

Detailed Project Report-IX, Brahmapur Under Rajiv Awas Yojana

Implementing Agency:
Brahmapur Municipal Corporation
Consultant:
Rudrabhishek Enterprises Pvt. Ltd.

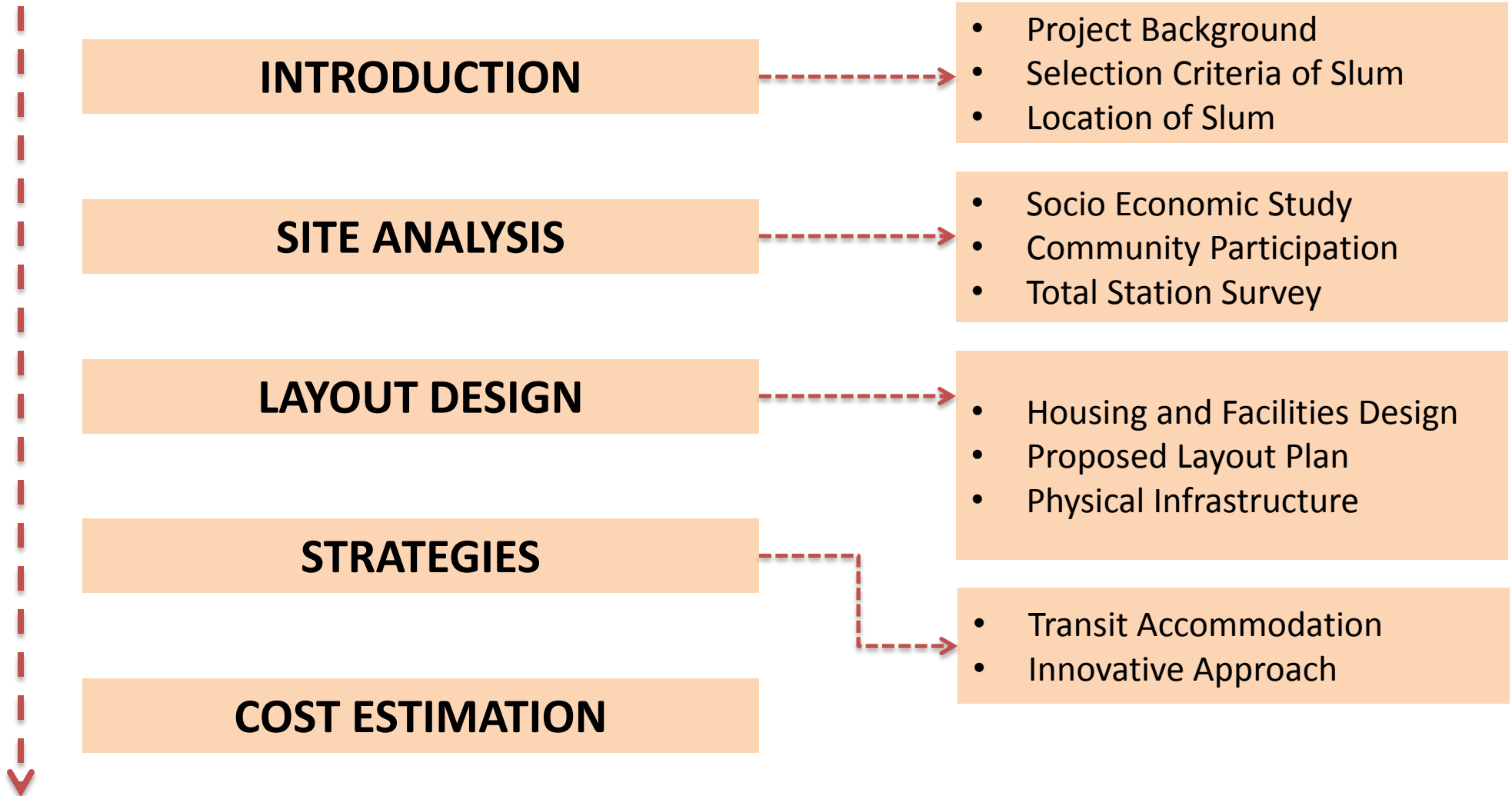
Post Cyclone(PHAILIN) Situation – Oct' 2013



Post Cyclone(PHAILIN) Situation – Oct' 2013



Structure of Presentation



Project Background

BRAHMAPUR SLUMS

UNDER

RAJIV AWAS YOJANA

CONSIDERED FOR
**IN-SITU REDEVELOPMENT/
UPGRADATION/
RESETTLEMENT**

WHICH INCLUDES

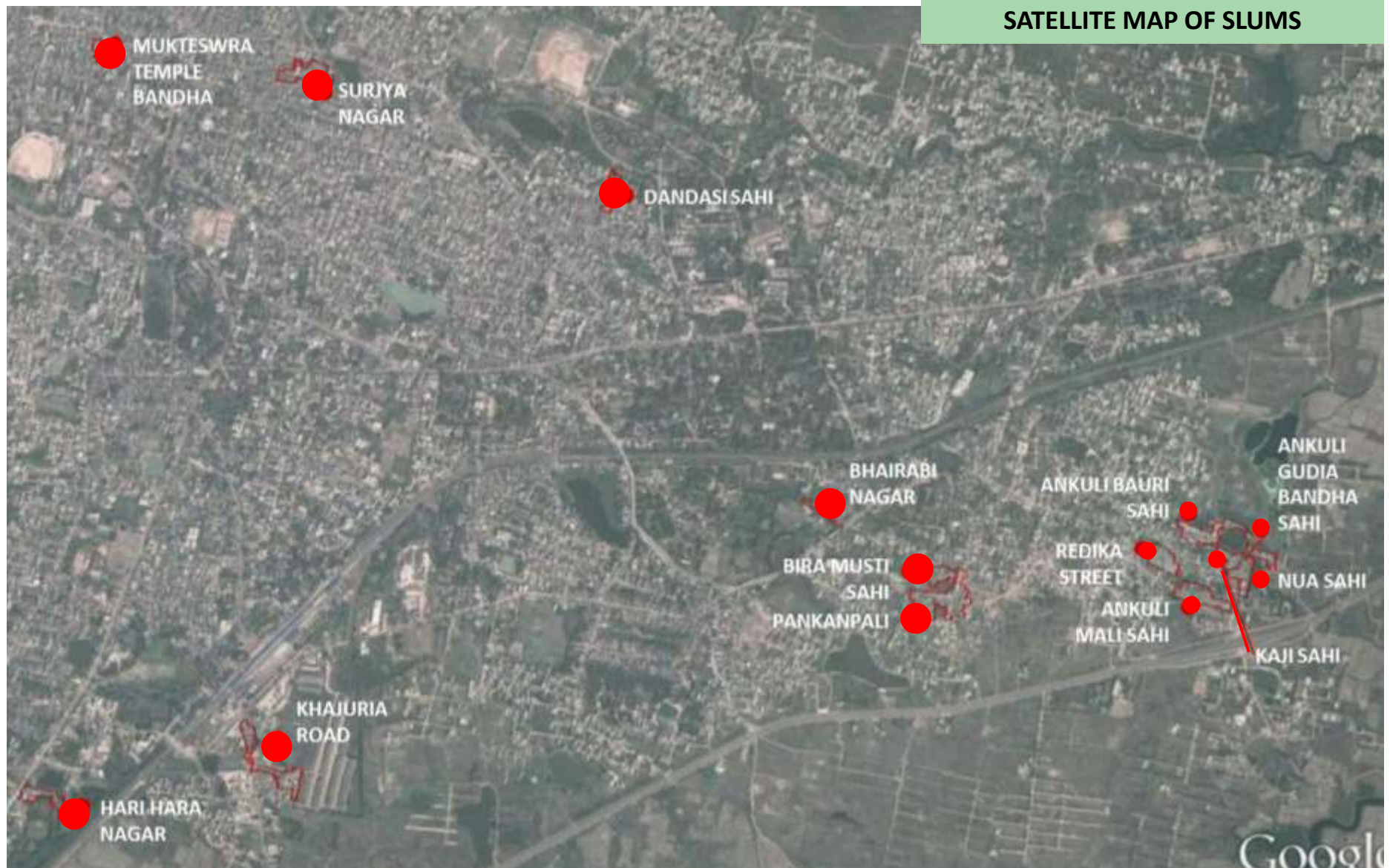
**NEW HOUSING BLOCKS/
UPGRADATION**

BASIC INFRASTRUCTURE FACILITY

- The **slum dwellers** are living **on encroached Govt. land, Private land**.
- The living **condition** of the slum is **very unhygienic due to lack of infrastructure facilities** like roads, drainage, sewerage system, solid waste management and proper water supply.
- **Location** of the slums **would encourage mainstreaming** the slum-dwellers into citywide network.
- Under RAY programme BMC has initiated programme for the slums affected by cyclone 'Phailin' to **rehabilitate** victims by providing them shelter and basic infrastructure services.

DPR-Phase 9 has 14 slums namely **Ankuli Gudia Bandha Sahi, Bhairabi Nagar, Ankuli Bauri Sahi, Ankuli Mali Sahi, Nua Sahi, Khajuria Road, Harihara Nagar, Pankanapali, Surjya Nagar, Mukteswara Temple Bandha Street, Kaji Sahi, Redika Street, Mira Musti Sahi and Dandasi Sahi**

Location Map of Phase 9 Slums



Location Map of DPR-9 Slums

Mukteswara Temple Bandha Street

- Has an area of 0.63 Acre
- located near NH-217 on the northern side near to Golapalli Bandha
- predominantly by residential area

Surjya Nagar

- Has an area of 2.32 Acre
- accessible through concrete road connecting it to NH-217 in north
- surrounded by residential area on west and south side

Dandasi Sahi

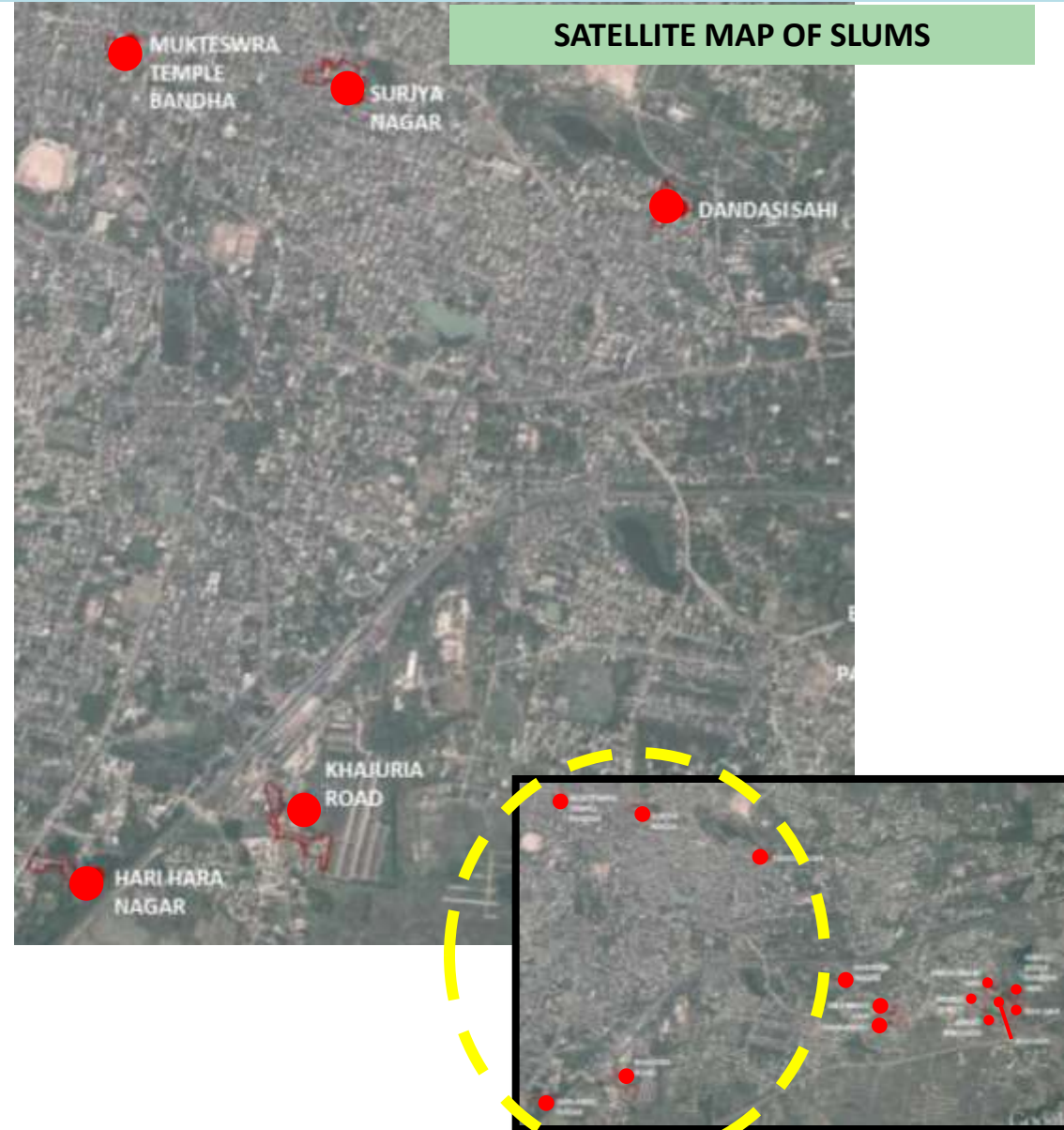
- Has an area of 0.58 Acre
- located near NH-217 on the Eastern side adjacent to Goilundi
- Concrete road leading to NH-217 is passing through the slum.
- Surrounded predominantly by residential area

Khajuria Road

- Has an area of 2.71 Acre
- located adjacent to the Berhampur railway station.
- A local road connects it to the NH-5. It is surrounded by industries and warehouses.

Harihara Nagar

- Has an area of 1.48 Acre
- located at the NH bypass road on the west near Gosani Nuagan.
- It is surrounded by wetland and pond on all three sides.



