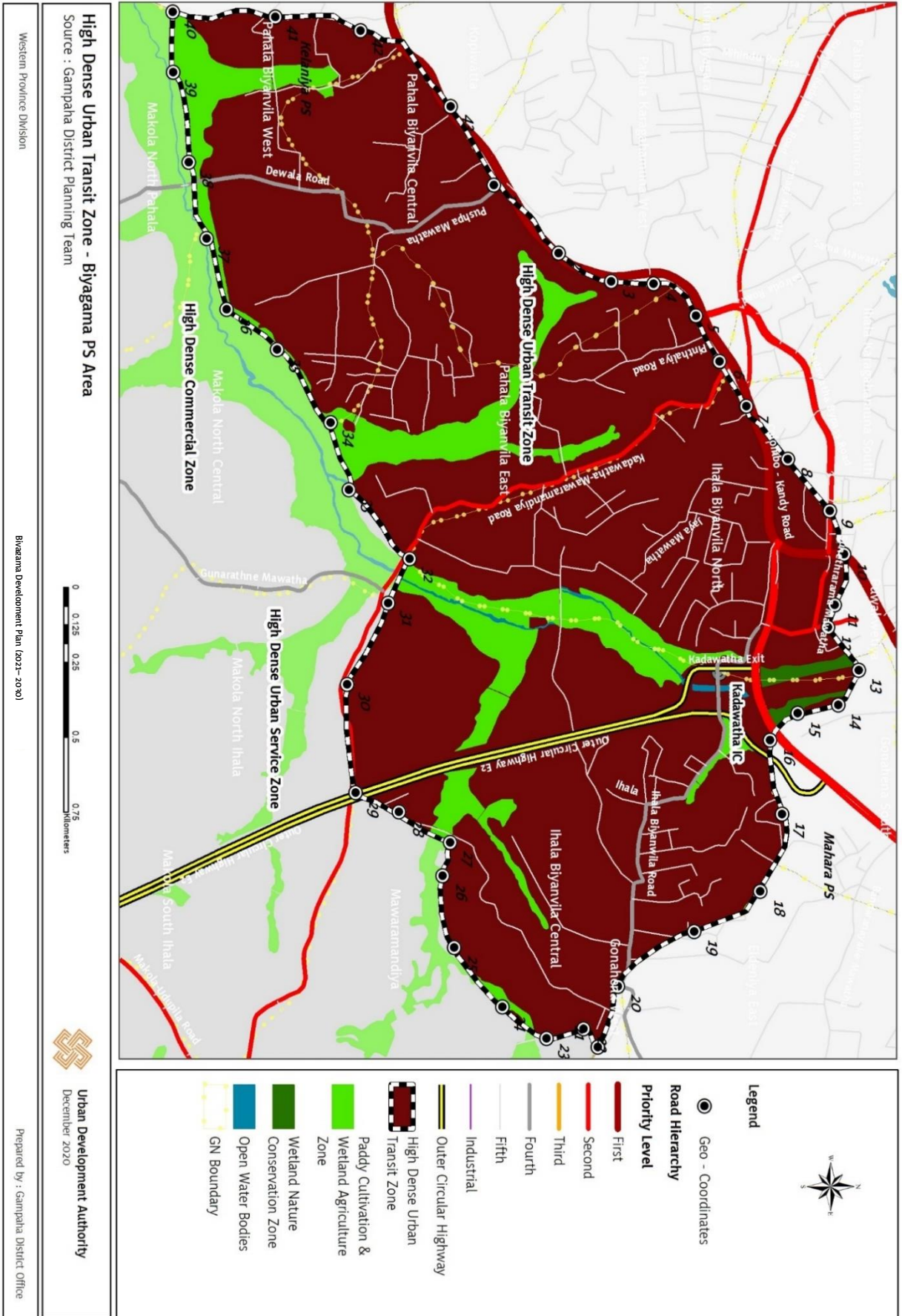
From the last-mentioned geo point along the Western boundary of Mawaramandiya GN Division to 23 (6°59'45.67"N, 79°58'16.48" E) and towards Nandungaha paddy field boundary; Manaka Road (Kadawatha - Mawaramandiya Main Road) which links to the Bridge over the OCH and then 32 (6°59'30.36"N, 79°57'24.39" E) geo point of which laying on the Southern boundary of Ihala Biyanwila Central GN Division and then across the Mankada Maha Welyaya to Southern boundary of Pahala Biyanwila West GN Division.

#### **West :**

Starting from the last-mentioned geo point on the Mankada Maha Welyaya 40 (6°59'4.27"N , 79°56'25.02" E) and towards Western boundary of Pahala Biyanwila West GN Division or the Western Boundary of Kelaniya- Biyagama DS Division Areas up to the starting point of Northern boundary in the Zone.

**Zone 01 - High Dense Urban Transit Zone – Geo Coordinates**

Point No.	X coordinate	Y coordinate	Point No.	X coordinate	Y coordinate	Point No.	X coordinate	Y coordinate
1	79°56'43.73"E	6°59'39.68"N	19	79°58'4.84"E	7° 0'2.10"N	37	79°56'49.57" E	6°59'8.51"N
2	79°56'51.09"E	6°59'46.88"N	20	79°58'10.82" E	6°59'53.59"N	38	79°56'41.30" E	6°59'5.70"N
3	79°56'54.16"E	6°59'52.75"N	21	79°58'17.42" E	6°59'51.39"N	39	79°56'31.49" E	6°59'3.97"N
4	79°56'54.43"E	6°59'57.47"N	22	79°58'15.44" E	6°59'49.80"N	40	79°56'25.02" E	6°59'4.27"N
5	79°56'57.88"E	7° 0'2.19"N	23	79°58'16.48" E	6°59'45.67"N	41	79°56'25.48" E	6°59'15.30"N
6	79°57'2.83"E	7° 0'4.83"N	24	79°58'13.08" E	6°59'40.78"N	42	79°56'26.94" E	6°59'24.78"N
7	79°57'7.70"E	7° 0'7.79"N	25	79°58'6.63"E	6°59'35.41"N	43	79°56'35.17" E	6°59'34.85"N
8	79°57'13.48"E	7° 0'12.41"N	26	79°57'58.84" E	6°59'34.08"N			
9	79°57'19.05"E	7° 0'17.11"N	27	79°57'55.23" E	6°59'34.92"N			
10	79°57'23.78"E	7° 0'18.68"N	28	79°57'51.88" E	6°59'29.23"N			
11	79°57'29.28"E	7° 0'17.65"N	29	79°57'49.83" E	6°59'24.38"N			
12	79°57'31.74"E	7° 0'16.93"N	30	79°57'38.05" E	6°59'23.40"N			
13	79°57'36.39"E	7° 0'20.35"N	31	79°57'29.19" E	6°59'28.00"N			
14	79°57'40.20"E	7° 0'18.06"N	32	79°57'24.39" E	6°59'30.36"N			
15	79°57'41.10"E	7° 0'13.56"N	33	79°57'16.88" E	6°59'23.59"N			
16	79°57'44.04"E	7° 0'10.50"N	34	79°57'9.59"E	6°59'21.55"N			
17	79°57'52.05"E	7° 0'11.82"N	35	79°57'1.64"E	6°59'15.57"N			
18	79°58'0.47"E	7° 0'9.44"N	36	79°56'57.26" E	6°59'9.96"N			



## **Zone 02 - High Dense Commercial Zone**

### **North:**

Starting from the 40 (6°59'4.27" N, 79°56'25.02" E) of Northern boundary in Makola North Pahala GN Division and across the Manakada Mahawelyaya which run down the Mahara Mudun Ela & towards the Mankada Road (Kadawatha- Mawaramandiya Main Road) via Northern boundary of Makola North Central GN Division.

### **East:**

From the last mentioned geo point along the eastern boundary of the Makola North Central GN Division through the Wellamura Angarayaya 2.30 (6°59'22.54"N, 79°57'26.19"E) to central point along the Gunarathna Mawatha 2.27 (6°59'5.49"N, 79°57'25.12"E) & come up to the point where the Rankethayaya link road connects the Makola-Udupila main road & along the Keenagaha paddy land which is the northern boundary of Sapugaskanda GN Division to the point of 2.19 (6°58'12.97"N, 79°57'58.14"E)

### **South**

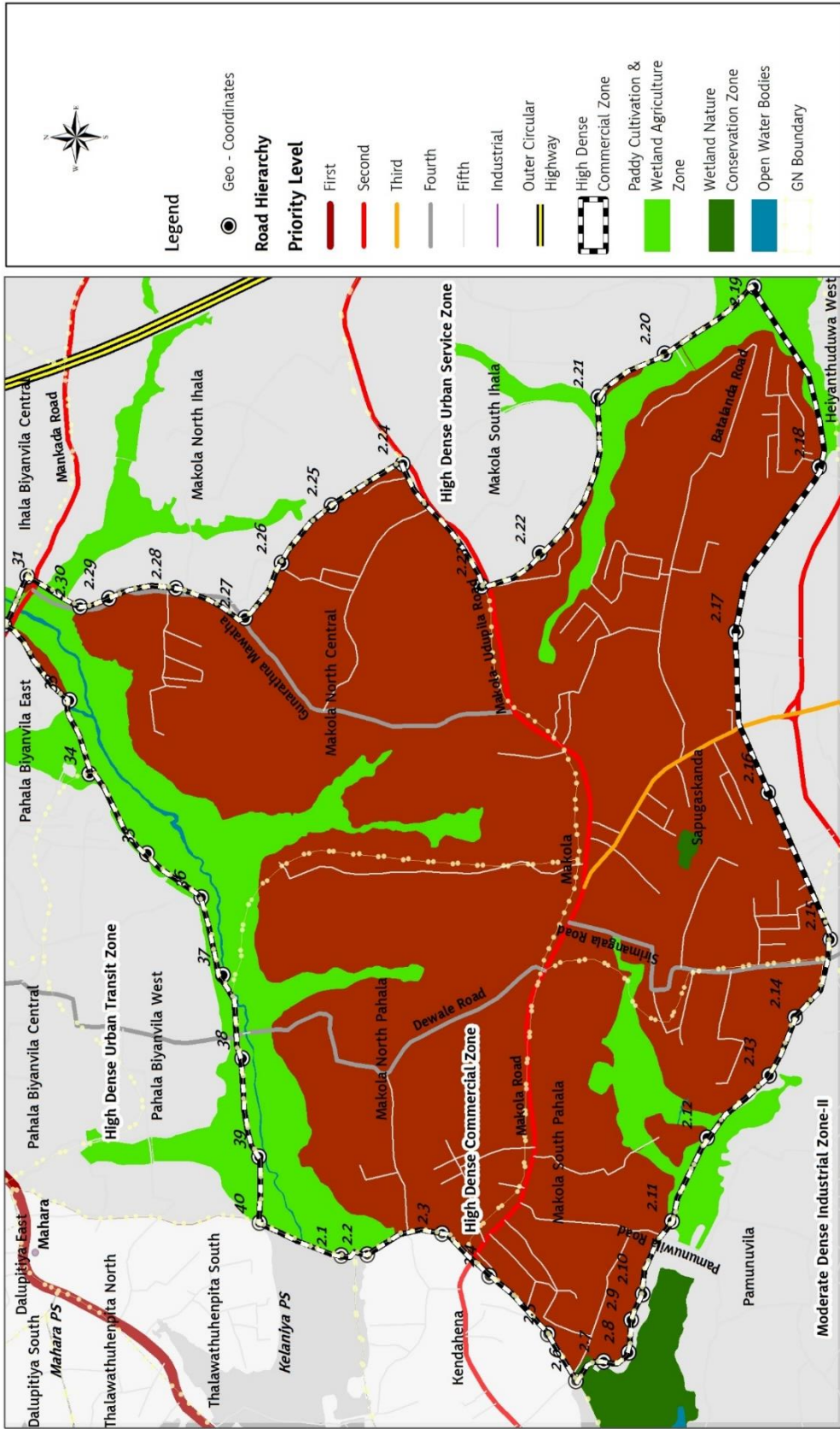
From the last mentioned point along the fictitious line drawn from the Keenagaha paddy land intersecting the Kiribathgoda - Sapugaskanda main road 2.15 (6°58'5.02" N, 79°56'53.22"E) to central point of the Sirimangala road along the Waadoluwayaya boundary to the point of 2.6 (6°58'31.19"N, 79°56'9.26"E) which is located on the Pamunuwila GN Division, Western boundary of the Kelaniya Biyagama DS Divisions.

### **West :**

From the last-mentioned point along the western boundary of the Makola South Pahala GN Division across the Kiribathgoda - Sapugaskanda Main Road along the Makada Maha Welyaya to the Western boundary of the Kelaniya Biyagama DS Divisions.

