### **Background**

The National Sample Survey Organization (NSSO) in the Ministry of Statistics and Programme Implementation, Government of India has released the report of a nation-wide survey carried out by it during July 2008 to June 2009 (65th round) on the condition of urban slums.

The aim of the survey was to collect information on the present condition of the slums and on recent changes, if any, in the condition of facilities available therein. Both 'notified slums' – areas notified as slums by the municipalities, corporations, local bodies or development authorities – and non-notified slums were surveyed – a non-notified slum being any compact urban area with a collection of poorly built tenements, mostly of temporary nature, crowded together usually with inadequate sanitary and drinking water facilities in unhygienic conditions. The present report gives the condition of urban slums, covering ownership, area type, structure, road within and approaching the slum, living facilities like electricity, drinking water, latrine, sewerage, drainage, garbage disposal, and distance of slums from the nearest primary school and government hospital/health centre. It also estimates the proportion of slums where certain specific facilities have improved/ deteriorated over the five years preceding the date of survey.

Comprehensive data on this subject was last collected by NSSO in its 58th round (July – December 2002). The present report provides key indicators from the 58th round as well, for comparison. Some important findings of the survey are given below.

- About 49 thousand slums were estimated to be in existence in urban India in 2008-09, 24% of them were located along nallahs and drains and 12% along railway lines.
- About 57% of slums were built on public land, owned mostly by local bodies, state government, etc.
- In 64% of notified slums, a majority of the dwellings were pucca, the corresponding percentage for the non-notified ones being 50%.
- For 95% slums, the major source of drinking water was either tap or tube ells.
- Only 1% notified and 7% non-notified slums did not have electricity connection.
- About 78% of notified slums and 57% of the non-notified slums had a pucca road inside the slum.
- About 73% notified and 58% non-notified slums had a motorable approach road.
- About 48% of the slums were usually affected by water logging during monsoon –

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32% with inside of slum waterlogged as well as approach road to the slum, 7% where the slum was waterlogged but not the approach road, and 9% where only the approach road was waterlogged in the monsoon.

- The sanitary conditions in the slums in terms of latrine facility during 2008-09 showed considerable improvement since 2002. Latrines with septic tanks (or similar facility) were available in 68% notified and 47% non-notified slums (up from 66% and 35% respectively in 2002). At the other extreme, 10% notified and 20% nonnotified slums (down from 17% and 51% in 2002) did not have any latrine facility at all.
- About 10% notified and 23% non-notified slums did not have any drainage facility. The corresponding proportions in 2002 had been 15% for notified and 44% for non-notified slums. Underground drainage systems or drainage systems constructed of pucca materials existed in about 39% notified slums (25% in 2002) and 24% non-notified slums (13% in 2002).
- Underground sewerage existed in about 33% notified slums (30% in 2002) and 19% non- notified slums (15% in 2002).
- Government agencies were collecting garbage from 75% notified and 55% nonnotified slums. Among these slums, garbage was collected at least once in 7 days in 93% notified and 92% non-notified slums. About 10% notified and 23% non-notified slums did not have any regular mechanism for garbage disposal.
- Over the last five years, facilities had improved in about 50% of notified slums in terms of roads (both within-slum road and approach road) and water supply. The incidence of deterioration of any of the existing facilities in notified slums during the last five years was quite low (about 6% or below).
- In case of most slum facilities sewerage and medical facilities being exceptions the facility was reported to have improved during the last five years in more than 20% of non-notified slums. Deterioration of any of the existing facilities in nonnotified slums, like notified slums, was rare (about 9% or below).
- Facilities such as street light, latrine, drainage, sewerage and medical facilities were each reported by more than 10% of notified slums to be non-existent both at the time of survey and five years earlier. In case of non-notified slums, facilities like street light, latrine, drainage, sewerage and garbage disposal were each reported by more than 20% of the slums to be non-existent, both during the survey and five

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need to be responsive to the poor and should have an adequate opportunity for the poor to raise their views.

The management of water resources must take place within the wider ecosystems context, and all actions should be based on an understanding of the flows of water resources within river basins and how they affect the poor.

In view of this, the water scheme needs to take into account the following broad objectives:

- To provide adequate safe Water
- To ensure access for the Urban poor
- To develop institutional framework taking into account the requirements of the Urban Poor

### Outcome

Water is a basic requirement of life. Absence of adequate water is a major issue for health as well as comfort for the poor. With the implementation of the project, the slum dwellers will have access to safe drinking water, which will greatly help their personal health, and hygiene. Quality of life would improve significantly and the multiplier effect due to this investment would reap significant benefit to the economy of this region within a considerable short period of time.

Water supply includes sources of supply, features of collection and distribution system, water demand and availability, quality of surface and groundwater source, reuse and recycling of water including conservation of water at the household level. The endeavor for all the proposals is to optimize the total cost of the system.

### Assessment of Overall State of Infrastructure

In line with the City Development Plan for Kolkata Metropolitan Area (Pg 11-28), it has been resolved that the entire KMA are will be switched over to surface water.

The following norms have been fixed for the region:

200 lpcd Kolkata Municipal Corporation Area

 Howrah Municipal Corporation Area 150 lpcd

 Municipal & Non-Municipal Area 135 lpcd

# Situation Appraisal & Key Intervention for Identified Slum

Presently accessibility to water supply facilities in the slum pocket is inadequate. The major source of water is from the common tap water available in the slums. The slum is partially connected to the municipal water supply main.

It is now proposed that water pipeline shall be provided in each household with requisite

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years earlier.

 Where improvement had been brought about during the last 5 years, it was due to the

Government's efforts in about 80-90% of slums, both notified as well as non-notified and for all the facilities. Improvement in educational facilities at primary level was attributed to NGOs in 13% of the notified slums where such improvement was reported. NGOs were also found to have played a role in the improvement of latrine and sewerage system in non- notified slums.

# **Water Supply**

### **Proposal Rationale**

Water and poverty are inextricably linked. Poor access to water and insufficient sanitation affect the health of the poor, their food security, and their prospects for making a living especially for vulnerable groups, such as children, the elderly, and women in general. Safe and adequate quantities of water and food security are recognized as preconditions for an acceptable development standard.

In almost whole of Asia and the Pacific region - home to nearly 900 million of the world's poorest people - one in three people does not have safe drinking water and one in two lacks adequate sanitation. Water is a critical resource for the poor and plays a key role in many aspects of their livelihoods.

Poor people depend on or are affected by water resources in four key ways:

- As direct inputs into production
- · For health, welfare, and food security
- For ecosystems viability
- For combating water-related hazards

Keeping the above in mind, a water scheme for the urban poor needs to be drawn up which shall Improve Access to Quality Water Services and also build up institutions accessible to the poor that can efficiently manage water resources. These institutions

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number of taps, as computed during the survey as felt needs shall be provided under this Project. However, considering that the houses are being provided with water, the provisions of multiple taps have not been encouraged and kept to the minimal level.

# Design of distribution system was carried out on the following basis:

- Population projection
- Project horizon years
- Design period for various project components
- Per capita water supply
- Factors affecting consumption
- Existing water supplies
- Pipeline pressure requirement
- Economical size of conveying main
- · Choice of pipe materials
- Peak factor
- Residual pressure
- Hydraulic zoning

# **Design Period for various Project Components**

Water supply projects are designed normally to meet the requirements over a period of 30 years after their completion. The time lag between design and completion of the project should also be taken into account which should not exceed two to five years depending on the size of the project. CPHEEO guidelines have been followed has suggested the design period for various water supply components.

#### Service Plan

The pipelines needs to be regularly and kept in full working conditions. It is proposed that operation and maintenance of these pipelines and other assets be done in conjunction with the maintenance programme of the Municipal Corporation. The Bustee Working Committee shall be the first level of responsibility for ensuring that the pipelines etc. are kept in good order. The overall operation and maintenance shall be carried out by the project cell of the Municipal Corporation.

# **Proposed Interventions**

According to the above, the water supply design requirement for Municipality has been

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fixed at 135 lpcd

(Domestic Requirement) + 15% (head loss) +  $100*(p^0.5) = 163.25$  lpcd (approx).

There is existing water supply scheme which has the capacity for meeting the requirement. Thus there is no additional requirement of any reservoir. There are street stand posts for the slum proposed. But to achieve house connection at slum 100 mm dia. DI pipes are proposed.

The details of water supply lines provide are as follow:

#### **Transmission of Water**

Egra Municipalityhas water supply through OHR having water supply. For the proposed multi-storied buildings sump and pump with OHR is provided for each building. The water supply network for this slum will be connected to the citywide water supply network.

Water supply system broadly involves transmission of water from the water supply main to the area of consumption normally through pipelines. Pipelines normally follow the profile of the ground surface quite closely, normally at 1 metre below ground.

# Following design criteria are adopted for this project:

- Gravity pipelines have to be laid below the hydraulic gradient.
- Pipes are of Ductile Iron, Mild steel, GRP, HDPE, uPVC, Plastic etc.
- The design of water supply conduits is dependent on pipe friction, available head, velocity allowable, etc.
- There are a number of formulae available for use in calculating the velocity of flow.
   However,
- Hazen William's formula for pressure conduits and Manning's formula for free flow conduits are popularly used.

# Drainage and Solid waste management

# **Proposal Rationale**

The status of adequate Drainage has a close and direct link with environment, water supply and its cleanliness, health and hygiene. The problem of adequate drainage

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associated with steep influx of population in urban areas, therefore needs to be addressed forth with, debated and deliberated at length, by the policy planners for the development of urban/city areas. Inadequate Drainage results in accumulation of stagnant water and is a major health hazard for the people living in the region.

In the slums there is no proper drainage system and hence stagnation of water is a common occurrence for the slums. In order to improve the situation, there is a need for constructing pucca drains, which will dispose of the stagnant water to the main drains.

#### Outcome

The proposed drainage system by means of construction of new drains and improvement of existing will help to provide relief to the slum dwellers by means of efficient and effective disposal of storm water through the outfall channels. The outcome of this scheme will by and large enhance the quality of civic life by way of promotion and safeguarding the public health and environmental pollution.

# - Assessment Overall State of Infrastructure

One of the priority area identified for Wood Industries slum has been absence of adequate drainage. Most of the drainage is kutcha and inadequate for covering the slums which had led to water logging which in turn affected the environment and health of the people on an overall basis.

As mentioned above poor drainage system and consequently chronic water logging are the major issues of concern. There is hardly any pucca drain. The state of drain also affects the condition of the road.

Though there are storm water drains on the main road around the slums, but there is no systematic connection with the internal areas of the slum, thereby leading to acute water logging within the slum. It is worth mentioning that apart from lack of drainage network in several slum pockets, major challenge lies with its maintenance. In numerous cases drains in slums gets choked due to improper disposing of solid waste and other hazardous materials into the existing drains.

Situation gets beyond control particularly during monsoon season like July and August. Accumulated water causes to generate public health problems. Haphazard growth and settlement in the slum area has blocked the natural drainage courses, which in turn

causes water logging and stagnation in different parts of the slum.

### **Proposed Interventions**

It is thus proposed to have an integrated drainage programme covering the slum pocket. The programme shall envisage construction of pucca drain throughout the road length and installing a maintenance programme to ensure that the drains are kept free from clogging from plastics and other materials. Depending on the availability of space and requirement, a sections have been designed, Designs of which have been provided in the relevant sections.

### **Road Infrastructure**

### **Proposal Rationale**

A key component of the Proposal is a focused initiative to provide strong connectivity and provision of movement in the slums. This will enable the poor people to benefit from greater mobility and would increase their employment opportunities, open up trading and marketing of products, and important improve access to health, education, and other social services.

Roads in the slum are highly undeveloped and ill maintained. Poor roads are strong barrier to the development of the slums. Poor road condition and absence of road facility in several slums makes life difficult for all slum dwellers, especially, women and children. It also hampers prompt movement of sick; particularly those who require urgent medical attention. Lack of maintenance, coupled with poor drainage makes life even worse during monsoon season. Road are rarely re-built or re-paired periodically due to several reason. Provision of basic quality road is thus an important element of slum development. The existing road network system of the slum has become inadequate to cope up with the present and ever increasing needs. In order to bear the additional pressure due to enhanced civic, economic and commercial activities of the slum, existing road network system in several places are required either to be up-graded or winded and new roads are also be constructed in a number of places where the network is inadequate.

#### Proposed status and strategy

The existing condition of the road is poor and cause great hardship to the slum dwellers particularly women and children. The existing roads in the slum areas are

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predominantly made of brick pavement. These roads are substantially worn out. The lane roads are Kutcha roads. These roads are highly vulnerable and are in a poor condition particularly in rainy season

One of the major issues is absence of proper maintenance. In view of this it is proposed that the entire road network is to be converted to concrete pavement as concrete pavements are durable and easy to maintain.

The Road needs to be maintained. It is proposed that operation and maintenance and servicing of these roads be done by the Municipality. The Bustee Working Committee shall be the first level of responsibility for ensuring that the pipelines etc. are kept in good order. The project cell of the Municipal Corporation shall carry out the overall operation and maintenance.

### **Proposed Intervention**

All the proposed roads are rigid pavement-cement concrete roads. Rigid pavements are those which possess note worthy flexural strength. The concrete pavement slab can very well serve as a wearing surface as well as effective base course. Therefore usually rigid pavement structure consists of a cement concrete slab, below which a granular base or sub base course may be provided. Rigid pavements are generally designed and the stresses are analyzed using elastic theory, assuming pavement as an elastic plate resting over elastic or a viscous foundation.

Construction of granular sub-base (GSB) 100 mm thick. Construction of 100 mm thick cement concrete pavement.

#### Outcome

After successful implementation of the scheme the slum dwellers will have facilities like pre-school education, adult education, non-formal education and social, recreational activities in the slum area. The community centres would provide the people to gather in, to meet and discuss their problems. It is not just a physical location but a space; where poor people could own, develop their thoughts and also could contribute their own skill and labour to make their dream come true. It will also provide the Municipal Corporation in networking with the urban poor communities in order to exchange information and views.

### **Definition of Slum for Housing**

Different definitions of a slum exist in different statutes and in urban poverty literature.

For the purpose of HOUSING SCHEME, it is proposed to adopt the definition given in the 2001 Census, which is as follows:

- a) All areas notified as 'Slum' by State/Local Government and UT Administration under any Act;
- b) All areas recognized as 'Slum' by State/Local Government and UT Administration, which have not been formally notified as slum under any Act;

"Slum" or "Slum Area" – is a compact settlement of at least 20 households (For NE & Special Category States it is 10-15 households) with a collection of poorly built tenements, mostly of temporary nature, crowded together usually with inadequate sanitary and drinking water facilities in unhygienic conditions.

# Situation Appraisal

The people living in the slums mostly have kutcha and semi-pucca housing. In certain cases where pucca housing is available, they are usually in dilapidated condition. The kutcha houses are in very poor condition and require extensive repairs. Most of the houses have tiles on roof. While during the survey some of the houses have been noted to be in average condition, the quality of these houses is also speedily deteriorating.

# **Proposed Intervention**

In line with the vision to 'housing for all', an integrated housing programme is proposed to be implemented. The target will be all the slum dwellers in the pocket. In situ single dwelling units are proposed.

Building type	Number of DU
In situ single Unit	968 within 79 slums and 3 non slums

# **Building Plan**

The buildings are proposed to cover an area of approximate 32.18 Sq.mt along with provision of 2 rooms, kitchen and sanitation facility. The layout, size and type design of housing dwelling units depends on the local conditions and the preferences of the beneficiary. The houses, has been designed in accordance with the desire of the beneficiaries, keeping in view the climatic conditions and the need to provide ample space, kitchen, ventilation, sanitary facilities, etc. and the community perceptions, preferences and cultural attitudes.

In line with the scheme, carpet area of the house will be not less than 25.37 sq. mts and preferably two room accommodation plus kitchen and toilet should be constructed.

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# **Building material**

- PCC (1:3:6) for foundation
- RCC M-20 for substructure & superstructure (Column, Beam, Slab)
- HYSD Steel
- 1st class Brick Masonry
- 1:6 (Cement: Sand) plaster 10 mm on soffit of beam & slab, 15 mm on internal walls & 20 mm on external walls
- IPS flooring

### Structural Design

- Following are the general considerations in the analysis/design.
- For all structural elements, M20 grade concrete and Fe 415 grade of steel is used.
- Plinth beams passing through columns are provided as tie beams.
- Pedestals are proposed up to ground level.
- Beam Centre-line dimensions are followed for analysis and design.
- For all the building, walls of 250 mm and 125mm thick with 20 mm External plaster and 12 mm thick internal plaster are considered.
- · Seismic loads are considered acting in the horizontal direction along either of the two principal directions.

# Design data

- Live load: 2.0 kN/m2 at typical floor
- 1.5 kN/m2 on terrace (With Access): 0.75 kN/m2 on terrace (without Access)
- Floor finish 50mm (0.05\*24) = : 1.2 kN/m2
- Ceiling plaster 12mm (0.012\*20.8): 0.25 kN/m2
- Partition walls (Wherever Necessary): 1.0 kN/m2
- Terrace finish: 1.5 kN/m2
- Earthquake load: As per IS-1893 (Part 1) 2002
- Depth of foundation below ground: ,0.7 m
- Walls: 250 mm thick brick masonry walls at external and 125mm walls internal.

#### Reference codes:

- IS 456: 2000 Code of practice -Plain and Reinforced concrete.
- IS: 1893:2002 Criteria for Earthquake resistant design of structures (Part-1)
- IS: 13920: 1993 Ductile detailing of Reinforced concrete structures subjected to seismic forces.
- SP: 34 Hand Book on Concrete Reinforcement and Detailing.
- S: 875: 1987 Code of practice for design loads (other than earthquake) for buildings and structures. (Part-2)

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#### Identification of Beneficiaries

Municipality Municipal Corporation, in consultation with State Urban Development Agency (SUDA), will approve the phasing of the beneficiaries in the region. The beneficiaries so identified and the projects so prepared shall be done in consultation with the committees and community development societies already existing in that particular city. The identification of beneficiaries will be on the basis of the baseline survey already conducted under PMAY Demand Survey.

#### **Allotment of Houses**

Allotment of dwelling units will be in the name of the female member of the household. Alternatively, it can be allotted in the name of husband and wife jointly. Ownership of land required for every Beneficiary.

### **Town Planning Norms**

Up-gradation of existing constructions and construction of new houses shall only be taken after approval of the lay out by the urban local body. Respective State Govts. may relax some town planning norms for sanction of such layout Plans, to facilitate HOUSING SCHEME, however, minimum acceptable standards of Town Planning will need to be set and followed.

All planning are done as per UDPFI & CPHEOO guidelines and local Municipal Byelaws.

# Compliance with Municipal Bye laws

All designs & drawings are created keeping in line with the municipal bye laws.

#### **Tenure**

Unlike rural areas, land is scarce in urban areas particularly in large metropolises. Under HOUSING SCHEME, the responsibility for providing land for the project rests with the State Government or its agencies.

# Summary of Investment

# **Project Costing**

The costing for the individual sectors has been made on the basis of applicable Schedule of Rates. The details of each of the sub-projects have been provided in the respective sections.

The cost components include:

Infrastructure: Cost of infrastructure development/up-gradation including water supply, storm water drainage, roads (BT & CC) & drainage, etc.

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Housing: Construction Costs would need to be arrived from the various components that are proposed to be implemented and would vary depending on the development option identified.

#### **GOI Contribution:**

PMAY scheme guidelines stipulate that, 1.5 lakhs of the unit cost of dwelling unit.

The Central share would be available as per milestones set out in Memorandum of Agreement (MoA).

# Beneficiary Contribution:

In order to ensure beneficiaries interest, financial contribution by the beneficiaries is critical. The share of beneficiary contribution in housing is proposed to be a minimum of 25000/-. As per PMAY guidelines no contribution from the beneficiaries is expected in infrastructure improvements.

#### State Contribution:

The decision would be left to the remaining share would have to be arranged by the State. State will contribute 5% of total Dwelling cost for infrastructure.

#### **ULB Contribution:**

ULB have no contribution on dwelling unit cost. ULB will contribute 5% of total Dwelling cost for infrastructure.

In the 1<sup>st</sup> Meeting of SLSMC of West Bengal it has been decided that the flowing funding pattern should be adopted for implementation of PMAY until further revision.

	Component	Contributio	n of		
City /Towns as per 2011 census		Centre Rs.(Lak hs)	State Rs.(Lak hs)	ULB Rs.(La khs)	Beneficiari es Rs.(Lakhs
Total cost of	Housing	1.5	1.92858	Nil	0.25
Beneficiary LED Construction	Infrastruc ture	Nil	5 %	5 %	Nil



# **Project Cost and Financing Strategy**

# For Dwelling Unit

Total no of Dwelling unit = 968 Nos

Rate per Dwelling unit = 3.68 Lakhs

Total Cost of Dwelling unit = 968 x 3.68 = 3562.24 Lakhs

Central Share = 968 x 1.5 Lakhs = 1452 Lakhs

State Share = 968 x 1.93 Lakhs = 1868.24 Lakhs

Beneficiary Share = 968 x 0.25 Lakhs = 242 Lakhs

ULB Share = NIL

# For Infrastructure

10 % of total Dwelling unit cost = 3562.24 Lakhs x 10% = 356.22 Lakhs

Central Share = NIL

State Share = 50% x 356.22 Lakhs = 178.11 Lakhs

Beneficiary Share = NIL

ULB Share = 50% x 356.22 Lakhs = 178.11 Lakhs

# The total project cost will be 3918.46 Lakhs

Out of these 3562.24 Lakhs is the cost of Housing Infrastructure. The following table shows the share of cost between housing infrastructure & Physical Infrastructure.

Table: Cost Break up between Housing & Infrastructure

Component	Cost on Lakhs	
Housing Cost(2015-16)Dwelling Units)	3562.24	
Infrastructure Cost	356.22	
Total	3918.46	Market
	Housing Cost(2015-16) Dwelling Units) Infrastructure Cost	Housing Cost(2015-16)Dwelling Units) 3562.24  Infrastructure Cost 356.22



# Sector wise Monitoring and Implementation Plan

### Background

A strong implementation plan and administration framework is essential for implementation of the identified projects that require strengthening of the Municipal Corporation and evolution of a Community Structure.

Accurate assessment of investment requirements and devising a suitable financing strategy are the key components of any sustainable slum rehabilitation program. Implementing bodies must recognize and measure the various costs of developing infrastructure and housing, including the costs for subsequent maintenance. As the scheme is a collaborative effort of multiple stakeholders, with a few of them contributing financially as well, it is important to estimate the required capital expenditure for developing the infrastructure and improving the housing stock as accurately as possible.

#### **National Level**

#### **PMAY Mission Directorate**

There shall be a PMAY Mission Directorate under the charge of a Joint Secretary under the Ministry of Housing and Urban Poverty Alleviation, supported by staff and a Programme Management Unit with experts having expertise in the areas of survey and engineering, Social Project Planning, statistics, computerization and MIS, development, Monitoring and evaluation etc. for ensuring effective co-ordination with State Governments for expeditious processing of the State Slum-free PoAs and project proposals and providing handholding support to States/UTs.