Location Map of DPR-9 Slums

Bhairabi Nagar

- Is Untenable
- located near to railway lines at Indira Nagar
- slum is connected to other parts of the area through metaled road.cc

Bira Musti Sahi

- Has an area of 1.25 Acre
- located near NH-5 adjacent to Keshav Nagar
- connected by a concrete road to a local road leading to NH-5
- Surrounded predominantly by residential area

Pankanapali

- Has an area of 4.17 Acre
- located near NH-5 adjacent to Keshav Nagar
- Surrounded by residential areas in the 3 sides and Bira Musti Sahi slum in the north

Ankuli Bauri Sahi

- Has an area of 2.29 Acre
- This slum is surrounded by residential areas

Redika Street

- Has an area of 1.69 Acre
- located near NH-5 adjacent to Brahmmapalli and Ankuli Mali Sahi Slum
- surrounded by residential areas

Ankuli Mali Sahi

- Has an area of 2.35 Acre
- located near NH-5 adjacent to Brahmmapalli
- surrounded by residential areas

Ankuli Gudia Bandha Sahi

- Has an area of 0.58 Acre
- located near NH-5
- surrounded by residential areas

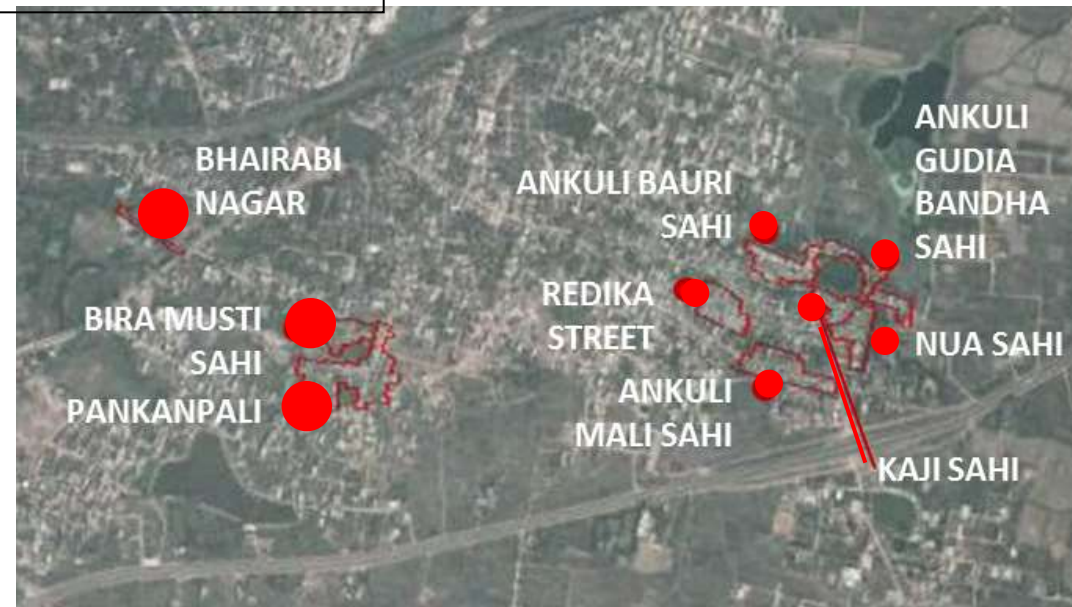
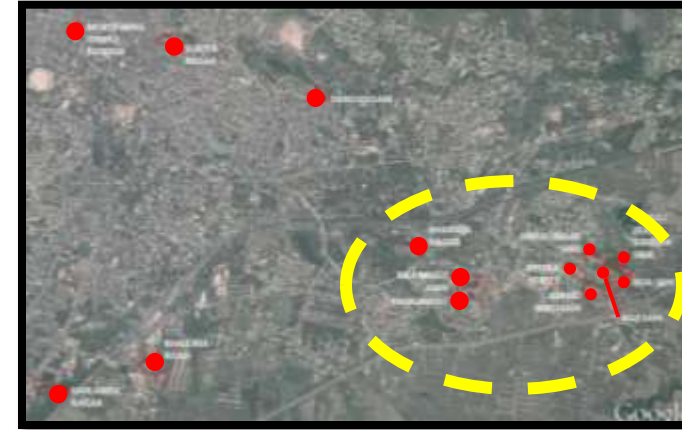
NuaSahi

- Has an area of 2.27 Acre
- located near NH-5
- surrounded by residential areas on west and south side

Kaji Sahi

- Has an area of 1.00 Acre
- located near NH-5
- surrounded by residential areas on west and south side

SATELLITE MAP OF SLUMS



DWELLING UNIT DETAILS

- Total **469** new dwelling units (**296 GH & 173 Individual units**) are proposed and upgradation of **119** nos. new toilets in 16 slum clusters.
- Cost per Dwelling Unit:
DU- Ranging from Rs. 358,067/- to Rs. 437,719/-
Infrastructure- Rs.3.05 lac.

SI No.	Scheme Components	Qty.	Unit	Rate (Rs)	Proposed project cost	Appraised Project Cost	Central share	State share	ULB share	Beneficiary Share
A. Housing										
1	New Group housing	296	no.		1,207.16	1,140.29	888.00	115.46	-	136.83
A	Type-A (4 Units per Floor- G+3)	240	no.	379,365	954.56	910.48	720.00	81.22	0	109.26
B	Type-C (2 Units per Floor-G+3)	8	no.	437,719	39.48	35.02	24.00	6.82	0	4.20
C	Type-D (4 Units per Floor - G+3)	16	no.	437,719	78.95	70.04	48.00	13.64	0	8.40
D	Type-E (6 Units per Floor- G+3)	24	no.	377,848	97.34	90.68	72.00	7.80	0	10.88
E	Type-F (2 Units per Floor - G+3)	8	no.	425,877	36.83	34.07	24.00	5.98	0	4.09
2	New individual Dus	173	no.		661.81	629.58	519.00	35.03	-	75.55
A	Type-1	137	no.	358,067	516.12	490.55	411.00	20.68	0	58.87
B	Type-2	36	no.	386,185	145.69	139.03	108.00	14.35	0	16.68
3	Upgradation	119	no.		68.07	68.07	51.05	17.02		
A	Provided with New Toilets	119	no.	57,202	68.07	68.07	51.05	17.02	0	0
							0.7933	0.0911		
Total		588	no.		1,937.04	1,837.94	1,458.05	167.51	-	212.38

Socio Economic Profile

Population Distribution

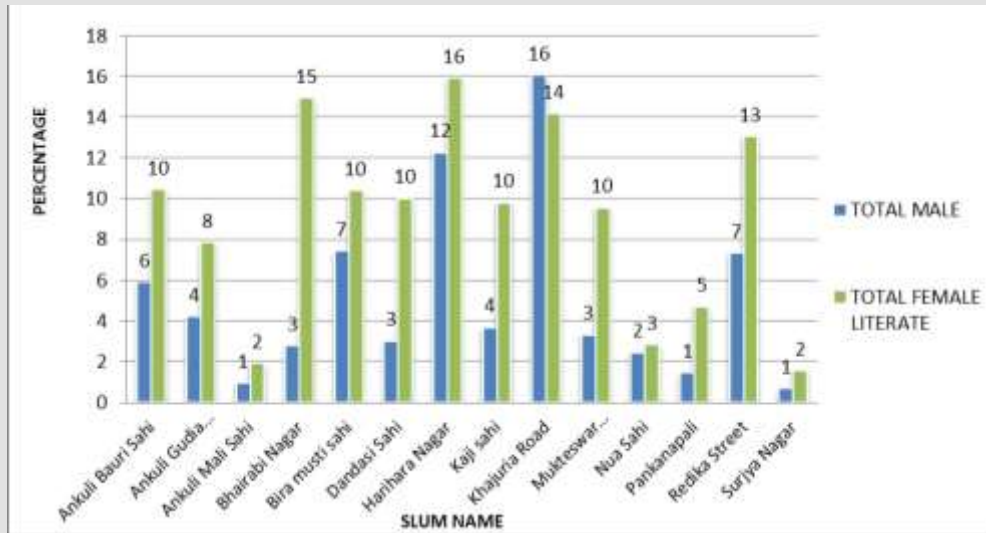
- Total population of 14 slums is 4595
- Out of total population, number of male population is 2303 (50.1%) and number of female population is 2292 (49.9%).

Slum Name	Population	Male	Female	Total No. of HHs	General	SC	ST	OBC	PH	Minority
Ankuli Mali Sahi	315	156	159	65	65	0	0	0	0	0
Bira Musti Sahi	337	147	190	74	49	0	0	25	0	0
Dandasi Sahi	100	53	47	25	10	14	0	1	0	0
Kaji Sahi	245	131	114	53	51	1	0	1	4	1
Pankanpalli	554	275	279	128	117	9	0	2	0	0
Ankuli Gudia	166	79	87	35	24	3	0	8	5	1
Bandha Sahi										
Ankuli Bauri Sahi	192	103	89	42	18	24	0	0	0	0
Surjya Nagar	585	317	268	122	69	14	0	39	1	2
Khajuria Road	318	163	155	75	44	7	5	19	0	1
Mukteswar temple	241	100	141	56	21	18	14	3	8	6
Bandha Street										
Bhairabi Nagar	181	86	95	41	27	12	0	2	0	8
Redika Street	527	242	285	124	59	18	0	47	0	0
Nua Sahi	532	282	250	113	104	9	0	0	1	0
Harihar Nagar	302	169	133	68	60	6	1	1	0	0
Total	4595	2303	2292	1021	718	135	20	148	19	19

Source: Brahmapur Municipal Corporation

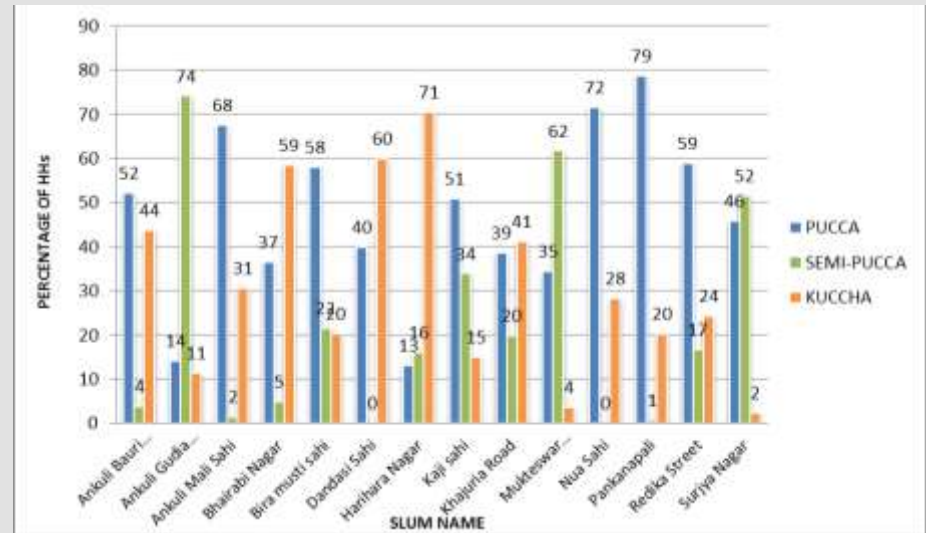
Literacy Rate

- Total **14%** of the population are literate of which 5% are male and 9% are female literates.



Housing Status

- Out of total units, **52%** are pucca, **19%** are semi-pucca and **29%** are kuccha houses.



Source: Brahmapur Municipal Corporation

Housing Scenario



Access to Physical Infrastructure

Water Supply

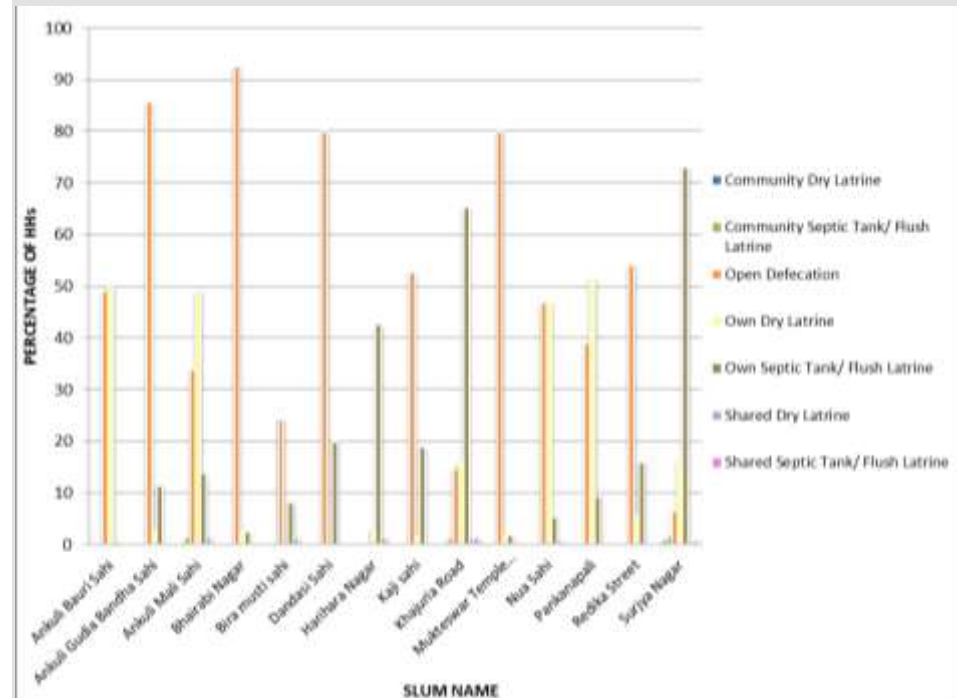
- All houses in these slums have **water supply access** through bore well/ public tap/ tube well/ hand pump.
- Most of the households of Khajuria road and Harihara Nagar have access to water within premises.
- Water is supplied through piped water supply only for less than one hour.



Source: Brahmapur Municipal Corporation

Sanitation

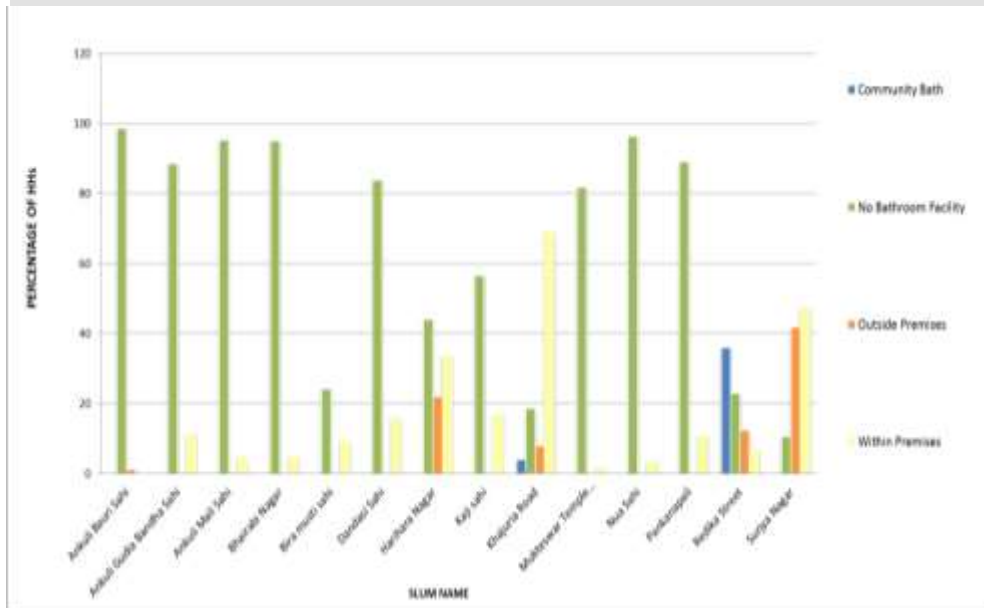
- Open defecation is a common practice in all slums except Surjya Nagar.
- Most of the people in all these slums do not have access to proper sanitation facilities.



Access to Physical Infrastructure

Bathroom Facility

- Except Harihara Nagar, Khajuria road and Surjya Nagar, most of slum HHs **have No bathroom within or outside their premises.**
- HHs in Redika street use community bath facilities.