### Zone 02 - High Dense Commercial Zone – Geo Coordinates

Point No.	X coordinate	Y coordinate	Point No.	X coordinate	Y coordinate
31	79°57'29.19"E	6°59'28.00"N	2.11	79°56'25.19"E	6°58'21.32"N
32	79°57'24.39"E	6°59'30.36"N	2.12	79°56'33.45"E	6°58'17.71"N
33	79°57'16.88"E	6°59'23.59"N	2.13	79°56'39.68"E	6°58'11.33"N
34	79°57'9.59"E	6°59'21.55"N	2.14	79°56'45.47"E	6°58'8.64"N
35	79°57'1.64"E	6°59'15.57"N	2.15	79°56'53.22"E	6°58'5.02"N
36	79°56'57.26"E	6°59'9.96"N	2.16	79°57'7.81"E	6°58'11.44"N
37	79°56'49.57"E	6°59'8.51"N	2.17	79°57'23.79"E	6°58'14.83"N
38	79°56'41.30"E	6°59'5.70"N	2.18	79°57'40.22"E	6°58'6.24"N
39	79°56'31.49"E	6°59'3.97"N	2.19	79°57'58.14"E	6°58'12.97"N
40	79°56'25.02"E	6°59'4.27"N	2.20	79°57'51.47"E	6°58'22.19"N
2.1	79°56'21.67"E	6°58'55.43"N	2.21	79°57'47.15"E	6°58'29.05"N
2.2	79°56'21.80"E	6°58'52.78"N	2.22	79°57'31.59"E	6°58'35.07"N
2.3	79°56'23.87"E	6°58'45.03"N	2.23	79°57'28.30"E	6°58'41.09"N
2.4	79°56'19.67"E	6°58'40.16"N	2.24	79°57'40.44"E	6°58'49.24"N
2.5	79°56'13.94"E	6°58'34.08"N	2.25	79°57'36.31"E	6°58'56.55"N
2.6	79°56'9.26"E	6°58'31.19"N	2.26	79°57'30.57"E	6°59'1.75"N
2.7	79°56'11.20"E	6°58'28.32"N	2.27	79°57'25.12"E	6°59'5.49"N
2.8	79°56'12.08"E	6°58'25.74"N	2.28	79°57'28.03"E	6°59'12.62"N
2.9	79°56'15.31"E	6°58'25.49"N	2.29	79°57'27.01"E	6°59'19.56"N
2.10	79°56'17.93"E	6°58'24.33"N	2.30	79°57'26.19"E	6°59'22.54"N



## Zone 03 - High Dense Urban Service Zone

### North:

Starting from the point of 31 (6°59'28.00" N, 79°57'29.19"E) which is the northern boundary of the Makola North Ihala GN Division to bridge over the OCH or the point which intersect the Kadawatha - Mawaramandiya main road & along the Nadungaha paddy land which is the northern boundary of Mawaramandiya GN Division to central point of Ranmuthugala road 39(6°59'31.78" N, 79°58'53.00" E) & across the western boundary of the Meegahawatta west GN Division upto the central point of the Meegahawatta paddy land's canal that located closer to the Gonahena road.

### East:

From the last-mentioned point up to the central line of the Meegahawatta paddy land's canal & along the eastern boundary of Meegahawatta West GN Division to Bandarakumbura Godawella paddy land & the 3.26 (6°58'31.21"N, 79°59'36.94"E) in central point of Madarawa canal.

### South

From the last-mentioned point up to southern boundary of Siyambalape North GN Division & along the Liyanage yaya to central point of Dikwela road 3.30 (6°58'30.16"N, 79°59'1.29"E) & along the southern boundary of Heiyanthuduwa North GN Division to the point of 3.35 (6°58'29.81"N, 79°58'38.97"E) & then upto the point of 3.42 (6°58'8.10"N, 79°58'8.26"E) at Andiya paddy land.

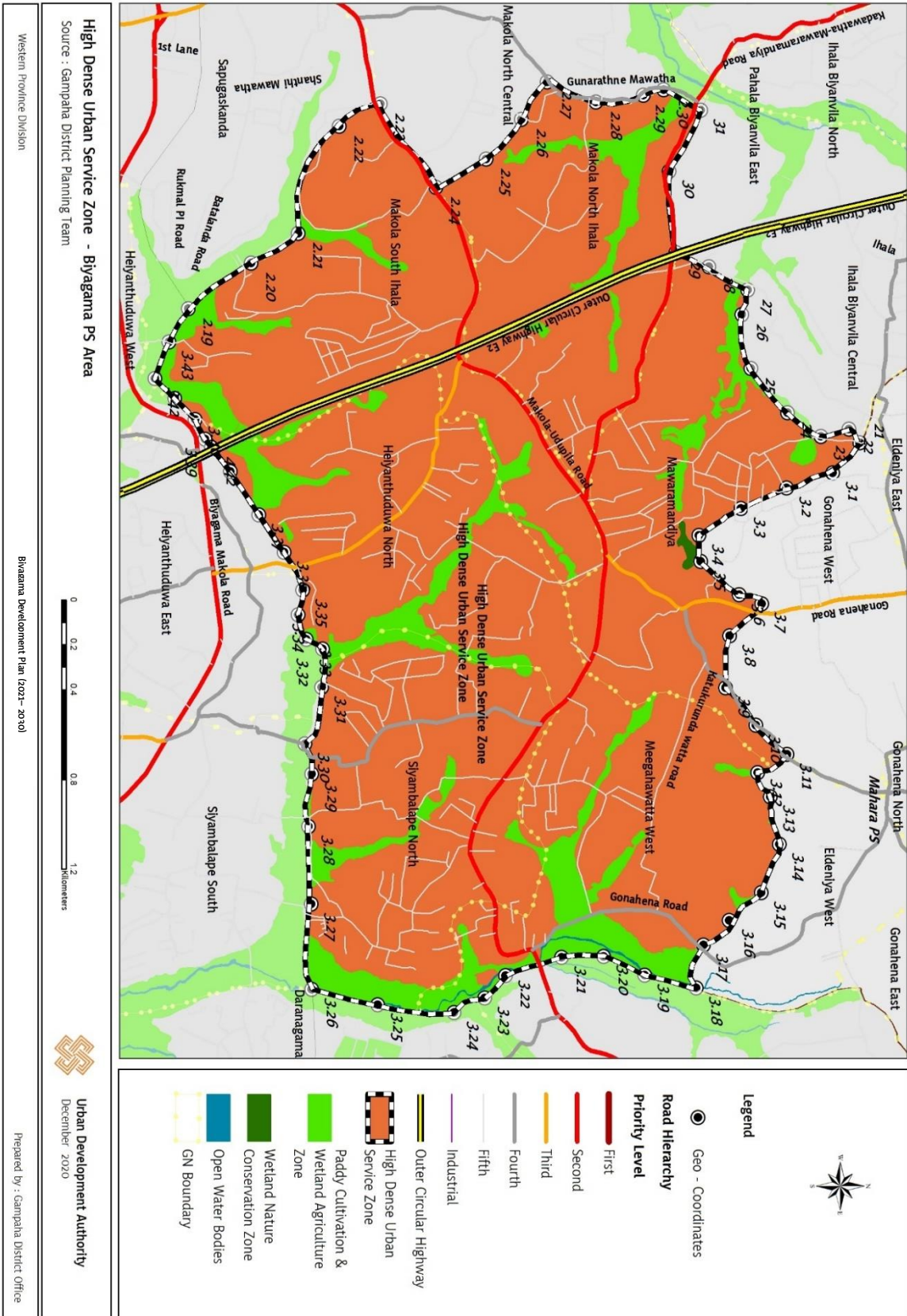
### West :

Starting from the last-mentioned point to the northern boundary of Sapugaskanda GN Division & through the Playground road up to the point of 2.23 (6°58'41.09"N, 79°57'28.30"E) which connects with Makola - Udupila road.

### Zone 03 - High Dense Urban Service Zone – Geo Coordinates

Point No.	X coordinate	Y coordinate	Point No.	X coordinate	Y coordinate	Point No.	X coordinate	Y coordinate
21	79°58'17.42"E	6°59'51.39"N	2.28	79°57'28.03"E	6°59'12.62"N	3.18	79°59'36.63"E	6°59'27.55"N
22	79°58'15.44"E	6°59'49.80"N	2.29	79°57'27.01"E	6°59'19.56"N	3.19	79°59'34.75"E	6°59'20.01" N
23	79°58'16.48"E	6°59'45.67"N	2.30	79°57'26.19"E	6°59'22.54"N	3.20	79°59'32.05"E	6°59'13.99"N
24	79°58'13.08"E	6°59'40.78"N	3.1	79°58'21.78"E	6°59'47.43"N	3.21	79°59'32.22"E	6°59'7.79"N
25	79°58'6.63"E	6°59'35.41"N	3.2	79°58'23.99"E	6°59'40.64"N	3.22	79°59'34.85"E	6°58'59.59" N
26	79°57'58.84"E	6°59'34.08"N	3.3	79°58'26.98"E	6°59'33.98"N	3.23	79°59'38.12"E	6°58'56.57"N
27	79°57'55.23"E	6°59'34.92"N	3.4	79°58'30.91"E	6°59'27.86"N	3.24	79°59'40.24"E	6°58'52.06" N
28	79°57'51.88"E	6°59'29.23"N	3.5	79°58'34.71"E	6°59'28.13"N	3.25	79°59'39.12"E	6°58'40.92" N
29	79°57'49.83"E	6°59'24.38"N	3.6	79°58'39.52"E	6°59'33.71"N	3.26	79°59'36.94"E	6°58'31.21"N
30	79°57'38.05"E	6°59'23.40"N	3.7	79°58'40.80"E	6°59'37.03"N	3.27	79°59'24.49"E	6°58'31.16"N
31	79°57'29.19"E	6°59'28.00"N	3.8	79°58'45.45"E	6°59'32.33"N	3.28	79°59'13.26"E	6°58'30.73" N
2.19	79°57'58.14"E	6°58'12.97"N	3.9	79°58'53.00"E	6°59'31.78"N	3.29	79°59'5.66"E	6°58'31.20"N
2.20	79°57'51.47"E	6°58'22.19"N	3.10	79°58'58.48"E	6°59'36.22"N	3.30	79°59'1.29"E	6°58'30.16" N
2.21	79°57'47.15"E	6°58'29.05"N	3.11	79°59'2.65"E	6°59'40.80"N	3.31	79°58'53.05"E	6°58'32.60" N
2.22	79°57'31.59"E	6°58'35.07"N	3.12	79°59'5.32"E	6°59'36.48"N	3.32	79°58'47.50"E	6°58'32.72"N
2.23	79°57'28.30"E	6°58'41.09"N	3.13	79°59'8.82"E	6°59'38.33"N	3.33	79°58'46.11"E	6°58'30.37" N
2.24	79°57'40.44"E	6°58'49.24"N	3.14	79°59'15.76"E	6°59'39.66"N	3.34	79°58'42.56"E	6°58'29.17"N
2.25	79°57'36.31"E	6°58'56.55"N	3.15	79°59'22.77"E	6°59'37.04"N	3.35	79°58'38.97"E	6°58'29.81"N
2.26	79°57'30.57"E	6°59'1.75"N	3.16	79°59'26.79"E	6°59'32.34"N	3.36	79°58'33.49"E	6°58'27.05" N
2.27	79°57'25.12"E	6°59'5.49"N	3.17	79°59'30.37"E	6°59'28.56"N	3.37	79°58'28.04"E	6°58'23.36"N
3.38	79°58'21.78"E	6°58'19.19"N	3.39	79°58'17.08"E	6°58'15.50"N	3.40	79°58'14.22"E	6°58'14.04" N
3.41	79°58'11.16"E	6°58'11.02"N	3.42	79°58'8.26"E	6°58'8.10"N	3.43	79°58'2.97"E	6°58'10.16" N





## **Zone 04 - Moderate Dense Industrial Zone-I**

### **North:**

Starting from the 4.42 (6°58'16.41" N, 79°58'18.23"E) point that located at the bridge over the OCH and along with the Gorakagaha paddy land and intersecting the Galwala road to western boundary of Heiyanthuduwa East GN Division & up to the boundary of Liyanage paddy land to the point of 3.30 (6°58'30.16"N, 79°59'1.29"E) that links the western boundary of Siyambalape South GN Division & the 3.26 (6°58'31.21"N, 79°59'36.94"E) point that located as the central point in Madarawa canal of Madarawa paddy land to the central point of 4.1 (6°58'31.06"N, 79°59'49.75"E) intersecting the Daranagama road lying in Daranagama GND across the Daranagama & Yatihena Mahayaya up to the northern boundary of Yatihena GN Division along the Waduwegama tank & Heladeniya paddy land to the point of 4.9 (6°58'0.36"N, 80° 0'36.75"E) up to the 4.10 (6°58'6.17"N, 80° 0'51.43"E) of northern boundary in Walgama West GN Division..

### **East:**

From the last-mentioned point along the western boundary of the Ulahiwala GND to the point of 4.14 (6°57'48.51"N, 80° 0'60.00"E) & up to the central point of 4.15 (6°57'40.77"N, 80° 1'0.90"E) of Ulahitiwala road & across the southern boundary of WWalagama West GND up to the point of 4.23 (6°56'59.30"N, 80° 0'31.31"E) of the road which run as a boundary closer to the Biyagama EPZ

### **South**

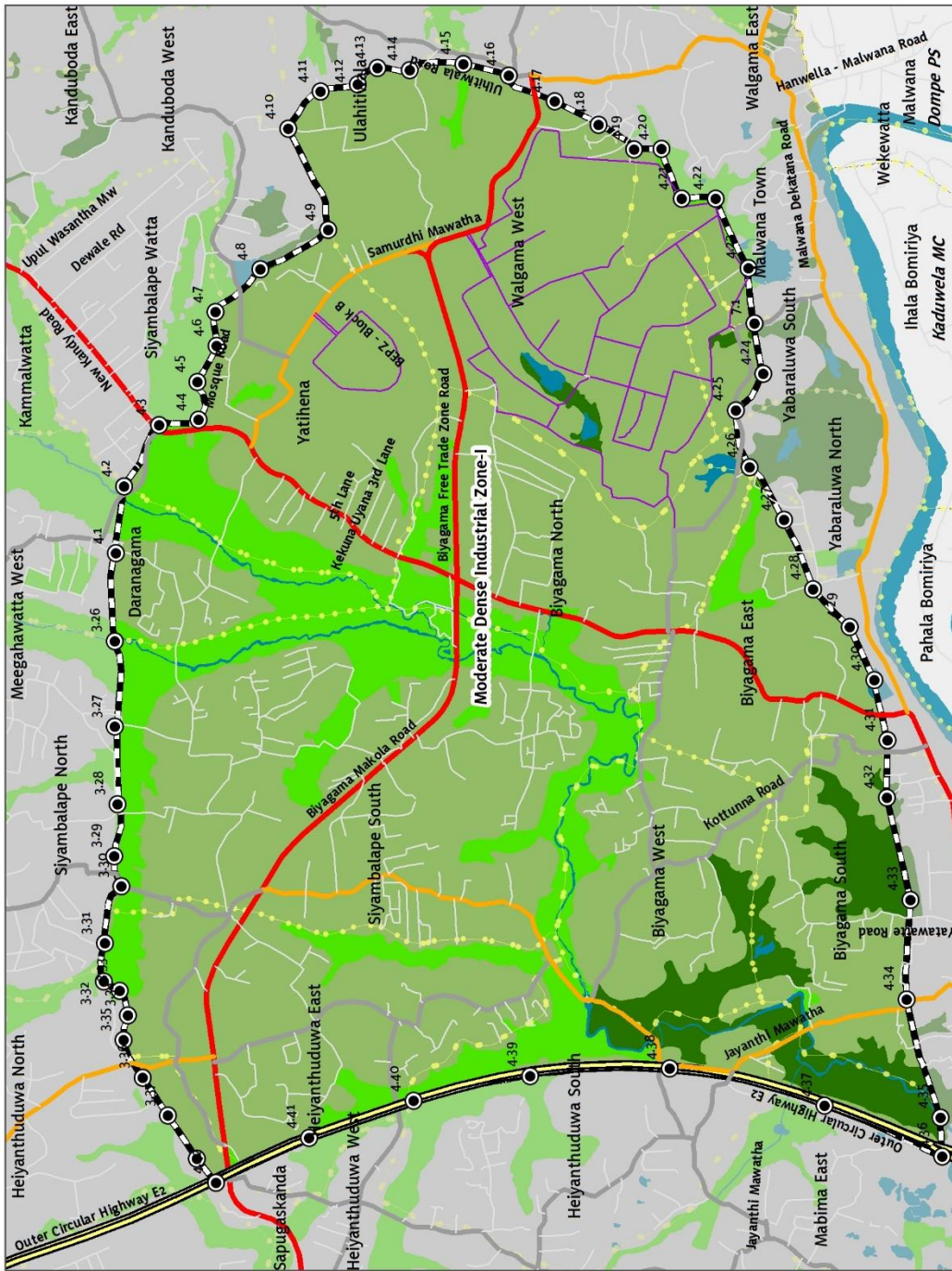
Starting from the last-mentioned point to the 4.25 (6°57'1.13"N, 80° 0'10.63"E) which is the central point of Sri Jayathilake Mawatha up to central point of Sri Nandasiri Mawatha & across the Biyagama East GND to point of 4.30 (6°56'40.97"N, 79°59'31.47"E) which closer to the boundary of Biyagama Divisional Hospital & along the boundary of Kokkalu paddy land in Biyagama South GND to the central point of 4.35 (6°56'31.21"N, 79°58'27.90"E) in Raggahawatta canal up to the point of 4.36 (6°56'31.02"N, 79°58'22.28"E) in southern boundary of OCH interchange.