### State PMAY Mission Director

The State Level Nodal Agency for PMAY / SUDA, West Bengal will have coordination of all scheme and reform-related activities more than one department handling urban development, Local self-government, and Housing. SLNA. The Mission Directorate supported by team of dedicated professionals having expertise in the fields of GIS, MIS, town planning, community development, project engineering, capacity development etc



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# Operation & Maintenance

Formulation and Implementation of "Operation and Maintenance Plan for Slum Level Infrastructure work"

# Background

It is recognized that the assets created in slums are required to be properly used and maintained. For this purpose, 'Operation and Maintenance Plan' for the slum is being prepared.

# Formulation and implementation of O & M Plan

- The assets created in project area are required to be properly used and maintained.
- The following steps will be taken prior to preparation of the 'Operation and Maintenance Plan' for each slum:
  - The ULB along with the CDS working in the Slum where infrastructure works were performed will arrange a meeting (1st) with all slum dwellers of that particular slum.
  - ii. At this meeting the Local Councillor, Chairman-in-Council or Chairman-in-Council of slum development work, Municipal Engineers, Town Project Officer, Community Organiser, CDS members and RCV so that particular slum will be present. Other members/ officials as the necessary may also be present.
  - iii. At this meeting the need for formation of Bustee Works Management Committee (BWMC) for looking after, Operation and Maintenance Plan for Slum Level Infrastructure work 'will be explained to the slum dwellers.
  - iv. The stock of work done and assets created under slum level infrastructure works of that particular slum will be listed at this meeting.
  - v. At this meeting the ULB will brief the slum dwellers about the constitution, role and functions of the BWMC.
  - vi. A similar next meeting (2nd) will be held at which the BWMC will be elected as per constitution through informal election. If one meeting is not sufficient

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more such meetings may be arranged.

vii. Minute of each meeting with signature of the participants should be maintained.

# Constitution & functions of the Bustee Works Management Committee (BWMC):

- The BWMC will consist of minimum 5 members, all of whom will be resident of that particular slum.
- ii. In addition, one RCV from that slum will be member.
- iii. There will be at least two female members in the BWMC.
- iv. The members of the BWMC may be from BPL/ APL or both.
- v. At least one member will belong to a Neighbourhood Group (NHG) from that slum.
- vi. The BWMC will be elected through an informal process of election.
- vii. There must be good publicity to ensure wide attendance.
- viii. Atleast 40% of slum dwellers must be present in the meeting during election of BWMC.
- ix. The BWMC will be an independent body. The ULB will be responsible for overseeing the work of BWMC.
- x. The BWMC will hold office for a period of two years, after which a new committee will be elected. If any member resigns or moves out of the slums or is incapable of functioning for any reason, an other member will be elected in his/her place within one month.
- xi. Each BWMC will open and operate a separate bank account. This bank account will function as the O & M fund for that slum.
- xii. The BWMC will be authorized by the ULB to raise funds for O & M as is elaborated under item no.13.
- xiii. The ULB will make matching contribution against the fund raised by the BWMC through user charges to encourage the process.
- xiv. The BWMC will report to the slum dwellers in a meeting held once in six months on revenue, expenditure and maintenance issues. This meeting will be attended by

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Local Councillors, ULB Officials & Engineers, Community Organizer, Town Project Officer, CDS member.

- xv. There must be an agreed upon O & M Plan between the ULB, CDS and BWMC for the assets created in that particular slum under IHSDP as listed in 1st meeting.
- They will need interim hand holding which will be extended by the ULB by providing their technical person and accounts person for technical and accounts support. Otherwise the ULB can take help of local NGOs/ CSOs for providing support to BWMC.
- xvii. Chairman, Secretary and Cashier will be selected within the BWMC. Bank account will be operated by any two of them jointly.
- xviii. The existing Beneficiary Committee will cease after the BWMC is formed.

# Maintenance: Water Supply: Routine maintenance

- a) Daily cleaning
- b) Petty repair
- c) Periodical testing of water

Petty repair involves mainly replacement of street stand posts, repairing of hand pump and platform. It is to be ascertained by the ULB/ Bustee Works Management Committee (BWMC) how much money is roughly required permonth for meeting the cost of this petty repair, daily cleaning and periodical testing of water. The cost of petty repair works and daily cleaning is to be met from collection of fund from the Beneficiaries.

The Bustee Works Management Committee (BWMC) will supervise this, Daily clearing and petty repair work'.

# Sanitation: Community latrine

Daily cleaning and petty repair work:

- It requires daily cleaning (once, twice or more) by engaging a sweeper on contract.
- Replacement of Bibcock and other petty repairing work

It is to be ascertained by the ULB/BWMC as to how much money is required per month for carrying out the work of item ( I & Ii ). The cost of item ( I & Ii ) is to be met from ULB fund/Beneficiary Contribution / or a combination of both in every month. This decision may be taken. The BWMC is required to collect the contribution from Beneficiaries every month and supervise the work.

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### Major repair and maintenance work:

Periodical maintenance of latrine structure by way of plastering, colour washing ,door, window, floor repairing, replacement of broken(W.C.) pan, cleaning of septic tank etc

Major repair and maintenance work will be implemented by the ULBs from their fund by engaging CDS / contractor or ULB staff.

#### Drainage:

Petty repair, operation and maintenance:

It requires cleaning at least once or twice in a week and occasional petty repair. This work should be executed by the BWMC, for which the BWMC will first decide how much money will be required in every month for getting this work done. Once the amount is ascertained, the ULBs will decide whether this expenditure may be fully met from the contribution of the Beneficiaries only or proportionately shared by ULB and Beneficiaries. The BWMC will collect the contribution from Beneficiaries. It is to be decided how the contribution be collected. The BWMC will supervise the work.

Major maintenance and repairing work like plastering, reconstruction of damaged portion and other works may be needed from time to time.

Major maintenance and repairing work will be executed by the ULBs from their fund by engaging CDS / contractor or ULB staff.

#### Road:

Maintenance of Concrete paved road: Sweeping, petty repair and maintenance will be implemented by the BWMC for which they will collect contribution from Beneficiaries.

#### Solid waste management:

- 1. Daily door to door collection and depositing to the nearby container/ trailer
- 2. Will be done by the ULB with existing staff. The staff engaged for this work will report to the BWMC who will supervise their work. The BWMC will maintain the attendance of the staff attending the work and report on weekly basis to the ULB regarding their attendance and performance. BWMC will first assess how much money will be required every month. The BWMC will collect the contribution from Beneficiaries every month. BWMC will supervise the work.
- 3. Transporting from container/ trailer to dumping/ composting ground
- 4. The ULBs will execute the work from their fund.

#### **Duties of BWMC**

1. They will maintain a register showing the existing services/ structures under their

#### control:

### i. Water supply

- i. What is the length of waterline
- ii. What is the diameter and material of water line
- iii. How many stand posts are there
- iv. How many small dia-deep tube wells are there and their status(functioning/ defunct)
- v. How many big dia deep tube wells are there and their status(functioning/defunct)

They will maintain a register for keeping stock of materials which are often required for day to day maintenance work like bibcock, short pipe for stand posts etc.

# Institutional Capacity

Municipality with its elected local body in place, has developed institutional strength to implement, operate & maintain proposed infrastructure. The Municipality spreading over an area of 17.21square kilometres is comprised of 14 wards With efficient and trained manpower, the Municipal Corporation has developed both technical and administrative skills. The development of appropriate municipal organizational structures with qualified staff is essential if municipalities are to provide cost effective services to citizens. With local government reform municipalities are required to take on new tasks, and provide new services. This will only be possible if municipalities have cost-effective and appropriate structures and staff that are well qualified and highly motivated. The municipalities should plan in such a way so as to ensure that they can meet the needs of citizens effectively and efficiently and infrastructural facilities to the citizens:

- Solid Waste Management
- Birth and Death Registration
- Crematoria and burial ground
- Prevention of food adulteration
- Preventive Health Care and Health Care

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- Services
- Roads and its development
- Widening & improvement to roads
- Street Lighting
- Bus Stands, Public Urinals
- Markets
- Storm Water Drainage and Flood Control.
- Parks and Playgrounds
- Plantations
- Town Planning
- Slum Improvement and Urban Community
- Development
- Education
- Water
- Beautification



**Estimate and Drawing** 



*	DETAILED ESTIMATE FOR THE CONSTRUCTION OF SINGLE L	NII DWE	LLING		
SL	Description of Works	Quantity	Unit	Rate	Amount
No.				(Rs.)	(Rs.)
1	Earthwork in excavation in foundation trenches or drains, in all sorts of soil (including mixed soil but excluding laterite or sandstone) including removing spreading or stacking the spoils within a lead of 75 m as directed including trimming the sides of trenches, levelling, dressing and ramming the bottom, bailing out water etc. as required complete.  a) Depth of excavation not exceeding 1500mm.	13.000	%cu.m	#####	1566.11
	1991/1 119/1 4/18 2 8				
2	Earth work in filling in foundation trenches or plinth with good earth in layers not exceeding 150 mm. Including watering and ramming etc. layer by layer complete. (Payment to be made on the basis of measurement of finished quantity of work.)  a) With earth obtained from excavation of foundation.	11.120	%cu.m	7831.00	870.81
	SOR, PWD, P-1, T/3 a				
3	Supplying Laying Polithin Sheets etc. SQR, PWD, P-45, T - 13	22.000	sam	25.00	550.00
4	Cement concrete with graded Stone ballast (40 mm.) excluding shuttering.a) In ground floor and foundation.6 : 3 : 1 proportion Pakur variety	3.500	cu.m.	5823.00	20380.50
5	25 mm. thick damp proof with cement concrete (4:2:1) (with graded stone aggregate 10 mm. Normal size) and painting the top surface with a coat of bitumen using 1.7 kg. per sq.m. including heating the bitumen and cost and carriage of all materials complete.  SOR, PWD, P-45, T-12	6.810	sqm,	297.00	2022.57
6	Brick work with 1st class bricks in cement mortar (6:1)				
	a) In foundation and plinth. b) In super structure SOR. PWD. P-29. T -22(a). (b)	10.430 15.240	cum	5719.00 5943.00	59649.17 90571.32
7	125mm thick brick work with 1st. class bricks in cement mortar (4:1), a) In ground floor SOR, PWD, P-73, I -29	23.220	sq.m.	783.00	18181.26
8	Ordinary Cement concrete (mix 1:1.5:3) with graded stone chips (20 mm nominal size) excluding shuttering and reinforcement if any, in ground floor as per relevant IS codes.  (i) Pakur Variety  SOR, PWD, P-14, T -7(i)	3.940	cu.m.	6851.66	26995.54
9	Reinforcements for reinforced concrete work in all sorts of structures including distribution bars, stirrups, binders etc. including supply of rods, initial straightening and removal of loose rust (if necessary), cutting to requisite length, hooking and bending to correct shape, placing in proper position and binding with 16G black annealed wire at every inter-section, complete as per drawing and direction.  (a) For works in foundation, basement and upto roof of ground floor / upto	0.309	MT	####	18775.74
	4m. (i) Tor steel/Mild steel SOR, PWD, P-27, T -15(i)	0.303	PII	****	10//3./4

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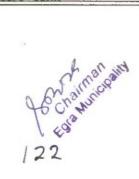


10	Hire and labour charges for shuttering with centreing and necessary staging upto 4 m. using approved stout props and thick hard wood planks of approved thickness with required bracing for concrete slabs, beams, columns, lintels curved or straight including fitting, fixing and striking out after completion of works. (upto roof of ground floor). (When the height of a particular floor is more than 4 m. the equivalent floor ht. shall be taken as 4 m. and extra for works beyond the initial 4 m. ht. shall be allowed under 12(e) for every 4 m. or part thereof.)  25 mm. to 30 mm. thick wooden shuttering as per decision & direction of	37.063	M <sup>2</sup>	360.00	13342.68
_	Engineer-in-charge. Ground Floor	37.003	M	300.00	13342.00
11	Plaster ( to wall, floor, ceiling etc.) with sand and cement mortar including rounding off or chamfering corners as directed and raking out joints or roughening of concrete surface, including throating, nosing and drip course where necessary. In ground floor.  A) With 6:1 cement mortar.  a) Inside wall 20 mm thick plaster	116.940	sq.m.	181.00	21166.14
	b) Out side Wall, 15mm th.	111.950	sq.m.	156.00	17464.20
	SOR. PWD. P-151. I -2 (i)(c) B)10mm th celling plaster (4:1) SOR. PWD. P-151. I -2 (i)(c)	23.330	sq.m.	140.00	3266.20
12	Neat cement punning about 1.5mm thick in wall, dado, window, sills, floor, drain etc.	26.700	sq.m.	38.00	1014.60
13	Artificial stone in floor,dado, staircase etc. with cement conctrete (4:2:1) with stone chips laid in panels as directed with topping made with ordinary or white cement (as necessary) and marble dust in proportion (2:1) including smooth finishing and rounding off corners and including application of cement slurry before flooring works, using cement @ 1.75 kg./sq.m. all complete including all materials and labour.  In ground floor.  3 mm. thick topping (High polishing grinding on this item is not permitted) with ordinary cement.  20mm thick  SOR, PWD, P-40, I -3 (i)	26.490	sq.m.	265.00	7019.85
14	Supplying, fitting & fixing MS clamp for fixing door and window frame made of flat bent bar, end bifurcated, fixed in cement concrete with stone chips (4:2:1)a fitted and fixed omplete as per direction.  40mm x 6mm x 125 mm length.  (Cost of cement concrete will be paid separately)	34	each	22.00	748.00
15	Wood work in door and window frame fitted and fixed complete including a protective coat of painting at the contact surface of the frame other Local wood SOR, PWD, P-85, T -1(i)	0.213	cu.m.	#####	9834.42
16	Panel Shutter of door & Window (each Panal Consisting Of single Plan without Join) 25 mm thick shutter with 12 mm thick Panal of size 30 to 45 cm. Other Local wood	8.520	sq.m.	1567.00	13350.84
17	Iron butt hinges of approved quality fitted and fixed with steel screws, with ISI mark. a)75mm x 47mm x 1.70mm SOP PWD P-01 T -20(ix)	32.000	each	34.00	1088.00
18	Iron Socket Bolt of approved quality fitted and fixed complete. i) 150 mm long x 10 mm dia	11.000	each	71.00	781.00





19	White washing including cleaning and smoothening surface thoroughly (5 parts of stone lime and 1 part of shell lime should be used in the finishing coat).  Two Coats	124.960	%sq.m	1887.00	2358.00
20	Colour washing with ella with a coat of white wash priming including cleaning and smoothing surface thoroughly external surface One Coat SOR PWD P-155 I - 4(ii)(a)	100.560	%sq.m	1514.00	1522.48
21	Priming one coat on timber, plastered or on steel or other metal surface with synthetic enamel/oil bound primer of approved quality including smoothening surfaces by sand papering etc.  1) On timber surface SOR, PWD, P - 162, I - 7(a)  2) On Steel Surface SOR, PWD, P - 162, I - 7(b)	21.690 2.700	sq.m.	41.00 31.00	889.29 83.70
22	Painting with best quality synthetic enamel paint of approved make and brand including smoothening surface by sand papering etc. including using of approved putty etc. on the surface, if necessary ;  With super class (hi-nlass)-With any shade except white a) On timber or plastered surface Two Coats b) On Steel surface Two Coats  SOR. PWD. P = 162 8A(aii).(bii)	21.690 2.700	sq.m.	89.00 86.00	1930.41 232.20
23	Iron hasp bolt of approved quality fitted and fixed complete (oxidised) with 16 mm diad with center bolt and round fitting. 300 mm long SOR, PWD, P-93, I - 27c	2.000	each	193.00	386.00
24	Precast piered concrete jally work as per design and manufacture's specification including moulding etc. with stone chips and necessary reinforcement shuttering complete including fitting, fixing in position in all floors.  (a) 37.5 mm th. panels  Cement & steel required for this item will not be issued by deptt.	1.690	sq.m.	351.00	593.19
25	Supplying, fitting and fixing UPVC down pipes A type and fittings conforming to IS 13592-1992 with necessary clamps nails including making holes in walls, etc. and cutting trenches in any soil, through masonry concrete structure etc. if necessary and mending good damages including jointing with jointing materials ( Spun yarn, valamoid / bitumen / M. seal etc.) complete.  SOR, PWD, P173, I - 21 A (ii), C(ii), D(ii) i) UPVC Pipe 110 mm dia ii) UPVC Bend 87.5 degree 110 mm dia iii) UPVC Shoe 110 mm	3.000 2.000 1.000	Mtr. each each	291.00 162.00 128.00	873.00 324.00 128.00
26	M.S.or W.I. Ornamental grill of approved design joints continuously welded with M.S, W.I. Flats and bars of windows, railing etc. fitted and fixed with necessary screws and lugs in ground floor.  Grill weighing 10 kg/sq m to16 kg/m2  SOR, PWD, P - 76, I - 10 (i)	0.284	Qnti	8247.00	2342.15
27	Shallow water closet Indian pattern(I.P.W.C.) of approved make in white vitreous chinaware supplied ,fitted and fixed in position (excluding cost of concrete for fixing).  450 mm long	1.000	each	1062.00	1062.00
28	Foot rest for water closet of size 275 mm X 125 mm with Artificial stone(4:2:1) with 6 mm stone chips and chequered including adding colour as necessary.  SOR PMD (Sankary) B - 66 X - 9	1.000	Pair	70.00	70.00
29	Supplying, fitting and fixing cast iron 'P' or 'S' trap conforming to I.S. 3989 / 1970 and 1729 / 1964 including lead caulked joints and painting two coats to the exposed surface.  S Trap 100 mm	1.000	each	923.00	923.00
30	SQR. PWD. (Sanitary) P - 54. I - 14(8-iii)  Supplying, fitting fixing CI Round Gratings  150mm dia  SQR. PWD. (Sanitary) P - 55. I - 18(ii)	1.000	Each	100.00	100.00





Rs.	OTAL AMOUNT
Rs.	dd for Electrical Works (ANNEXURE-I)
Rs.	ay
Rs.	OTAL AMOUNT
1 Item 7544.00	onstruction of 2 circular leach pit of inside diameter 1000 mm. & a depth f 1000 mm. With a layer of 250 mm. Thick brick work with cement morter 5:1) & honeycombed brick wall (4:1) at every alternate layer upto a elight of 925 mm. From bottom and then 125 mm. thick brick wall (4:1) or a height of 300 mm. and covered with 75m. RCC slab (4:2:1) with 8mm or steel @ 150 mm. centre to centre both ways including plustering and eat cement punning on top of the slab and making hooking arrangment on lab for lifting of the slab if require as well as jointing the connection with the inspection pit (450 x 450) covered with 50mm thick RCC slab (4:2:1) with stone chips and necessary renforcement and connected with 100 mm is a PVC pipe laid over rammed earth and then covered the pipe properly with powder earth including supplying fitting fixing fibre glass pan P-tap & olythene pipe as per requirement to connect with the inspection pit complete with all respect as per direction of EIC.(ANNEXLIRE-II)

Chief Engineer
ME Directorate
ME Directorate
Deptt. of Municipal Bengal
Govt. of We31 Bengal

Mr. 11/1/25 Proceeding

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		STIMATE FOR ELECTRICAL WORKS FOR ONE DV (ANNEXURE-I)				
SI.No		Item of works	Unit	Rate	Quantity	Amount
	1	Supplying & fitting polythene pipe complete with fittings as necessary. Under celing /beam/bound with 225WG GI wire inclusive S & Drawing 1x18 SWG GI wire as fish wire inside the pipe & fittings and providing 55 mm dia disc of MS sheet (205WG) having colour paint at one face first ended at the load point end of the polythene pipe with fish wire (synchronizing with roof/beam casting work of building construction)  19 mm dia 3 mm thick polythene pipe	RM	39.00	25.00	975.00
2		Powerckt wiring supplying and drawing 1; 1KV grade single core stranded FR PVC insulated & unseathed single core stranded Copper wire (Finolex make) 2 x 2.5 sqrnm (PH & N) +1x1.5 sqrnm (ECC) per laid polythene pipe and by the prelaid GI fish wire & making necessary connections as required.	RM	76.00	50.00	3800.00
3		Concealed Distribution wiring in in 2x1.5 sqmm single core standard *FR* insulated and unseathed cop per wire Finolex make & 1x1.5 sq mm single core stranded PVC cinsulated and unseathed cop per (Finolex make) wire used as ECC in 19 mm bore 3 mm thk. polyythene pipe complete with all accessries embedded in wall smooth run to light / fan/call bell point with pino key type switchb (6 Amps) (Anchor make) fixed on sheet metal (16 SWG) Switch Board with bakelite/ perspex (wall maching colour) Top cover (3 mm thick) flushed in wall including mending all good damages to original finish Average per point 6.00 mt.	points	828.00	10.00	8280.00
4		Deistribution concealed wiring with 2x1.5 sq mm  (PH & N) single core stranded FR PVC insulated & unsheathed single core stranded 1.1 KV grade Copper Wire (finolex) & 1x1.5 sq mm  (ECC) single core stranded (PH & N) 1.1 KV grade cu wire (finolex) & 1 x 1.5 sq mm single core stranded PVC insulted & unsheathed cu wire (finolex) used as ECC in  19 mm bore, 3 mm thick polythene pipe complete with all accessories embedded in wall 250 volt 5 amp 3 pin plug point including S & F 250 Volt  5 amp 3 pin flush type plug socket & piano key type swich (Anchor make)  on existing switch board as mentioned sl. no.3	points	76.00	2.00	152.00
5	- 1	Supplying & drawing 1.1 KV grade single core srtanded FR PVC insulated & unseathed single core sranded cu Wire 3x2.5 sq mm (finolex make) in the prelaid polythene pipe & by the prelaid GI fishwire & making necessary connection as required (CESC supply to consumer DP near to CESC & inside the room another DP near CESC & inside the room another DP of dwelling units)	RM	86.00	15.00	1290.00