Source: Brahmapur Municipal Corporation

Drainage

- **Absence of drainage system** in all slums.
- **Open drains** found in slums which are not maintained/ cleared.
- Drains present near main road are **covered due to the encroachment**



Source: Brahmapur Municipal Corporation

Access to Physical Infrastructure

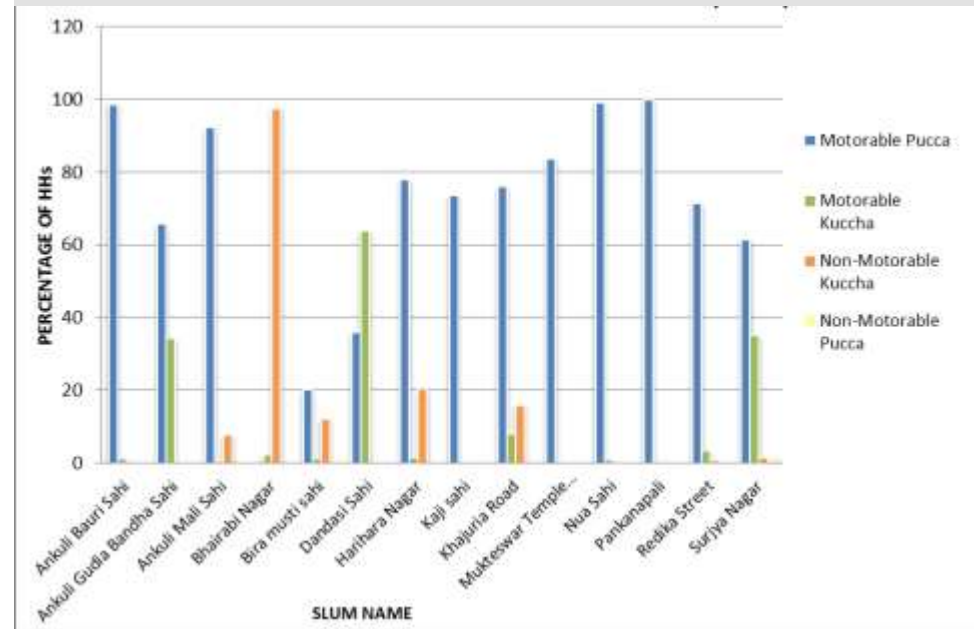
Solid Waste Management

- **No solid waste management system present** in the slums. Majority of the households dispose garbage themselves.
- **Waste dumped on open vacant lands and open drains** in the slums creating unhygienic conditions.



Road Frontage

- Except **Bhairabi Nagar, Bira Musti Sahi and Dandasi Sahi** slum which is accessible by **Motorable & non-motorable kuccha** road, all other slums are accessible by **motorable pucca** road.

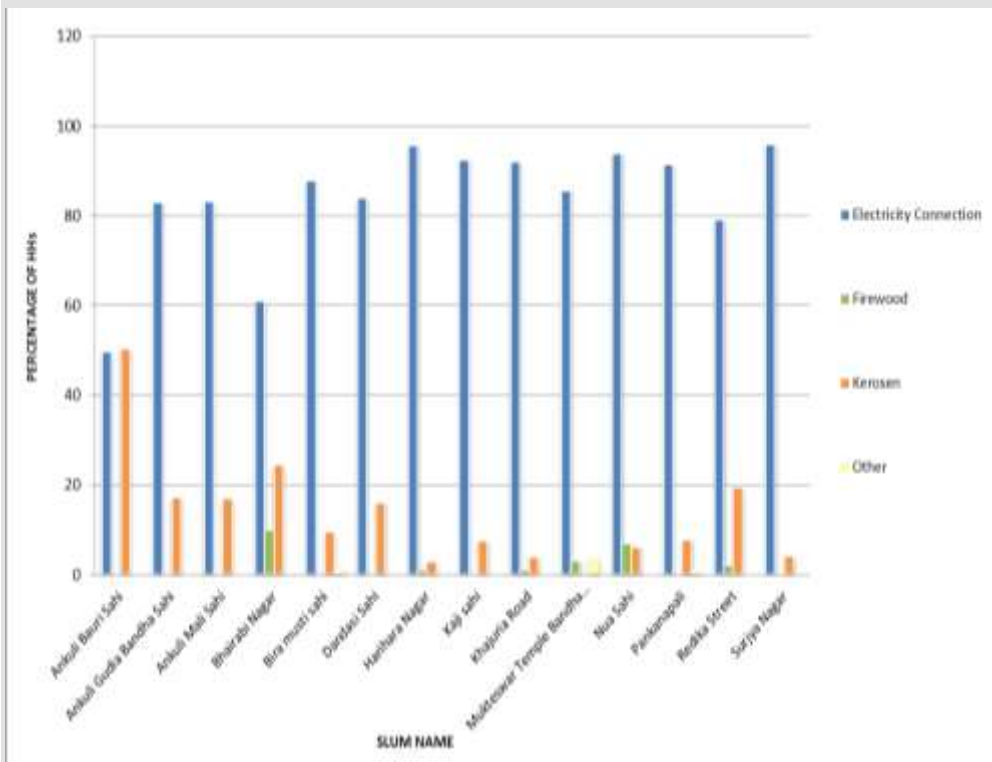


Source: Brahmapur Municipal Corporation

Access to Physical Infrastructure

Electricity

- 84% of the households are having electricity connections, and very few households (13%) are using kerosene for lighting their houses.

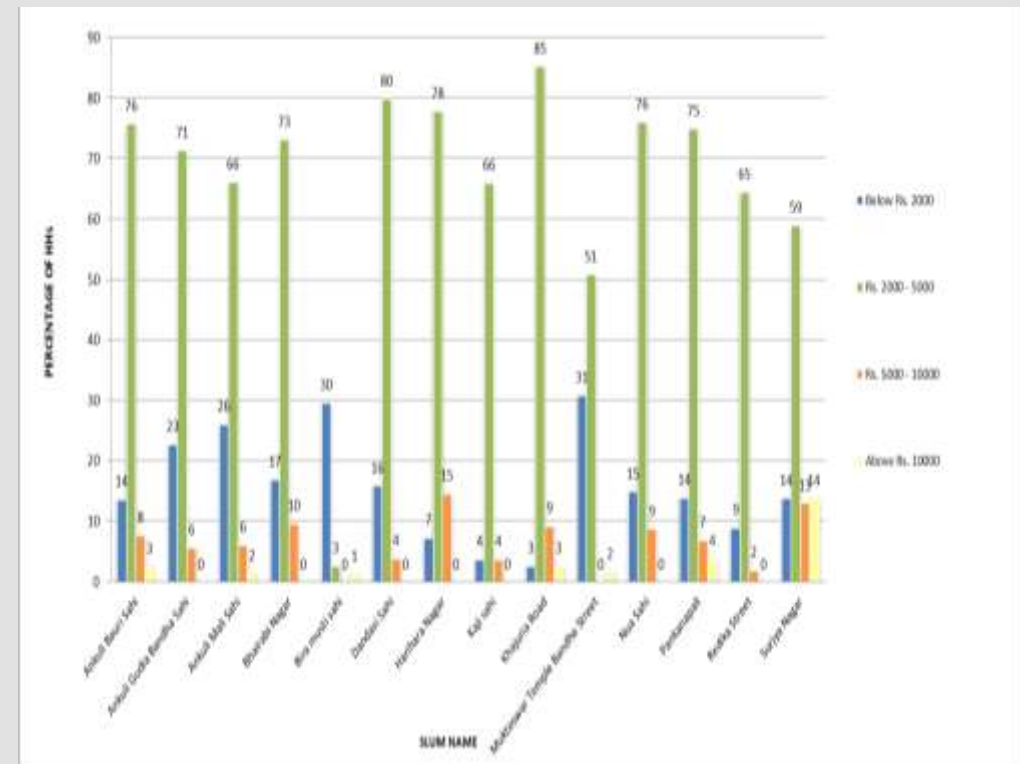
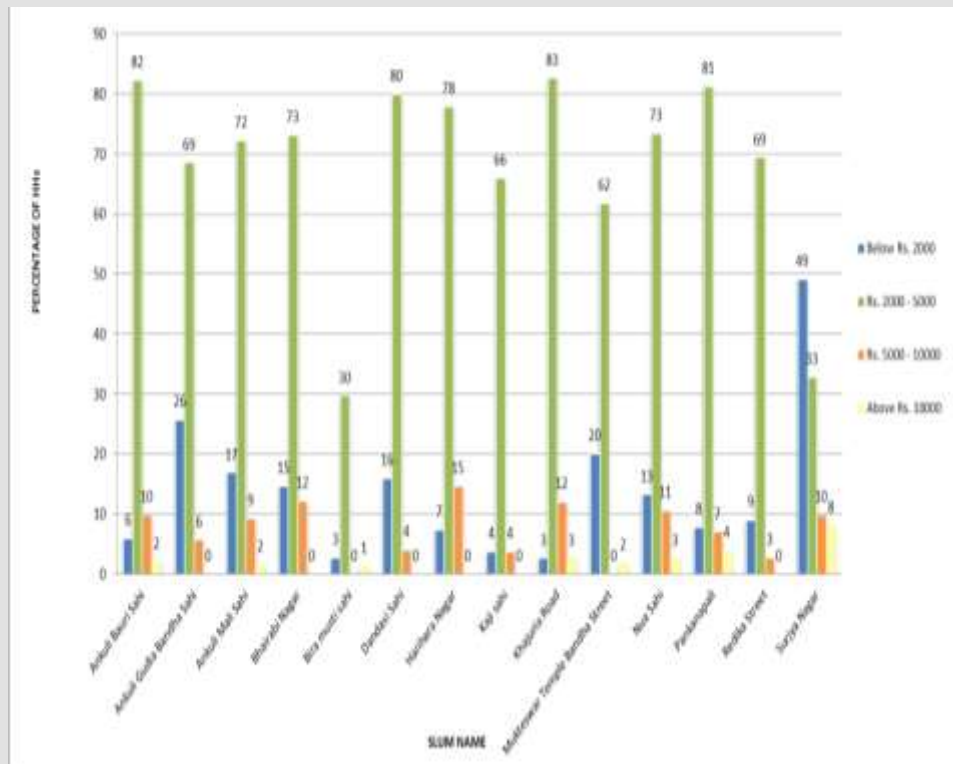


S.NO	SLUM NAME	ELECTRICITY FACILITY (Number of HHs)				
		Electricity Connection	Firewood	Kerosen	Other	NA
1	Ankuli Bauri Sahi	50	0	50	0	0
2	Ankuli Gudia Bandha Sahi	83	0	17	0	0
3	Ankuli Mali Sahi	83	0	17	0	0
4	Bhairabi Nagar	61	24	24	0	10
5	Bira musti sahi	88	0	9	1	1
6	Dandasi Sahi	84	0	16	0	0
7	Harihara Nagar	96	1	3	0	0
8	Kaji sahi	92	0	8	0	0
9	Khajuria Road	92	1	4	0	3
10	Mukteswar Temple Bandha Street	85	5	0	4	5
11	Nua Sahi	94	6	6	0	0
12	Pankanapali	91	0	8	1	0
13	Redika Street	79	1	19	0	0
14	Surjya Nagar	96	0	4	0	0

Source: Brahmapur Municipal Corporation

Economic Status

- Monthly income of majority of the Households is **Rs 2000-5000**.
- Only Households in **Surjya Nagar** have monthly income less than **Rs 2000**.



Source: Brahmapur Municipal Corporation

Community Participation

Objective of Community Participation:

*To achieve a **sustainable development and implementation** of the project.*

Community Participation at Project level:

- **“LIPICA”** is Identified as a Partner NGO engaged by RAY Cell BMC for community mobilization.
- NGO understand the community, its livelihood pattern, dynamics of local CBOs and discuss their needs and concerns.
- Local Corporator was approached and briefed about RAY’s participatory process and various surveys needed for the project.
- The identified NGO, RWA members with the help of ULB shall **discuss and finalize designs for housing, infrastructure planning and its maintenance** at a household as well as community level.



Dwelling Unit Design

Group Housing

- In Phase-IX Slums, 5 type of Group Housing Cluster Designs have been used depending upon the availability of land in different slums.
- Clusters were designed with proper natural light and ventilation, parking facility, common green and open areas.
- Total **296 Dwelling Units** were provided in 5 type of **Group Housings** in 14 slums.

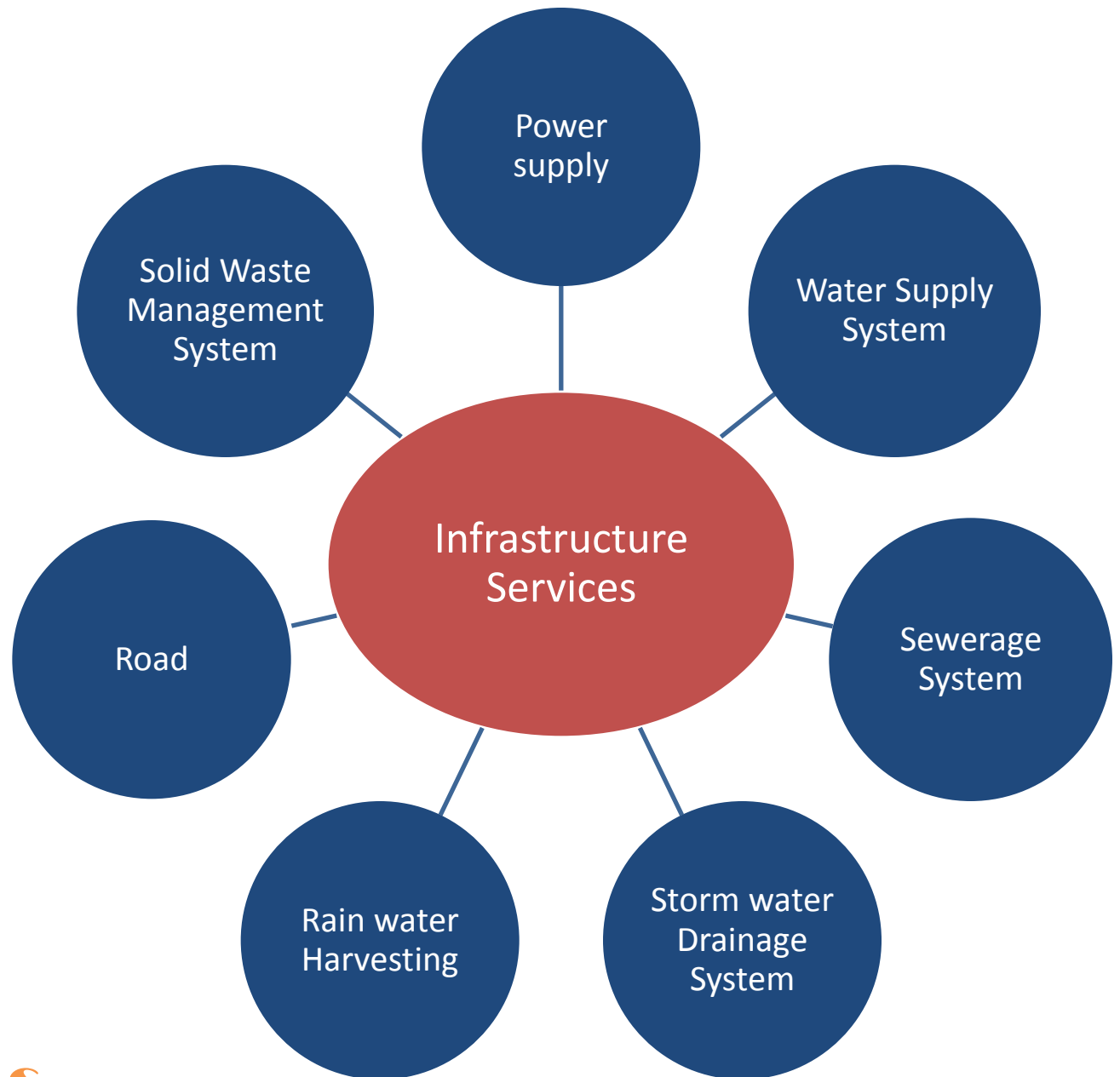
Prototypes

- In Phase-IX Slums, 2 type of prototypes have been used based on the availability of space of plots.
- Units were designed with proper natural light and ventilation.
- Total **173 New Dwelling Units** were provided in 14 slums.