### **West:**

Starting from the last-mentioned point & along the left side reservation of OCH to the northern boundary of the zone. Annex 05 displaying the geo points with geo - coordinates.

**Zone 04 - Moderate Dense Industrial Zone -I – Geo Coordinates**

Point No.	X coordinate	Y coordinate	Point No.	X coordinate	Y coordinate	Point No.	X coordinate	Y coordinate
3.26	79°59'36.94" E	6°58'31.21"N	4.8	80° 0'30.99"E	6°58'10.20"N	4.28	79°59'44.68"E	6°56'49.86"N
3.27	79°59'24.49" E	6°58'31.16"N	4.9	80° 0'36.75"E	6°58'0.36"N	4.29	79°59'39.20"E	6°56'44.53"N
3.28	79°59'13.26"E	6°58'30.73"N	4.10	80° 0'51.43"E	6°58'6.17"N	4.30	79°59'31.47"E	6°56'40.97"N
3.29	79°59'5.66"E	6°58'31.20"N	4.11	80° 0'56.83"E	6°58'1.47"N	4.31	79°59'22.74"E	6°56'39.04"N
3.30	79°59'1.29"E	6°58'30.16"N	4.12	80° 0'57.88"E	6°57'56.10"N	4.32	79°59'14.35"E	6°56'39.12"N
3.31	79°58'53.05" E	6°58'32.60"N	4.13	80° 1'0.26"E	6°57'53.19"N	4.33	79°58'59.55"E	6°56'35.68"N
3.32	79°58'47.50" E	6°58'32.72"N	4.14	80° 0'60.00"E	6°57'48.51"N	4.34	79°58'45.02"E	6°56'36.23"N
3.33	79°58'46.11"E	6°58'30.37"N	4.15	80° 1'0.90"E	6°57'40.77"N	4.35	79°58'27.90"E	6°56'31.21"N
3.34	79°58'42.56" E	6°58'29.17"N	4.16	80° 0'59.21"E	6°57'34.15"N	4.36	79°58'22.28"E	6°56'31.02"N
3.35	79°58'38.97" E	6°58'29.81"N	4.17	80° 0'55.45"E	6°57'27.50"N	4.37	79°58'29.61"E	6°56'48.10"N
3.36	79°58'33.49" E	6°58'27.05"N	4.18	80° 0'52.05"E	6°57'21.11"N	4.38	79°58'34.96"E	6°57'10.57"N
3.37	79°58'28.04" E	6°58'23.36"N	4.19	80° 0'48.49"E	6°57'15.92"N	4.39	79°58'33.86"E	6°57'30.82"N
3.38	79°58'21.78"E	6°58'19.19"N	4.20	80° 0'48.58"E	6°57'12.01"N	4.40	79°58'30.20"E	6°57'47.75"N
4.1	79°59'49.75" E	6°58'31.06"N	4.21	80° 0'41.37"E	6°57'9.06"N	4.41	79°58'24.80"E	6°58'2.88"N
4.2	79°59'59.45" E	6°58'29.88"N	4.22	80° 0'41.37"E	6°57'4.08"N	4.42	79°58'18.23"E	6°58'16.41"N
4.3	80° 0'8.37"E	6°58'24.86"N	4.23	80° 0'31.31"E	6°56'59.30"N			
4.4	80° 0'9.15"E	6°58'19.08"N	4.24	80° 0'15.96"E	6°56'57.14"N			
4.5	80° 0'14.66"E	6°58'19.24"N	4.25	80° 0'10.63"E	6°57'1.13"N			
4.6	80° 0'19.90"E	6°58'16.54"N	4.26	80° 0'2.37"E	6°56'59.09"N			
4.7	80° 0'24.80"E	6°58'16.63"N	4.27	79°59'54.75"E	6°56'54.12"N			



**Legend**

- Geo Coordinates
- Road Hierarchy
- Priority Level
- First
- Second
- Third
- Fourth
- Fifth
- Industrial
- Outer Circular Highway
- Moderate Dense Industrial Zone - I
- Paddy Cultivation & Wetland Agriculture Zone
- Wetland Nature Conservation Zone
- Open Water Bodies
- GN Boundary



**Urban Development Authority**  
December 2020



**Moderate Dense Industrial Zone - I - Biyagama PS Area**  
Source: Gampaha District Planning Team

## Zone 05 - Moderate Dense Industrial Zone-II

### North:

Starting from the 5.6 (6°58'21.60"N, 79°55'43.69"E) point that located across the Mudiyansewatta paddy land in Pamunuwila GND of Kelaniya & Biyagama DS boundary to the point of 2.6 (6°58'31.19"N, 79°56'9.26"E) at southern boundary of Makola South Pahala GND & along the Wadoluwa paddy land across the Sapugaskanda GND & through the line which intersecting the Kiribathgoda - Sapugaskanda main road to the point of 2.17 (6°58'14.83"N, 79°57'23.79"E) up to 2.19 (6°58'12.97"N,79°57'58.14"E) across the Keenagaha paddy land & the point of 3.42 (6°58'8.10"N,79°58'8.26"E) along the southern boundary of Makola South GND to the main junction that intersect the over the OCH & Samurdhi Mawatha.

### East:

From the last-mentioned point along the left boundary of the OCH to the point of 4.36 (6°56'31.02"N, 79°58'22.28"E) at the western boundary of Biyagama South GND.

### South

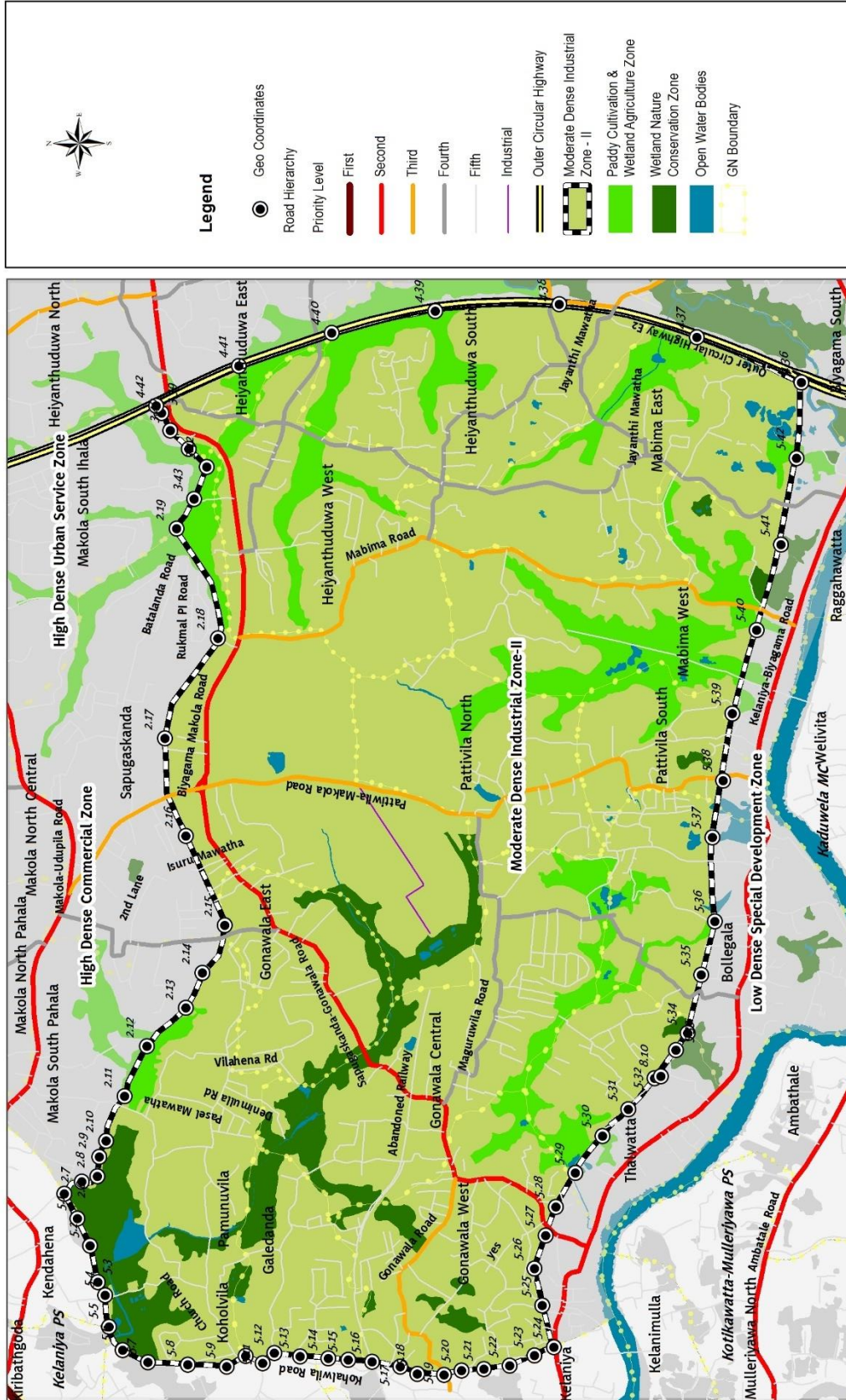
From the last-mentioned point to the line which drawn through the Mabima East & West GNDs to the point of 5.39 (6°56'42.19"N, 79°57'28.03E) at the Pattiwila - Kelaniya RBWTP located land & Pattiwila canal area and along the Manelwatta sacred area to the paddy land of western boundary in Bollegala GND through the central point of 5.24 (6°57'11.16"N, 79°55'44.26"E) at Ranaviru Mawatha in Colombo- Biyagama main road & along the fiction line up to the western boundary of Biyagama - Kelaniya DS divisions.

### West :

From the last-mentioned point along the western boundary of Biyagama - Kelaniya DS divisions to the western boundary of Gonawala & Galedanda GNDs to the central point of 5.11 (6°57'58.69"N, 79°55'41.56"E) at Gonawala – Koholvila road through the Mudiyansewatta paddy land of Pamunvila GND up to the starting point of northern boundary of the zone.