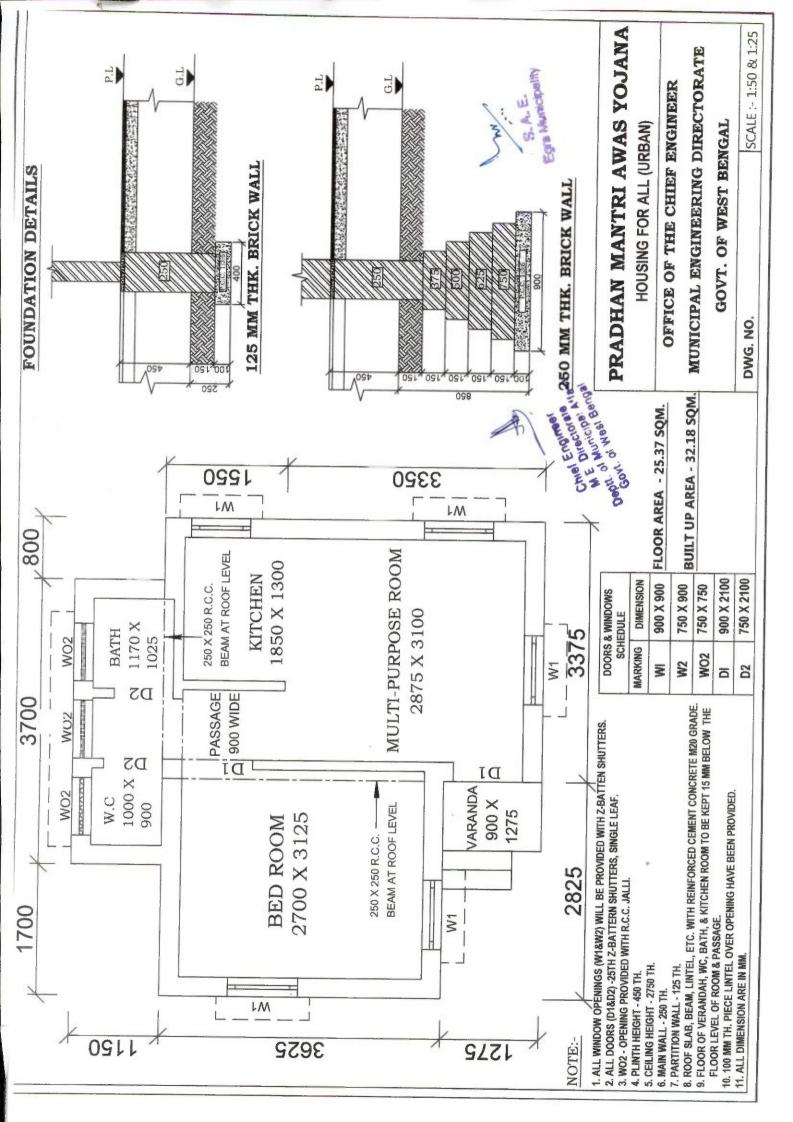




SI.No.	Item of works	Unit	Rate	Quantity	Amount
6	Supplying Delivery & instalation on wall of 30/32 amp DP MCBof Havel's make with enclosed box along with all its necessary 1 connection complete.(Anchor)	nos	808.00	2	1616.00
7	Earthing in soft soil with 50 mm dia GI pipe (TATA make Medium ) 3.64 mm th. X 3.04 Mtr long and 1 x 4 SWG GI ( hot dip) wire (4 m long) 13 mmdia x 80 mm long GI bolts, double nuts, double washer including S & F 15 mm dia GI protection (1 mtr long) to be filled with bitumen partlyunder the ground level & partly above GL driven to an average depth of 3.65 m below the GL & restoring surface duly rammed.	each	1715.00	1	1715.00
8	Connecting the equipment to earth BUSbar inclussive S&F 10 SWG (Hot Dip) GI wire on wall /floor with a staples buried inside wall /floor as required & making connection to equipments with bolt, nut, washer, cable lugs etc. as required & mending good damages.	M	6.00	5	30.00
			TOTAL		17858.00
	Rupees Seventeen Thousand Eight Hundred	Fifty Eig	ght Only		17858.00

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# DETAILED ESTIMATE FOR THE CONSTRUCTION OF CONCRETE ROAD

# Pradhan Mantri Awas Yojana Housing for all (Urban)

Estimate based on P.W.D. (W.B) schedule of rates for building works, Materials & Labour effect from 01/07/2014 and from latest corrigendum (East Medinipur)

Total length :- 1 mtr.

Width:- 2.4 mtr.

SI No.	Description of Item	Quantity	Unit	Rate in Rs.	Amount in Rs.
1 P-1/I-2 (a)	Earth work in excavation of foundation trenches or drains in all sorts of soil (including mixed soil but excluding laterite or sand stone) including removing, spreading or staking Ithe spoils within a lead of 75m as directed. The item includes necessary trimming the sides of trenches, leveling, dressing and ramming the bottom, bailing out water as required complete. (Depth of excavation not exceeding 1500mm). 2x1.0x0.15x0.05	0.02	Cum.	120.47	1.81
2 P-31/ I-29	125mm thick Brick work with 1st class bricks in cement morter (1:4) in super structure in ground floor. 2x1.0x0.150		Sqm.	765.00	229.50
3 P-2/ I-4(A)	Filling in foundation or plinth by fine sand in layers not exceding 150mm as directed and consolidating same by through saturation with water ramming complete including the cost or supply of sand. 1x1.0x2.17x0.10		Cum.	747.26	162.16
4 P-45/ I-13	Supplying and laying polythene sheet (150gm/m2) over damp proof course or below flooring or roof terracing or in foundation trenches. 1x1.0x2.17		Sam.	25.00	54.25
5 P-26/ I-12(f)	Hire and labour charges for shuttedring with centering and necessary staging up-to 4m using approved stout props and thick hard wood planks of approved thickness with required bracking for concrete slabs beams coloumns, lintels curved or straight including fitting, fixing and striking out after completion of works.(f) (25mm to 30mm thick wooden shuttering without staging in foundation. 2x1.0x0.150	0.30	Sqm.	221.00	66.30
6	Ordinary cement mix (1:2:4) with graded stone chips (20mm &	0.30	Jqm.	221.00	00.30
P-11/ I-5(a)	10 mm. normal size Pakur variety) excluding shuttering and reinforcement if any in ground floor with local brand black stone. 1x1.0x2.4xo.15	0.36	Cum.	6944.46	2500.01

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SI No.	Description of Item	Quantity	Unit	Rate in Rs.	Amount in Rs.
7 P-2/ I-3(c)(iii)	Earth work in filling in foundation trenches or plinth with good earth, in layers not exceeding 150 mm. including watering and ramming etc. layer by layer complete. (Payment will be made on profile measurement of finished quantity). (b) (ii) With carried earth arranged by the contractor within a radious exceeding 3 Km. But not exceeding 5 Km. including the cost of Carried earth.				
	2x1.0x0.60x0.25	0.30	Cum.	403.00	120.90

Total:-

3134.92

Contingency @ 3%:-

94.05

**Grand Total:-**

3228.97

Say :- 3229.00

(Rupees three thousand two hundred twenty nine)only.

N.B.:- The unit rate per sqm. = Rs. (3229.00/2.4) = Rs. 1345.42 Say:- Rs. 1345.00

Signature of S.A.E Egra Municipality

S. A. E. Egra Municipality Signature of Chairman Egra municipality



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### DETAILED ESTIMATE FOR THE CONSTRUCTION OF R.C.C. DRAIN

# Pradhan Mantri Awas Yojana Housing for all (Urban)

Estimate based on P.W.D. (W.B) schedule of rates for building works, Materials & Labour effect from 01/07/2014 and from latest corrigendum (East Medinipur)

# Total length :- 1 mtr.

Si No.	Description of Item	Quantity	Unit	Rate in Rs.	Amount in Rs.
1 P-1/I-2 (a)	Earth work in excavation of foundation trenches or drains in all sorts of soil (including mixed soil but excluding laterite or sand stone) including removing, spreading or staking Ithe spoils within a lead of 75m as directed. The item includes necessary trimming the sides of trenches, leveling, dressing and ramming the bottom, bailing out water as required complete. (Depth of excavation not exceeding 1500mm)	1.89	Cum.	120.47	227.69
2	Filling in foundation or plinth by Silver sand in layers not	2,00		12.0.17	227.03
P-2/ I-4(A)	exceding 150mm as directed and consolidating same by through saturation with water ramming complete including the cost or supply of sand.	0.14	Cum.	568.72	76.78
3 P-45/ I-13	Supplying and laying polythene sheet (150gm/m2) over damp proof course or below flooring or roof terracing or in foundation trenches.		Sqm.	25.00	22.50
4 P-26/ I-12(f)	Hire and labour charges for shuttedring with centering and necessary staging up-to 4m using approved stout props and thick hard wood planks of approved thickness with required bracking for concrete slabs beams coloumns, lintels curved or straight including fitting, fixing and striking out after completion of works.(f) (25mm to 30mm thick wooden shuttering without staging in foundation.	4.35	Sqm.	221.00	961.35
5 P-27 / I-15	Reinforcement for reinforced concrete work in all sorts of structures including distribution bars, stirrups, binders etc. initial straightening and removal of loose rust (if necessary), cutting to requisite length, hooking and bending to correct shape, placing in proper position and binding with 16 guage black annealed wire at every intersection, complete as per drawing and direction. (a) For works in foundation, basement and upto roof of ground floor / upto 4 m. (i) Tor steel / Mild Steel	0.02	MT.	61506.34	1476.15
6 P-11/ I-5(a)	Ordinary cement mix (1:2:4) with graded stone chips (20mm & 10 mm. normal size Pakur variety) excluding shuttering and reinforcement if any in ground floor with local brand black stone.		Cum.	6316.21	2747.55
7 P-29/ I-22 (a)	250mm thick Brickwork with 1st class bricks in cement morter (1:4) in foundation and plinth.	5	Cum.	5562.00	0.00
8 P-151/ I-1	labour for chipping of concrete surface before taking up Plastering work.		Sqm.	21.00	0.00





9 P-151/ I-2	Plaster ( to wall, celling, floor etc.) with standard cement mortar including rounding off or chamfering corners as directed and drip course, scaffolding, staging where necessary).  (ii) with 1:4 cement morter (c)10 mm. thick plaster		Sqm.	134.00	0.00
	(i) with 1:6 cement morter (c)15 mm. thick plaster	3.00	Sqm.	147.00	441.00
	(i) with 1:6 cement morter (b) 20 mm. thick plaster		Sqm.	170.00	0.00
10 P-152/ I-8	Neat cement punning about 1.5mm thick in wall dado, window, sills, floor, drain etc.	3.00	Sqm.	38.00	114.00

Total:-

6067.02

Contingency @ 3%:-

182.01

Grand Total :-Say :- 6249.03 6249.00

(Rupees six thousand two hundred forty nine) only.

Signature of S.A.E Egra Municipality

S. A. E. Egra Municipality Signature of Chairman Egra municipality



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### **DETAILED ESTIMATE FOR THE CONSTRUCTION OF GUARD WALL**

### Pradhan Mantri Awas Yojana Housing for all (Urban)

Estimate based on P.W.D. (W.B) schedule of rates for building works, Materials & Labour effect from 01/07/2014 and from latest corrigendum (East Medinipur)

# Total length :- 1 mtr.

SI No.	Description of Item	Quantity	Unit	Rate in Rs.	Amount in Rs.
1 P-1/I-2 (a)	Earth work in excavation of foundation trenches or drains in all sorts of soil (including mixed soil but excluding laterite or sand stone) including removing, spreading or staking Ithe spoils within a lead of 75m as directed. The item includes necessary trimming the sides of trenches, leveling, dressing and ramming the bottom, bailing out water as required complete. (Depth of excavation not exceeding 1500mm): 1x1.2x1.325				
2 P-1/	Earth work in filling in foundation trenches or plinth with good	1.59	Cum.	120.47	191.55
I-3(a)	earth in layers not exceding 150mm including watering and ramming etc. layer by layer complete.(With earth obtained from excavation of foundation.  1/3 x excavated soil	0.53	Cum.	78.31	41.50
3 P-2/ I-4(A)	Filling in foundation or plinth by silver sand in layers not exceding 150mm as directed and consolidating same by through saturation with water ramming complete including the cost or supply of sand. 1x1.2x0.10	0.12	Cum.	568.72	68.25
4 P-45/ I-13	Supplying and laying polythene sheet (150gm/m2) over damp proof course or below flooring or roof terracing or in foundation trenches. 1x1.2		Sqm.	25.00	30.00
5 P-26/ I-12(f)	Hire and labour charges for shuttedring with centering and necessary staging up-to 4m using approved stout props and thick hard wood planks of approved thickness with required bracking for concrete slabs beams coloumns, lintels curved or straight including fitting, fixing and striking out after completion of works.(f) (25mm to 30mm thick wooden shuttering without staging in foundation.  2x1.0x0.225,2x1.2x0.225,2x1.0x0.075,2x0.45x0.075			224.00	
6	Cement concrete with graded Jhama Khoa (30 mm size)	1.21	Sqm.	221.00	267.41
P-11/I- 4(a)	excluding shuttering in ground floor and foundation a) 1:3:6 proportion. 1x1.2x0.075	0.09	Cum.	5303.00	477.27
	Reinforcement for reinforced concrete work in all sorts of structures including distribution bars, stirrups, binders etc. initial straightening and removal of loose rust (if necessary), cutting to requisite length, hooking and bending to correct shape, placing in proper position and binding with 16 guage black annealed wire at every intersection, complete as per drawing and direction. (a) For works in foundation, basement and upto roof of ground floor / upto 4 m. (i) Tor steel / Mild Steel 10 mm. 150 c/c at bottom. 8x1.2xo.617, 9x1.0x0.617, 8mm. 150 c/c at top 8x0.375x0.395, 4x1.0x0.395nand lapping and wastage @3%				
	AVT-000-232 GIRD Build in Mayrage (# 230	0.014	MT.	61506.34	861.09





SI No.	Description of Item	Quantity	Unit	Rate in Rs.	Amount in Rs.
8 P-11/ I-5(a)	Ordinary cement mix (1:2:4) with graded stone chips (20mm & 10 mm. normal size Pakur variety) excluding shuttering and reinforcement if any in ground floor with local brand black stone. 1x1.2x0.150, 1x0.45x0.075	0.21	Cum.	6316.21	1345.35
	Masonary work with rough dressed stones of size as directed with cement morter, true to line, level and shape, including dressing and shaping boulders to size as required, curing complete including cost and carriage of all materials complete.  (a) with cement-sand morter 1:6 (i) In Road & Jhora Work. 1x2.0x(1.0+0.450)/2				
10 P-151/ I-2	Plaster ( to wall, celling,floor etc.) with standard cement mortar including rounding off or chamfering corners as directed and drip course, scaffolding, staging where necessary). (i) with 1:6 cement morter (c)15 mm. thick plaster 1.0x2.0		Cum.	3152.14	4570.60 294.00
11 P-152/ I-8	Neat cement punning about 1.5mm thick in wall dado, window, sills,floor,drain etc. 1.0x2.0		Sqm.	38.00	76.00
12 P-2/ I-3(c)(iii)	Earth work in filling in foundation trenches or plinth with good earth, in layers not exceeding 150 mm. including watering and ramming etc. layer by layer complete. (Payment will be made on profile measurement of finished quantity). (b) (ii) With carried earth arranged by the contractor within a radious exceeding 3 Km. But not exceeding 5 Km. including the cost of Carried earth. 1.0x1.5x2.0		Cum.	403.00	1209.00

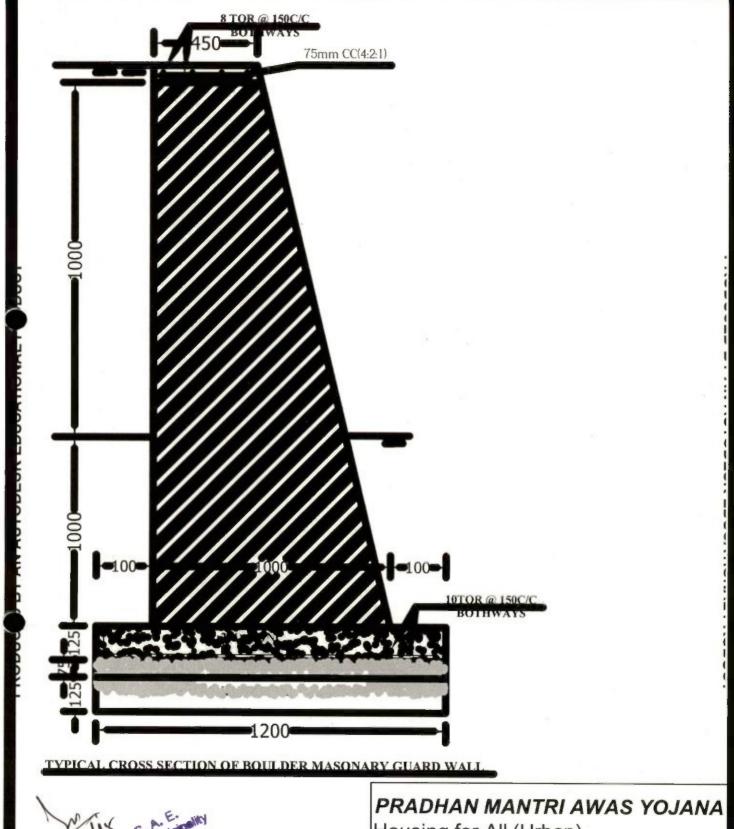
Total:- 9432.02
Contingency @ 3% :- 282.96
Grand Total :- 9714.98
Say :- 9715.00

(Rupees nine thousand seven hundred fifteen) only.

Signature of S.A.E Egra Municipality

S. A. E. Egra Municipality Signature of Chairman Egra municipality





Signature of S.A.E

Signature of Chairman

Egra Municipality

Egra Municipality

Housing for All (Urban)

Office of the Chief Engineer, Municipal Engineering Directorate, Govt. of West Bengal

## DETAILED ESTIMATE FOR THE CONSTRUCTION OF BITUMINOUS ROAD

## Pradhan Mantri Awas Yojana Housing for all (Urban)

Estimate based on P.W.(Roads)Deptt. schedule of rates for Road & Bridge works effect from 01/07/2014 & 1st

Corrigenda)(East Medinipur)

Length :- 1 mtr.

Width - 2.40 mtr. S.S. :- 0.6 mtr.

SI No.	Description of Item	Quantity	Unit	Rate in Rs.	Amount in Rs.
1 P-244/ I-4.10(i) and from rate analysis	Water Bound Macadam Sub Base by consolidating Jhama metal/Laterite chelly or stone metal/shingles of specific size in hard crust to requisite thickness (measured after compaction) in layers including screening of metals etc.as necessary, hand packing, sweeping, watering and rolling in stages with power roller to proper line, grade and camber, lighting, guarding & barricading and making necessary earthen bound of one metre width on each side where necessary to protect edges and preparing the bed by necessary cutting or filling and rolling all complete including the cost of all materials and hire and labour charges of all men and machineries and compacting to the required density, as per clause 404 of specifications for Road & Bridge works of MoRT&H (5th Revision). (i) For Construction of Sub Base by consolidating Jhama metal (63 mm to 45mm) with moorum screening.				
11170	For S.S 2x1.0x0.60x0.150 ; sub base:- 1x1.0x3.60x0.150	0.72	Cum.	2326.50	1675.08
2 P-245/ I-4.11(iii) B and from rate analysis	Providing, laying, spreading and compacting stone aggregates of specific sizes to water bound macadam specification including spreading in uniform thickness, hand packing, rolling with vibratory roller 8- 10 tonnes in stages to proper grade and comber, applying and brooming requisite type of screening / binding materials to fill up the interstices of coarse aggregate, watering including lightning, guarding, barricading and making necessary earthen bundh of one metre width on each side and preparing the bed by necessary cutting or filling, including cost of all materials and hire and labour charges of all men and machinery and compacting to the required density, as per Clause 404 of Specifications for Road & Bridge Works of MoRT&H (5th Revision). (iii) Grading -II Aggregate (53 mm to 22.4 mm) Using stone screenign Type B (11.2 mm) (B) Manual Means				
	1x1.00x2.40x0.15	0.36	Cum.	3630.55	1307.00
3 P-247/ I-5.01 & from rate analysis	Providing and applying primer coat with Cationic Bitumen Emulsion of approved grade confroming to IS: 8887 - 1978 and requisite quantity on prepared surface of granular base including cleaning of road surface and spraying primer using Mechanical means including cost and carriage of bitumen emulsion and all other incidental costs of work complete as per Clause 502 of specifications for Road & Bridge Works of MoRT&H (5th Revision). (i) For WBM / WMM surface: (with primer @ 1 kg. /Sqm.)				





SI No.	Description of Item	Quantity	Unit	Rate in Rs.	Amount in Rs.
	1x1.00x2.4	2.40	Sqm.	45.22	108.53
4 P-253/ I-5.11 and from rate analysis	Providing, laying and rolling of Open - graded premix surfacing of 20 mm thickness composed of 13.02 mm ( @ 0.018 m3 per m2) and 11.2 mm ( @ 0.009 m3 per m2 ) size stone aggregates, including thoroughly cleaning of the surface, screening, cleaning and pre- heating stone chips and fully pre- coating the same either using viscosity grade paving bitumen or cut - back or emulsion, carrying the mixture uniformly over the surface, including line, grade and level to serve as wearing course on a previously prepared base, including mixing in Mobile Hot Mix Plant (Light Duty) and thoroughly rolling with a smooth wheeled roller 8 -10 tonne capacity, finished to required level and grades including the cost and carriage of stone chips and matrix, heating the matrix, preheating the aggregates to required temperature and including the hire charges of Mobile Hot Mix Plant (Light Duty) and other machinery, pay of operators, cost of fuel and lubricants etc. complete to be followed by seal coat of either Type A or Type B as per Technical Specification Clause 508 for Rural Roads of MORD.				
- 2.5	1x1.00x2.40	2.40	Sqm.	151.09	362.62
5 P-247/ I-5.02 ii and from rate analysis	Providing and applying tack coat with Catonic Bituman Emulsion of approved grade coforming to 15: 8887-1978 on the prepared surface cleaned with hydraulic broom, moistening the surface including cost and carriage of emulsion, hire charges of machinary and labour, cost of fuel and lubricants all complete as per clause 503 of specifications for Road and bridge orks of MoRT&H (5 th Revision)				
	1x1.00x2.40	2.40	Sqm.	14.42	34.61
6 P-254/ I-B,I,(i) and from rate analysis	Providing and laying Premixed Seal Coat (Type B) with approved quality sand / grit @ 0.6 m3 / 100 m2 and bitumen binder on thorughly cleaned black top surface coated with tack coat, including heating and mixing cleaned sand / grit (100% passing throuth 2.36 mm sieve and retained on 180 micron sieve) uniformly with bitumen binder, laying and spreading the mix at an uniform rate using suitable means, brushing the surface, if necessary, to ensure uniformity, followed by rolling with power roller including the cost and carriage of binder and aggregates, cost of heating the binder and aggregates and all other incidental charges, cost of fuel and lubricants, including hire charges of machineries, tools & Plants required for construction and quality control complete as per clause 511 of Specifications for Road & Bridge works of MoRT&H (5th Revision). (I) By Mechanical Means (I) With Hot Bitumen Binder (@ 6.80 kg. / 10 sqm.)				