Up-gradation (New Toilet)

- Total 119 existing houses are proposed to be upgraded with toilet.

SI No.	Housing Typology	Qty. In Units
1	New Group housing	296
A	Type-1	240
B	Type-3	8
C	Type-4	16
D	Type-5	24
E	Type-6	8
2	New individual Dus	173
A	Type-1	137
B	Type-2	36
3	Upgradation	119
A	Provided with New Toilets	119



SERVICES

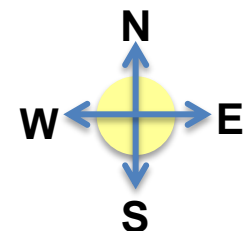
DESIGN AND INFRASTRUCTURE LAYOUTS

- HOUSING STRUCTURE
- SANITATION FACILITY
- TENURE

- PROPOSED LAYOUT
- PROPOSED GROUP HOUSING BLOCKS

- ELECTRICAL SERVICES
- SEWERAGE SYSTEM
- WATER SUPPLY SYSTEM
- DRAINAGE SYSTEM
- RAINWATER HARVESTING SYSTEM

ANKULI MALI SAHI - LAYOUT



Name of Slum	ANKULI MALI SAHI		
Area of Slum (in Sqm.)	9502.60		
HHs to be accommodated in slum improvement	Existing slum HHs	65	
Slum Development Model	In-situ Up-gradation + Redevelopment		
Site Area Analysis			
Particulars	Area (in Sq.m)	Area (in Acre)	Percentage
Residential	4581.56	1.13	48.21
Facilities	112.2	0.03	1.18
Green/ Open Area	2622.87	0.65	27.60
Roads	1108.02	0.27	11.66
Pavements	1077.97	0.27	11.34
Total	9502.60	2.35	100.00
Dwelling Units Details			
Particulars			Numbers
Retained Pucca DUs			29
No. of pucca HHs to be provided with toilets (Up-gradation)			8
No. of Semi-pucca & Kutcha HHs to be provided with Pucca structure (Newly Proposed)	Type 1		27
	Type 2		1
No. of Dus provided in group housing for relocated slum HHs (Newly Proposed)			0
Total HH accommodated in this site			65

LEGEND :

- Existing Pucca Houses
- Kutcha Houses
- Existing Pucca Houses to be Upgraded with Toilet
- Not Feasible
- Government Land
- Feasible Community and Utility
- Feasible Water Body / Canal
- Existing Open Space
- Proposed Circulation Area
- Road
- Site Boundary

PROPOSED LAYOUT FOR ANKULI MALI SAHI SLUM

ELECTRICAL SERVICES

ANKULI MALI SAHI



LEGEND :

- Existing Private Land
- Area Under
- Existing Private Houses to be Upgraded with Taker
- Banded HH to be taken up in another scheme/zone
- Government Private Land
- Government Land
- Existing Commercial
- Existing Community and UMI
- Existing Water Body / Drain
- Existing Open Space
- Paved Circulator Area
- Road
- Site Boundary

LEGEND -

S.No	SYMBOL	DESCRIPTION
1.		11 KV HT OVERHEAD LINE
2.		11 KV PACKAGE UNIT
3.		

PROPOSED ELECTRICAL SERVICES FOR ANKULI MALI SAHI SLUM





WATER SUPPLY SYSTEM



Network Length- m

Water Demand- MLD

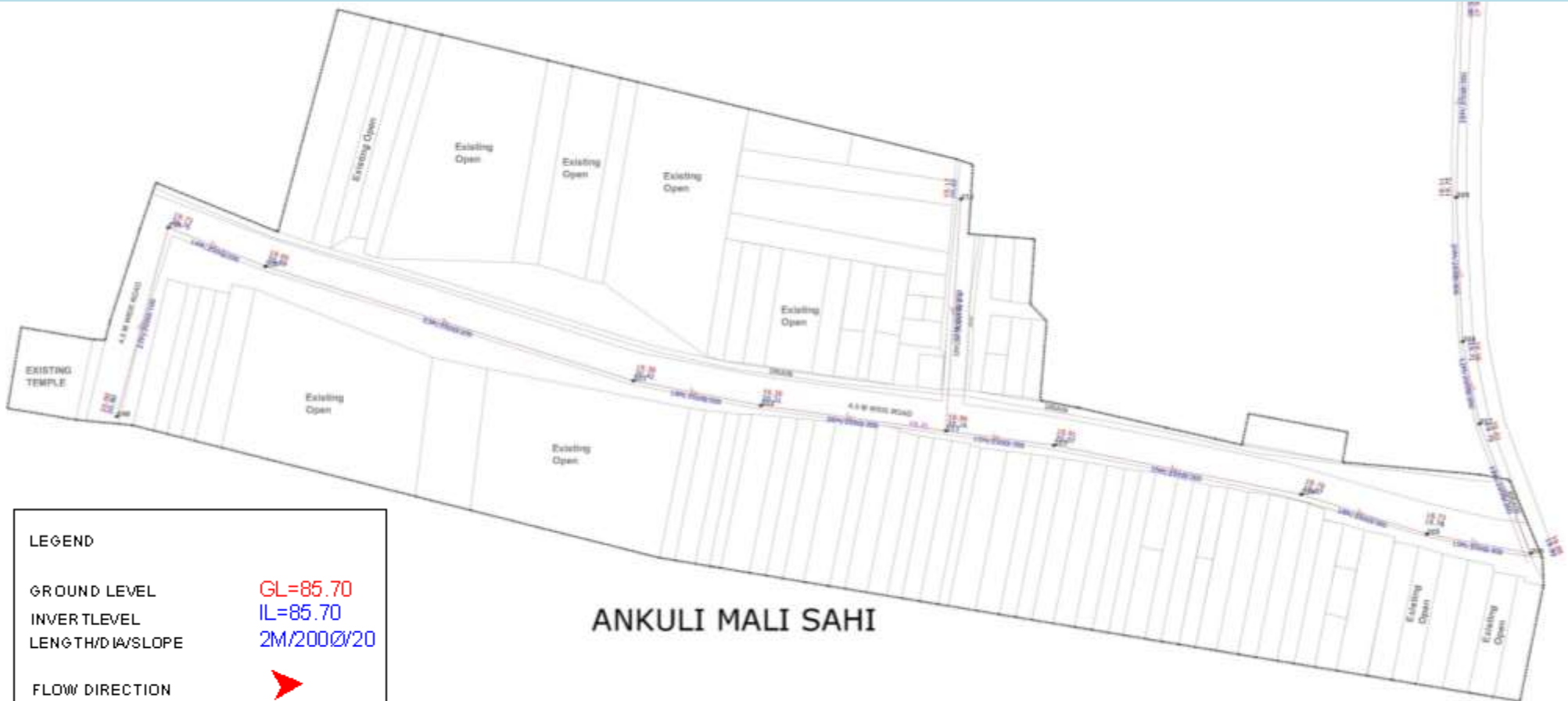
LEGEND:-

	PROPOSED FIRE HYDRANT
	PROPOSED SLUICE VALVE
	PROPOSED AIR RELEASE VALVE
	PROPOSED SCOUR VALVE

Water is pumped through Tubewell and stored in UGT from where it is supplied to individual houses

PROPOSED WATER SUPPLY SYSTEM FOR ANKULI MALI SAHI SLUM

SEWERAGE SYSTEM



LEGEND

GROUND LEVEL	GL=85.70
INVERT LEVEL	IL=85.70
LENGTH/DIA/SLOPE	2M/200Ø/20
FLOW DIRECTION	
CONNECTING LEVEL	CL=85.70
MANHOLE	
PIPELINE	

Sewerage is collected in STP from houses and treated through DEWAT system.

BRIEF SPECIFICATION

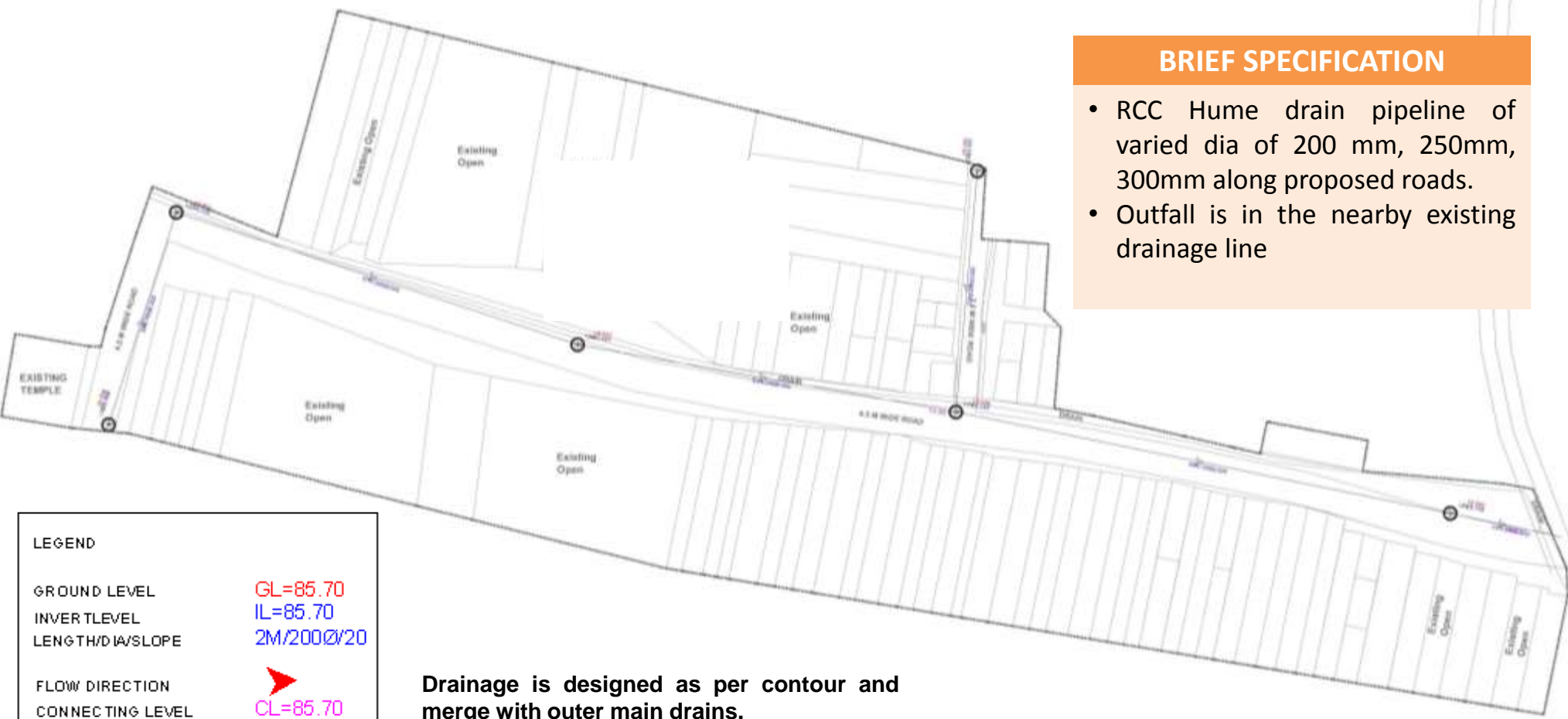
- STP of MLD capacity

PROPOSED SEWERAGE SYSTEM FOR ANKULI MALI SAHI SLUM

DRAINAGE SYSTEM

BRIEF SPECIFICATION

- RCC Hume drain pipeline of varied dia of 200 mm, 250mm, 300mm along proposed roads.
- Outfall is in the nearby existing drainage line




LEGEND


GROUND LEVEL GL=85.70


INVERT LEVEL IL=85.70

LENGTH/DIA/SLOPE 2M/200Ø/20

FLOW DIRECTION 

CONNECTING LEVEL CL=85.70

MANHOLE 

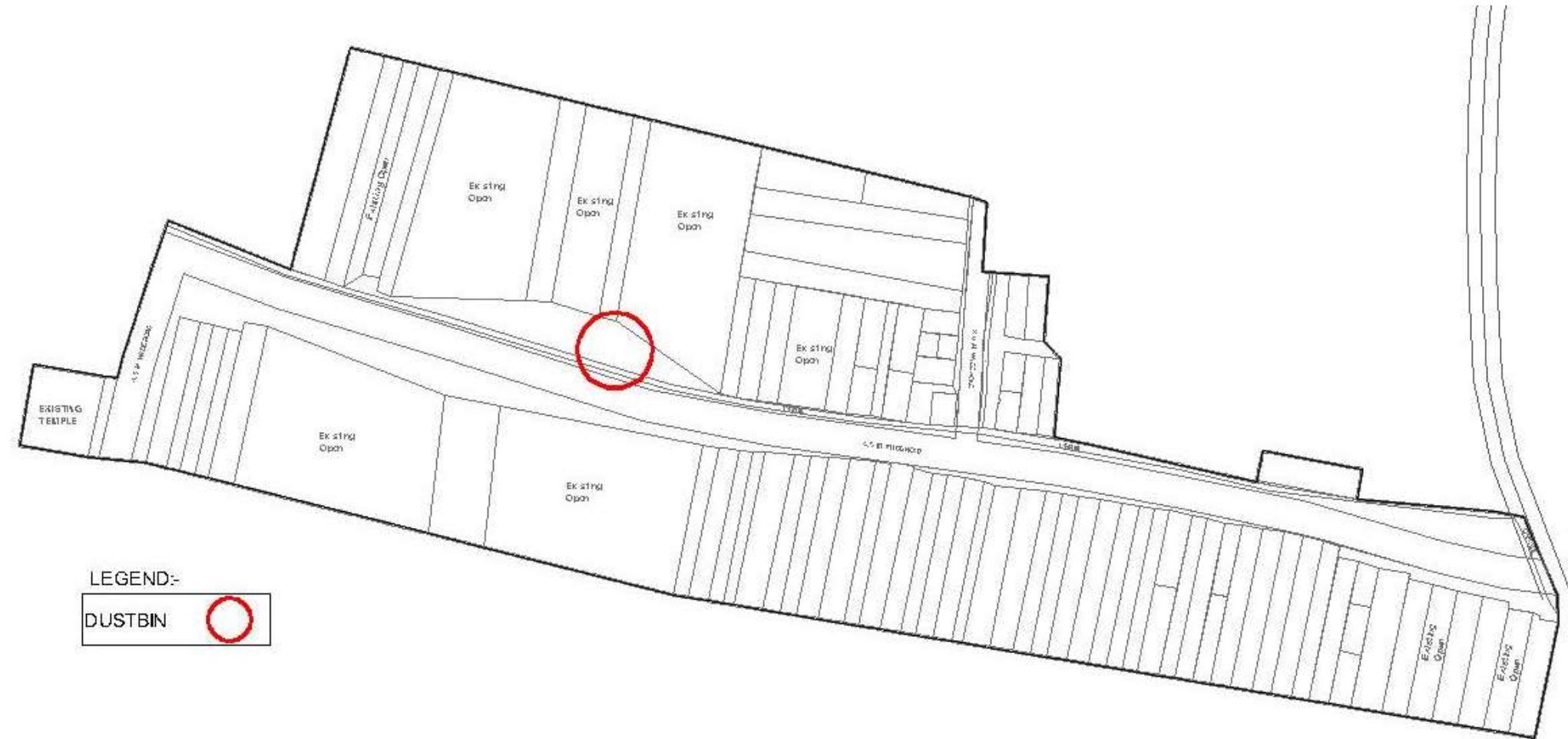
PIPELINE 

Drainage is designed as per contour and merge with outer main drains.