### Zone 05 - Moderate Dense Industrial Zone-II – Geo Coordinates

Point No.	X coordinate	Y coordinate	Point No.	X coordinate	Y coordinate	Point No.	X coordinate	Y coordinate
2.6	79°56'9.26"E	6°58'31.19"N	4.37	79°58'29.61"E	6°56'48.10"N	5.15	79°55'42.15"E	6°57'44.70"N
2.7	79°56'11.20"E	6°58'28.32"N	4.38	79°58'34.96"E	6°57'10.57"N	5.16	79°55'41.85"E	6°57'40.82"N
2.8	79°56'12.08"E	6°58'25.74"N	4.39	79°58'33.86"E	6°57'30.82"N	5.17	79°55'41.01"E	6°57'36.23"N
2.9	79°56'15.31"E	6°58'25.49"N	4.40	79°58'30.20"E	6°57'47.75"N	5.18	79°55'39.88"E	6°57'33.42"N
2.10	79°56'17.93"E	6°58'24.33"N	4.41	79°58'24.80"E	6°58'2.88"N	5.19	79°55'39.71"E	6°57'29.08"N
2.11	79°56'25.19"E	6°58'21.32"N	4.42	79°58'18.23"E	6°58'16.41"N	5.20	79°55'40.39"E	6°57'26.21"N
2.12	79°56'33.45"E	6°58'17.71"N	5.1	79°56'5.15"E	6°58'28.99"N	5.21	79°55'40.69"E	6°57'22.55"N
2.13	79°56'39.68"E	6°58'11.33"N	5.2	79°56'0.70"E	6°58'26.91"N	5.22	79°55'41.21"E	6°57'18.38"N
2.14	79°56'45.47"E	6°58'8.64"N	5.3	79°55'54.74"E	6°58'25.63"N	5.23	79°55'42.88"E	6°57'14.35"N
2.15	79°56'53.22"E	6°58'5.02"N	5.4	79°55'52.60"E	6°58'24.45"N	5.24	79°55'44.26"E	6°57'11.16"N
2.16	79°57'7.81"E	6°58'11.44"N	5.5	79°55'47.49"E	6°58'23.81"N	5.25	79°55'51.09"E	6°57'13.03"N
2.17	79°57'23.79"E	6°58'14.83"N	5.6	79°55'43.69"E	6°58'21.60"N	5.26	79°55'57.12"E	6°57'14.31"N
2.18	79°57'40.22"E	6°58'6.24"N	5.7	79°55'41.68"E	6°58'17.48"N	5.27	79°56'2.56"E	6°57'12.49"N
2.19	79°57'58.14"E	6°58'12.97"N	5.8	79°55'41.25"E	6°58'10.94"N	5.28	79°56'2.56"E	6°57'12.49"N
3.39	79°58'17.08"E	6°58'15.50"N	5.9	79°55'40.99"E	6°58'4.61"N	5.29	79°56'12.80"E	6°57'7.69"N
3.40	79°58'14.22"E	6°58'14.04"N	5.10	6°58'1.49"N	79°55'42.71"E	5.30	79°56'18.86"E	6°57'3.30"N
3.41	79°58'11.16"E	6°58'11.02"N	5.11	79°55'41.56"E	6°57'58.69"N	5.31	79°56'23.21"E	6°56'59.06"N
3.42	79°58'8.26"E	6°58'8.10"N	5.12	79°55'43.25"E	6°57'56.78"N	5.32	79°56'28.33"E	6°56'54.79"N
3.43	79°58'2.97"E	6°58'10.16"N	5.13	79°55'42.71"E	6°57'52.61"N	5.33	79°56'32.90"E	6°56'51.33"N
4.36	79°58'22.28"E	6°56'31.02"N	5.14	79°55'42.35"E	6°57'47.96"N	5.34	79°56'35.69"E	6°56'49.39"N
5.35	79°56'45.29"E	6°56'47.17"N	5.38	79°57'17.09"E	6°56'43.66"N	5.41	79°57'55.69"E	6°56'34.28"N
5.36	79°56'54.03"E	6°56'44.97"N	5.39	79°57'28.03"E	6°56'42.19"N	5.42	79°58'9.87"E	6°56'31.76"N
5.37	79°57'7.78"E	6°56'45.42"N	5.40	79°57'41.69"E	6°56'38.20"N			



**Legend**

- Geo Coordinates
- Road Hierarchy
- Priority Level
- First
- Second
- Third
- Fourth
- Fifth
- Industrial
- Outer Circular Highway
- Moderate Dense Industrial Zone - II
- Paddy Cultivation & Wetland Agriculture Zone
- Wetland Nature Conservation Zone
- Open Water Bodies
- GN Boundary



Urban Development Authority  
 December 2020



**Moderate Dense Industrial Zone - II - Biyagama PS Area**  
 Source - Campalpa District Planning Team

Western Province Division  
 Biyagama Development Plan (2021 - 2030)  
 Prepared by - Campalpa District Office

## **Zone o6 - Moderate Dense Urban Service Zone**

### **North:**

Starting from the point of 6.4 (6°59'51.43"N, 79°59'36.70"E) which becoming the starting point of northern boundary in Meegahawatta East GND to the central point of 6.31 (6°59'22.21"N, 80° 0'17.39"E) in Makola - Udupila main road through the point of 6.35 (6°59'21.90"N, 80° 0'40.51"E) northern boundary of the Kammalwatta GND to the starting point of the northern boundary of Delgoda GND to the point of 6.39 (6°59'21.90"N, 80° 0'51.26" ) through the central canal of Alubowila paddy land to the point of 6.43 (6°59'30.12"N, 80° 1'13.12"E) or through the western boundary of Akurumulla GND to the 6.46 (6°59'52.20"N, 80° 1'13.59"E) & along the central canal of Naranwala paddy land up to the point of 6.50 (6°59'49.49"N, 80° 1'46.17"E).

### **East:**

From the last-mentioned point along the Naranwala paddy land to the central point of 6.55 (6°59'25.62"N, 80° 1'43.10"E) of link road of Naranwala - Mookalana junction & along the eastern boundary of Akurumulla GND through the fiction line of Alubowila paddy land & along the eastern boundary of Kanduboda East GND to the point of 6.75 (6°58'8.69"N, 80° 1'18.78" E) which located on the central line of the Heelbathgala – Ulahitiwala main road.

### **South**

From the last-mentioned point to 4.8 (6°58'10.20"N, 80° 0'30.99"E) point of southern boundary in Kanduboda West GND through the paddy land closer to the Waduwegama tank & intersecting the Kanduboda Tank road & along the canal of Welekade paddy land and southern boundary of the Siyambalapewatta GND & intersecting the central point of the 4.3 (6°58'24.86"N, 80° 0'8.37"E) of New Kandy road to the central point of 3.26 (6°58'31.21"N, 79°59'36.94"E) in Madarawa Maha Ela at Daranagama paddy land which closer to the Daranagama Road.

### **West :**

From the last-mentioned point through the Madarawa Maha Ela & Madarawa paddy land up to the starting point of the northern boundary of the zone.

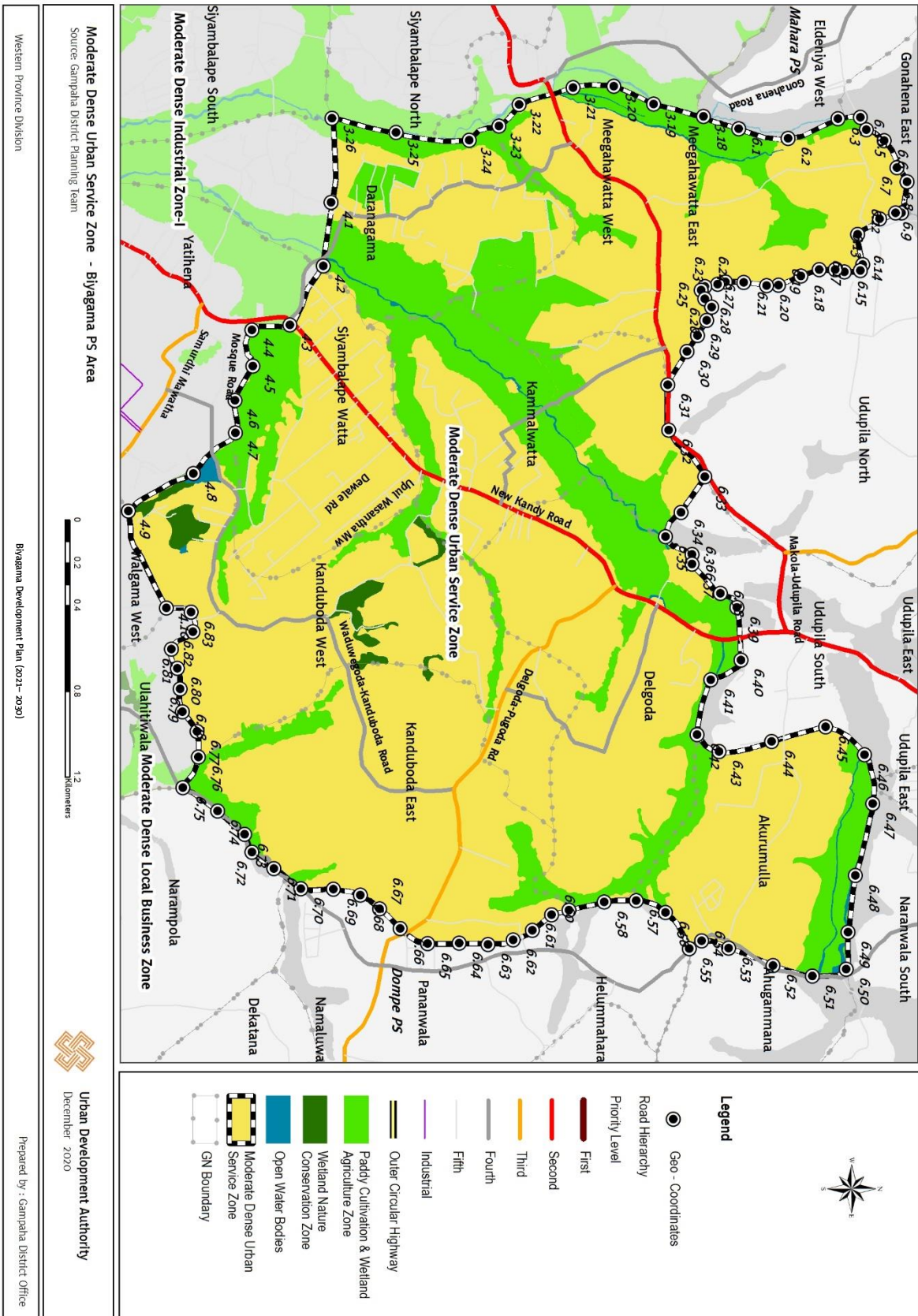


**Zone o6 - Moderate Dense Urban Service Zone – Geo Coordinates**

Point No.	X coordinate	Y coordinate	Point No.	X coordinate	Y coordinate	Point No.	X coordinate	Y coordinate
3.18	79°59'36.63"E	6°59'27.55"N	6.2	79°59'39.88"E	6°59'40.42"N	6.22	80° 0'1.74"E	6°59'30.93"N
3.19	79°59'34.75"E	6°59'20.01"N	6.3	79°59'36.88"E	6°59'48.03"N	6.23	80° 0'2.11"E	6°59'29.78"N
3.20	79°59'32.05"E	6°59'13.99"N	6.4	79°59'36.70"E	6°59'51.43"N	6.24	80° 0'2.48"E	6°59'27.86"N
3.21	79°59'32.22"E	6°59'7.79"N	6.5	79°59'38.55"E	6°59'52.29"N	6.25	80° 0'3.04"E	6°59'27.29"N
3.22	79°59'34.85"E	6°58'59.59"N	6.6	79°59'40.21"E	6°59'55.05"N	6.26	80° 0'4.32"E	6°59'27.82"N
3.23	79°59'38.12"E	6°58'56.57"N	6.7	79°59'44.35"E	6°59'56.95"N	6.27	80° 0'5.60"E	6°59'28.86"N
3.24	79°59'40.24"E	6°58'52.06"N	6.8	79°59'46.47"E	6°59'58.50"N	6.28	80° 0'7.62"E	6°59'28.13"N
3.25	79°59'39.12"E	6°58'40.92"N	6.9	79°59'51.19"E	6°59'57.66"N	6.29	80° 0'9.93"E	6°59'26.71"N
3.26	79°59'36.94"E	6°58'31.21"N	6.10	79°59'51.22"E	6°59'56.79"N	6.30	80° 0'12.31"E	6°59'25.12"N
4.1	79°59'49.75"E	6°58'31.06"N	6.11	79°59'52.14"E	6°59'54.37"N	6.31	80° 0'17.39"E	6°59'22.21"N
4.2	79°59'59.45"E	6°58'29.88"N	6.12	79°59'54.48"E	6°59'51.04"N	6.32	80° 0'24.30"E	6°59'22.39"N
4.3	80° 0'8.37"E	6°58'24.86"N	6.13	79°59'59.05"E	6°59'51.76"N	6.33	80° 0'31.40"E	6°59'27.85"N
4.4	80° 0'9.15"E	6°58'19.08"N	6.14	79°59'59.98"E	6°59'51.44"N	6.34	80° 0'36.82"E	6°59'24.25"N
4.5	80° 0'14.66"E	6°58'19.24"N	6.15	80° 0'0.23"E	6°59'48.98"N	6.35	80° 0'40.51"E	6°59'21.90"N
4.6	80° 0'19.90"E	6°58'16.54"N	6.16	79°59'59.85"E	6°59'47.60"N	6.36	80° 0'43.21"E	6°59'25.97"N
4.7	80° 0'24.80"E	6°58'16.63"N	6.17	79°59'59.87"E	6°59'45.17"N	6.37	80° 0'44.62"E	6°59'25.95"N
4.8	80° 0'30.99"E	6°58'10.20"N	6.18	80° 0'0.83"E	6°59'42.39"N	6.38	80° 0'49.08"E	6°59'30.27"N
4.9	80° 0'36.75"E	6°58'0.36"N	6.19	80° 0'2.23"E	6°59'39.01"N	6.39	80° 0'51.26"E	6°59'32.76"N
4.10	80° 0'51.43"E	6°58'6.17"N	6.20	80° 0'2.31"E	6°59'37.20"N	6.40	80° 0'59.23"E	6°59'33.39"N

Point No.	X coordinate	Y coordinate	Point No.	X coordinate	Y coordinate	Point No.	X coordinate	Y coordinate
6.1	79°59'38.46"E	6°59'32.90"N	6.21	80° 0'1.82"E	6°59'33.74"N	6.41	80° 1'2.24"E	6°59'28.86"N
6.42	80° 1'10.57"E	6°59'26.77"N	6.53	80° 1'43.04"E	6°59'31.64"N	6.64	80° 1'42.33"E	6°58'50.69"N
6.43	80° 1'13.12"E	6°59'30.12"N	6.54	80° 1'41.96"E	6°59'27.49"N	6.65	80° 1'42.44"E	6°58'45.93"N
6.44	80° 1'11.60"E	6°59'38.08"N	6.55	80° 1'43.10"E	6°59'25.62"N	6.66	80° 1'40.15"E	6°58'41.74"N
6.45	80° 1'9.39"E	6°59'46.27"N	6.56	80° 1'37.60"E	6°59'22.02"N	6.67	80° 1'37.13"E	6°58'38.60"N
6.46	80° 1'13.59"E	6°59'52.20"N	6.57	80° 1'35.85"E	6°59'17.54"N	6.68	80° 1'35.07"E	6°58'35.68"N
6.47	80° 1'21.00"E	6°59'53.44"N	6.58	80° 1'36.07"E	6°59'12.69"N	6.69	80° 1'34.18"E	6°58'31.62"N
6.48	80° 1'31.97"E	6°59'50.85"N	6.59	80° 1'37.32"E	6°59'7.39"N	6.70	80° 1'34.08"E	6°58'26.65"N
6.49	80° 1'40.60"E	6°59'49.70"N	6.60	80° 1'37.98"E	6°59'4.70"N	6.71	80° 1'31.02"E	6°58'22.52"N
6.50	80° 1'46.17"E	6°59'49.49"N	6.61	80° 1'40.35"E	6°59'1.80"N	6.72	80° 1'28.52"E	6°58'19.18"N
6.51	80° 1'47.25"E	6°59'44.31"N	6.62	80° 1'41.82"E	6°58'58.88"N	6.73	80° 1'25.84"E	6°58'18.09"N
6.52	80° 1'45.65"E	6°59'38.38"N	6.63	80° 1'42.50"E	6°58'55.07"N	6.74	80° 1'22.28"E	6°58'13.99"N

Point No.	X coordinate	Y coordinate
6.75	80° 1'18.78"E	6°58'8.69"N
6.76	80° 1'14.08"E	6°58'11.07"N
6.77	80° 1'10.19"E	6°58'10.86"N
6.78	80° 1'7.20"E	6°58'8.63"N
6.79	80° 1'3.72"E	6°58'8.27"N
6.80	80° 1'0.60"E	6°58'7.87"N
6.81	80° 0'57.70"E	6°58'6.92"N
6.82	80° 0'55.04"E	6°58'10.20"N
6.83	80° 0'52.10"E	6°58'9.90"N



## **Zone 07 - Moderate Dense Local Business Zone**

### **North:**

Starting from the point of 6.83 (6°58'9.90"N,80°0'52.10"E) which is bordered to the Pradeepagama link road to the point of 6.82 (6°58'10.20"N,80° 0'55.04"E) along the paddy land to the point of 6.76 (6°58'11.07"N,80° 1'14.08"E) through a fiction line & up to the point of 6.75 (6°58'8.69"N,80° 1'18.78"E) at Heelbathgala - Ulahitiwala road.