SI No.	Description of Item	Quantity	Unit	Rate in Rs.	Amount in Rs.
7					
P-2/ I-3(c)(iii)	Earth work in filling in foundation trenches or plinth with good earth, in layers not exceeding 150 mm. including watering and ramming etc. layer by layer complete. (Payment will be made on profile measurement of finished quantity). (b) (ii) With carried earth arranged by the contractor within a radious exceeding 3 Km. But not exceeding 5 Km. including the cost of Carried earth.				
	2x1.00x0.9x0.6	1.08	Cum.	403.00	435.24

Total:-

4048.11

Contingency @ 3%:-

121.44

**Grand Total:-**

4169.55 4170.00

Say :-

(Rupees seven lakh fifty three thousand eight hundred sixty one)only.

N.B.:- The unit rate per sqm. = Rs. (4170.00/2.4) = Rs. 1737.50 Say:- Rs. 1738.00

Signature of S.A.E Egra Municipality

Signature of Chairman Egra municipality

S. A. E. Egne Municipelity

Les d'inalitations

LAYING OF DI PIPE(K7) FOR DISTRIBUTION NETWORK OF UNDER EGRA MUNICIPALITY

Rates have been taken from PWD building & Roads schedule w.e.f. 1st July-2014, with latest corrigendums & PHE Considering 1000 m. length Ref Description of Items Quantity Rate Unit Amount No. Excavation of trench of adequate width as per drawing for Laying CISS/CIDF/CI/DI/Tyton/G.I. pipes of all classes, sluice valves and on PHE (Eastern Circle)analysed rate, dt.-5/9/2012 as well as PHE (Eastern Circle) Specials including polythene sleeving in all sorts of soil including mixed with boulders, road sub-grade and Its flank, preparing the bottom surface for continuous bedding of pipe line and laying pipes. specials and valves in proper alignment with bailing out of water if schedule rate w.e.f.2/2/2009 required including ,cutting,chamfering,joining (payment for cutting, chamfering, making joints etc. will be paid separately) of pipes where necessary keeping a clear cover of at least 1.00 mtr. between G.L. and top of pipes and backfilling the trench with earth (using excavated earth) In layers to original condition as per specification & direction of the E.I.C. with progressive submission of drawing of pipe lines laid with statement of materials consumed between two node points against the Final Bill.(Pipes, Specials, valves, polythene sleevs will be supplied departmentally ) as per schedule, specification & Analysed rate based dir N. B. i) Any deviation from required clear cover of 1.00 mtr. has to be got permitted by the EIC and payment will be made on prorate basis over the rate of entire item, if executed without permission of EIC, ii) 25% payment against this item will be withheld till hydraulic test of pipeline is done as provided separately. I) Without using mobile crane but with the help of all other necessary devices. a) 100 mm dia 1000.00 m 136.04 Per Mtr. 136040.00 Analysed rate based on PHE Making rubber gasket joints to C.I/D.I. pipes maintaining proper alignment, level etc. by mechanical arrangement with or without using Eastern mobile cranes where necessary & with the help of all other equipments such as ganty girder, tools & tackles etc. as required, providing lubricants of approved quality & cleaning the grooves of pipe Sockets all complete as per specification and direction of EIC. a) 100 mm dia pipe 20 nos 46.05 Each 921.00 Making flange joint to CI/DI/GI Pipes, Specials and Valves where Analysed rate based necessary with supply necessary insertion, bolts, nuts, washers etc. of approved quality and type and painting complete as per 5 specification and direction of EIC. a) 100 mm dia pipe 254.60 1 nos Each 254.60 Analysed rate based on PHE Making socket joint to the spigot end of CI/DI Pipes with CI specials (suitable for Mechanical joint) by Mechanical jointing procedure as per (Eastern manufacturer specification including cleaning the spigot end, rubber casket and socket, applying suitable lubricant etc. all complete as per specification (CI Mechanical joints including nuts, bolts, gland and gasket etc.) a) 100 mm dia pipe 15 nos 57.00 Each 855.00 Charges for cutting CI/DI Pipes by chisel/ Hacksaw/ Compressed air Analysed rate based on PHE operated or mechanical abresive cutter including rendering the surface smooth by grinder etc. all complete as per direction of EIC. 47.50 285.00 Each 6 nos Chamfering the spigot end of C.I./D.I. pipes for fitting with the socket Analysed rate based on PHE of C.I./D.I. pipes and/or specials in tyton jointed water mains or other wise using electric grinder as per specification and direction of Engineer-in-Charge. a) 100 mm dia pipe 6 nos 41.80 Each 250.80 Construction of masonry valve chamber, washout chamber as per Schedule & Guidelines departmental approved drawing with brick work in cement morter (1:6) July 2013 P-ZU/AIIX-V/PITE including earth work in excavation (1:4:8) with jhama khoa in foundation 100 mm thick precast R.C.C. slab(1:2:4)shuttering on bottom and sides, reinforcement work and other materials as per departmental drawing complete with supply of 150 mm x 150 mm C.I w.e.f. surface box embedded into the precast slab including fitting, fixing over the chamber and overhauling the valves (if necessary) all complete including cost of all labour and materials a) 100 mm dia pipe 1 nos 9400.00 Each 9400.00





8	Filling the pipe lines with water, testing hydraulically as per IS: 3114 - 1965 (Article - 6) in section of a length not exceeding 500 m for head					
	of pressure as per specification including supplying, installation & fixing all equipments such as Diesel generator pump set, blank flange, pump pressure gauge, valves, pressure pumps & all other					
	pipes, blocking ends, providing thrust blocks & subsequent blocking of holes & other jointing materials & dismantling & removal of the					
	direction of EIC. The cost is inclusive of the requisite water to be					
	a) 100 mm dia pipe	1000.00	m	4.38	Per Mtr.	4380.00
9	Labour for boring (horizontally) through any kind of soil for road crossing of laying distribution system including hire charges and labour for supplying of suitable diameter crossing upto full width of road with necessary tools, tackles including necessary arrangement for boring and pushing required including fixing, jointing, pumping out accumulated water, lighting arrangement etc. complete as per					
	direction of EIC.					
11		5.00	m	680.20	Per Mtr.	3401.00
''	Valves by flushing with water and subsequently disinfection of the same pipe line by flushing again with water containing bleaching					
	hours of such filling including laboratory testing of water sample					*.
	line after completion of the work. The rate is including of cost of					
	a) 100 mm dia pipe	1000.00	m	1.30	Per Mtr.	1300.00
12	Earth work in excavation of foundation trenches or drains, in all sorts					
	of soil (including mixed soil but excluding moorum, laterite/sand					
					%	
		2.00 C	um	12047.00	cum	240.94
				8		
13				A = 5		
	150 mm as directed and consolidating same by through saturation	7 22 700		10000000		
	with water ramming complete including the cost of supply of sand.	1.50 c	um	806.70	cum	1210.05
				-		
14			$\neg$			
	dressing bed to proper level & filling joints with powder earth or local sand.	3.50 s	qm	343.00	sqm	1200.50
15	Supplying and laying Polythene Sheet (150gm/sq.m)over damp proof					
		3.50 s	qm	25.00	sqm	87.50
	course or below flooring or roof terracing or in foundation trenches.					
16	Cement concrete with graded stone ballast(40mm size excluding					
	shuttering) of Pakur vareity.	0.75 c	um	5443.09	cum	4082.32
17			-			
	In foundation and plinth	0.50 c	um	5273.02	cum	2636.51
18						
	including rounding off or chamfering corners as directed and ranking out joints or roughnening of concrete surface, including throating, nosing and drip course where necessary. In Gr. Fl.	03.00 s	qm	199.00	sqm	597.00
	20mm thick with 4:1 cement mortar					
19	Neat cement punning about 1.5 mm thick in wall dado, window, still,	03.00 se	am	38.00	sqm	114.00
	13 14 15 16 17 18	1965 (Article - 6) in section of a length not exceeding 500 m for head of pressure as per specification including supplying, installation & fixing all equipments such as Diesel generator pump set, blank flange, pump pressure gauge, valves, pressure pumps & all other tools & plants I/c drilling tapping & plugging of necessary holes to pipes, blocking ends, providing thrust blocks & subsequent blocking of holes & other jointing materials & dismantling & removal of the same i/c disposal of water etc. all complete as per the specification & direction of EIC. The cost is inclusive of the requisite water to be arranged by the contractor.  a) 100 mm dia pipe  9	1965 (Article - 6) in section of a length not exceeding 500 m for head of pressure as per specification including supplying, Installation & fixing all equipments such as Diesel generator pump set, blank flange, pump pressure gauge, valves, pressure pumps & all other tools & plants I/c diffling tapping & plugging of necessary holes to pipes, blocking ends, providing thrust blocks & subsequent blocking of holes & other jointing materials & dismantling & removal of the same I/c disposal of water etc. all complete as per the specification & direction of EIC. The cost is inclusive of the requisite water to be arranged by the contractor.  a) 100 mm dia pipe  9 Labour for boring (horizontally) through any kind of soil for road crossing of laying distribution system including hire charges and labour for supplying of suitable diameter crossing upto full width of road with necessary tools, tackles including necessary arrangement for boring and pushing required including fixing, jointing, pumping out accumulated water, lighting arrangement etc. complete as per direction of EIC.  a) 100 mm dia pipe  10 Cleaning thoroughly the inner surface of pipe line including Specials & Valves by flushing with water and subsequently disinfection of the same pipe line by flushing again with water containing bleaching powder resulting in residual chlorine not less than 10 mg/1 after 24 hours of such filling including laboratory testing of water sample obtained from disinfected pipe line and disposal of water from the pipe line after completion of the work. The rate is including of cost of requisite water to be arranged by the contractor.  a) 100 mm dia pipe  12 Earth work in excavation of foundation trenches or drains, in all sorts of soil (including mixed soil but excluding moorum, laterite/sand stone) including mixed soil but excluding moorum, laterite/sand stone) including mixed soil by the contractor.  a) 100 mm dia pipe  13 Filling in foundation or plinth by silver sand in layers not exceeding 15 mm as directed and consolidating same	1965 (Article - 6) in section of a length not exceeding 500 m for head of pressure as per specification including supplying, installation & fixing all equipments such as Diesel generator pump set, blank flange, pump pressure gauge, valves, pressure pumps & all other tools & plants // do filing lapping & plugging of necessary holes to pipes, blocking ends, providing thrust blocks & subsequent blocking of holes & other jointing materials & dismantling & removal of the same i/c disposal of water etc. all complete as per the specification & direction of EIC. The cost is inclusive of the requisite water to be arranged by the contractor.  3) 100 mm dia pipe  1 Labour for boring (horizontally) through any kind of soil for road crossing of laying distribution system including hire charges and alabour for supplying of suitable diameter crossing upto full width of road with necessary tools, tackles including necessary arrangement for boring and pushing required including fixing, jointing, pumping out accumulated water, lighting arrangement etc. complete as per direction of EIC.  3) 100 mm dia pipe  11 Cicleaning thoroughly the inner surface of pipe line including Specials & Valves by flushing with water and subsequently disinfection of the same pipe line by flushing again with water containing bleaching powder resulting in residual chlorine not less than 10 mg/1 after 24 hours of such filling including laboratory testing of water sample obtained from disinfected pipe line and disposal of water from the pipe line after completion of the work. The rate is including of cost of requisite water to be arranged by the contractor.  3) 100 mm dia pipe  12 Earth work in excavation of foundation trenches or drains, in all sorts of soil (including mixed soil but excluding moorum, laterite/sand stone) including removing, spreading or stacking the spoils within a lead of 75 mt. as directed.  The item includes necessary trimming the sides of trenches, dressing, remming the bottom bailing out water etc. as required complete.  3) Depth o	1965 (Article - 6) in section of a length not exceeding 500 m for head of pressure as per specification including supplying, installation & fixing all equipments such as Diesel generator pump set, blank flange, pump pressure gauge, valves, pressure pumps & at lother tools & plants \(  fulling alphing & plugging of necessary holes to pipes, blocking ends, providing thrust blocks & subsequent blocking of holes & other jointing materials & dismantling & removal of the same \( \text{ full full full full full full full ful	1985 (Article - 8) in section of a length not exceeding 500 m for head of pressure as per specification including supplyin, installation & fixing all equipments such as Diesel generator pump set, blank flange, pump pressure gauge, valves, pressure pumps & all other tools & plants liv drilling lapoing & plugging of necessary holes to pipes, blocking ends, providing thuss blocks & subsequent blocking of holes & other jointing materials & dismaniling & removal of the same lic disposal of valer et all complete as per the specification & direction of EIC. The cost is inclusive of the requisite water to be sammandal by the contradion.  Labour for boring (notrotrollally) through any kind of soil for road consultation.  Labour for supplying of suitable diameter crossing upto full width of road with necessary tools, tackles including flang, jointing, pumping out accumulated water, lighting arrangement etc. complete as per direction of EIC.  10 100 mm dia pipe  11 Cleaning thoroughly the inner surface of pipe line including Specials & Valves by flushing with water and subsequently disinfection of the same pipe line by flushing again with water containing bleaching powder resulting in residual chlorine not less than 10 mg/l after 24 hours of such filling including laboratory testing of water sample obtained from disinfected pipe line and disposal of water from the pipe line after completion of the work. The rate is including of cost of requisitie water to be arranged by the contractor.  2) 100 mm dia pipe.  2) Earth work in excavation of foundation trenches or drains, in all sorts of soil (including medical pipe line and disposal of water from the pipe line after complete.  3) 100 mm dia pipe.  2) Earth work in excavation of oundation trenches or drains, in all sorts of soil (including medical pipe line and disposal of water from the pipe line after complete.  3) 100 mm dia pipe.  2) Earth work in excavation of oundation trenches or drains, in all sorts of soil finduling the contractor.  4) Single Brick Flat Soiling of Pi





P-14 I-7	20	Ordinary Cement Concrete (mix -1:1.5:3) with graded stone chips (20 mm down) of <b>Pakur Variety</b> excluding shuttering and reinforcement,(if any)  In ground floor as per I.S.456-2000	0.50	) cum	6811.63	cum	3405.82
P-27 I-15-a-i	21	Reinforcement for reinforced concrete work in all sorts of structures including distribution bars stirrups, binders etc. including supply of rods, initial straightening and removal of loose rust (if necessary) cutting to requisite length hooking and bending to correct shape, placing in proper position and binding with 16 gauge black annealed wire at every intersection complete In raft footing, columns bracings, heal beam, ring beam, bottom dome. shaft conical floor, roof, etc as per drawing and direction of E1C & including cost of wire (payment to be made on required quantity of reinforcement as per drawing and direction)—  Tor Steel HYSD(Fe-500)  i) For works in foundation, basement uptoroof of ground floor/ upto 4 meter	0.10	МТ	61787.00	МТ	6178.70
P - 26/ 12(f)	22	Hire and labour charges for 25mm to 30mm thick wooden shuttering, curved or straight without staging in foundation etc. & striking off after completion of works.  -25 to 30mm shuttering without staging in foundation.	2.50	sqm	221.00	sqm	552.50
Rate of water supply Birnagar 2012-13	23	Supply of (DI) Specials (Mechanical joint, Flange socket, Flange spigot, Flange adapter, Bend, Tee, Reducer etc. as per IS: 15381 with latest comentment, Offered rate for Kg including all taxes, duties, as applicable & payable & delivery to destination which include loading, carriage, unloading & stacking. (payment will be made as per Book weight)	20.00	Kg	109.00	Kg	2180.00
					Sub Tot	al- A	179,573.23

T	( PURCHASE) OF DI PIPE(K7) FOR DISTRIBUTION NETWORK OF			T (	
Ref. N	Description of Items	Quantity	Rate	Unit	Amount
rate of Electro	Supply of ISI marked centrifugally cast(spun) Ductile Iron Pressure Pipes with Socket & Spigot and for water supply class K7 conforming to IS:8329/2000 suitable for (Push on) Rubber Gasket Jointing with inside Cement Mortar lining and outside Zinc coating with finished lyer of bituminous coating. The standard length of pipe are 5.5 Mtrs, & supply upto (+/-) 10% in the shoter lengths as prescribed in clause 15.5.1 of IS:8329/2000.  a) 100 mm dia	1000.00 m	855.00	Per Mtr.	855000.0

| Sub Total- B | 855,000.00 | TOTAL-(A+B) | 1,034,573.23 | Add Contingency @ 3% | 31,037.20 | G. Total- Cost Per meter Length = Rs. | 1,065.61 | 1,066.00 |

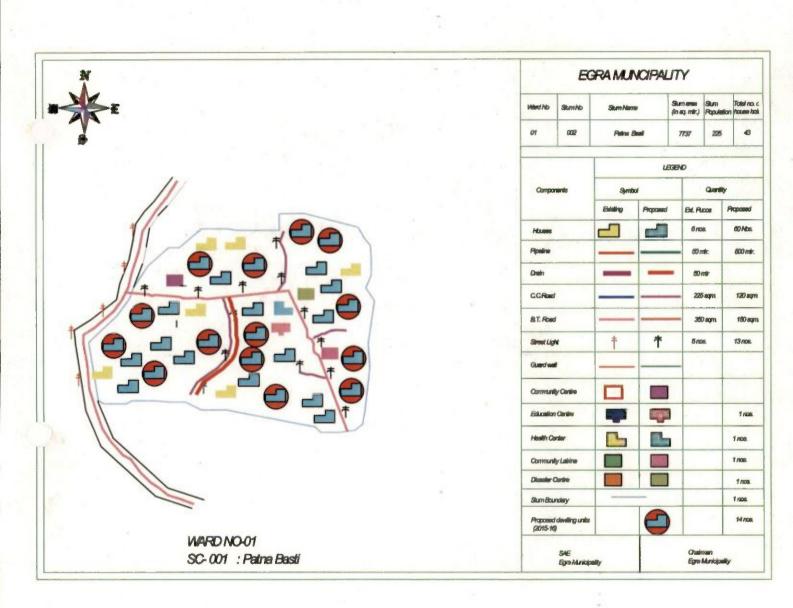


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## PMAY (HFA) Urban - Egra Municipality

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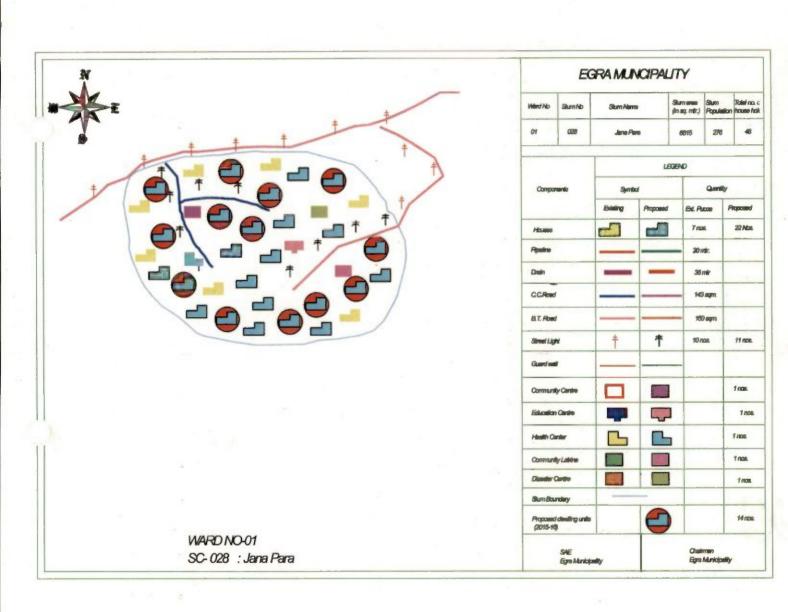
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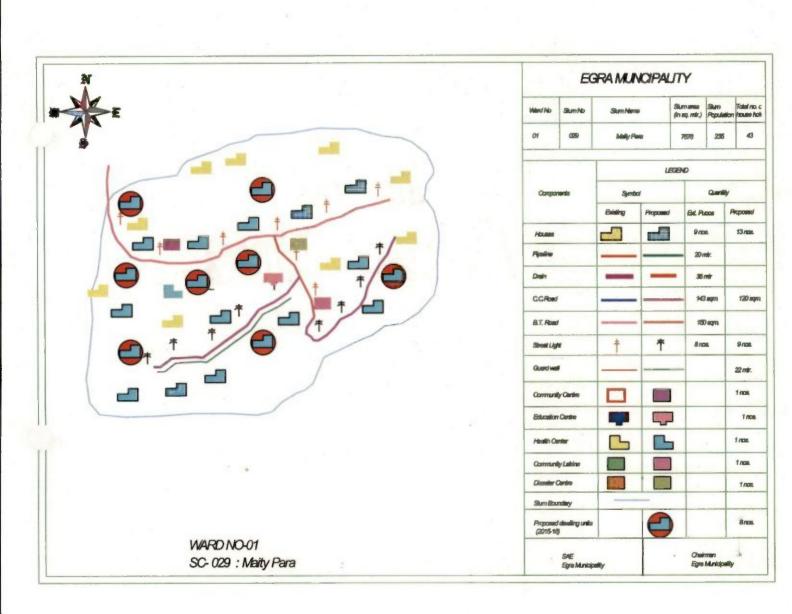
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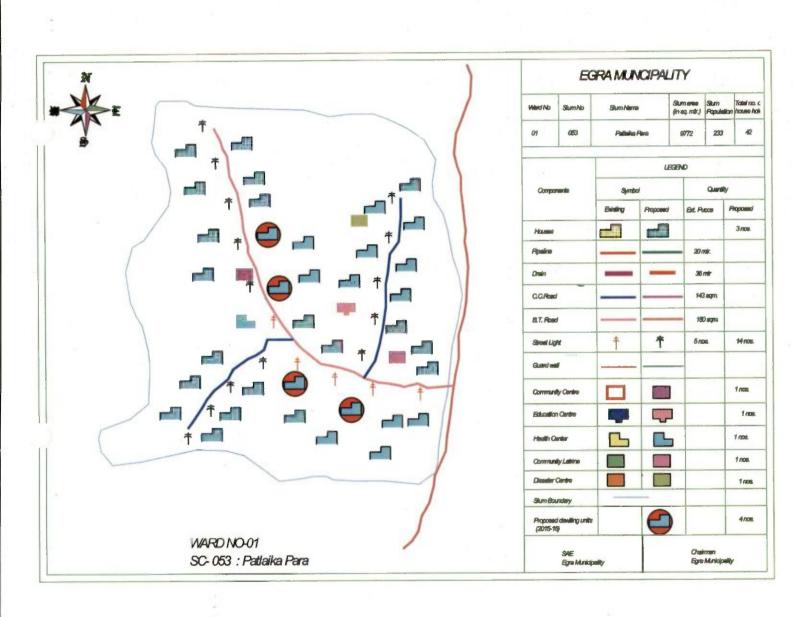