Network Length- m	Discharge- cumec
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PROPOSED DRAINAGE SYSTEM FOR ANKULI MALI SAHI SLUM

SOLID WASTE MANAGEMENT



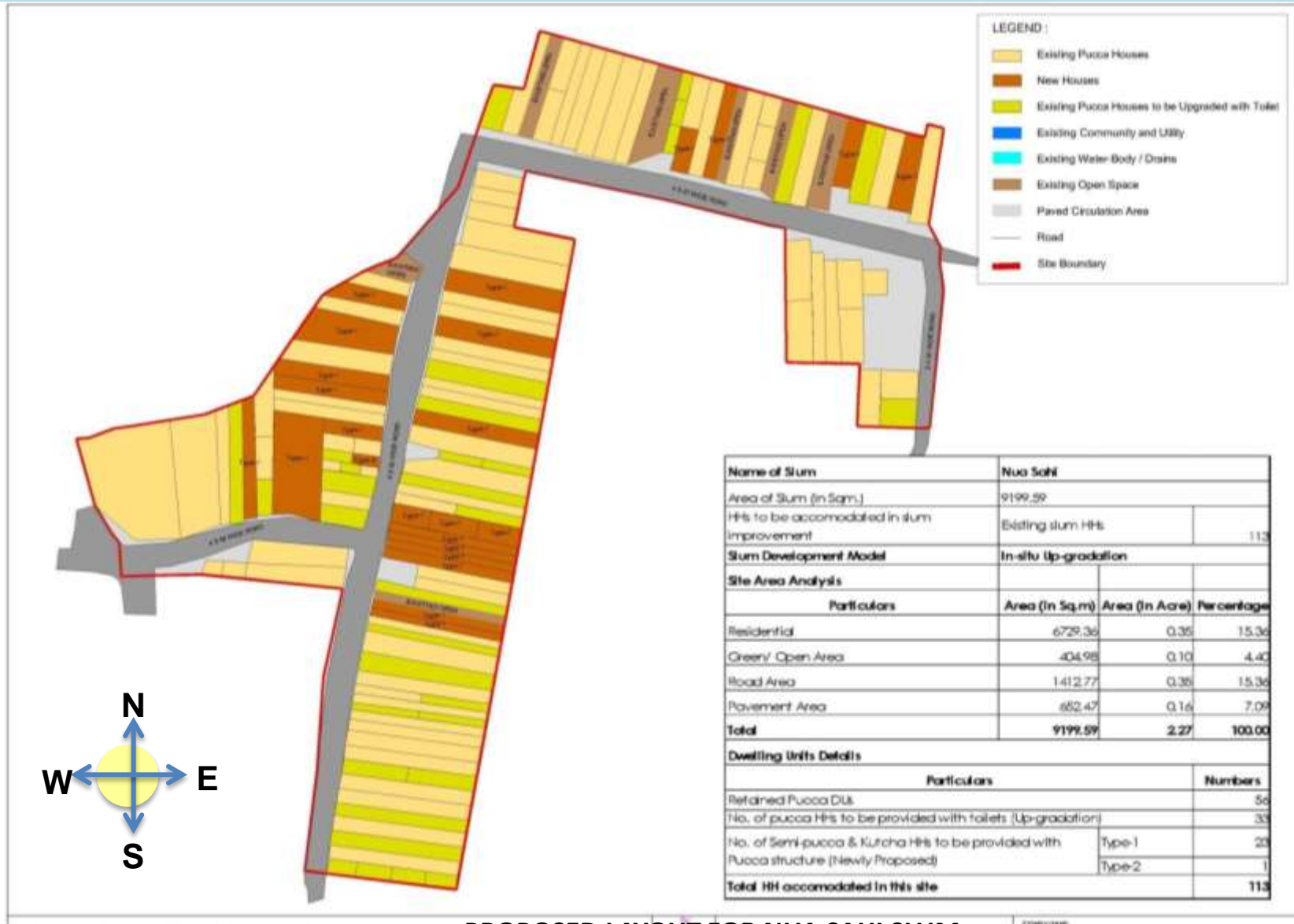
LEGEND:-

DUSTBIN 

Dustbins are provided in green and open areas.

Dustbins of 3.6 cubic meter are proposed.

NUA SAHI - LAYOUT



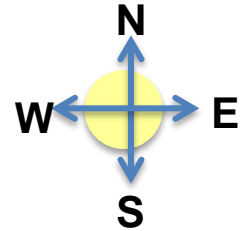
LEGEND :

- Existing Pucca Houses
- New Houses
- Existing Pucca Houses to be Upgraded with Toilet
- Existing Community and Utility
- Existing Water-Body / Drains
- Existing Open Space
- Paved Circulation Area
- Road
- Site Boundary

Name of Slum	Nua Sahi		
Area of Slum (In Sqm.)	9199.59		
HHs to be accommodated in slum improvement	Existing slum HHs		113
Slum Development Model	In-situ Up-gradation		
Site Area Analysis			
	Particulars	Area (In Sq.m)	Area (In Acre)
	Residential	6729.36	0.35
	Green/ Open Area	404.98	0.10
	Road Area	1412.77	0.35
	Pavement Area	662.47	0.16
	Total	9199.59	2.27
			100.00
Dwelling Units Details			
	Particulars		Numbers
	Retained Pucca DU		50
	No. of pucca HHs to be provided with toilets (Up-gradation)		33
	No. of Semi-pucca & Kutchra HHs to be provided with Pucca structure (Newly Proposed)	Type-1	29
		Type-2	1
	Total HH accommodated in this site		113

PROPOSED LAYOUT FOR NUA SAHI SLUM

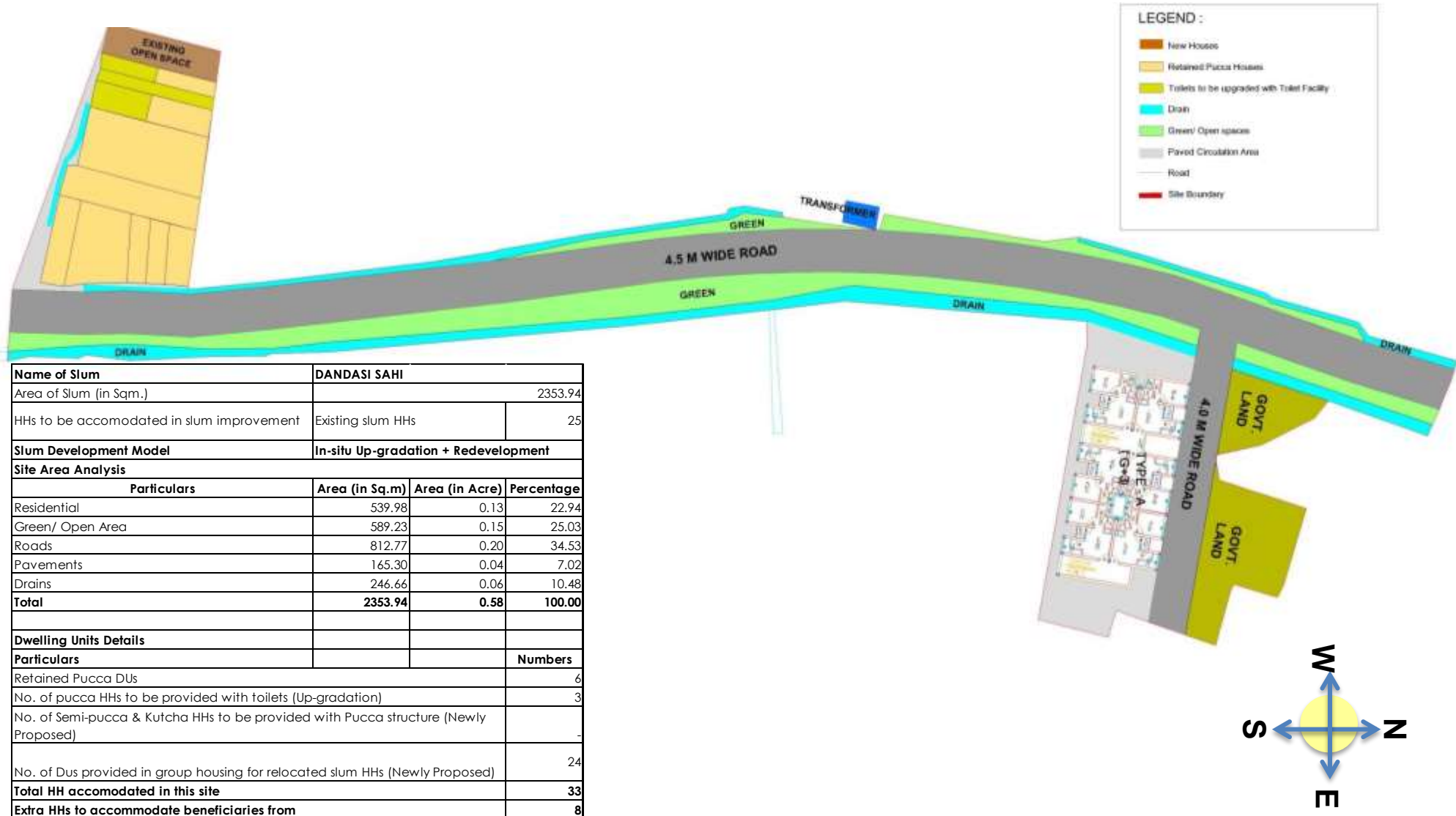
BIRA MUSTI SAHI - LAYOUT



Name of Slum	ANKULI MALI SAHI			
Area of Slum (in Sqm.)	9502.60			
HHs to be accommodated in slum improvement	Existing slum HHs			
Slum Development Model	In-situ Up-gradation + Redevelopment			
Site Area Analysis				
	Particulars	Area (in Sq.m)	Area (in Acre)	Percentage
Residential		4581.56	1.13	48.21
Facilities		112.2	0.03	1.18
Green/ Open Area		2622.87	0.65	27.60
Roads		1108.02	0.27	11.66
Pavements		1077.97	0.27	11.34
Total		9502.60	2.35	100.00
Dwelling Units Details				
	Particulars	Numbers		
Retained Pucca DUs		29		
No. of pucca HHs to be provided with toilets (Up-gradation)		8		
No. of Semi-pucca & Kutcha HHs to be provided with Pucca structure (Newly Proposed)	Type 1	27		
	Type 2	1		
No. of Dus provided in group housing for relocated slum HHs (Newly Proposed)		0		
Total HH accommodated in this site		65		

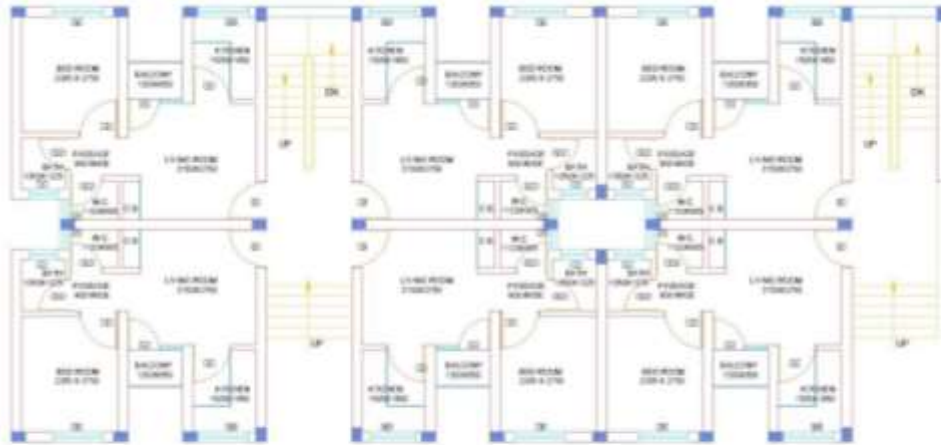
PROPOSED LAYOUT FOR BIRA MUSTI SAHI SLUM

DANDASI SAHI - LAYOUT



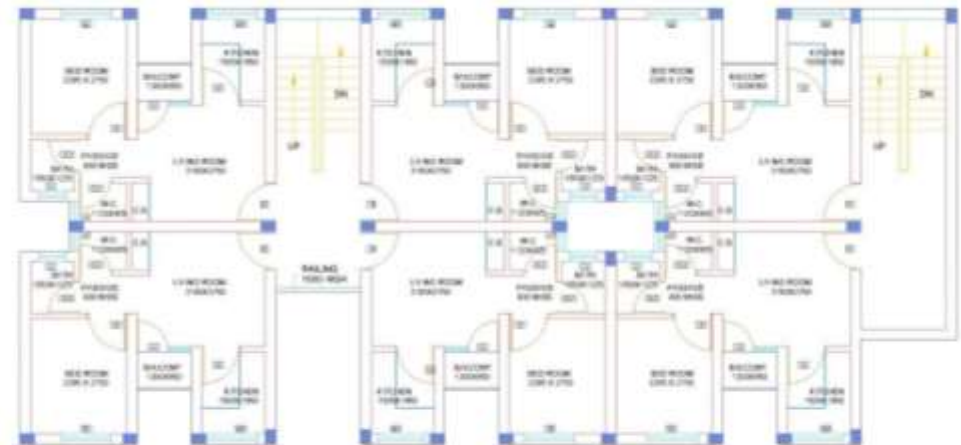
PROPOSED LAYOUT FOR DANDASI SAHI SLUM

GROUP HOUSING BLOCKS



TYPICAL FLOOR PLAN (GROUND FL.) TYPE 'A'

BUILT UP AREA PER FLOOR - 207.84 SQ.M.
TOTAL NUMBER OF FLOORS - 4 NOS. (G+3)
TOTAL BUILT UP AREA PER BLOCK - 831.76 SQ.M.