### **East:**

Starting from the point last mentioned point of the northern boundary to the point of 7.37 (6°57'52.98"N,7.37 80° 1'22.86"E) at the central line on the Rajahena road & up to the last point mentioned on the southern boundary.

### **South :**

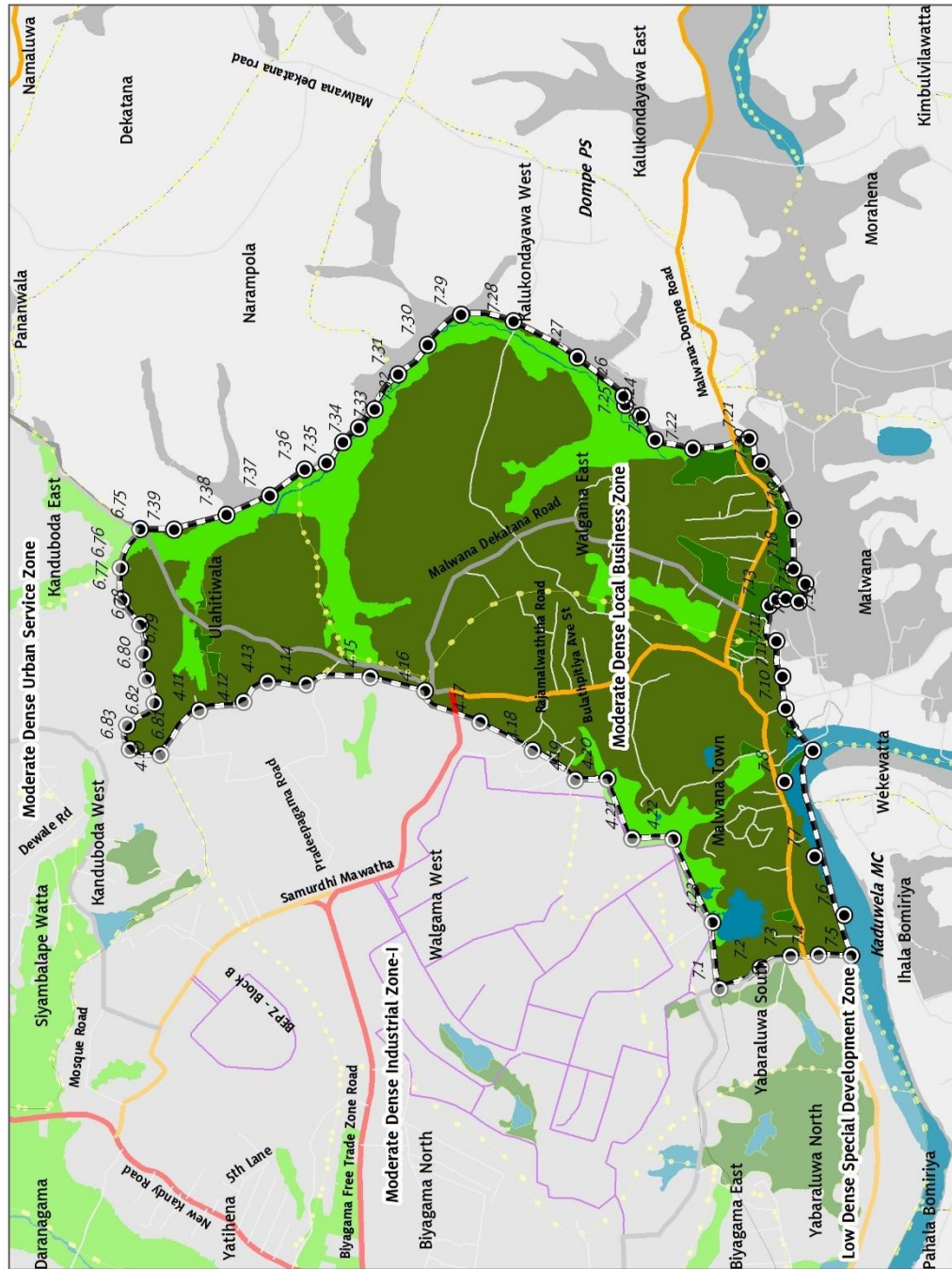
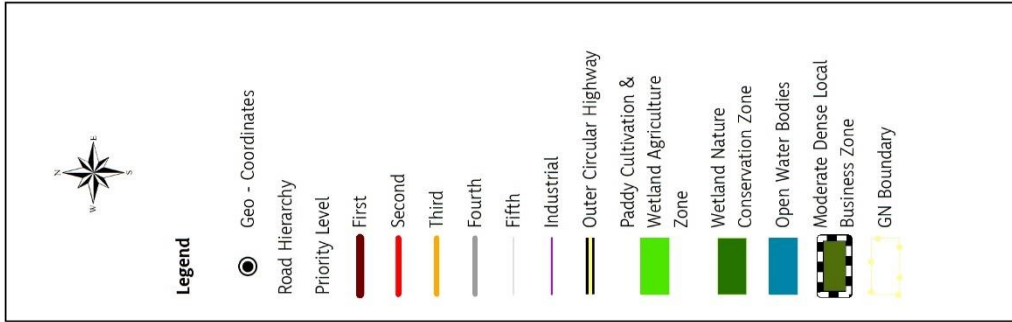
Starting from the point of 7.5 (6°56'42.46"N,80° 0'27.24"E) along the Kelani river bank up to the point of 7.21 (6°56'54.93"N,80° 1'29.87"E) along the Kelani river right bank & Pahuru Ela.

### **West :**

Starting from the point of 4.10 (6°58'6.17"N,80° 0'51.43"E) at the central line of the Pradeepagama link road to the point of 4.16 (6°57'34.15"N,80° 0'59.21"E) along the western boundary of Ulahitiwala & Walagama East & to the point of 4.17 (6°57'27.50"N,80° 0'55.45"E) on the northern boundary of Malawana GND up to the point of 4.23 (6°56'59.30"N,80° 0'31.31"E) which going as a fiction line along the Kolambahenawatta road & Biyagama EPZ.

### Zone 07 - Moderate Dense Local Business Zone – Geo Coordinates

Point No.	X coordinate	Y coordinate	Point No.	X coordinate	Y coordinate	Point No.	X coordinate	Y coordinate
4.10	80° 0'51.43"E	6°58'6.17"N	6.81	80° 0'57.70"E	6°58'6.92"N	7.18	80° 1'14.10"E	6°56'49.55"N
4.11	80° 0'56.83"E	6°58'1.47"N	6.82	80° 0'55.04"E	6°58'10.20"N	7.19	80° 1'20.12"E	6°56'49.64"N
4.12	80° 0'57.88"E	6°57'56.10"N	6.83	80° 0'52.10"E	6°58'9.90"N	7.20	80° 1'26.97"E	6°56'53.56"N
4.13	80° 1'0.26"E	6°57'53.19"N	7.1	80° 0'23.22"E	6°56'58.44"N	7.21	80° 1'29.87"E	6°56'54.93"N
4.14	80° 0'60.00"E	6°57'48.51"N	7.2	80° 0'25.70"E	6°56'53.47"N	7.22	80° 1'28.60"E	6°57'1.78"N
4.15	80° 1'0.90"E	6°57'40.77"N	7.3	80° 0'27.20"E	6°56'49.81"N	7.23	80° 1'29.71"E	6°57'6.36"N
4.16	80° 0'59.21"E	6°57'34.15"N	7.4	80° 0'27.33"E	6°56'46.44"N	7.24	80° 1'32.59"E	6°57'8.10"N
4.17	80° 0'55.45"E	6°57'27.50"N	7.5	80° 0'27.24"E	6°56'42.46"N	7.25	80° 1'33.91"E	6°57'10.00"N
4.18	80° 0'52.05"E	6°57'21.11"N	7.6	80° 0'32.18"E	6°56'43.33"N	7.26	80° 1'34.97"E	6°57'10.16"N
4.19	80° 0'48.49"E	6°57'15.92"N	7.7	80° 0'39.22"E	6°56'46.95"N	7.27	80° 1'39.65"E	6°57'15.78"N
4.20	80° 0'48.58"E	6°57'12.01"N	7.8	80° 0'48.30"E	6°56'50.58"N	7.28	80° 1'44.01"E	6°57'23.48"N
4.21	80° 0'41.37"E	6°57'9.06"N	7.9	80° 0'52.07"E	6°56'47.16"N	7.29	80° 1'44.80"E	6°57'29.88"N
4.22	80° 0'41.37"E	6°57'4.08"N	7.10	80° 0'57.16"E	6°56'50.46"N	7.30	80° 1'41.19"E	6°57'33.87"N
4.23	80° 0'31.31"E	6°56'59.30"N	7.11	80° 1'1.04"E	6°56'50.91"N	7.31	80° 1'37.60"E	6°57'37.46"N
6.75	80° 1'18.78"E	6°58'8.69"N	7.12	80° 1'5.34"E	6°56'51.62"N	7.32	80° 1'33.37"E	6°57'40.31"N
6.76	80° 1'14.08"E	6°58'11.07"N	7.13	80° 1'9.62"E	6°56'52.46"N	7.33	80° 1'31.10"E	6°57'42.20"N
6.77	80° 1'10.19"E	6°58'10.86"N	7.14	80° 1'10.35"E	6°56'51.61"N	7.34	80° 1'29.39"E	6°57'44.15"N
6.78	80° 1'7.20"E	6°58'8.63"N	7.15	80° 1'10.51"E	6°56'50.49"N	7.35	80° 1'26.83"E	6°57'46.09"N
6.79	80° 1'3.72"E	6°58'8.27"N	7.16	80° 1'10.10"E	6°56'48.92"N	7.36	80° 1'26.04"E	6°57'48.76"N
6.80	80° 1'0.60"E	6°58'7.87"N	7.17	80° 1'12.29"E	6°56'48.15"N	7.37	80° 1'22.86"E	6°57'52.98"N
7.38	80° 1'20.54"E	6°57'58.22"N	7.39	80° 1'18.72"E	6°58'4.57"N			



Urban Development Authority  
December 2020



## Zone 08 - Low Dense Special Development Zone

### North:

Starting from the central point of 5.24 (6°57'11.16"N,79°55'44.26"E) at Ranaviru Mawatha in Biyagama - Colombo main road along the western boundary of Biyagama - Kelaniya DSDs & along the western boundary of Gonawala West GND to paddy land & canal that closer to western boundary of Thalwatta GND & across the paddy land & Manelwatta sacred land of Bollegala GND to the point of 5.39 (6°56'42.19"N,79°57'28.03E) & along the land of Pattiwila- Kelaniya RBWTP located & the point closer to pattiwila canal & going through the fiction line of Mabima West & East GNDs to the southern boundary point of 4.36 (6°56'31.02"N,79°58'22.28"E)at OCH entrance & then along the central point of 4.35 (6°56'31.21"N,79°58'27.90"E) Raggahawatta canal & along the Kokkalu paddy land boundary of Biyagama South GND to the point of 4.30 (6°56'40.97"N,79°59'31.47"E) that bordered to Biyagama Divisional hospital land & through a fiction line across the Biyagama East GND to the central point of Sri Nandasiri Mawatha & to the central point of 4.25 (6°57'1.13"N,80° 0'10.63"E) at Sri Jayathilake Mawatha & up to the point of 7.1 (6°56'58.44"N,80° 0'23.22"E) at Sri Jayathilaka road which connect to Biyagama-Dompe road or the eastern boundary of the Yabaraluwa GND.

### East:

From the last-mentioned point along the eastern boundary of Yabaraluwa South GND to central point of Sri Jayathilaka road that connects Biyagama-Dompe road & through Biyagama-Dompe road up to the point of 7.5(6°56'58.44" 6°56'42.46N,80° 0'27.24"E)at Kelani river reservation.

### South

From the last-mentioned point along the central line of Kelani river which is the southern boundary of Biyagama DSD & to the demarcation point of Kelaniya - Biyagama DSDs.