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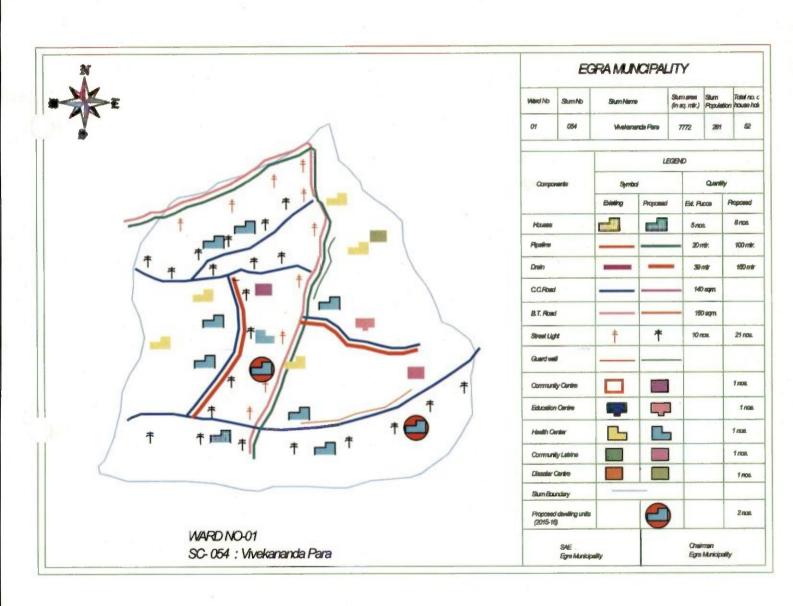


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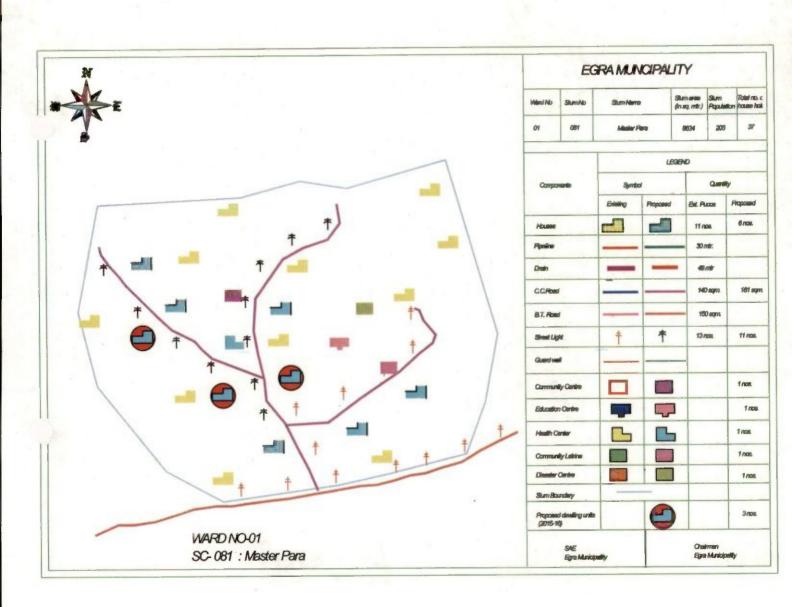


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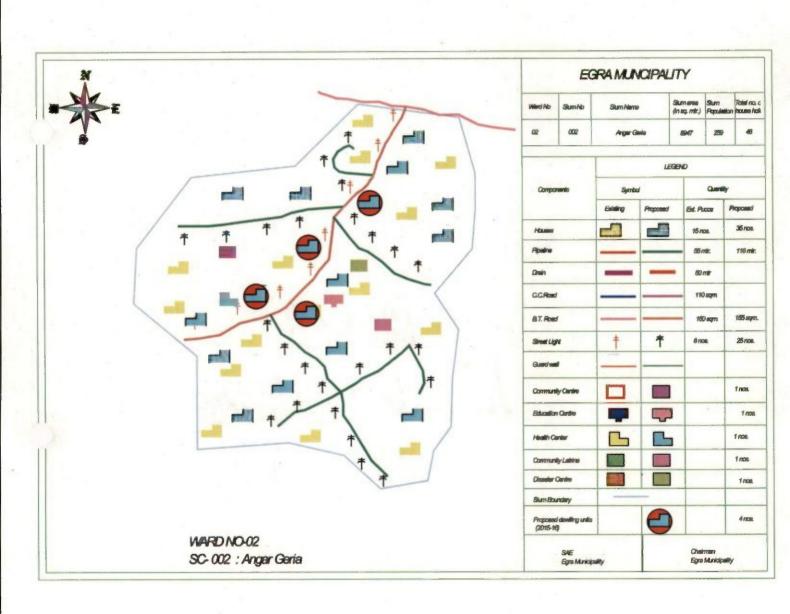


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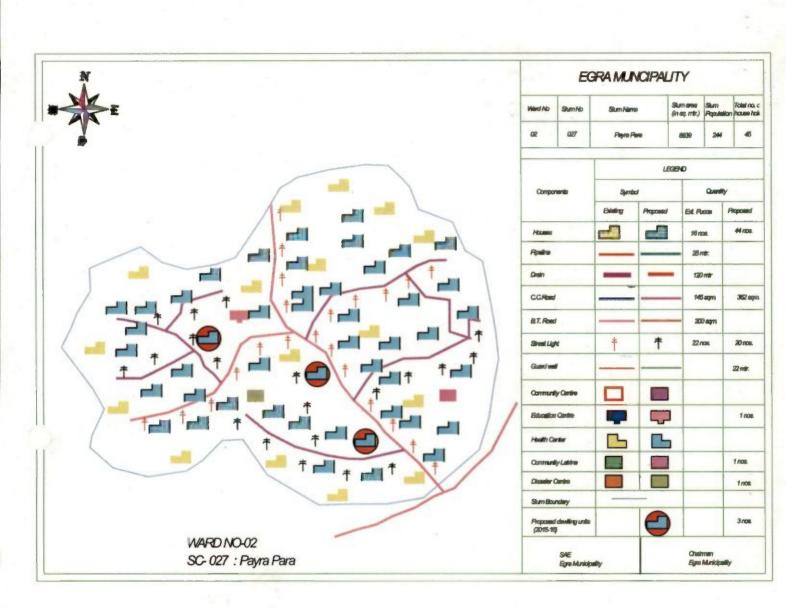
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Clairing May



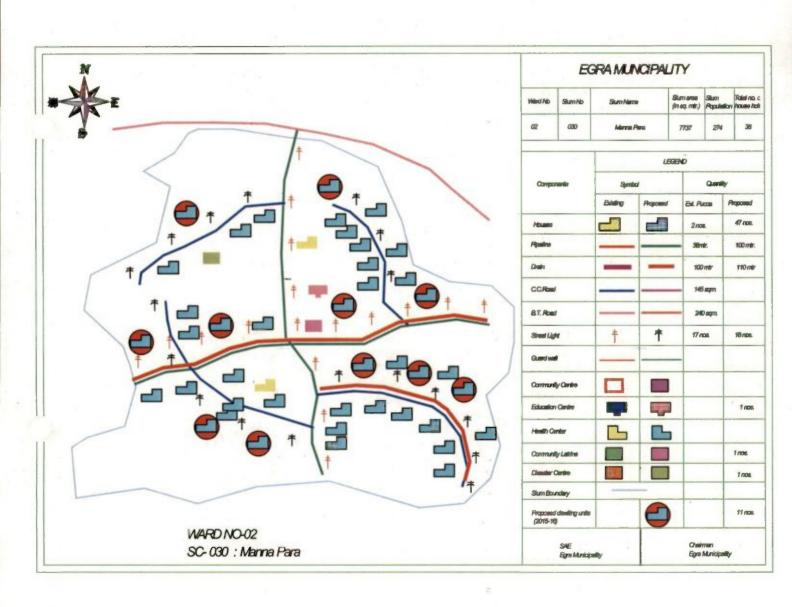


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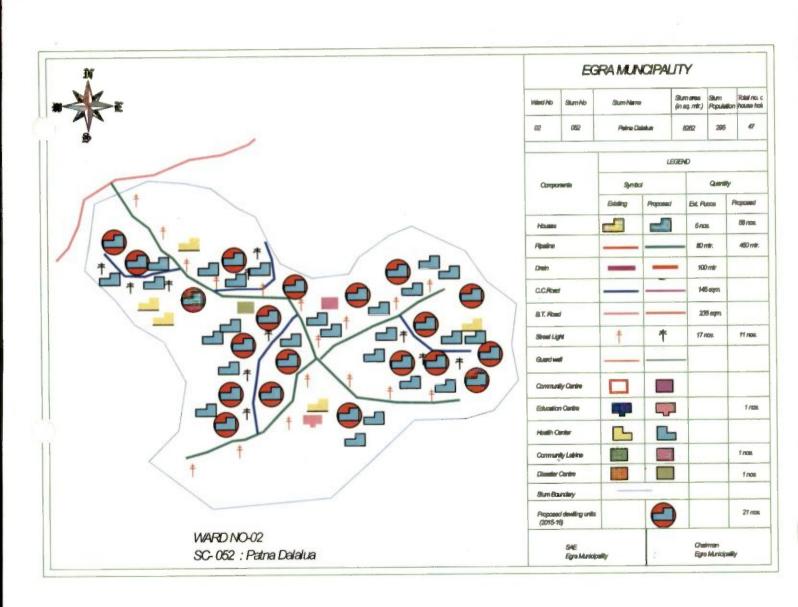


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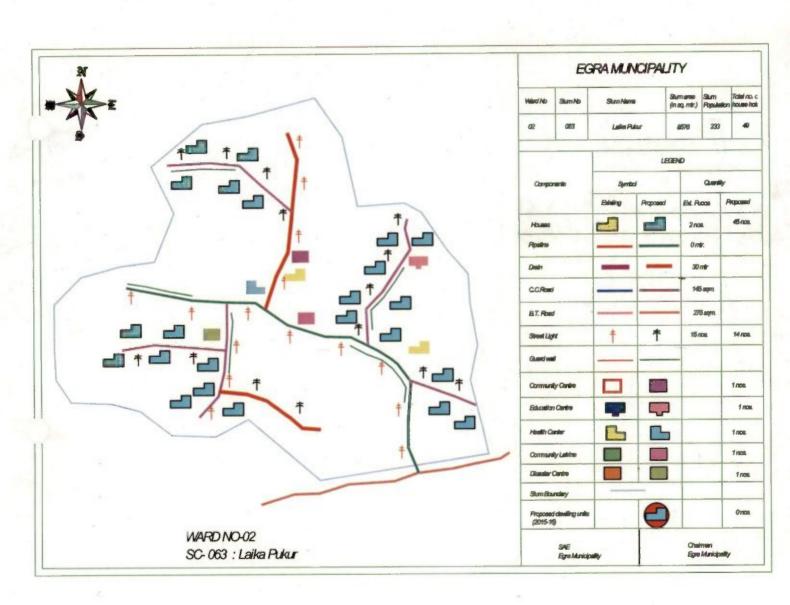
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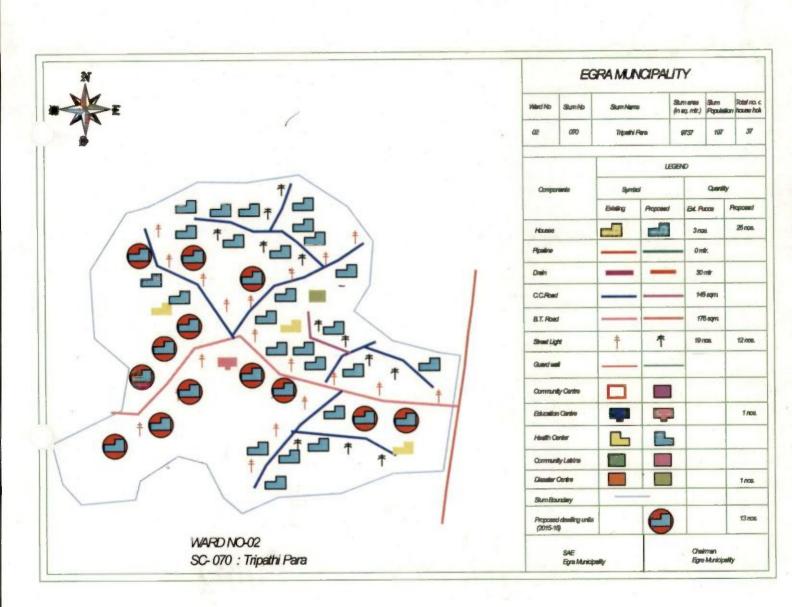




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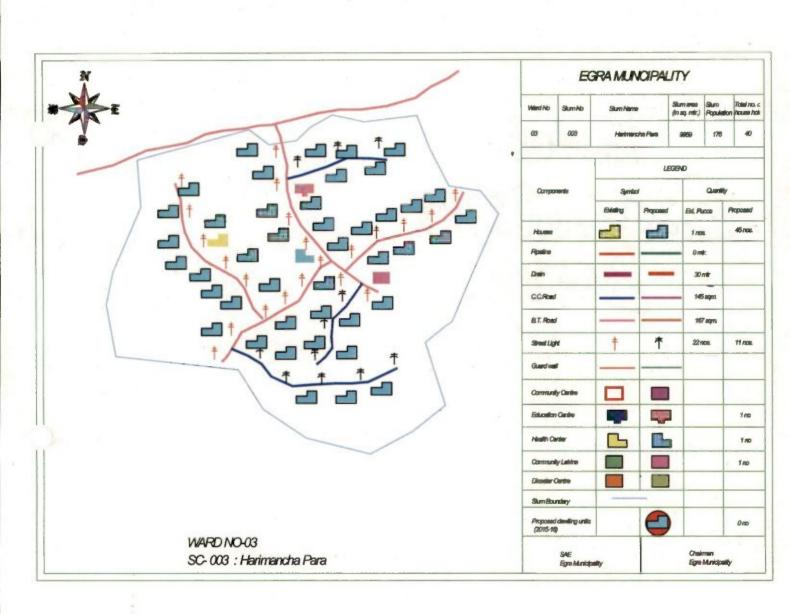


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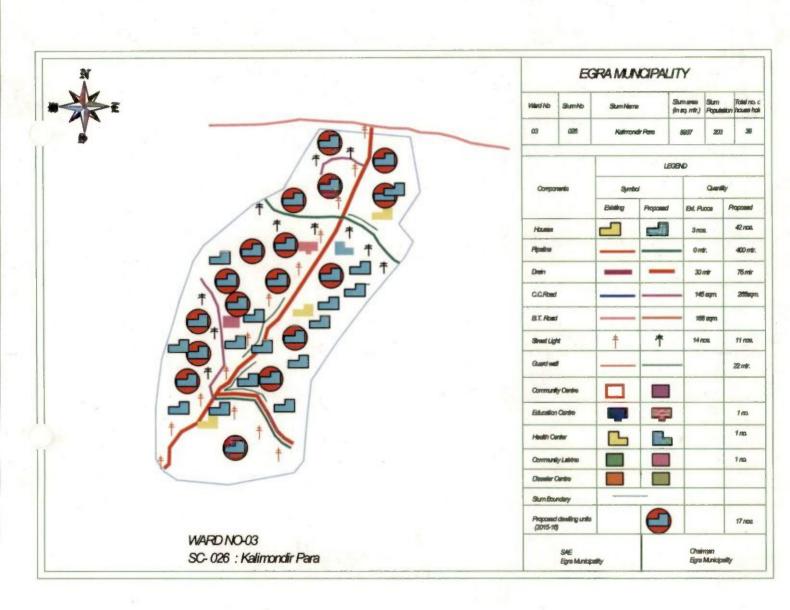


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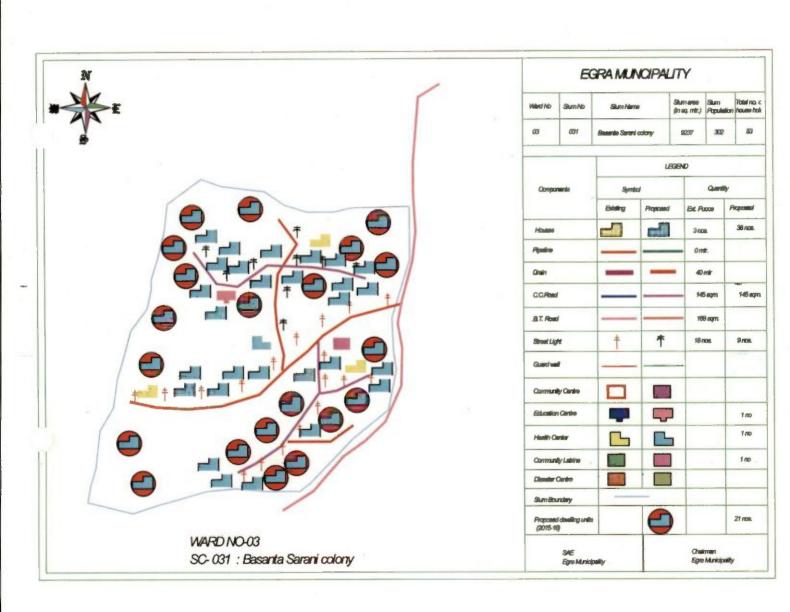




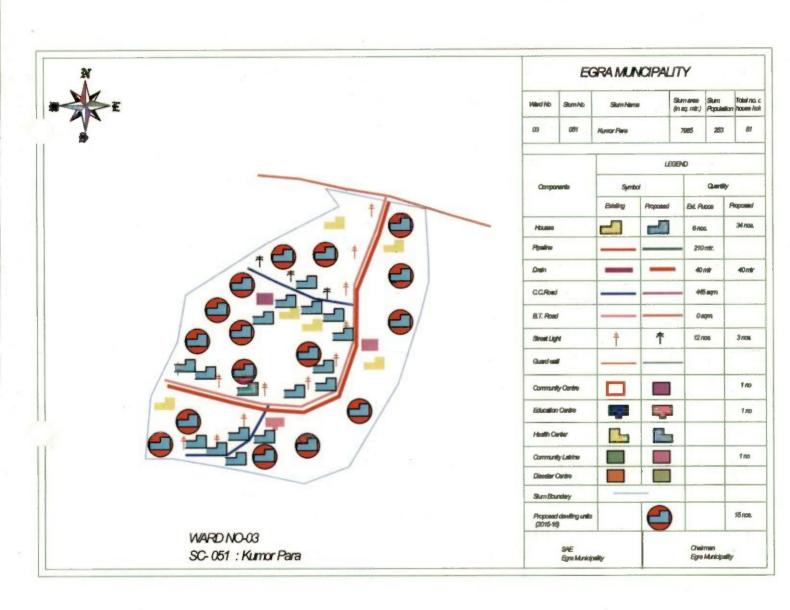
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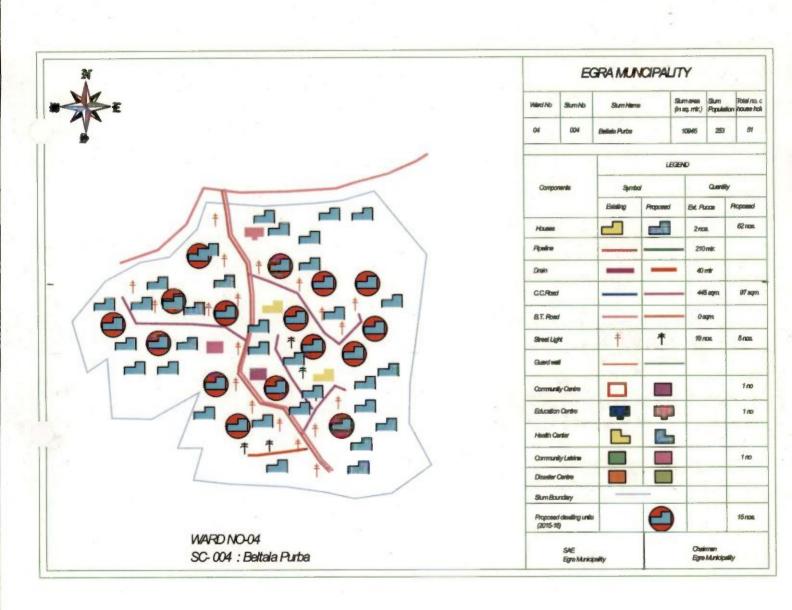
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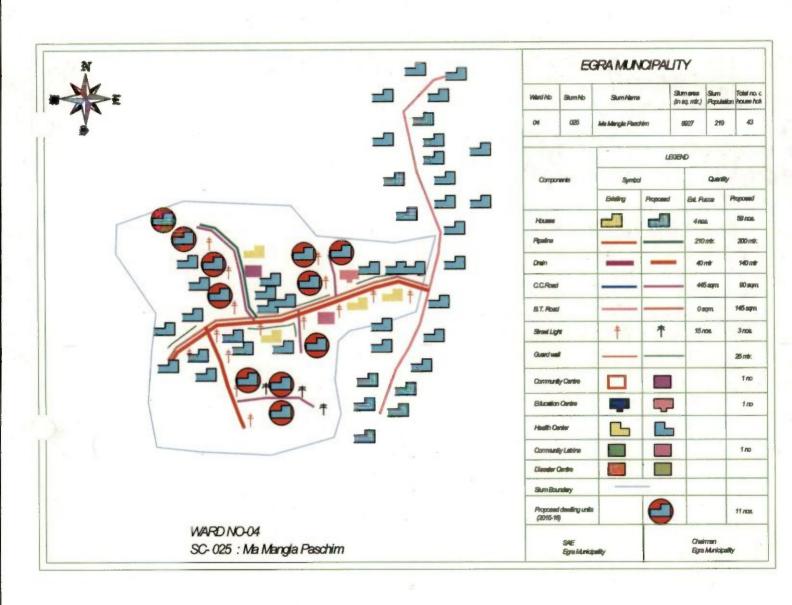


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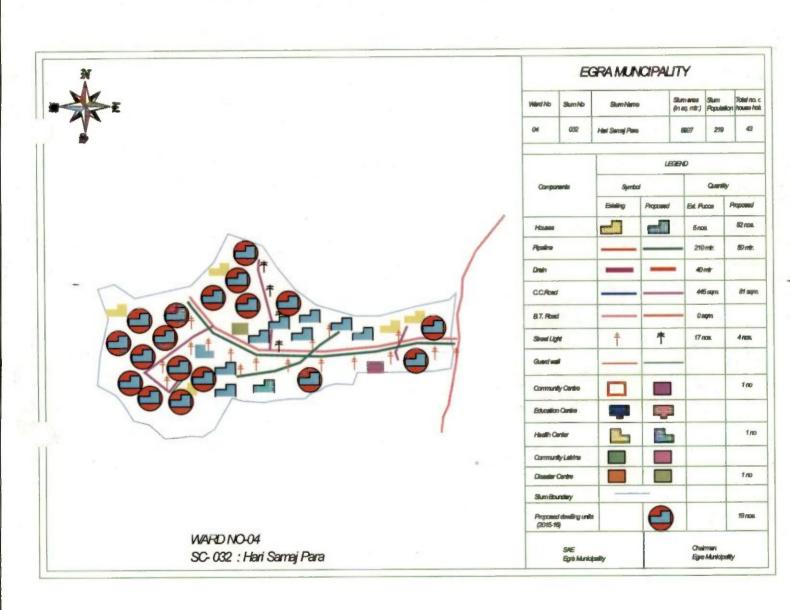