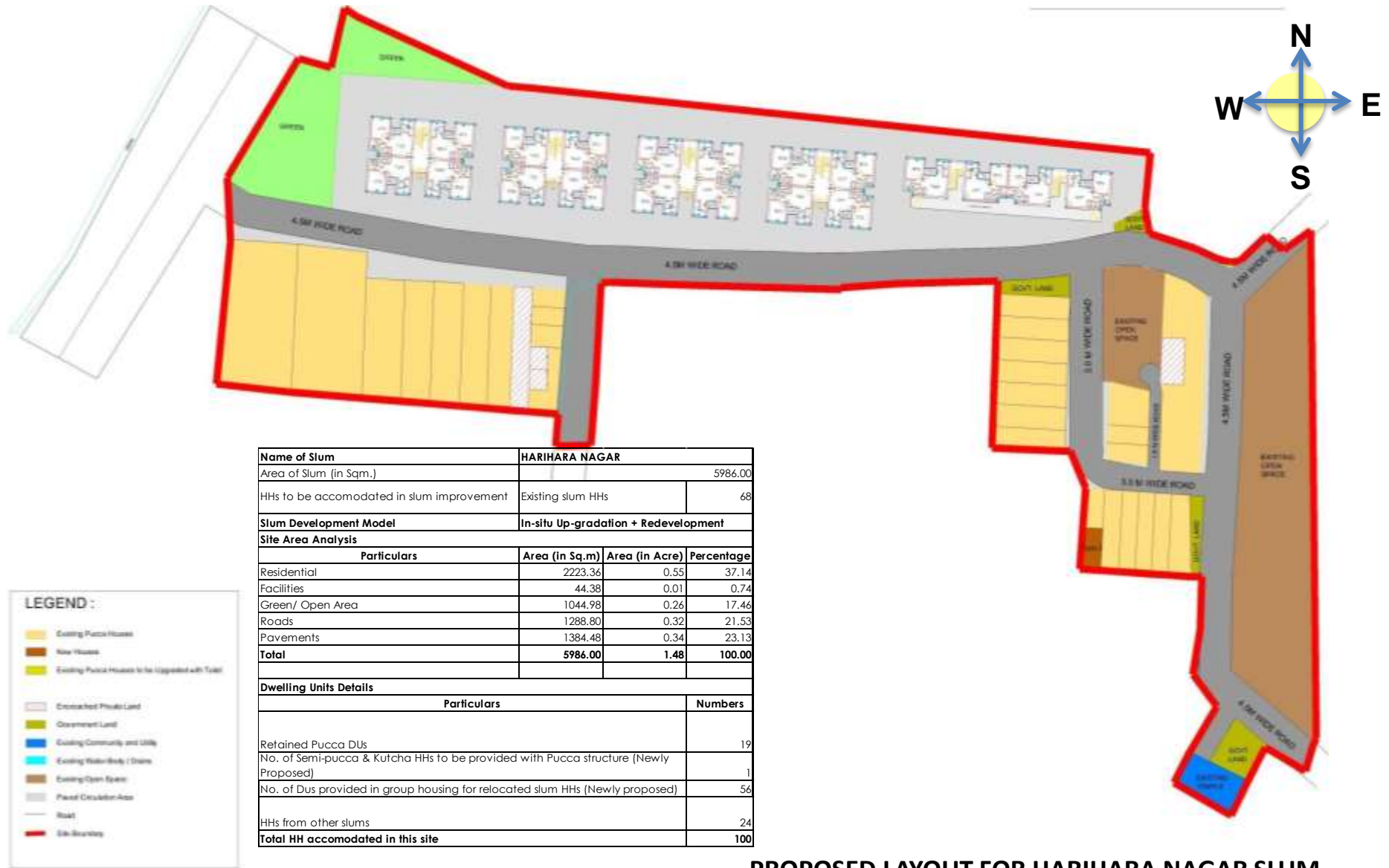


TYPICAL FLOOR PLAN (1ST TO 3RD FL.) TYPE 'A'

BUILT UP AREA PER FLOOR - 207.84 SQ.M.
TOTAL NUMBER OF FLOORS - 4 NOS. (G+3)
TOTAL BUILT UP AREA PER BLOCK - 831.76 SQ.M.

PROPOSED GROUP HOUSING BLOCKS (6 DU PER FLOOR) FOR DANDASI SAHI SLUM

HARIHARA NAGAR - LAYOUT



Name of Slum	HARIHARA NAGAR			
Area of Slum (in Sq.m.)	5986.00			
HHs to be accommodated in slum improvement	Existing slum HHs	68		
Slum Development Model	In-situ Up-gradation + Redevelopment			
Site Area Analysis				
	Particulars	Area (in Sq.m)	Area (in Acre)	Percentage
Residential		2223.36	0.55	37.14
Facilities		44.38	0.01	0.74
Green/ Open Area		1044.98	0.26	17.46
Roads		1288.80	0.32	21.53
Pavements		1384.48	0.34	23.13
Total		5986.00	1.48	100.00
Dwelling Units Details				
	Particulars	Numbers		
Retained Pucca DUs		19		
No. of Semi-pucca & Kutcha HHs to be provided with Pucca structure (Newly Proposed)		1		
No. of Dus provided in group housing for relocated slum HHs (Newly proposed)		56		
HHs from other slums		24		
Total HH accommodated in this site		100		

LEGEND :

- Existing Pucca Houses
- New Houses
- Existing Pucca Houses to be upgraded with Toilet
- Encroached Private Land
- Government Land
- Existing Community and Utility
- Existing Water Body / Drains
- Existing Open Space
- Planned Circulation Area
- Road
- Site Boundary

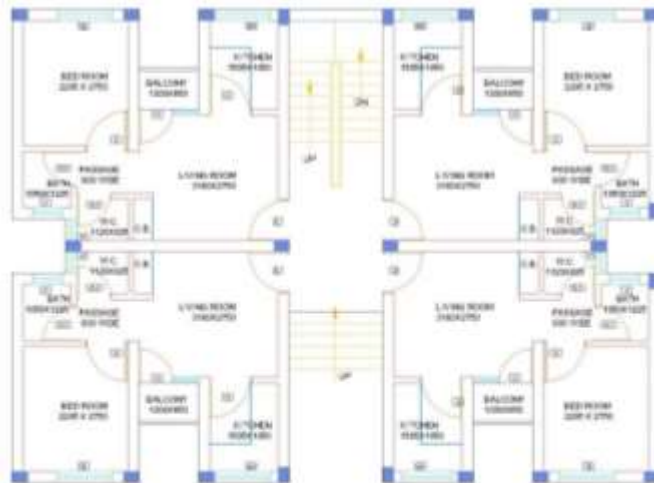
PROPOSED LAYOUT FOR HARIHARA NAGAR SLUM

GROUP HOUSING BLOCKS



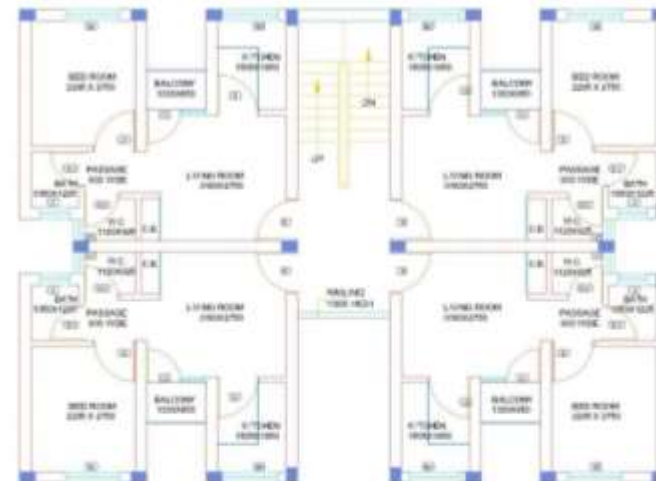
**TYPE 'B' - TYPICAL FLOOR PLAN (GROUND FL.)
(HALF OF TYPE 'A')**

BUILT UP AREA PER FLOOR - 175.64 SQ.M.
TOTAL NUMBER OF FLOORS - 4 NOS. (G+3)
TOTAL BUILT UP AREA PER BLOCK - 702.56 SQ.M.



TYPE 'A' - TYPICAL FLOOR PLAN (GROUND FL.)

BUILT UP AREA PER FLOOR - 130.80 SQ.M.
TOTAL NUMBER OF FLOORS - 4 NOS. (G+3)
TOTAL BUILT UP AREA PER BLOCK - 523.20 SQ.M.

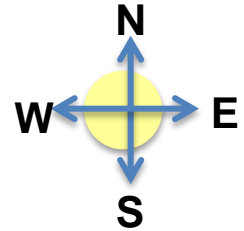


TYPE 'A' - TYPICAL FLOOR PLAN (1ST TO 3RD FL.)

BUILT UP AREA PER FLOOR - 129.50 SQ.M.
TOTAL NUMBER OF FLOORS - 4 NOS. (G+3)
TOTAL BUILT UP AREA PER BLOCK - 518.00 SQ.M.

PROPOSED GROUP HOUSING BLOCKS (4 DU PER FLOOR) FOR HARIHARA NAGAR SLUM

KAJI SAHI - LAYOUT



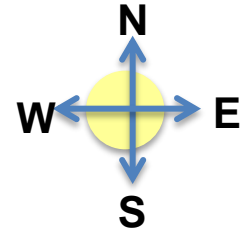
LEGEND :

- Existing Pucca Houses
- New Houses
- Existing Pucca Houses to be Upgraded with Toilet
- Not Feasible*
- Government Land
- Existing Community and Utility
- Existing Water-Body / Drains
- Existing Open Space
- Paved Circulation Area
- Road
- Site Boundary

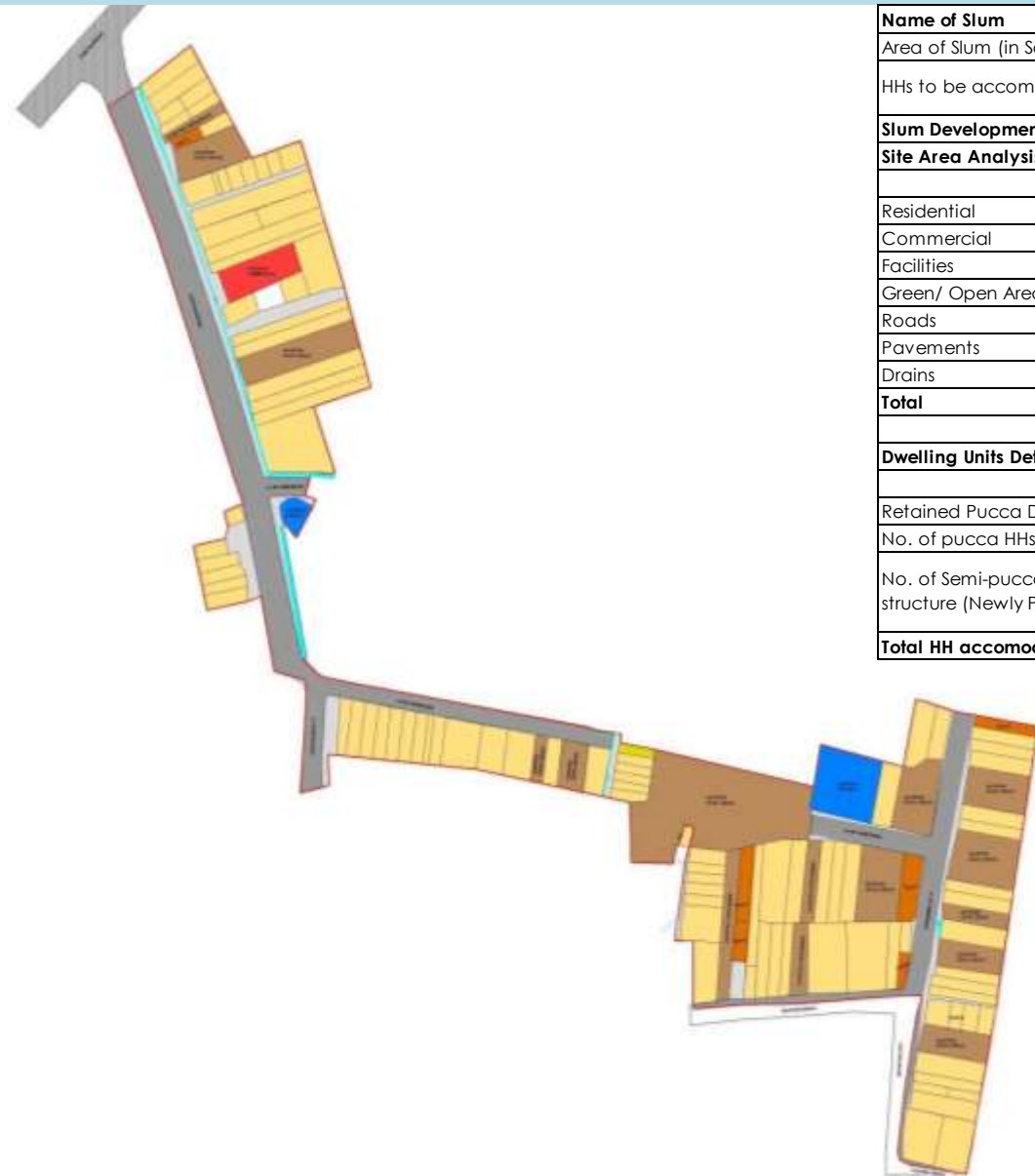
Name of Slum	Kaji Sahi		
Area of Slum (in Sq.m.)	4061.32		
HHs to be accommodated in slum improvement	53		
Slum Development Model	In-situ Up-gradation		
Site Area Analysis			
	Particulars	Area (In Sq.m)	ea (In Acr)
			Percentage
	Residential	2416.61	0.60
	Facilities	64.58	0.02
	Green/ Open Area	236.80	0.06
	Road Area	935.92	0.23
	Pavement Area	388.48	0.10
	Drains	18.94	0.00
	Total	4061.32	1.00
			100.00
Dwelling Units Details			
	Particulars		Numbers
	Retained Pucca DUs		30
	No. of pucca HHs to be provided with toilets (Up-gradation)		7
	No. of Semi-pucca & Kutcha HHs to be provided with Pucca structure (Newly Proposed)	Type 1	14
		Type 2	2
	Total HH accommodated in this site		53