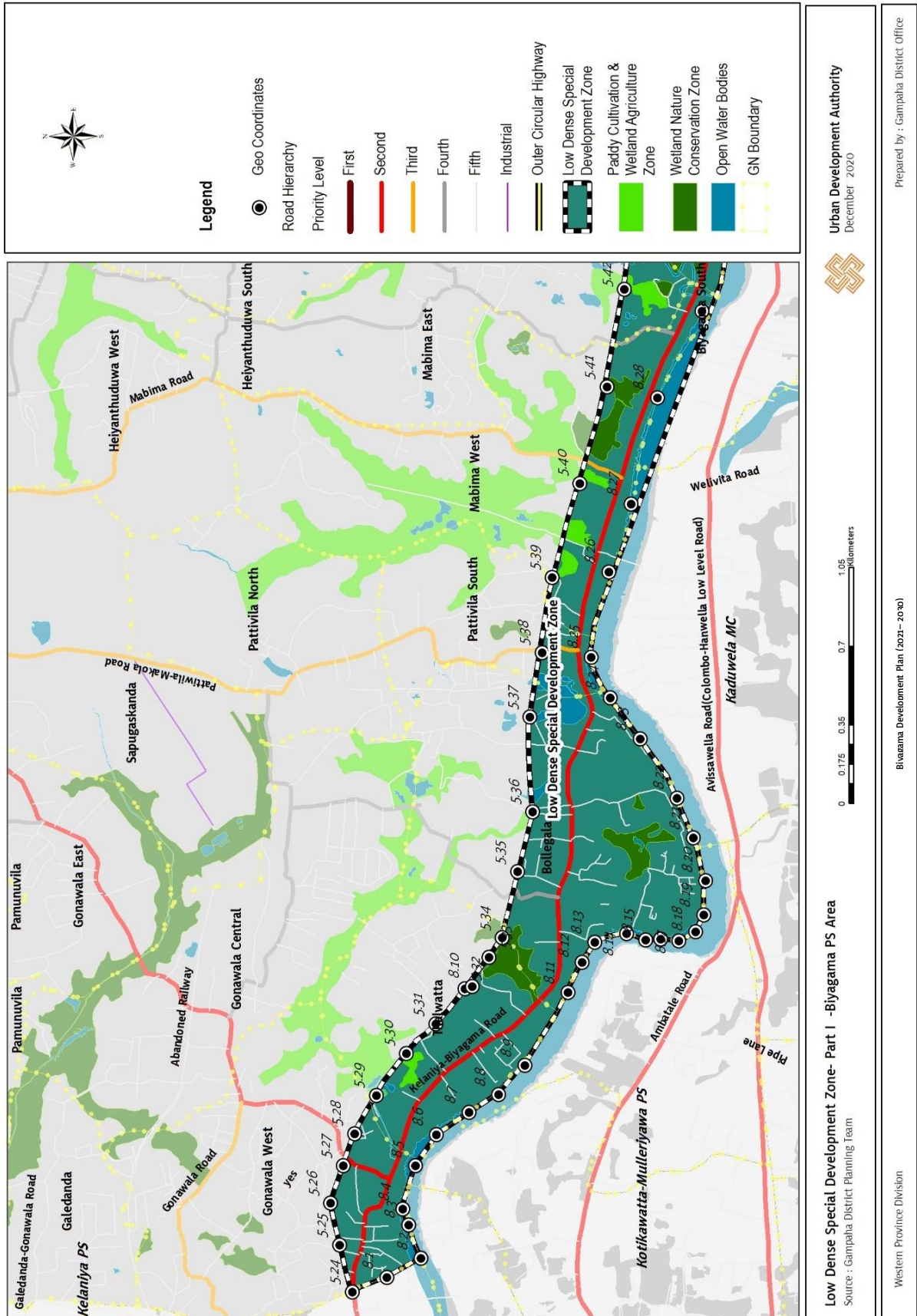
### West :

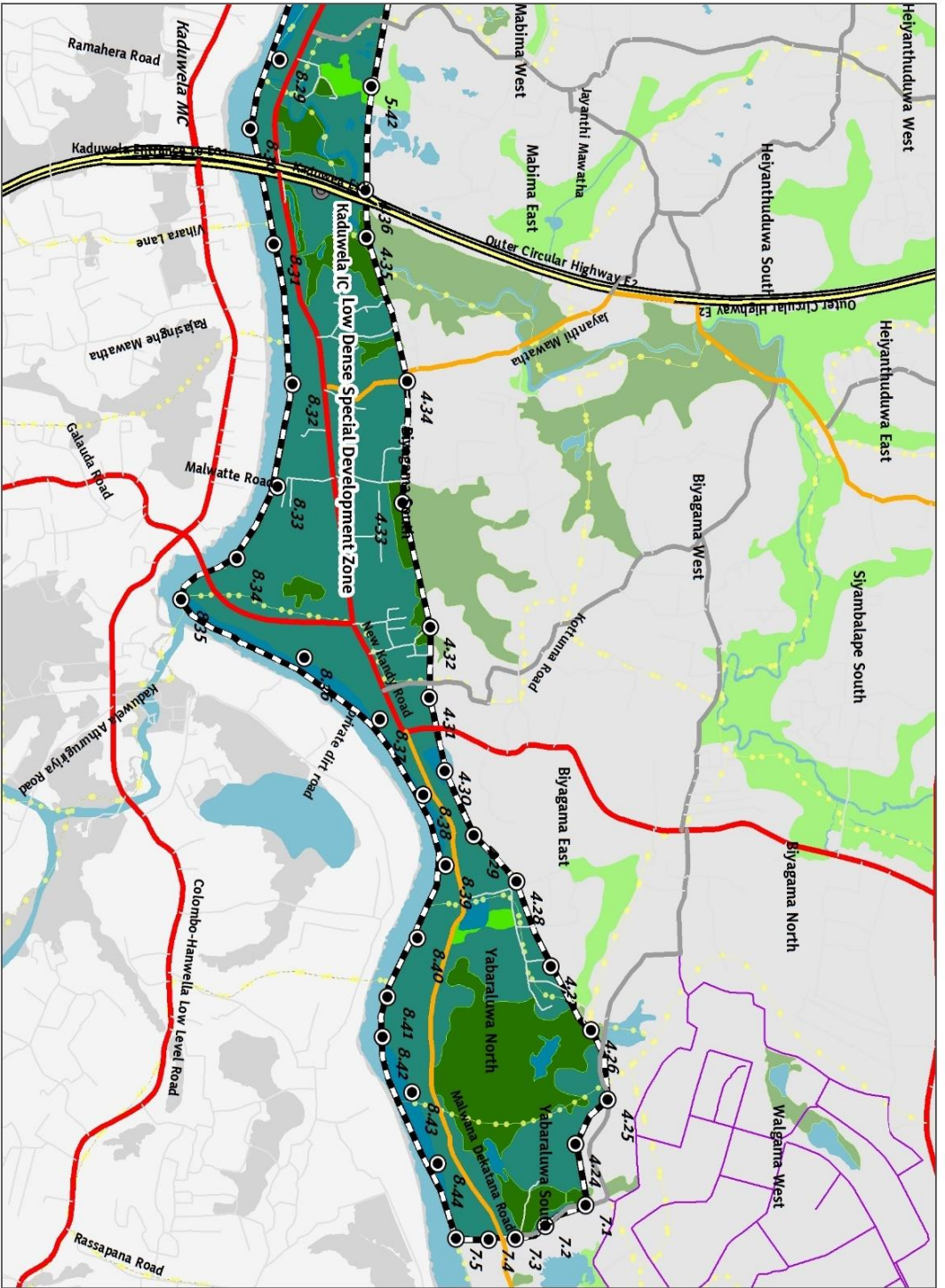
From the last-mentioned point to western boundary of Biyagama-Kelaniya DSD or western boundary of Gonawala West GND up to the point which starts the northern boundary of the zone.

**Zone o8 - Low Dense Special Development Zone – Geo Coordinates**

Point No.	X coordinate	Y coordinate	Point No.	X coordinate	Y coordinate	Point No.	X coordinate	Y coordinate
4.24	80° 0'15.96"E	6°56'57.14"N	5.31	79°56'23.21"E	6°56'59.06"N	8.9	79°56'17.19"E	6°56'46.07"N
4.25	80° 0'10.63"E	6°57'1.13"N	5.32	79°56'28.33"E	6°56'54.79"N	8.10	79°56'23.19"E	6°56'42.47"N
4.26	80° 0'2.37"E	6°56'59.09"N	5.33	79°56'32.90"E	6°56'51.33"N	8.11	79°56'27.82"E	6°56'39.82"N
4.27	79°59'54.75"E	6°56'54.12"N	5.34	79°56'35.69"E	6°56'49.39"N	8.12	79°56'32.19"E	6°56'37.74"N
4.28	79°59'44.68"E	6°56'49.86"N	5.35	79°56'45.29"E	6°56'47.17"N	8.13	79°56'35.05"E	6°56'35.90"N
4.29	79°59'39.20"E	6°56'44.53"N	5.36	79°56'54.03"E	6°56'44.97"N	8.14	79°56'36.36"E	6°56'31.25"N
4.30	79°59'31.47"E	6°56'40.97"N	5.37	79°57'7.78"E	6°56'45.42"N	8.15	79°56'35.45"E	6°56'28.48"N
4.31	79°59'22.74"E	6°56'39.04"N	5.38	79°57'17.09"E	6°56'43.66"N	8.16	79°56'35.55"E	6°56'26.31"N
4.32	79°59'14.35"E	6°56'39.12"N	5.39	79°57'28.03"E	6°56'42.19"N	8.17	79°56'35.29"E	6°56'23.67"N
4.33	79°58'59.55"E	6°56'35.68"N	5.40	79°57'41.69"E	6°56'38.20"N	8.18	79°56'36.65"E	6°56'21.21"N
4.34	79°58'45.02"E	6°56'36.23"N	5.41	79°57'55.69"E	6°56'34.28"N	8.19	79°56'39.05"E	6°56'20.04"N
4.35	79°58'27.90"E	6°56'31.21"N	5.42	79°58'9.87"E	6°56'31.76"N	8.20	79°56'44.04"E	6°56'19.77"N
4.36	79°58'22.28"E	6°56'31.02"N	8.1	79°55'46.39"E	6°57'6.14"N	8.21	79°56'50.25"E	6°56'21.56"N
5.24	79°55'44.26"E	6°57'11.16"N	8.2	79°55'49.16"E	6°57'1.14"N	8.22	79°56'56.04"E	6°56'23.95"N
5.25	79°55'51.09"E	6°57'13.03"N	8.3	79°55'53.99"E	6°57'2.96"N	8.23	79°57'4.59"E	6°56'29.36"N
5.26	79°55'57.12"E	6°57'14.31"N	8.4	79°55'56.30"E	6°57'3.84"N	8.24	79°57'10.56"E	6°56'33.74"N
5.27	79°56'2.56"E	6°57'12.49"N	8.5	79°56'2.57"E	6°57'1.99"N	8.25	79°57'16.48"E	6°56'36.49"N
5.28	79°56'2.56"E	6°57'12.49"N	8.6	79°56'7.14"E	6°56'58.93"N	8.26	79°57'28.84"E	6°56'33.98"N
5.29	79°56'12.80"E	6°57'7.69"N	8.7	79°56'10.37"E	6°56'54.19"N	8.27	79°57'38.71"E	6°56'30.75"N
5.30	79°56'18.86"E	6°57'3.30"N	8.8	79°56'12.94"E	6°56'49.89"N	8.28	79°57'54.16"E	6°56'26.93"N
8.29	79°58'6.75"E	6°56'20.45"N	8.35	79°59'11.11"E	6°56'8.35"N	8.41	79°59'58.43"E	6°56'33.91"N
8.30	79°58'14.98"E	6°56'16.83"N	8.36	79°59'18.03"E	6°56'23.62"N	8.42	80° 0'3.22"E	6°56'33.33"N
8.31	79°58'28.69"E	6°56'19.76"N	8.37	79°59'25.33"E	6°56'32.96"N	8.43	80° 0'9.82"E	6°56'36.96"N
8.32	79°58'45.36"E	6°56'22.07"N	8.38	79°59'34.34"E	6°56'38.32"N	8.44	80° 0'18.32"E	6°56'40.14"N
8.33	79°58'57.66"E	6°56'20.28"N	8.39	79°59'42.77"E	6°56'41.12"N			
8.34	79°59'6.21"E	6°56'15.22"N	8.40	79°59'51.43"E	6°56'37.61"N			







**Low Dense Special Development Zone - Part II - Biyagama PS Area**

Source: Gampaha District Planning Team



Western Province Division

Biyagama Development Plan (2021 - 2030)



**Urban Development Authority**  
December 2020

Prepared by : Gampaha District Office

**Legend**

- Geo - Coordinates
- Road Hierarchy
- Priority Level
- First
- Second
- Third
- Fourth
- Fifth
- Industrial
- Outer Circular Highway
- Low Dense Special Development Zone
- Paddy Cultivation & Wetland Agriculture Zone
- Wetland Nature Conservation Zone
- Open Water Bodies
- GN Boundary

Annexure 41. Checklist of permissible uses

Use		High Dense Urban Transit Zone	High Dense Commercial Zone	High Dense Urban Service Zone	Moderate Dense Industrial Zone-I	Moderate Dense Industrial Zone-II	Moderate Dense Urban Service Zone	Moderate Dense Local Business Zone	Low Dense Special Development Zone
Residential	<i>Housing units</i>	✓	✓	✓	✓	✓	✓	✓	✓
	<i>Housing complexes</i>	✓	✓	✓	✓	✓	✓	✓	✓
	<i>Hostels</i>	✓	✓	✓	✓	✓	✓	✓	x
	<i>Quarters</i>	✓	✓	✓	✓	✓	✓	✓	x
	<i>Adult / Disabled Homes</i>	x	x	✓	x	x	✓	x	x
	<i>Children's Homes</i>	x	x	✓	x	x	✓	x	x
	<i>Child Care Centers</i>	✓	✓	✓	x	x	✓	✓	x
Health	<i>Hospitals</i>	x	✓	✓	✓	✓	✓	x	x
	<i>Medical Centers</i>	✓	✓	✓	✓	✓	✓	✓	x
	<i>Medical Consulting &amp; Channeling Service Centers</i>	✓	✓	✓	✓	✓	✓	✓	x
	<i>Child &amp; Maternity Clinics</i>	x	✓	✓	x	x	✓	x	x
	<i>Animal Hospital</i>	x	✓	✓	x	x	✓	x	x
	<i>Veterinary Clinics and Treatment Centers</i>	✓	✓	✓	x	x	✓	✓	x
	<i>Ayurvedic Medical Centers</i>	x	✓	✓	x	x	✓	✓	x
Educational	<i>Early Childhood Development Centers</i>	✓	✓	✓	x	x	✓	x	x
	<i>Primary Education Centers</i>	x	x	✓	x	x	x	x	x
	<i>Secondary Education Centers</i>	x	x	✓	x	x	x	x	x
	<i>Tertiary Education Centers</i>	✓	✓	✓	x	x	✓	x	x
	<i>Technical Schools / Vocational Training Centers</i>	✓	✓	✓	✓	✓	✓	✓	x
	<i>Research &amp; Development Centers</i>	✓	✓	✓	✓	✓	✓	✓	x
	<i>Private tuition classes</i>	✓	✓	✓	x	x	✓	✓	x
	<i>Art Centre / Dance Academy</i>	✓	✓	✓	x	x	✓	✓	x