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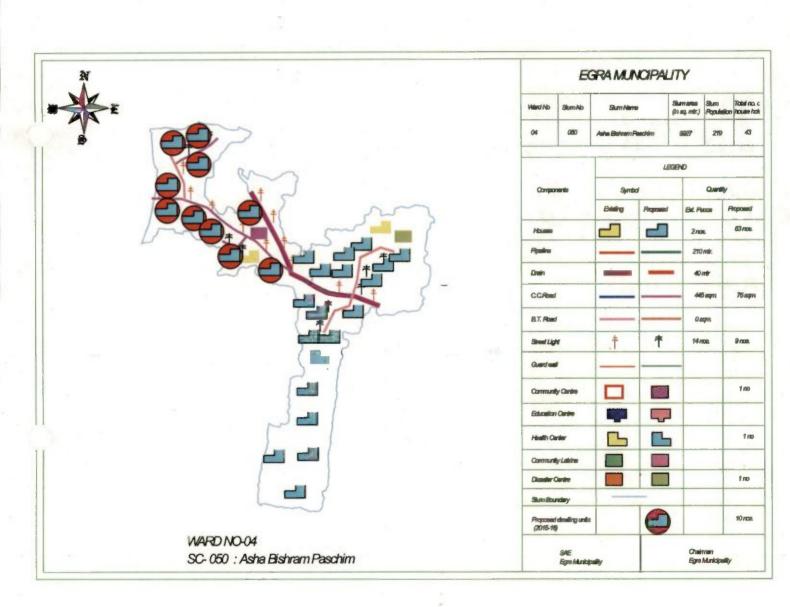


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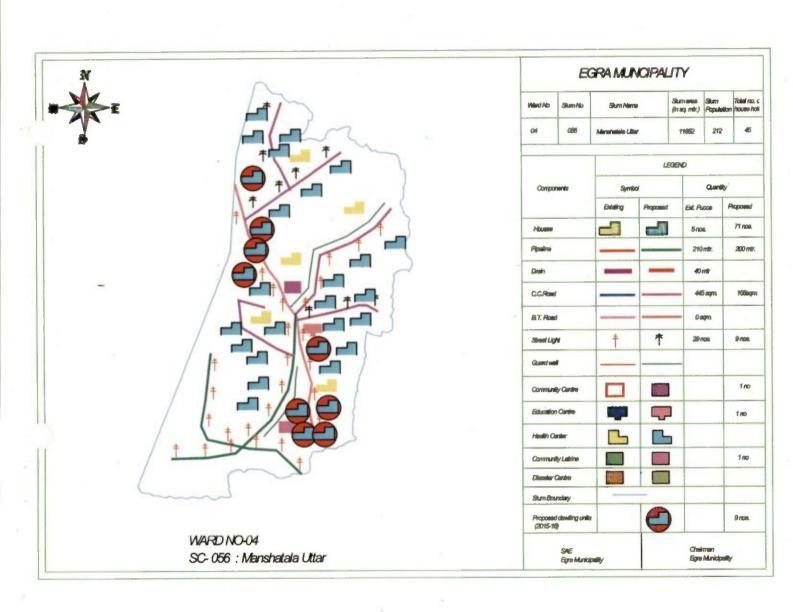


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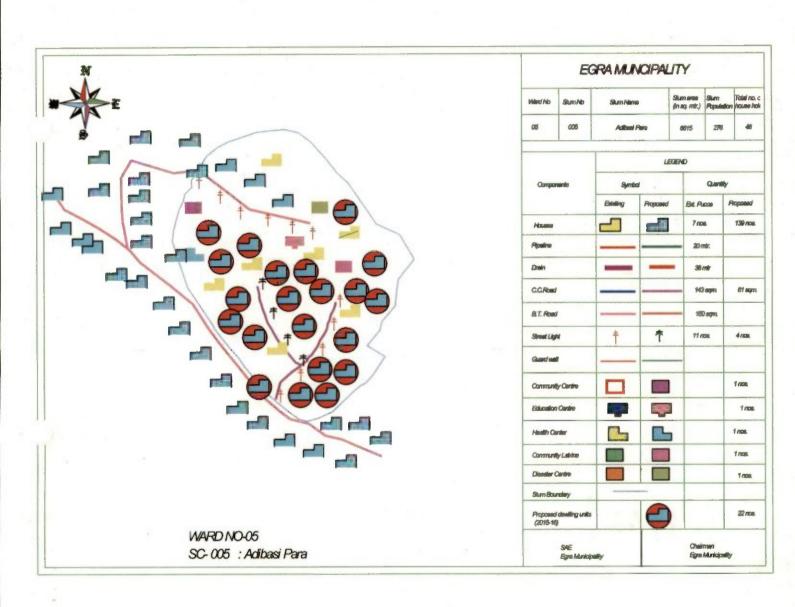
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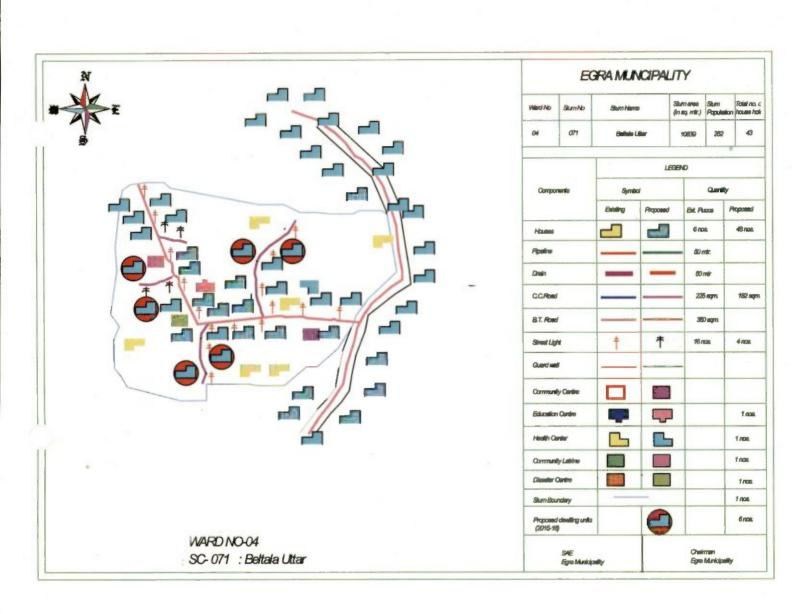


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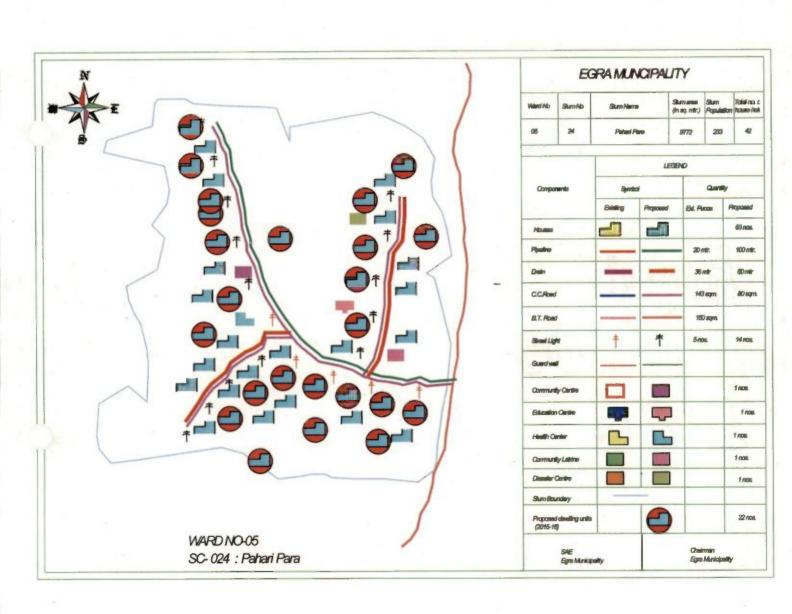


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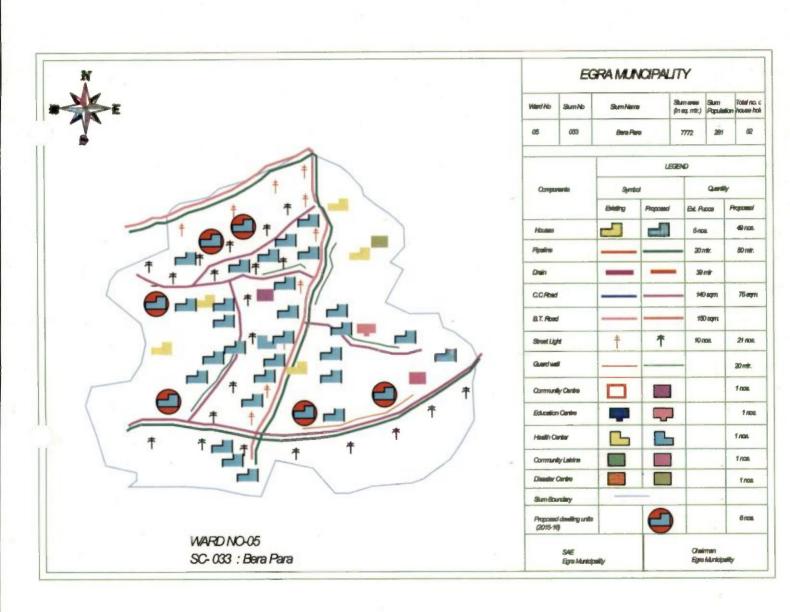


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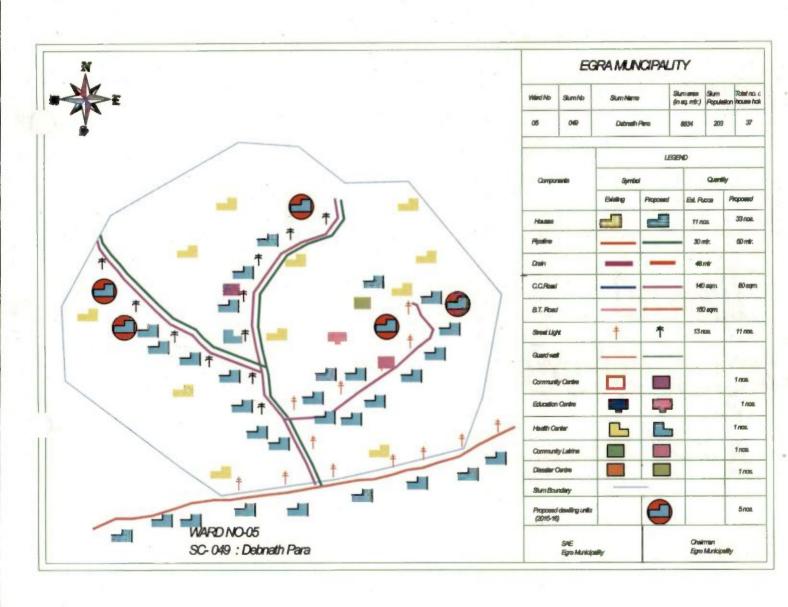


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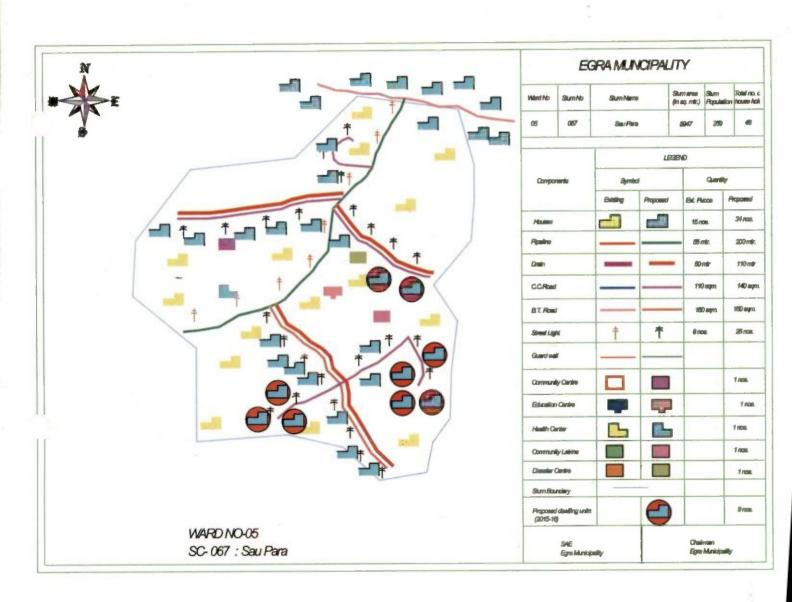
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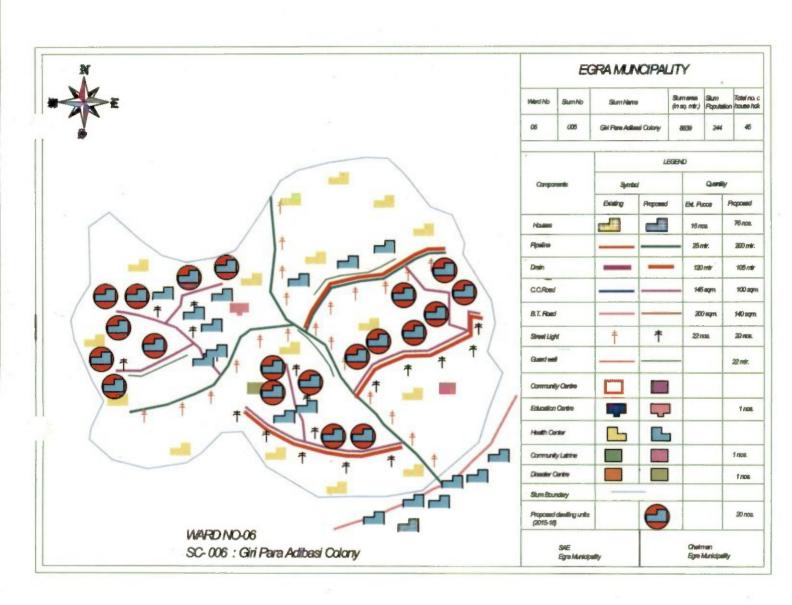


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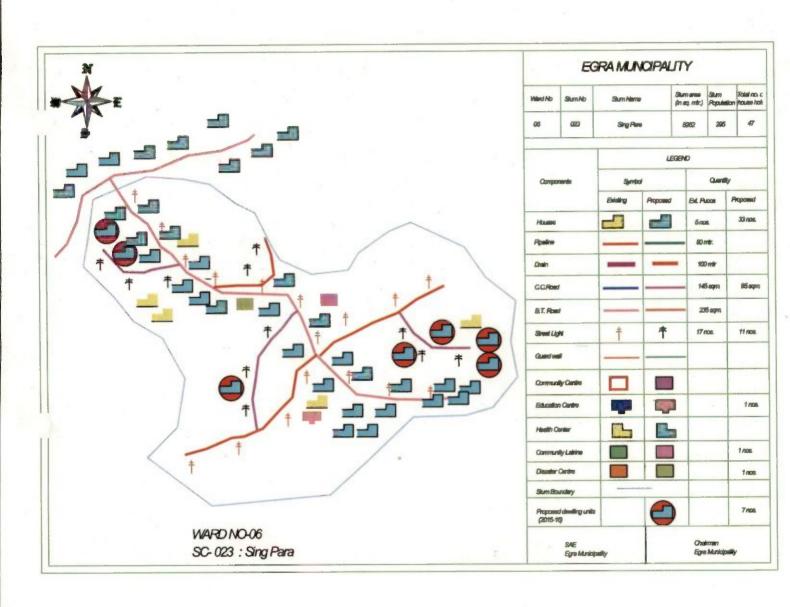
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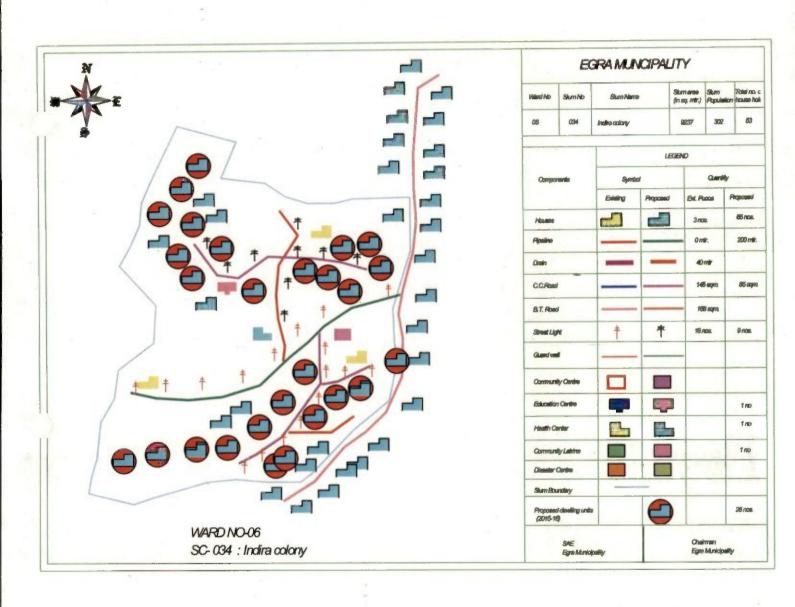


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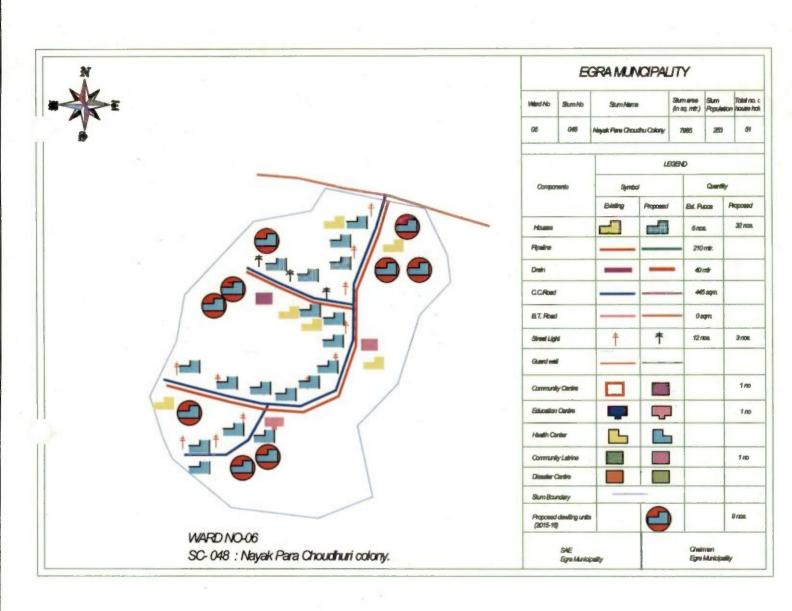
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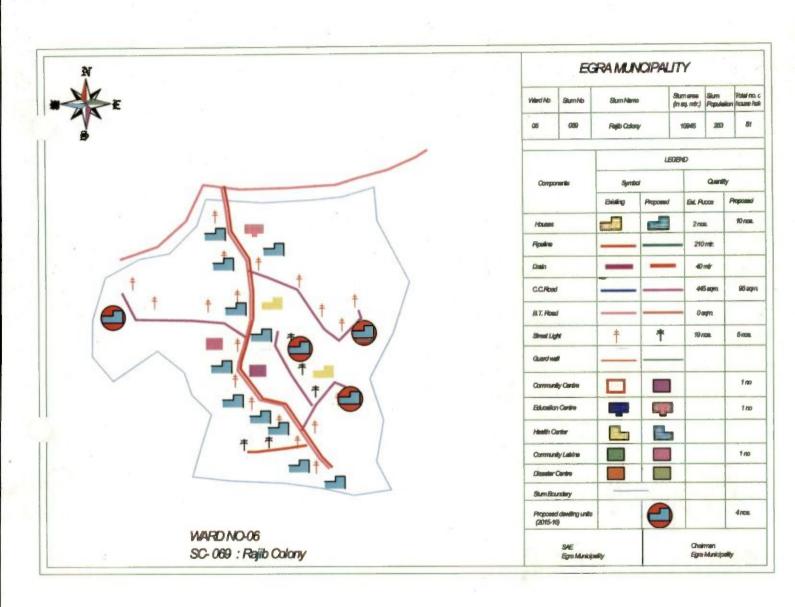
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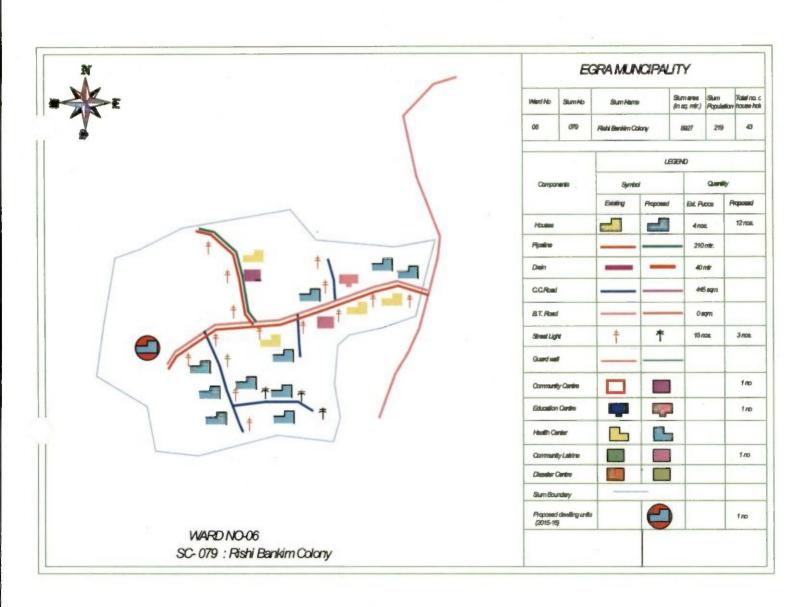


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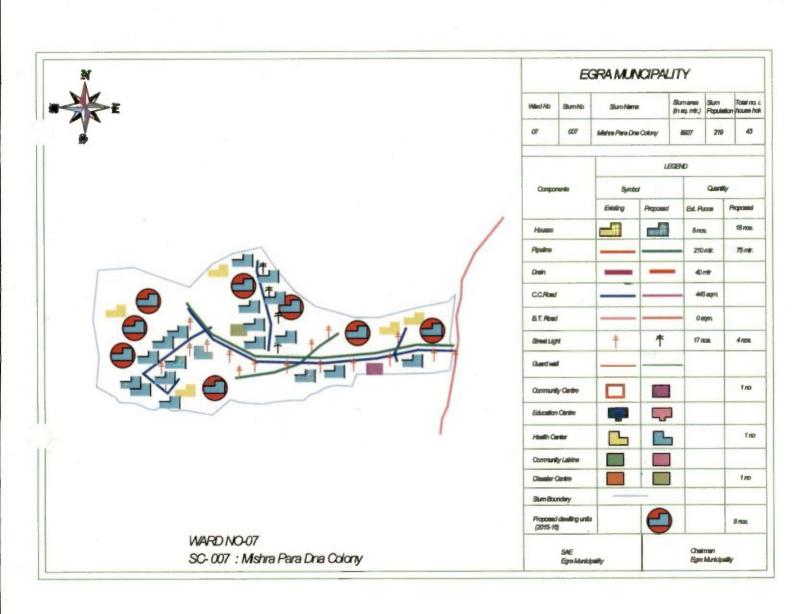