PROPOSED LAYOUT FOR KAJI SAHI SLUM

KHAJURIA ROAD - LAYOUT



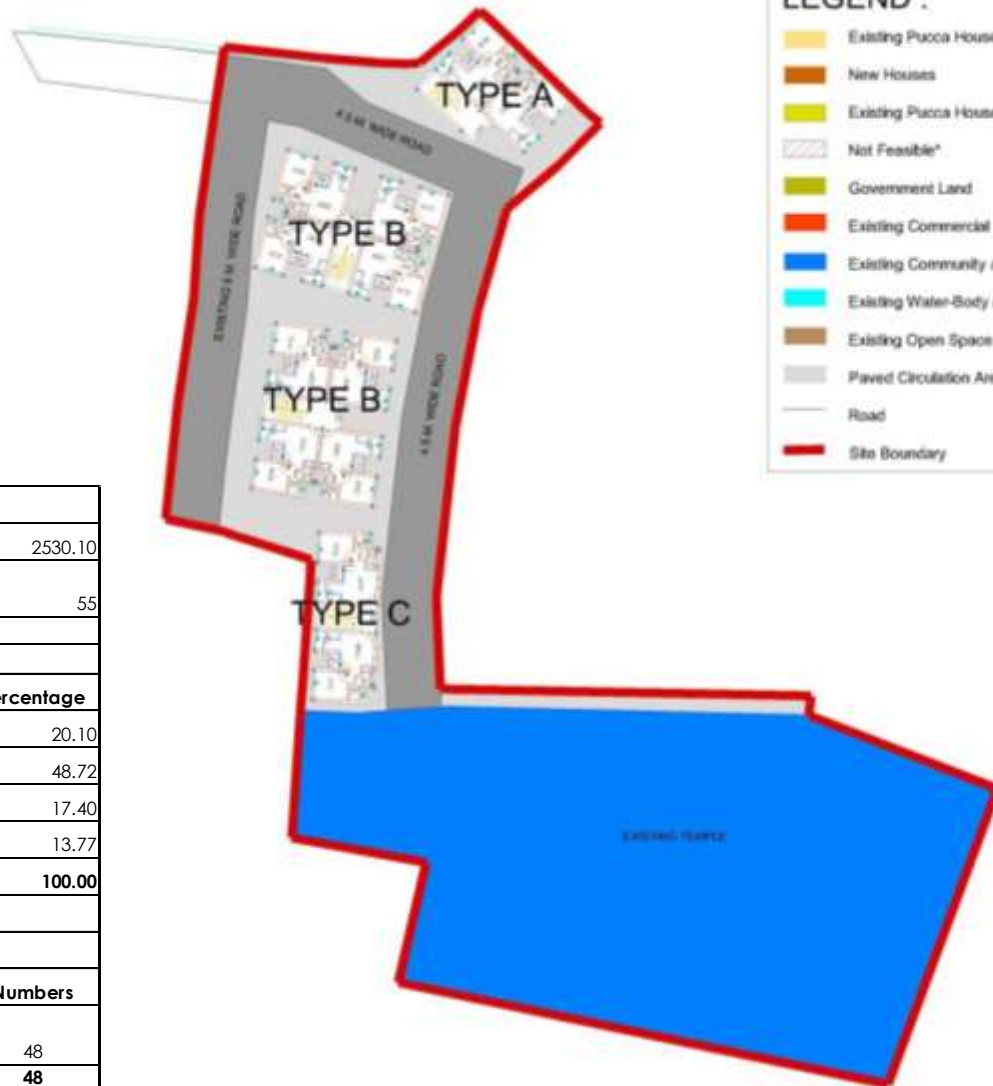
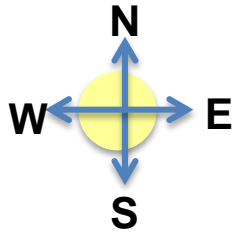
Name of Slum	KHAJURIA ROAD			
Area of Slum (in Sqm.)	10978.36			
HHs to be accomodated in slum improvement	Existing slum HHs	75		
Slum Development Model	In-situ Redevelopment			
Site Area Analysis				
	Particulars	Area (in Sq.m)	Area (in Acre)	Percentage
Residential		5412.24	1.34	49.30
Commercial		141.67	0.04	1.29
Facilities		271.91	0.07	2.48
Green/ Open Area		2404.55	0.59	21.90
Roads		1951.72	0.48	17.78
Pavements		704.85	0.17	6.42
Drains		91.42	0.02	0.83
Total		10978.36	2.71	100
Dwelling Units Details				
	Particulars			Numbers
Retained Pucca DUs				50
No. of pucca HHs to be provided with toilets (Up-gradation)				1
No. of Semi-pucca & Kutchha HHs to be provided with Pucca structure (Newly Proposed)	type 1			4
	Type 2			2
Total HH accomodated in this site				57



LEGEND :	
	Existing Pucca Houses
	New Houses
	Existing Pucca Houses to be Upgraded with Toilet
	Not Feasible
	Government Land
	Existing Commercial
	Existing Community and Utility
	Existing Water-Body / Drains
	Existing Open Space
	Paved Circulation Area
	Road
	Site Boundary

PROPOSED LAYOUT FOR KHAJURIA ROAD SLUM

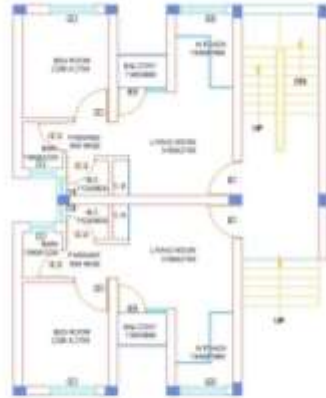
MUKTESWARA TEMPLE BANDHA STREET - LAYOUT



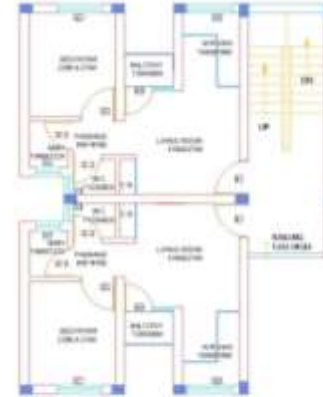
Name of Slum	MUKTESWARA TEMPLE BANDHA STREET		
Area of Slum (in Sq.m.)	2530.10		
HHS to be accommodated in slum improvement	55		
Slum Development Model	In-situ Redevelopment		
Site Area Analysis			
Particulars	Area (in Sq.m)	Area (in Acre)	Percentage
Residential	533.63	0.13	20.10
Facilities	1293.54	0.32	48.72
Road Area	462.03	0.11	17.40
Pavement Area	365.63	0.09	13.77
Total	2654.84	0.66	100.00
Dwelling Units Details			
Particulars			Numbers
No. of Dus provided in group housing for relocated slum HHS (Newly Proposed)			48
Total HH accommodated in this site			48
HH to be accommodated at Chanchada Pathara (DPR 5)			7

PROPOSED LAYOUT FOR MUKTESWARA TEMPLE BANDHA STREET SLUM

GROUP HOUSING BLOCKS

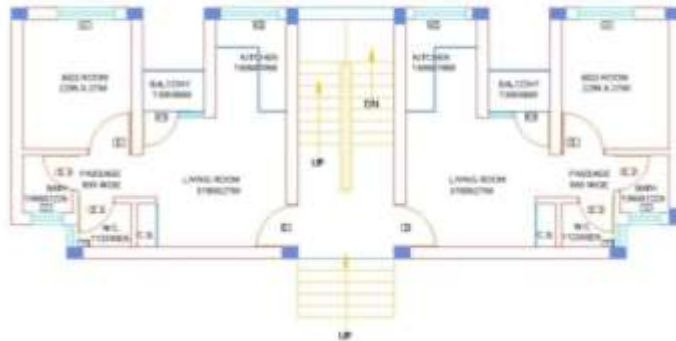


TYPICAL FLOOR PLAN (GR. FL.) TYPE 'A'

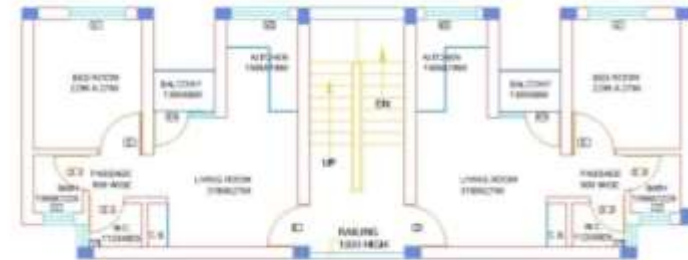


TYPICAL FLOOR PLAN (1ST TO 3RD FL.) TYPE 'A'

BUILT UP AREA PER FLOOR - 74.11 SQ.M.
TOTAL NUMBER OF FLOORS - 4 NOS. (G+3)
TOTAL BUILT UP AREA PER BLOCK - 296.44 SQ.M



TYPICAL FLOOR PLAN (GR. FL.) TYPE 'C'

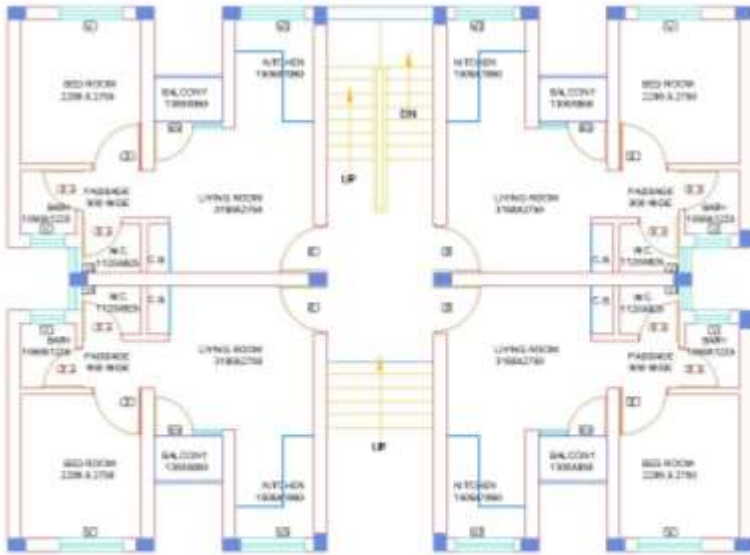


TYPICAL FLOOR PLAN (1ST TO 3RD FL.) TYPE 'C'

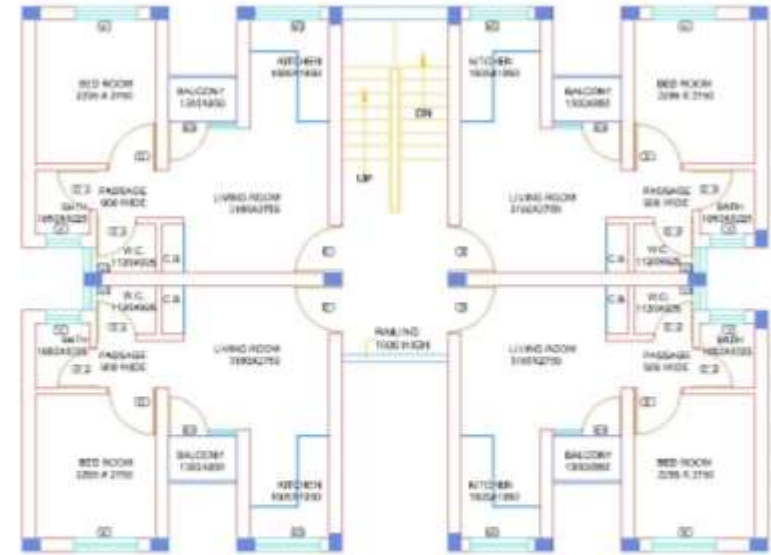
BUILT UP AREA PER FLOOR - 70.69 SQ.M.
TOTAL NUMBER OF FLOORS - 4 NOS. (G+3)
TOTAL BUILT UP AREA PER BLOCK - 282.76 SQ.M

PROPOSED GROUP HOUSING BLOCKS (2 DU PER FLOOR) FOR MUKTESWARA TEMPLE BANDHA STREET SLUM

GROUP HOUSING BLOCKS



TYPICAL FLOOR PLAN (GR. FL.) TYPE 'B'

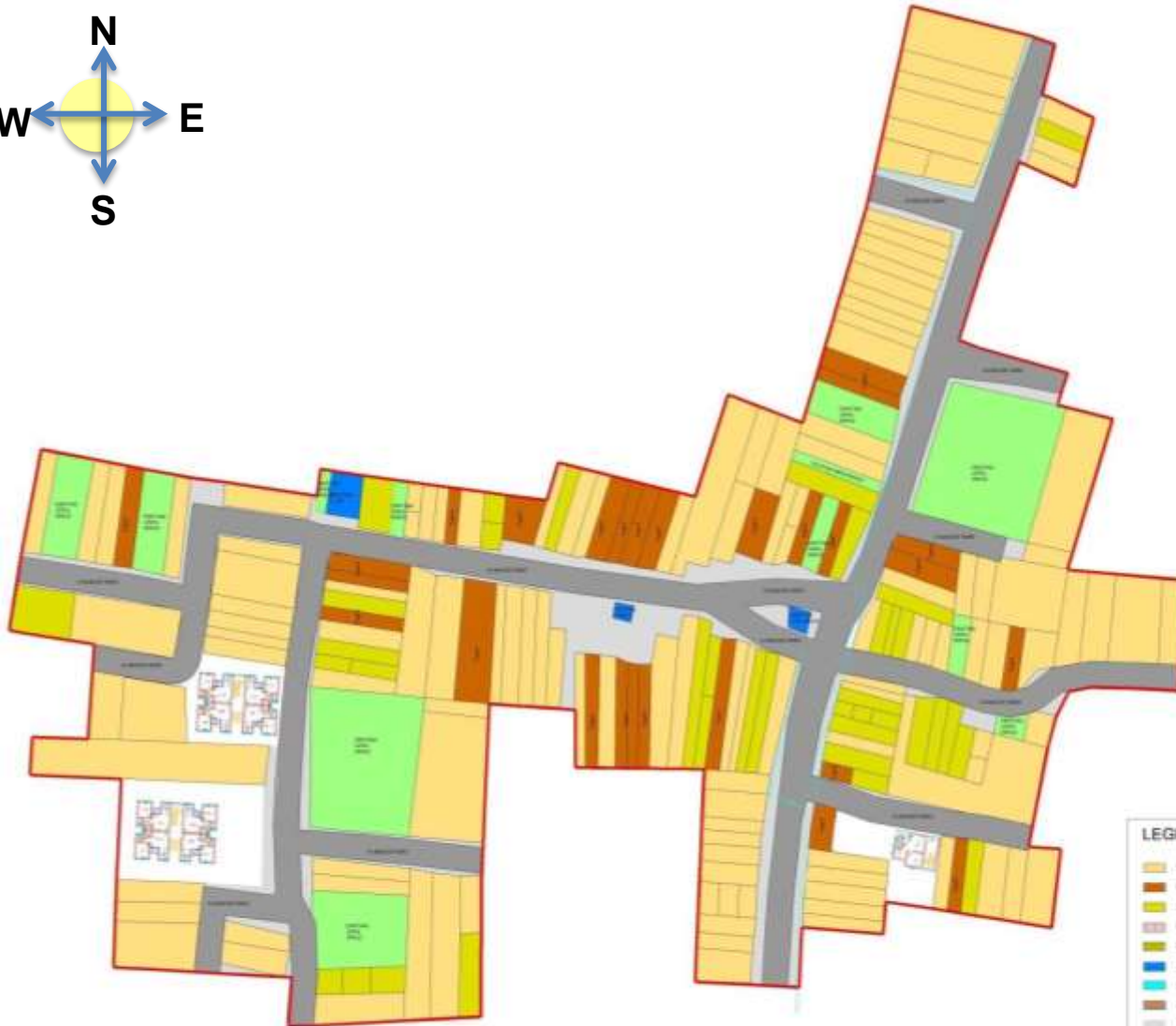
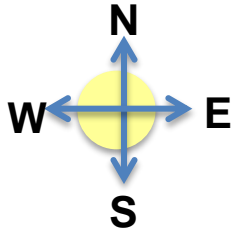


TYPICAL FLOOR PLAN (1ST TO 3RD FL.) TYPE 'B'

BUILT UP AREA PER FLOOR - 131.05 SQ.M.
 TOTAL NUMBER OF FLOORS - 4 NOS. (G-3)
 TOTAL BUILT UP AREA PER BLOCK - 524.20 SQ.M.