Institutional	Offices	✓	✓	✓	✓	✓	✓	✓	×
	Office complex	✓	✓	✓	✓	✓	✓	✓	×
	Professional Offices	✓	✓	✓	✓	✓	✓	✓	×
	Banks, Insurance and Financial Institutions	✓	✓	✓	✓	✓	✓	✓	×
	Automated Money Transfer Centers (ATM)	✓	✓	✓	✓	✓	✓	✓	×
Social Services & Public Utilities	Community Development Centers	✓	✓	✓	×	×	✓	✓	×
	Social and cultural centers	×	×	✓	×	×	✓	×	×
	Religious centers	×	×	✓	×	×	✓	×	×
	Auditoriums and conference rooms	×	✓	✓	×	×	✓	✓	×
	Libraries	×	×	✓	×	×	✓	×	×
	Rehabilitation centers	×	×	✓	×	×	✓	×	×
	Crematoriums	×	×	✓	×	×	✓	×	×
	Cemeteries	×	×	×	×	×	×	×	×
Commercial	Shops	✓	✓	✓	✓	✓	✓	✓	×
	Supermarkets	✓	✓	✓	✓	✓	✓	✓	×
	Shopping malls	✓	✓	✓	✓	✓	✓	✓	×
	Restaurants /Cafeterias	✓	✓	✓	✓	✓	✓	✓	×
	Open Markets	✓	✓	✓	×	×	✓	✓	✓
	Pharmacies	✓	✓	✓	✓	✓	✓	✓	×
	Laboratory Services & Collection Centers	✓	✓	✓	×	×	✓	✓	×
	Wholesale stores	✓	✓	✓	✓	✓	✓	✓	×
	Warehousing	×	×	×	✓	✓	×	×	×
	Customer Service Centers	✓	✓	✓	✓	✓	✓	✓	×
	Meat and fish stalls	✓	✓	✓	✓	✓	✓	✓	×
	Liquor / Wine stores	✓	✓	✓	✓	✓	✓	✓	×
	Funeral hall	✓	✓	✓	×	×	✓	✓	×
	Funeral halls with reception halls	✓	✓	✓	×	×	✓	✓	×
	Hardware Stores	✓	✓	✓	✓	✓	✓	✓	×
	Filling stations	✓	✓	✓	✓	✓	✓	✓	×
	Filling stations with vehicle service centers	✓	✓	✓	✓	✓	✓	✓	×
	Filling stations with shopping complexes	✓	✓	✓	✓	✓	✓	✓	×
	Gas stations & electric charging stations	✓	✓	✓	✓	✓	✓	✓	×
	Communication towers on buildings	✓	✓	✓	✓	✓	✓	✓	×
	Communication towers	✓	✓	✓	✓	✓	✓	✓	×
	Multi-storied vehicle parks	✓	✓	✓	✓	✓	✓	✓	✓
Open Vehicle Park	✓	✓	✓	✓	✓	✓	✓	✓	
Vehicle Showrooms	✓	✓	✓	✓	✓	✓	✓	×	

Tourism	<i>Holiday Resorts</i>	✓	✓	✓	x	x	✓	✓	✓
	<i>Guest houses</i>	✓	✓	✓	✓	✓	✓	✓	✓
	<i>Lodges</i>	✓	✓	✓	x	x	✓	✓	✓
	<i>Tourist hotels</i>	✓	✓	✓	x	x	✓	✓	✓
	<i>City hotels</i>	✓	✓	✓	✓	✓	✓	✓	✓
	<i>Tourist Information Centers</i>	✓	✓	✓	x	x	✓	✓	✓
	<i>Ayurvedic Panchakarma Centers</i>	✓	✓	✓	x	x	✓	✓	✓
	<i>Cabana Hotels</i>	✓	✓	✓	✓	✓	✓	✓	✓
Manufacturing Industries	<i>Mining &amp; foundries related extraction industries</i>	x	x	x	✓	✓	x	x	x
	<i>Metal Products and Casting Extraction Industries</i>	x	x	x	✓	✓	x	x	x
	<i>Oil refineries and petroleum-based chemicals and distillation industries</i>	x	x	x	✓	✓	x	x	x
	<i>Chemicals, polythene, plastics, rubber and glass-based industries</i>	x	x	x	✓	✓	x	x	x
	<i>Cement, concrete and ceramic based products</i>	x	x	x	✓	✓	x	x	x
	<i>Clay Products Industries</i>	x	x	x	✓	✓	x	✓	✓
	<i>Natural fiber-based manufacturing industries</i>	x	x	x	✓	✓	✓	✓	x
	<i>Textile, Clothing and Leather Products Industries</i>	x	x	x	✓	✓	x	✓	x
	<i>Electrical &amp; electronics goods related industries</i>	x	x	x	✓	✓	x	x	x
	<i>Heavy Machinery and Assembly Industries</i>	x	x	x	✓	✓	x	x	x
	<i>Paper Products and Printing Industries</i>	x	x	x	✓	✓	x	x	x
	<i>Wood / Wood Products &amp; Furniture Manufacturing Industries</i>	x	x	x	✓	✓	x	x	x
	<i>Food and non-alcoholic beverage industries</i>	x	x	x	✓	✓	x	x	x
	<i>Alcohol / local pharmaceuticals, spirits and extracts</i>	x	x	x	✓	✓	x	x	x
	<i>Recycling activities related industries</i>	x	x	x	✓	✓	✓	✓	x
	<i>Industrial Infrastructure Facilities Centers</i>	x	x	x	✓	✓	x	x	✓
	<i>Homestead Industries</i>	✓	✓	✓	✓	✓	✓	✓	x

<b>Service Industries</b>	<i>Vehicle Service Centers</i>	✓	✓	✓	✓	✓	✓	✓	×
	<i>Vehicle Repair Centers / Spray Painting Centers</i>	×	✓	✓	✓	✓	✓	✓	×
	<i>Taxi Service Centers</i>	✓	✓	✓	✓	✓	✓	✓	×
	<i>Laundries</i>	×	✓	✓	✓	✓	✓	✓	×
	<i>Grinding &amp; Rice mills</i>	×	✓	✓	✓	✓	✓	✓	×
	<i>Lathe Workshops/ welding workshops</i>	×	✓	✓	✓	✓	✓	✓	×
	<i>Electronic Equipment Repair Centers</i>	✓	✓	✓	✓	✓	✓	✓	×
<b>Utility Services</b>	<i>Railway and bus terminals</i>	✓	✓	✓	✓	✓	✓	✓	×
<b>Leisure &amp; Recreation</b>	<i>Pocket Park</i>	✓	✓	✓	✓	✓	✓	✓	✓
	<i>Mini Park</i>	✓	✓	✓	✓	✓	✓	✓	✓
	<i>Local Park</i>	✓	✓	✓	✓	✓	✓	✓	✓
	<i>Community Park</i>	✓	✓	✓	✓	✓	✓	✓	✓
	<i>Town Park</i>	✓	✓	✓	✓	✓	✓	✓	✓
	<i>Central Urban Park/City Park</i>	✓	×	×	×	×	×	×	×
	<i>Linear Park</i>	✓	✓	✓	✓	✓	✓	✓	✓
	<i>Indoor Sports Centers</i>	✓	✓	✓	×	×	✓	×	×
	<i>Cinema halls/ Theaters</i>	✓	✓	✓	×	×	✓	×	×
	<i>Clubs</i>	✓	✓	✓	×	×	✓	×	×
	<i>Art galleries / museums</i>	✓	✓	✓	×	×	✓	✓	✓
	<i>Open Air Theater</i>	✓	×	✓	✓	✓	×	✓	✓
<i>Boat jetty / ferries</i>	×	×	×	×	×	×	✓	✓	
<b>Agriculture</b>	<i>Livestock / Farms with construction</i>	×	✓	✓	✓	✓	✓	×	×

- ✓ Permitted  
 × Not Permitted.

Source: *Gampaha District Planning Team, 2021*

## Annexure 42. Definitions of the Permitted Uses

	<i>Use</i>	<i>Definition</i>
<b>Residential</b>	<i>Housing units</i>	<i>Sleeping, Cooking and Sanitary Complete Unit for Independent Residence, A building or part of a building that contains a room or room cluster.</i>
	<i>Housing complexes</i>	<i>Buildings with a horizontal or vertical extension of a unit or unit of residence in a permanently occupied area</i>
	<i>Hostels</i>	<i>Vertical or horizontal extension buildings that provide residential facilities for a limited time</i>
	<i>Quarters</i>	<i>Vertical or horizontal extension buildings that provide residential accommodation to a particular workplace</i>
	<i>Adult / Disabled Homes</i>	<i>Horizontal or vertical extension buildings with basic residential facilities for the care of the aged and disabled.</i>
	<i>Children's Homes</i>	<i>Buildings with horizontal or vertical extension with basic residential facilities for children under 18 years</i>
	<i>Child Care Centers</i>	<i>Buildings with temporary residential care for children (less than 24 hours)</i>
<b>Health</b>	<i>Hospitals</i>	<i>Laboratories, pharmacies, nursing care, rehabilitation, surgical services, outpatient and internal patient care, training centers, administrative and staffing facilities, with all or several buildings providing treatment for outpatient and inpatient</i>
	<i>Medical Centers</i>	<i>At least one physician serving a pharmacist and an outpatient center</i>
	<i>Medical Consulting &amp; Channeling Service Centers</i>	<i>Buildings to provide specialized consultancy services</i>
	<i>Child &amp; Maternity Clinics</i>	<i>Centers that provide basic health care and counseling services for children and pregnant mothers</i>
	<i>Animal Hospital</i>	<i>Veterinary Service Centers that conduct outpatient and inpatient treatment / clinics</i>
	<i>Veterinary Clinics and Treatment Centers</i>	<i>OPD care and veterinary service centers</i>
	<i>Ayurvedic Medical Centers</i>	<i>Centers served by a registered doctor or a few doctors in the Government Ayurvedic Medical Council who treat traditional indigenous medicine.</i>
<b>Educational</b>	<i>Early Childhood Development Centers</i>	<i>Buildings to provide a formal education including early childhood development activities before admitting children to grade one</i>
	<i>Primary Education Centers</i>	<i>School buildings with facilities to provide a formal education from grade one to grade five</i>
	<i>Secondary Education Centers</i>	<i>School buildings with facilities to provide formal education from grade one to grade thirteenth and sixth to thirteenth</i>
	<i>Tertiary Education Centers</i>	<i>Higher Education Facilities, Any Universities, Open Universities and Higher Education Centers recognized by Government, Semi-Governmental, Private or International</i>

<b>Educational</b>	<i>Technical Schools / Vocational Training Centers</i>	<i>Centers to provide vocational / technical training based on employment</i>
	<i>Research &amp; Development Centers</i>	<i>Centers to conduct research and development work in various fields using modern techniques</i>
	<i>Private tuition classes</i>	<i>Buildings with teaching facilities for individual or group of children by one teacher or group of teachers</i>
	<i>Art Centre / Dance Academy</i>	<i>Buildings for study purposes with a view to providing aesthetics</i>
<b>Institutions</b>	<i>Offices</i>	<i>Centers with utilities and administrative services</i>
	<i>Office complex</i>	<i>two buildings with utility and administrative service facilities Or Buildings with allied facilities for more</i>
	<i>Professional Offices</i>	<i>Career Based Service Centers</i>
	<i>Banks, Insurance and Financial Institutions</i>	<i>Insurance and Financial Institutions</i>
	<i>Automated Money Transfer Centers (ATM)</i>	<i>Centers for machine trading without a person</i>
<b>Social services and public amenities</b>	<i>Community Development Centers</i>	<i>Centers to facilitate community gatherings, community and development activities in general</i>
	<i>Social and cultural centers</i>	<i>Centers for public and cultural activities</i>
	<i>Religious centers</i>	<i>Places used for religious purposes</i>
	<i>Auditoriums and conference rooms</i>	<i>Buildings used for events, seminars or meetings</i>
	<i>Libraries</i>	<i>Buildings used for reading and related studies</i>
	<i>Rehabilitation centers</i>	<i>Centers for reintegration of persons engaged in anti-social activities</i>
	<i>Crematoriums</i>	<i>Buildings in a cemetery with a gas or electric fountain to burn dead bodies run by a local authority</i>
<b>Commercial</b>	<i>Cemeteries</i>	<i>Places used for burial and cremation</i>
	<i>Shops</i>	<i>Places where retail or wholesale goods are sold</i>
	<i>Supermarkets</i>	<i>A self-contained large-scale building with one roof for selling consumer goods</i>
	<i>Shopping malls</i>	<i>Large Sales Centers with a wide variety of goods and services</i>
	<i>Restaurants /Cafeterias</i>	<i>Places to buy and consume food with minimal facilities</i>
	<i>Open Markets</i>	<i>Places where consumer goods are generally sold with or without cover</i>
	<i>Pharmacies</i>	<i>Pharmacies registered under State Pharmaceutical Corporation</i>
	<i>Laboratory Services &amp; Collection Centers</i>	<i>Centers that run chemical service facilities affiliated to a hospital</i>
<i>Wholesale stores</i>	<i>Places where merchandise or business is in bulk storage</i>	