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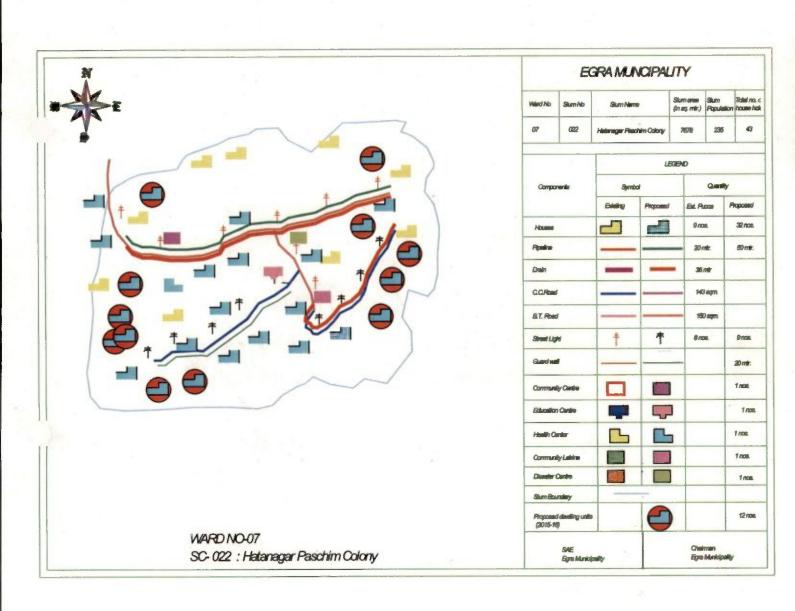


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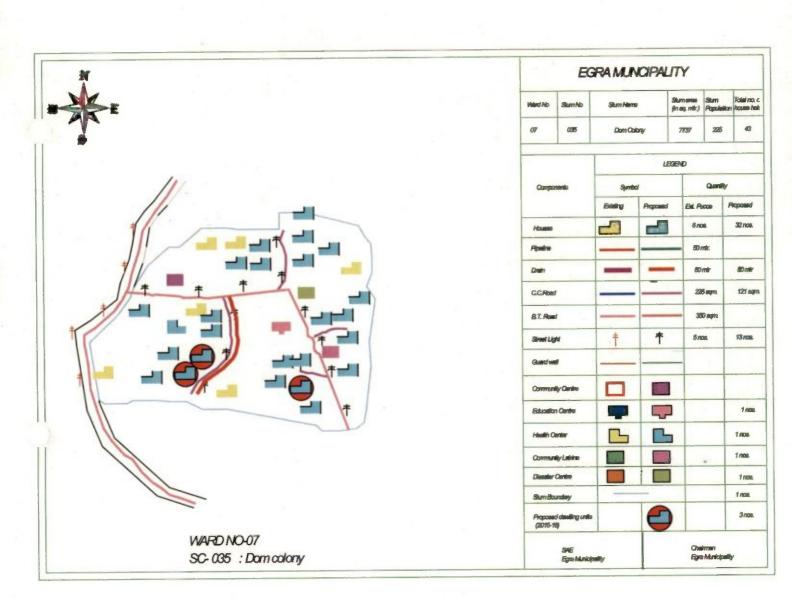
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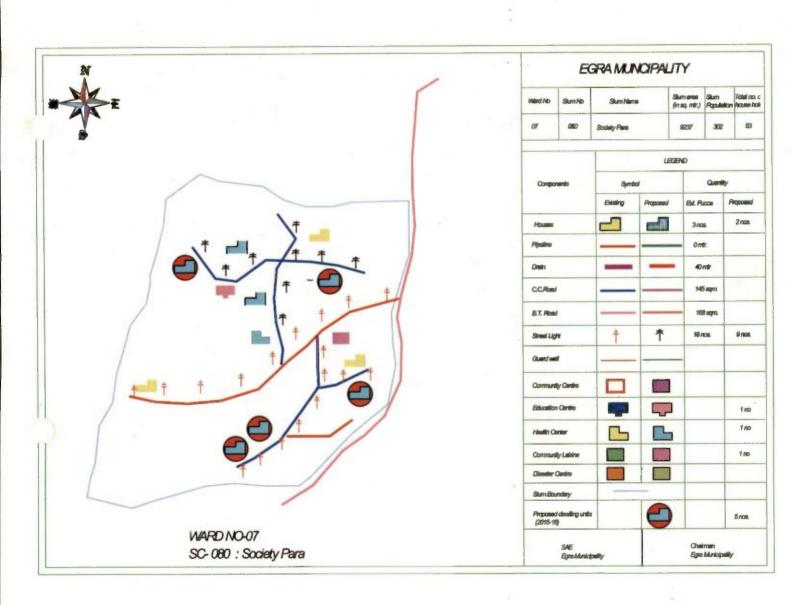


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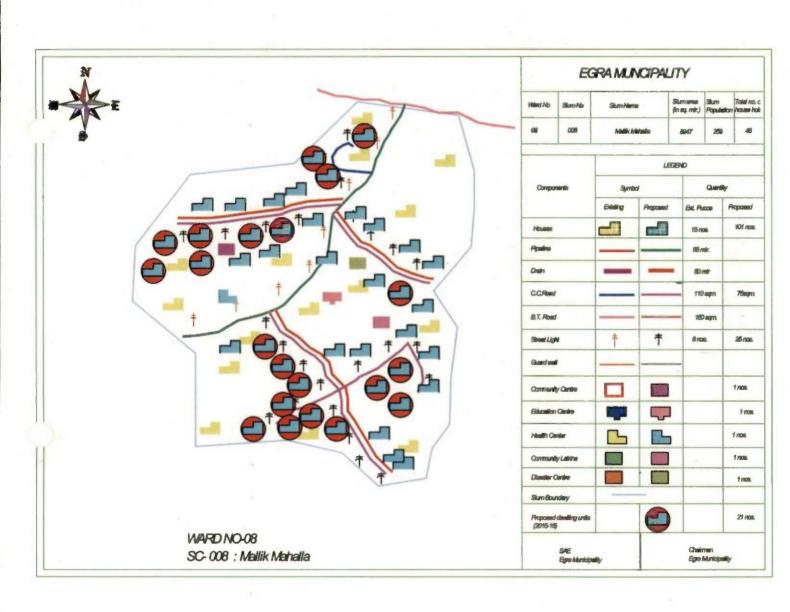


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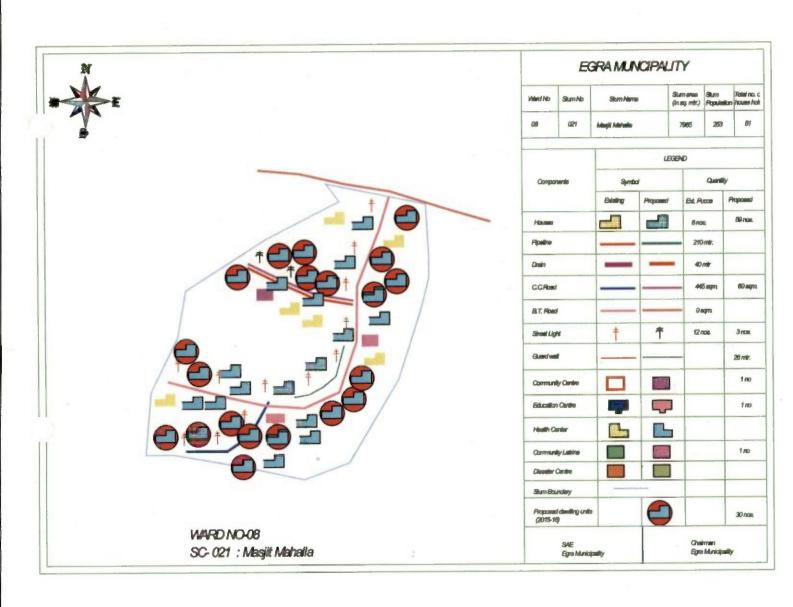


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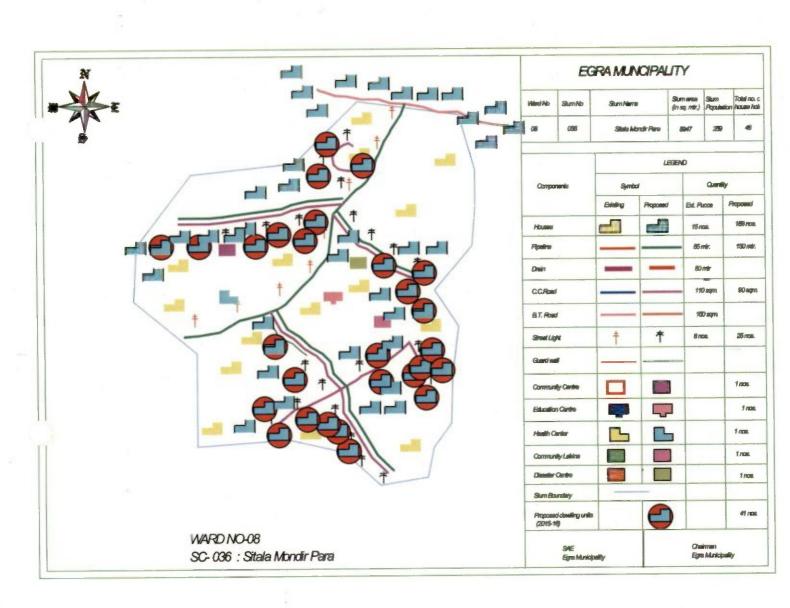


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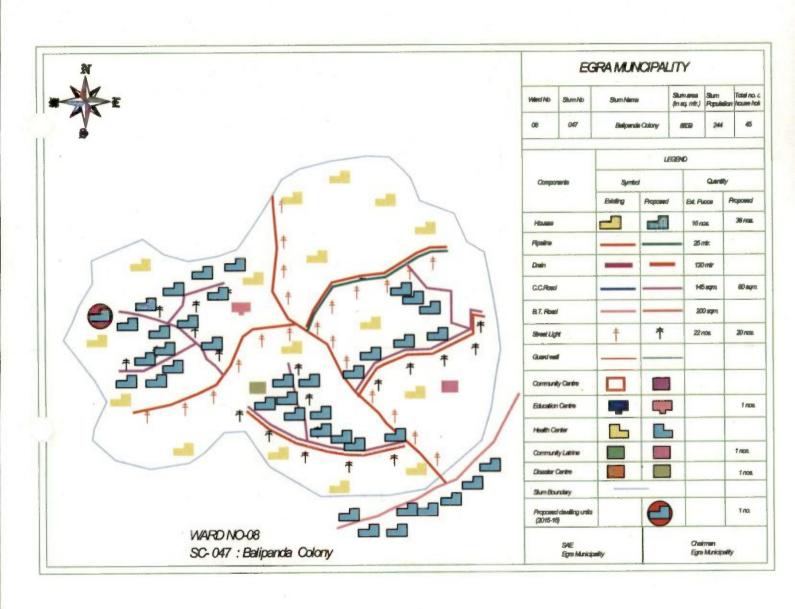


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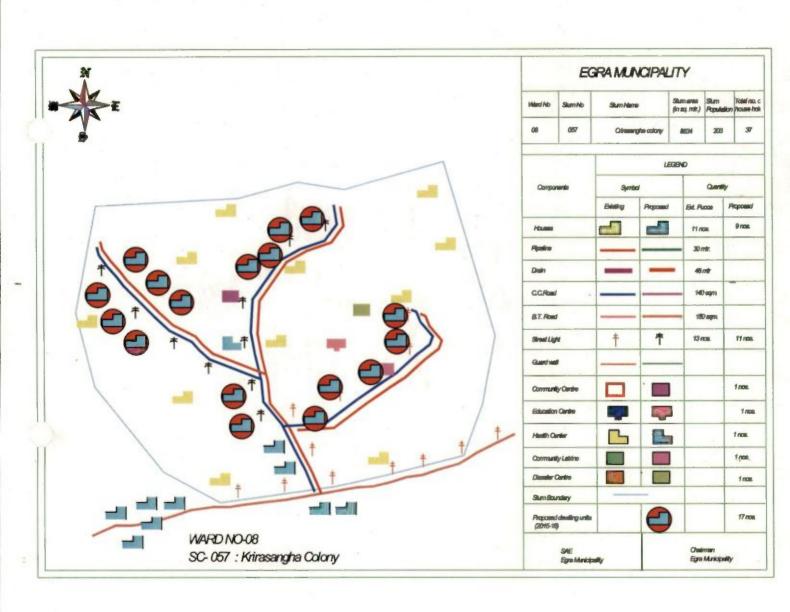
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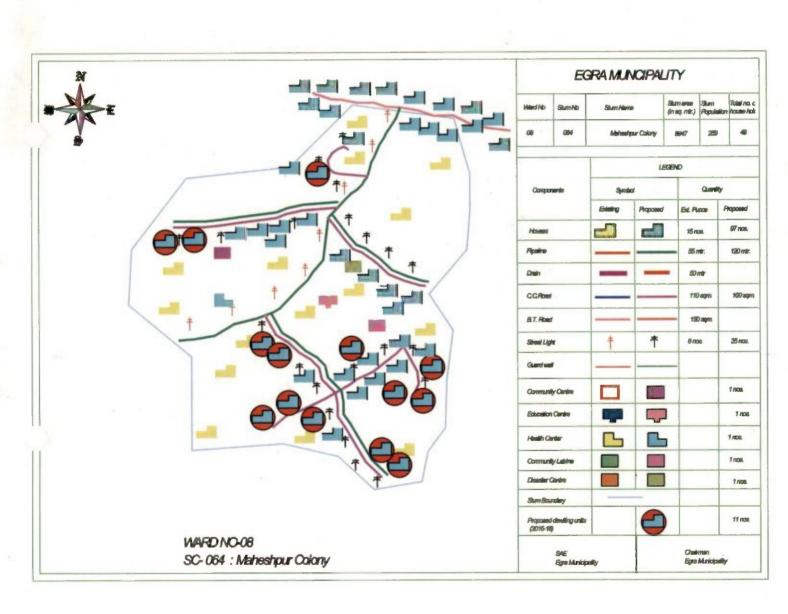
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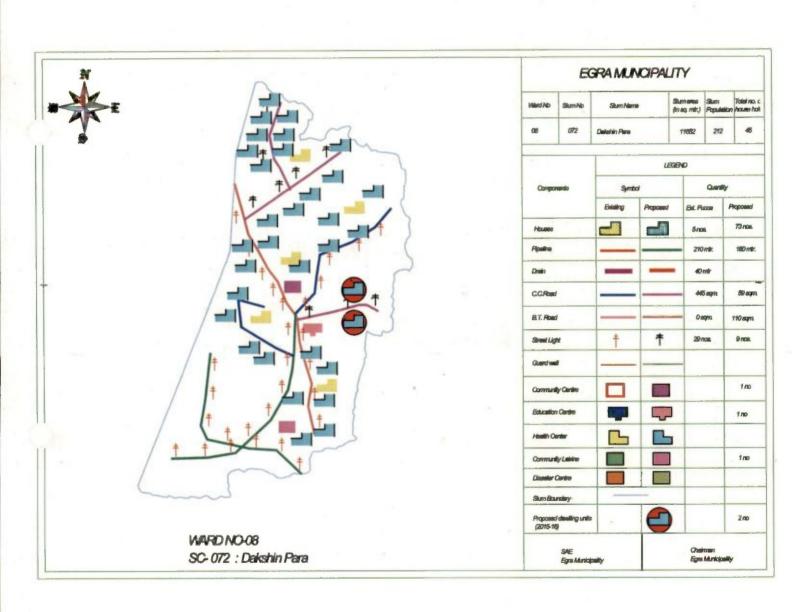
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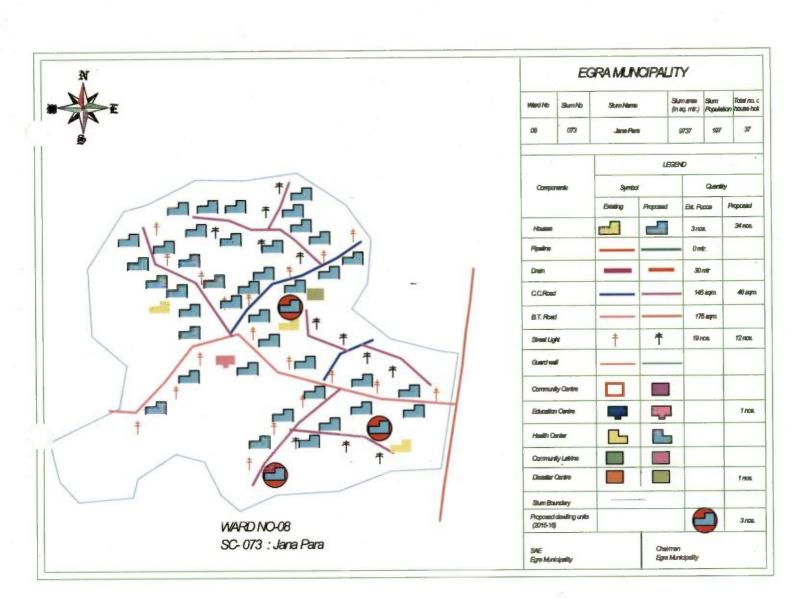


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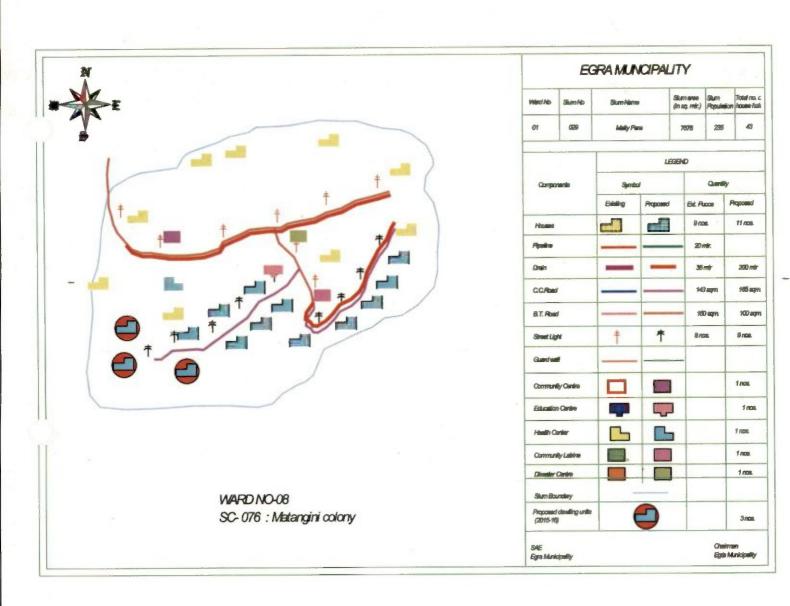
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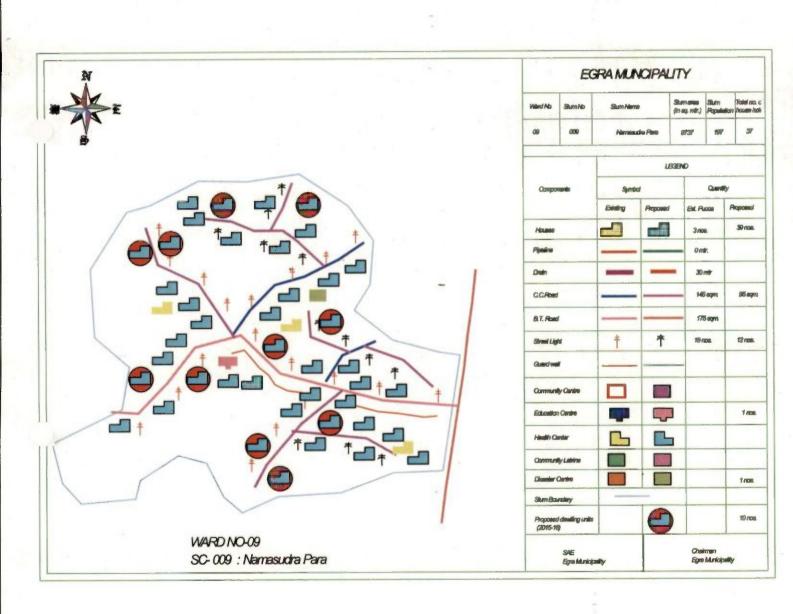


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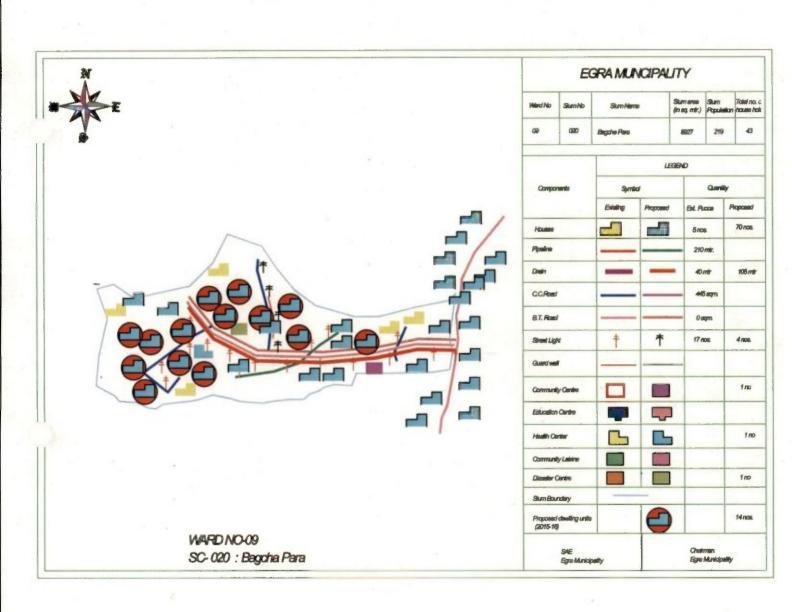
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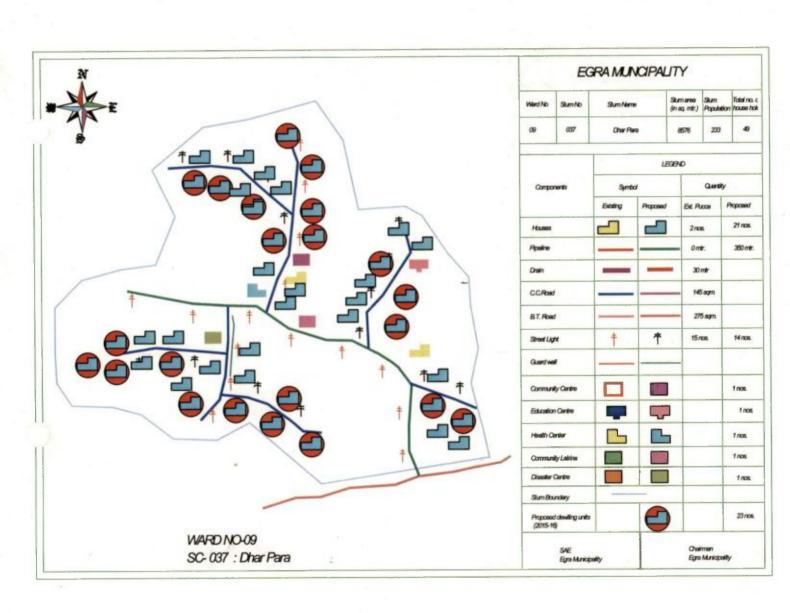