Commercial	Warehousing	<i>It is a building or part of a building that is mainly used for storing raw materials, commodities or merchandise for sale locally or overseas using containers.</i>
	Customer Service Centers	<i>Centers for systematic acquisition of customer service needs by competent persons</i>
	Meat and fish stalls	-
	Liquor/Wine Stores	-
	Funeral hall	<i>Centers for funeral arrangements</i>
	Funeral halls with reception halls	-
	Hardware Stores	-
	Filling stations	<i>Buildings with facilities for sale in Petrol, Fuel, Lubricant and Liquid Petroleum Gas Retail</i>
	Filling stations with vehicle service centers	<i>Facilities for retail sale of petrol, fuel, lubricant and liquefied petroleum gas for automobiles, Buildings such as vehicle service garages etc</i>
	Filling stations with shopping complexes	<i>Buildings with luxury trading facilities for retail sale of petrol, fuel, lubricant and liquefied petroleum gas for automobiles</i>
	Gas stations and electric charging stations	<i>Gas stations for vehicles and electricity charging stations</i>
	Communication towers on buildings	<i>Towers erected on buildings for communication under the approval of the Telecommunications Regulatory Commission</i>
	Communication towers	<i>Communication tower build under the approval of the Telecommunications Regulatory Commission</i>
	Multi-storied vehicle parks	<i>Two floors or buildings to accommodate more parking</i>
Open Vehicle Parks	-	
Vehicle Showrooms	<i>Buildings for sale in vehicles</i>	
Tourism	Holiday Resorts	<i>Locations, restaurants, sports and recreational activities for tourists to relax or enjoy as a vacation destination.</i>
	Guest houses	<i>A building or part of it that accommodates guests is covered under this.</i>
	Lodgings	<i>Rent amenities</i>
	Tourist hotels	<i>All-inclusive accommodation for travelers</i>
	City hotels	<i>Locations used for business services that facilitate short stay in urban areas</i>
	Tourist Information Centers	<i>Information centers for the convenience of tourists</i>
	Ayurvedic Panchakarma Centers	<i>Ayurvedic Councils Registered Local Ayurvedic Medical Centers</i>
	Cabana hotels	<i>For tourism and leisure activities for tourists temporarily or Small-sized unit with lodging room and sanitary ware using permanent materials</i>

Manufacturing industries	<i>Mining &amp; Mining Extraction Industries</i>	<i>Buildings that support mining and mining-related industries, primarily for activated carbon powder or carbon powder / coal / block stone or fabrication industries (flooring, blasting, fragmentation, polishing) / stone grinding or processing industries.</i>
	<i>Metal Products and foundries related extraction Industries</i>	<i>Iron and steel, Foundry Industries, Secondary processes, Non-ferrous metal processing industries with melting and metal retrieval, Metal processing industries, electroplating and metal or plastic surface treatment industries, including galvanizing, or powder coating, Machinery, Machinery Parts, Buildings that facilitate the manufacture of metal products and tools</i>
	<i>Oil refineries and petroleum-based chemicals and distillation industries</i>	<i>Manufacturing or combining oil refineries (petroleum or petroleum), fuel, lubricant, grease and petroleum-based chemicals (basic or intermediate products), material petroleum gas products, industrial gas production or processing or refueling industries, Asphalt processing plants, pigments and pigment intermediate products Pādanaya or combination of industry, paints (emulsion and enamel) Paints, varnishes, dyes, polish building facilities for the manufacture of, or in combination with the industry</i>
	<i>Chemicals, polythene, plastics, rubber &amp; glass-based industries</i>	<i>Manufacture, synthesis or re-packaging of chemicals, soaps, detergents, softeners or other cleaning agents, industrial rubber, natural rubber manufacture or fabrication or rubber based industries, chemical fertilizer manufacturing or amalgamation Processing, processing or re-packing industries Fabrics, insecticides, fungicides and herbicides, manufacturing or combining or re-packing industries, polymeric (polymer) manufacturing or polymeric (polymer) industries, all types of fiber glass raw materials, all types of tires, Tube making or tire refueling, asbestos fiber raw materials, batteries Facilitate the manufacturing or reforming industries, the manufacture or extraction of Western pharmaceuticals or cosmetics, including the intermediate effects of the drug, the batik industry, the manufacture of combustible materials, the furnace and explosive industries. Buildings and buildings using wax Neither the industry.</i>
	<i>Cement, concrete and ceramic based products</i>	<i>Cement industries (cleanser grinding or manufacturing or re-packing), cement block making industries, concrete pre-mixing plants, glass or glass based manufacturing industries, limestone, ceramic manufacturing industries, non-metallic minerals (limestone, Dolomite, apatite, rock phosphate, sandstone, peldspar, quartz, ilmenite, Uṭayil, zircon, mica, graphite talatu, ceramics, etc.), grinding or processing industries, concrete tire industry, plaster of Paris production industry, ceramic building facilities for the production of industrial goods</i>
	<i>Clay Products Industries</i>	<i>Buildings for tile, clay brick and clay related industries</i>
	<i>Natural fiber-based manufacturing industries</i>	<i>Fiber based industries using natural materials</i>

Manufacturing industries	<i>Textile, Clothing and Leather Products</i>	<i>Apparel industries, textile processing (including bleaching, coloring, printing) or garment washing or sand-based textile processing, handloom textile or weaving or embroidery industries, high power toiletries and call-in processes, Leather Finishing Industries, Leather Industries, Flax Fabrics Building facilities for the industry</i>
	<i>Electrical and Electronics goods related industries</i>	<i>Electrical or electronic goods and equipment manufacturing or assembly industries</i>
	<i>Heavy Machinery and Assembly Industries</i>	<i>Container Terminals for the Car or Bicycle Manufacturing and Assembly Industry</i>
	<i>Paper Products and Printing Industries</i>	<i>Pulp and Paper Manufacturing Industries, Corrugated Cardboard Manufacturing Industries, Lead Heat Printing or Newspaper Printing or Wastewater Generating Printing Activities or Color Processing Centers, Printing and Fabric Printing Facilities and Facilities for Industries</i>
	<i>Wood / Wood Products &amp; Furniture Manufacturing Industries</i>	<i>Materials other than wood mills, boron treatment, chemical treatment and protection industries, multifamily carpentry industries</i>
	<i>Food and non-alcoholic beverage industries</i>	<i>Buildings for Facilities of Food manufacturing, processing and packaging industries, instant tea or coffee processing industries, including bakery and confectionery industries, non-alcoholic beverages, sugar cane industries, ice factories, tea factories, desiccated coconut processing industries or coconut processing industries.</i>
	<i>Alcohol / local pharmaceuticals, spirits and extracts</i>	<i>Engaged in the manufacture or extraction or amalgamation of alcoholic fermentation industries (breweries, breweries) or bottling industries with alcoholic beverage bottling and bottling operations, tobacco smoking, sugar production and sugar refining industries, ayurvedic, local pharmaceuticals Industry, coconut oil extraction or cinnamon oil extraction industry Cinnamon smoke (sulfur emission) legit industry, plants and animal oil / fats building facilities for the extraction industries</i>
	<i>Recycling activities related industries</i>	<i>Solid waste recycling / recycling / recycling industries, toxic and hazardous / hazardous / hazardous waste recycling / recycling / recycling industries, municipal and other solid waste manufacturing centers</i>
	<i>Industrial Infrastructure Facilities Centers</i>	<i>Electricity generating units, high-capacity water treatment plants, high-input-capacity burners, buildings with facilities for high-efficiency (industrial or dead) refineries, except those used only in hydro or solar or wind power plants and in general power outages. And construction</i>
	<i>Homestead Industries</i>	<i>Handicrafts and non-traditional industries</i>

<b>Service industries</b>	<i>Vehicle Service Centers</i>	<i>Places of service provided for vehicle maintenance</i>
	<i>Vehicle Repair Centers / Spray Painting Centers</i>	<i>Accidental / Impaired vehicles are repaired</i>
	<i>Taxi Service Centers</i>	<i>Places where the Owned or Leased Vehicles are hired for the needs of others</i>
	<i>Laundry / clothes cleaning places</i>	<i>Locations for machine washing, drying and processing</i>
	<i>Grinding mill / pad mill</i>	<i>Places where machine grinding and grinding is done</i>
	<i>Writing racks, welding workshops</i>	<i>Locations for machining iron sharpening, cutting and grafting</i>
	<i>Electronic Equipment Repair Centers</i>	-
<b>Utility Services</b>	<i>Railway and bus terminals</i>	-
<b>Leisure &amp; Recreation</b>	<i>Pocket Park</i>	<i>The areas of high density residential development, popular industrial and commercial development areas are covered by small areas, leisure areas and park areas where there is no proper maintenance or administration.</i>
	<i>Mini Park</i>	<i>It covers a small sports area, a rest area and a garden area with minimum accessibility of about 2 1/2 minutes walking distance to a residential community of 200 meters.</i>
	<i>Local Park</i>	<i>These include a small sports area (senior or junior soccer pitch, irregular running training grounds, leisure areas, cricket turf, and park areas) within a 400-meter area, within a five-minute walk of the residential community</i>
	<i>Community Park</i>	<i>These include a wide range of Active &amp; Passive play areas, ie turf fields and playgrounds, with a variety of facilities, within a 10-minute walk distance to the residential community of 800m. For example, a 2 hectare soccer field with athletics and running training tracks, a small cricket field between 1.0 hectares, a handball of 0.25-0.5 hectares, a netball or a basketball court, and a special children's field of about 0.25 ha. Play areas, ornamental gardens, ha. Natural environments for leisure and study of about 0.5</i>
	<i>Town Park</i>	<i>Multiple variations accessible by public and private vehicles covering a community of over 1600 meters, with a wide range of Active &amp; Passive play areas, ie a variety of sports, combined with separate play area and playgrounds.</i>
	<i>Central Urban Park/City Park</i>	<i>These include public recreational and recreational areas spread over nearly 100 hectares which are accessible by public and private vehicles such as international level stadiums, tournaments, swimming pools, nature parks, small zoos.</i>
	<i>Regional Park</i>	<i>These include public recreational and recreational areas with all facilities or special activities, special natural environment.</i>

Leisure & Recreation	<i>Linear Park</i>	<i>Depending on the existing river / stream / canal reserves, linear parks will be decided. This includes mainly walking lanes, exercise lanes, bicycle lanes and parallel lanes.</i>
	<i>Indoor Sports Centers</i>	<i>Playing areas within a building with facilities for play</i>
	<i>Theaters</i>	<i>Buildings with auditorium facilities for watching movies for entertainment</i>
	<i>Clubs</i>	<i>Other social amenities with local and foreign liquor outlets for entertainment</i>
	<i>Art galleries / museums</i>	<i>A building where a large number of interesting and valuable objects, such as works of art or artefacts, are kept, studied and displayed to the public.</i>
	<i>Outdoor Theater</i>	<i>Seats with open platform</i>
	<i>Boat jetty / ferry accommodation</i>	<i>Jetty is a permanent or temporary built-in platform connected to a landfill built for landing, evacuation and other services when the boat is parked in the water</i>
	<i>Anchorage ports</i>	<i>A medium-sized boat with a fixed support (anchor) stop in the water near or near the land.</i>
Agriculture	<i>Livestock / farm farms with construction</i>	<i>Places used for cultivating crops or raising animals for human consumption within or outside buildings erected on a particular site</i>
	<i>Fishing ports</i>	<i>This is often a naturally built place and stops both traditional and small boats for landing and launching into the water.</i>

Source: Western Province Division, - UDA,2021

## Definitions

### Working Age Population

The working age for Sri Lanka is defined as age 15 years and above. The total working age population who are employed or unemployed during the reference week is identified as the economically active population or labor force.

Source: Quarterly Report of the Sri Lanka Labor Force Survey, Department of Census & Statistics  
Ministry of National Policies and Economic Affairs, 2016

### Carrying Capacity - Industrial Sense

“The maximum level of industrial activity that can be supported by the environment without causing serious or irreversible damage to its natural environment”

Source: Defined by the International Journal of Sustainable Future for Human Security J-Sustain Vol. 1, No. 1 (2013)  
30-34 -<http://www.j-sustain.com>

### Wetland Stewardship

“Wetlands stewardship can include: Long-term preservation using purchase or donations, and conservation easements.”

Non-compensatory enhancement, restoration, or establishment.

Improved management through use of best management practices, management plans or agreements, and partnership contracts.

Incentives such as current use taxation, transfers of development rights, etc.

Source: Defined by the Exploring Wetlands Stewardship -A Guide for Washington Landowners and Communities,  
Washington State Department of Ecology Shore lands and Environmental Assistance Program Olympia,  
Washington, 2008

## Abbreviations

<b>BOD</b>	Bio-Chemical Oxygen Demand
<b>BOI</b>	Board of Investments
<b>BWTP</b>	Biyagama Water Treatment Plant
<b>CBD</b>	Central Business District
<b>CEB</b>	Ceylon Electricity Board
<b>CER</b>	Co-operate Environmental Responsibility
<b>CMRSP</b>	Colombo Metropolitan Structure Plan
<b>COD</b>	Chemical Oxygen Demand
<b>CRIP</b>	Climate Resilience Improvement Project
<b>DBIP -</b>	Development of Basin Investment Plan
<b>DS</b>	Divisional Secretariat
<b>ESI</b>	Environmental Sensitivity Index
<b>GSS</b>	Grid Sub Station
<b>Ha</b>	Hectares
<b>PDNA</b>	Post Disaster Need Assessment
<b>Kv</b>	Kilo Volt
<b>KW</b>	Kilo Watt
<b>LRT</b>	Light Railway Transit
<b>Lpcd</b>	Liters per Capita per Day
<b>Mw</b>	Megawatt
<b>MGIF</b>	Multi-Purpose Gamma Irradiation Facility
<b>NDVI</b>	Normalized Differences Vegetation Index
<b>NRW</b>	Non-Revenue Water
<b>OCH</b>	Outer Circular Highway
<b>PS</b>	Pradeshiya Sabha
<b>PRDA</b>	Provincial Road Development Authority
<b>RDA</b>	Road Development Authority
<b>SLDC</b>	Sri Lanka Land Development Cooperation
<b>SWOT</b>	Strengths, Weaknesses, Opportunities, Threats
<b>TNC</b>	Towns North of Colombo
<b>UDA</b>	Urban Development Authority
<b>WPN</b>	Western Province North
<b>WQI</b>	Water Quality Index
<b>3K</b>	Kottawa, Kaduwela, Kadawatha Urban Area

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