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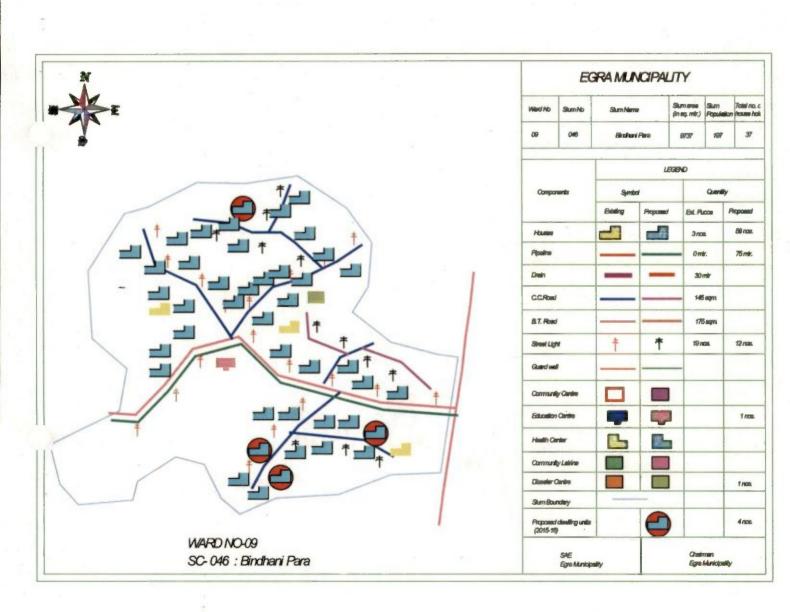


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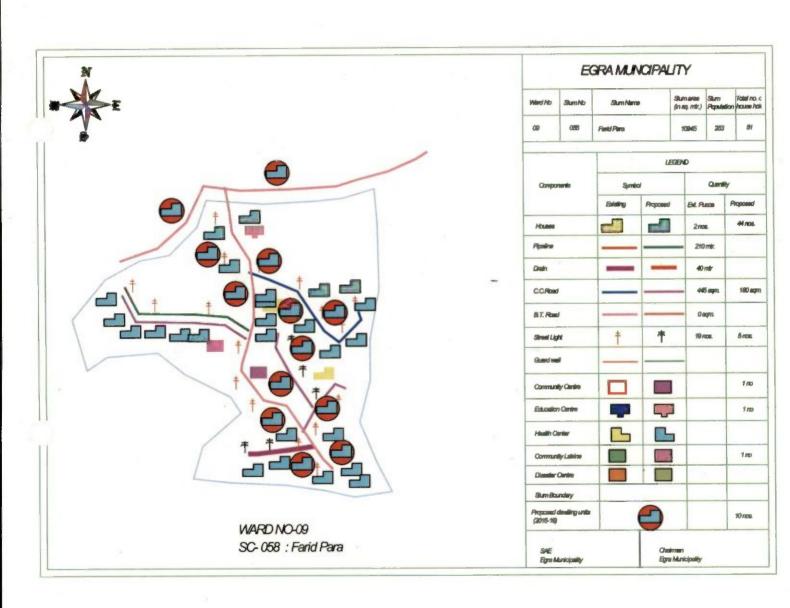


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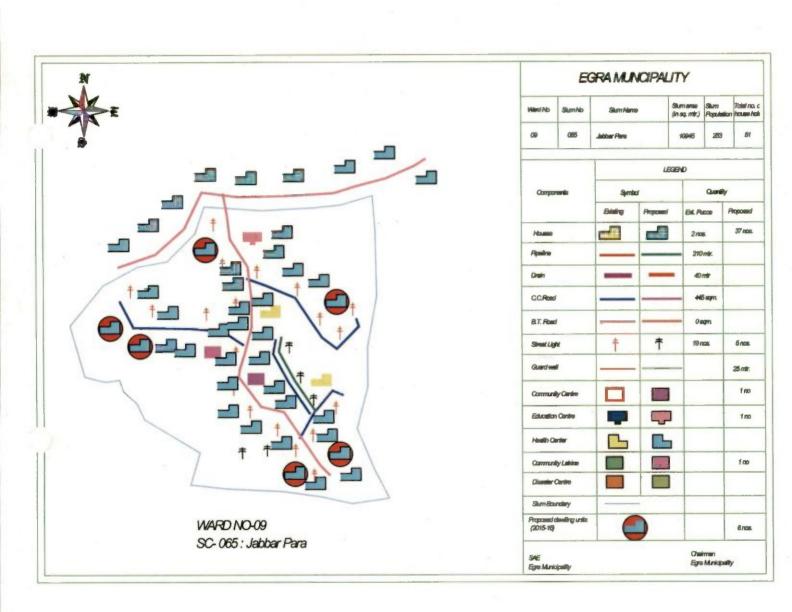


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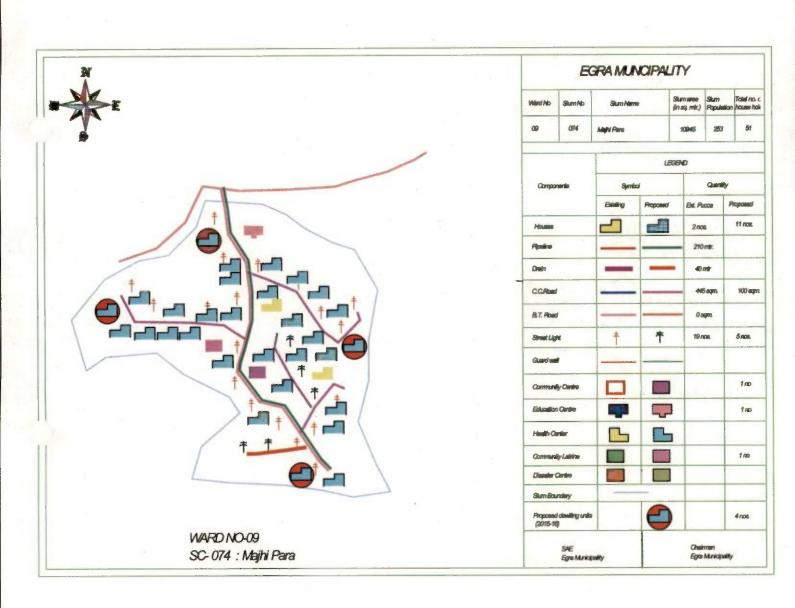
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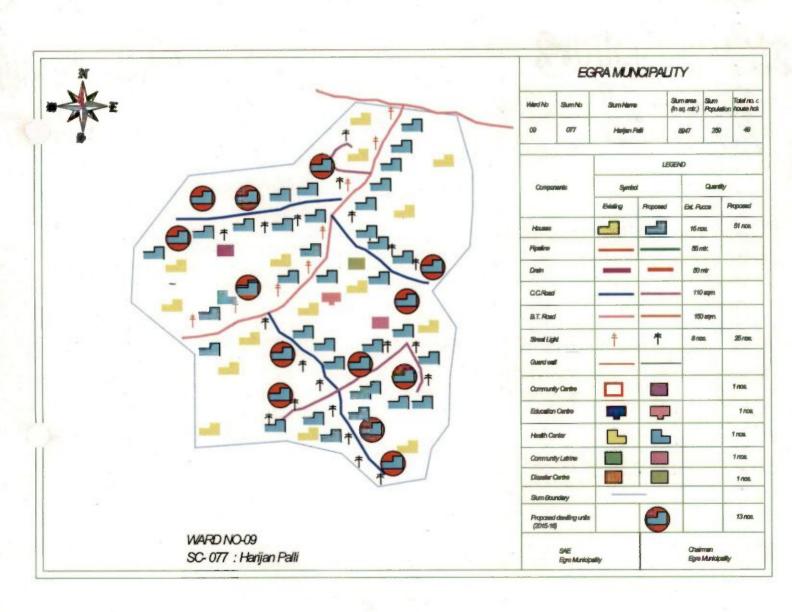


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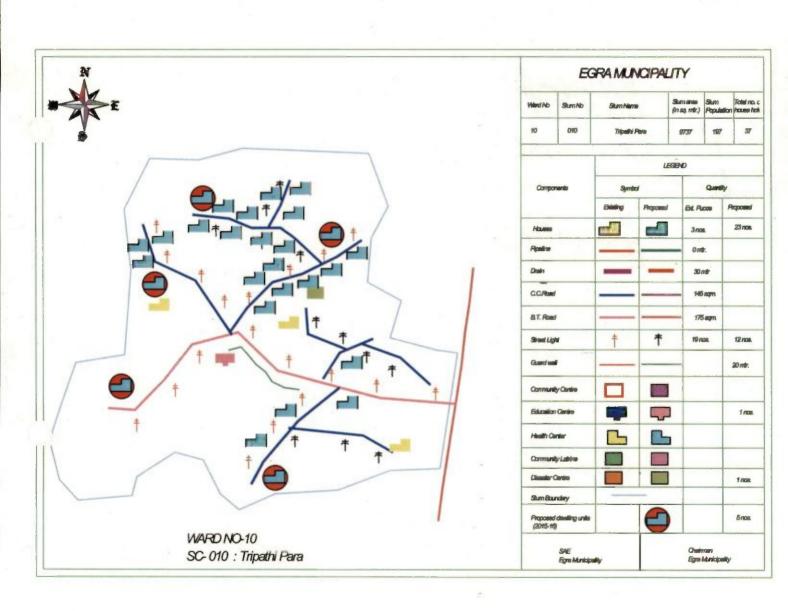


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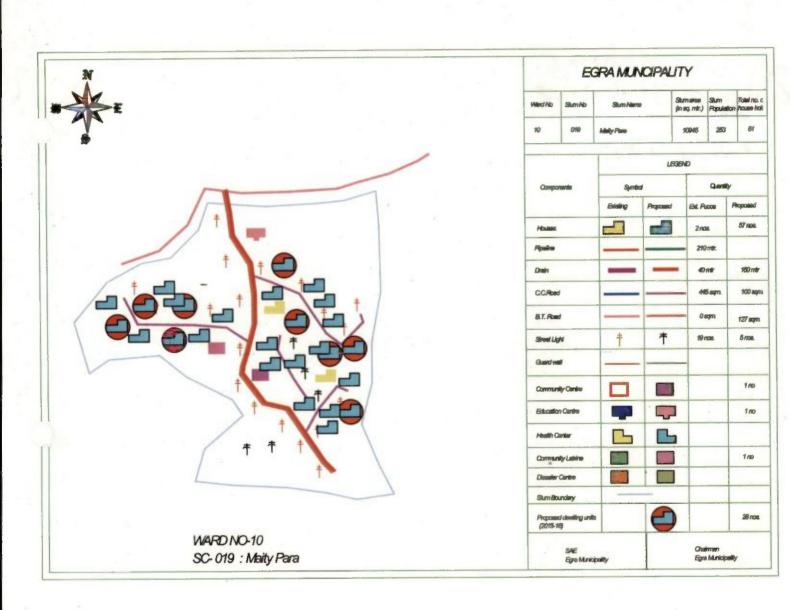


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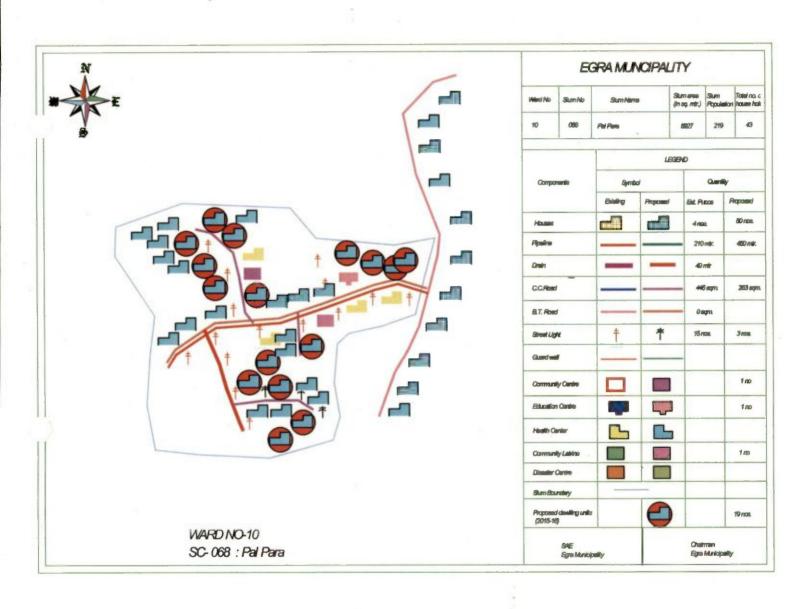
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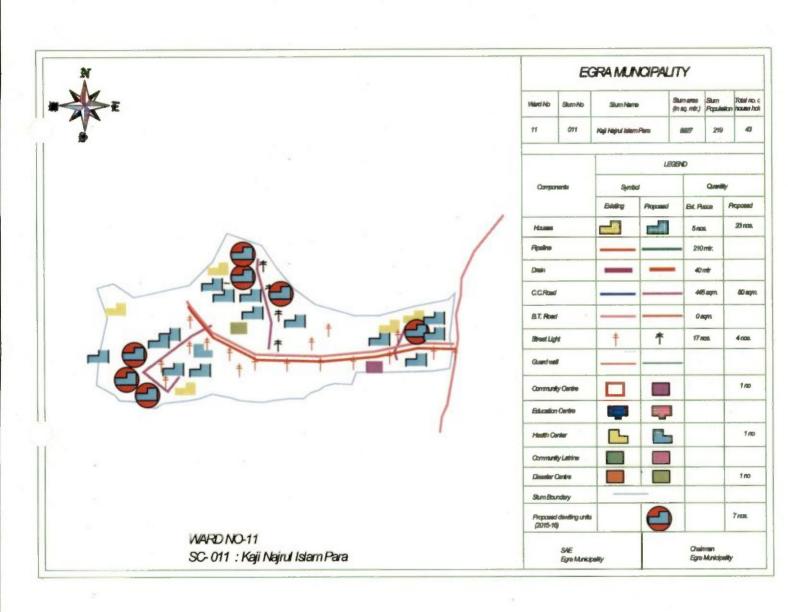
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Chairman Chairs



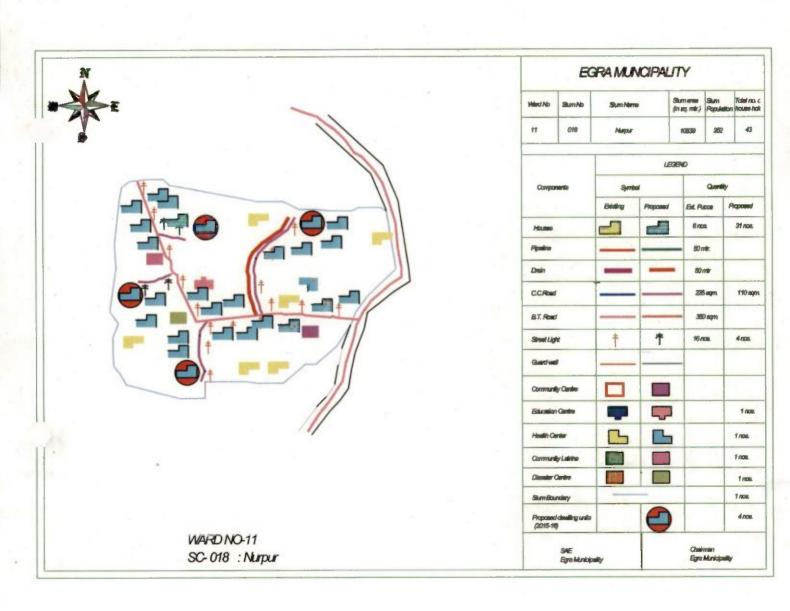
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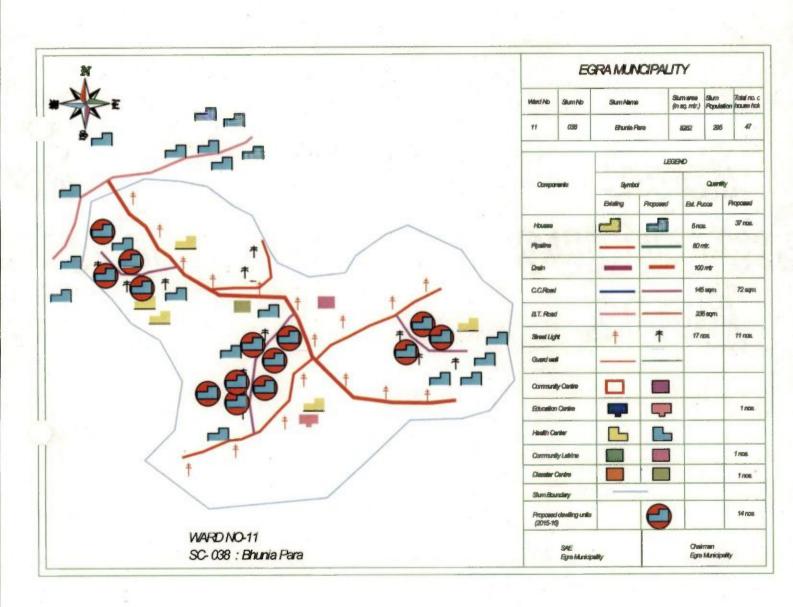




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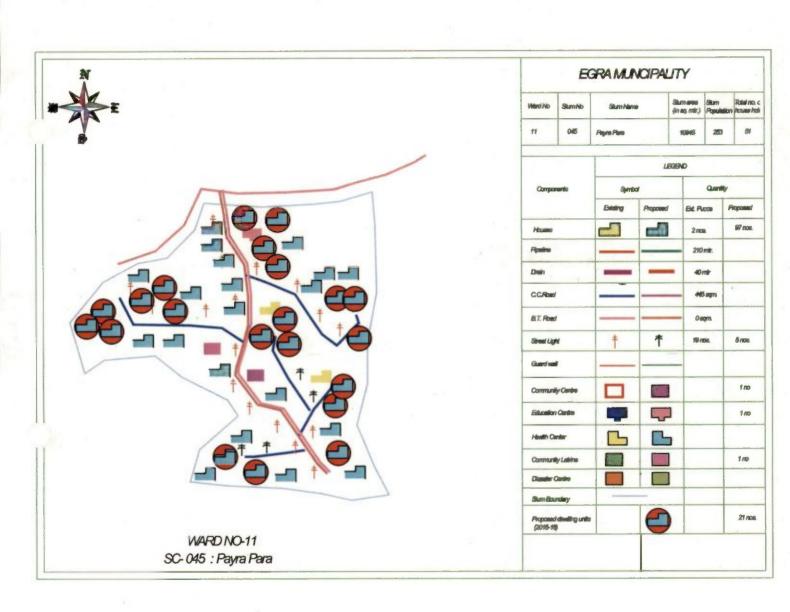


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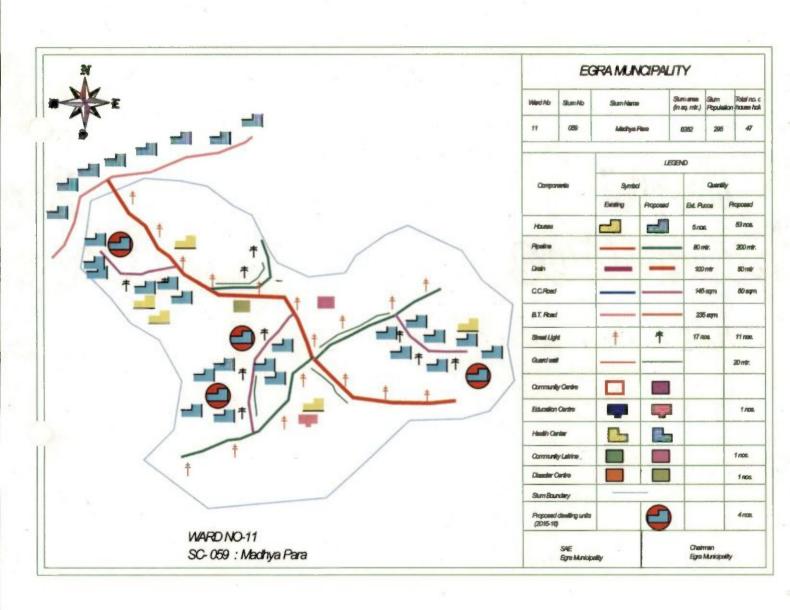


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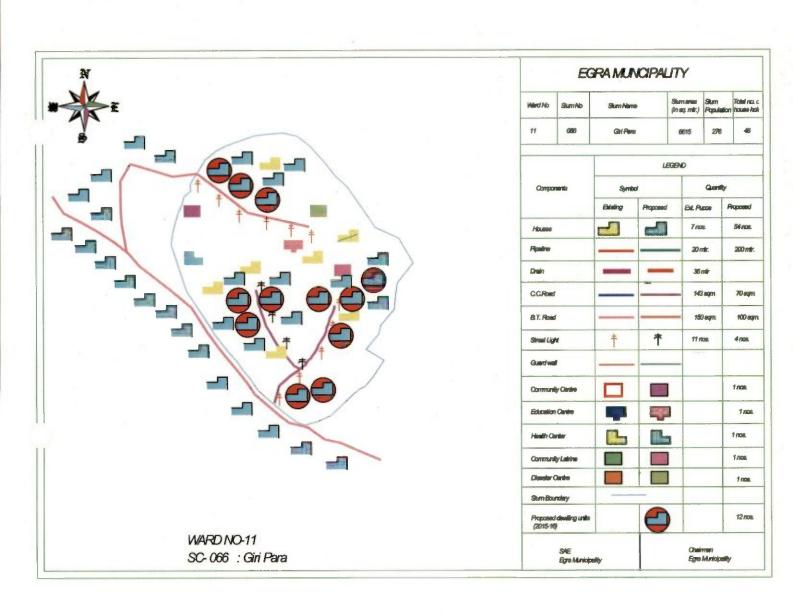
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