PROPOSED GROUP HOUSING BLOCKS (4 DU PER FLOOR) FOR MUKTESWARA TEMPLE BANDHA STREET SLUM

PANKANAPALI - LAYOUT



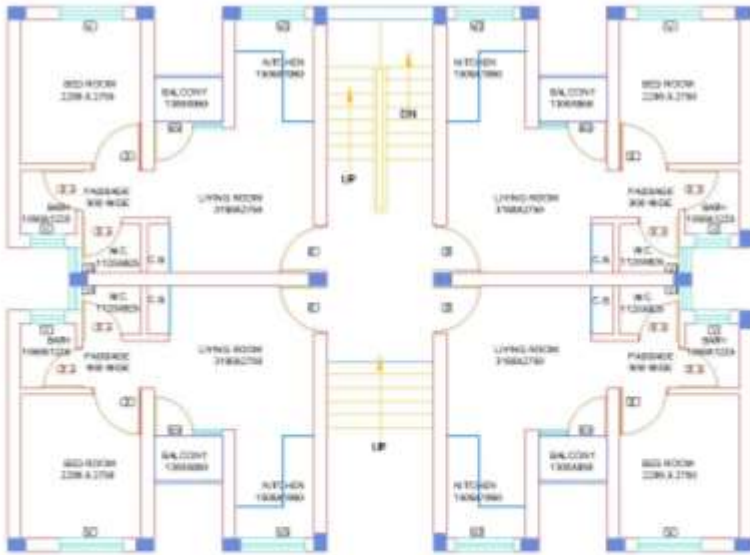
Name of Slum		PANKANPALLI	
Area of Slum (in Sq.m.)		16861.0988	
HHs to be accomodated in slum improvement	Existing slum HHs	128	
	HHs to be accomodated from other slums	32	
Slum Development Model		In-situ Up-gradation	
Site Area Analysis			
Particulars	Area (in Sq.m)	Area (in Acre)	Percentage
Residential	9376.41	2.32	55.61
Facilities	69.09	0.02	0.41
Green/ Open Area	2314.39	0.57	13.73
Pavements	1558.61	0.39	9.24
Roads	3542.60	0.88	21.01
Total	16861.10	4.17	100.00
Dwelling Units Details			
Particulars		Numbers	
Retained Pucca DUs		96	
No. of Semi-pucca & Kutcha HHs to be provided with Pucca structure (Newly Proposed)	Type 1	18	
	Type 2	2	
No. of Pucca HHs provided with Toilet Facility		12	
No. of HHs provided as group Housing in available vacant land for newly slum dwellers		32	
Total HH accomodated		160	

LEGEND :

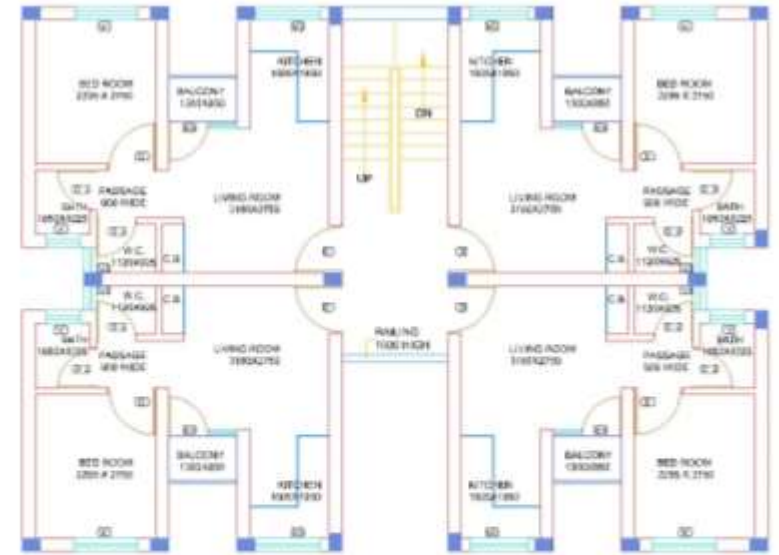
- Existing Pucca House
- New House
- Existing Pucca House to be Upgraded with Pucca
- New Pucca
- Government Land
- Existing Community Wash Lily
- Existing Wash Lily - Open
- Existing Open Space
- Paved Courtyard Area
- Road
- Site Boundary

PROPOSED LAYOUT FOR PANKANAPALI SAHI SLUM

GROUP HOUSING BLOCKS



TYPICAL FLOOR PLAN (GR. FL.) TYPE 'B'

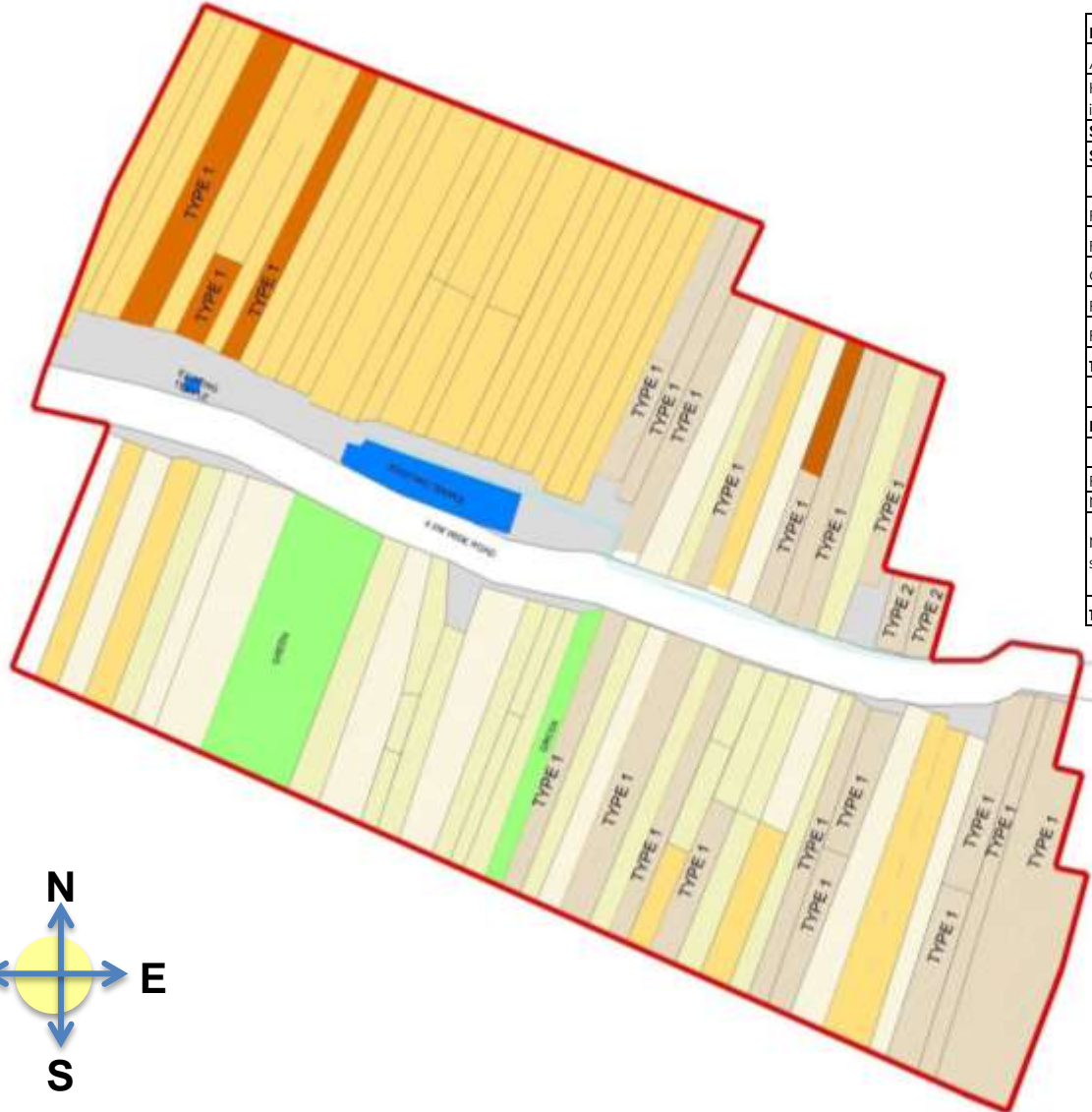


TYPICAL FLOOR PLAN (1ST TO 3RD FL.) TYPE 'B'

BUILT UP AREA PER FLOOR - 131.05 SQ. M.
TOTAL NUMBER OF FLOORS - 4 NOS. (G-3)
TOTAL BUILT UP AREA PER BLOCK - 524.20 SQ. M.

PROPOSED GROUP HOUSING BLOCKS (4 DU PER FLOOR) FOR PANKANAPALI SLUM

REDIKA STREET - LAYOUT



Name of Slum	Redika Street		
Area of Slum (in Sqm.)	6836.35		
HHs to be accommodated in slum improvement	84		
Slum Development Model	In-situ Up-gradation		
Site Area Analysis			
Particulars	Area (in Sq.m)	Area (in Acre)	Percentage
Residential	5566.14	1.38	81.42
Facilities	71.78	0.02	1.05
Green/ Open Area	322.85	0.08	4.72
Road Area	506.62	0.13	7.41
Pavement Area	368.96	0.09	5.40
Total	6836.35	1.69	100.00
Dwelling Units Details			
Particulars			Numbers
Retained Pucca DUs			41
No. of pucca HHs to be provided with toilets (Up-gradation)			20
No. of Semi-pucca & Kutcha HHs to be provided with Pucca structure (Newly Proposed)	Type 1		21
	Type 2		2
Total HH accommodated in this site			84

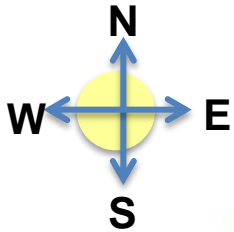
LEGEND :	
	Existing Pucca Houses
	New Houses
	Existing Houses to be Upgraded with Toilet
	Existing Community and Utility
	Water-body / Drains
	Green Areas
	Paved Circulation Area
	Road
	Site Boundary

PROPOSED LAYOUT FOR REDIKA STREET SLUM

SURJYA NAGAR - LAYOUT

LEGEND :

- Existing Pucca Houses
- New Houses
- Existing Pucca Houses to be Upgraded with Toilet
- Not Feasible*
- Government Land
- Existing Commercial
- Existing Community and Utility
- Existing Water-Body / Drains
- Existing Open Space
- Paved Circulation Area
- Road
- Site Boundary



PROPOSED LAYOUT FOR SURJYA NAGAR SLUM

Name of Slum	Surjya Nagar			
Area of Slum (in Sq.m.)	9386.15			
HHs to be accommodated in slum improvement	Existing slum HHs		122	
	Relocated slum HHs			
Slum Development Model	In-situ Up-gradation + Redevelopment			
Site Area Analysis				
	Particulars	Area (in Sq.m)	Area (in Acre)	Percentage
Residential		6686.25	1.65	71.24
Facilities		311.95	0.08	3.32
Green/ Open Area		143.53	0.04	1.53
Road Area		1955.38	0.48	20.83
Pavement Area		289.04	0.07	3.08
Total		9386.15	2.32	100.00
Dwelling Units Details				
	Particulars		Numbers	
Retained Pucca DUs			83	
No. of pucca HHs to be provided with toilets (Up-gradation)			10	
No. of Semi-pucca & Kutcha HHs to be provided with Pucca structure (Newly Proposed)	Type 1		23	
	Type 2		6	
Total HH accommodated in this site			122	
HH to be accommodated at other site				

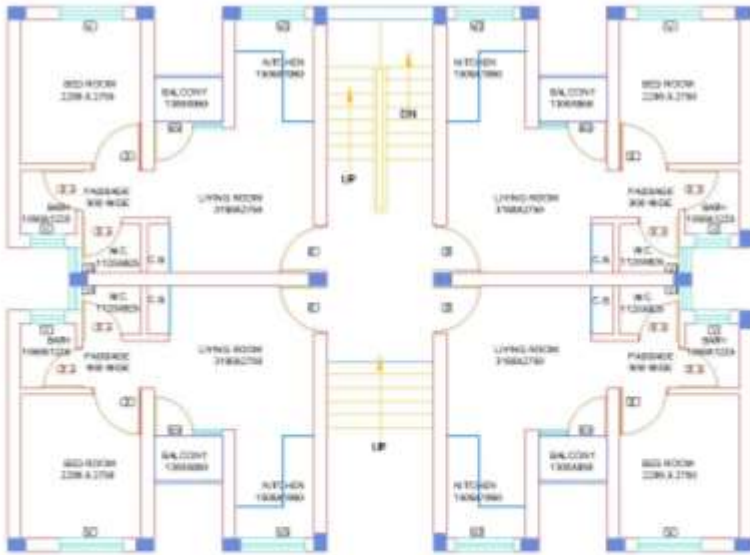
PANKELAPALLI - LAYOUT



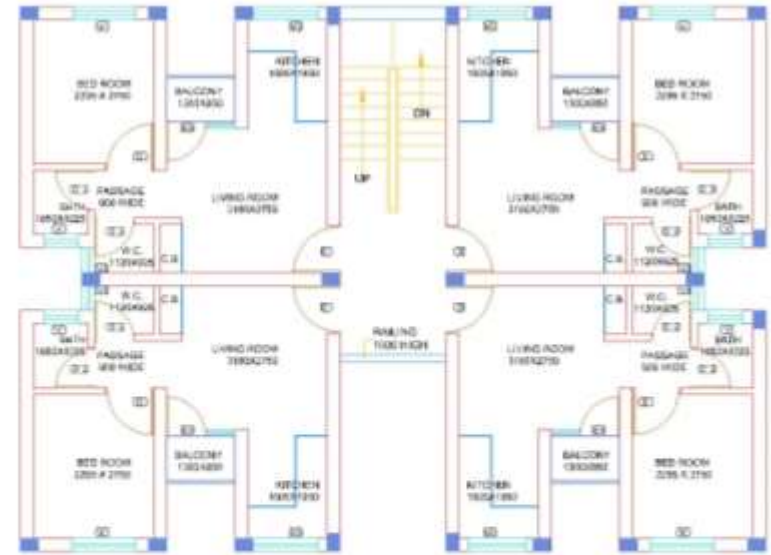
Name of Slum	PANKELAPALLI RELOCATION SITE		
Area of Slum (in Sq.m.)	2858.50		
HHs to be accommodated in slum improvement	7 nos. of block with 16 DUs per Block	112	
Slum Development Model	Resettlement		
Site Area Analysis			
Particulars	Area (in Sq.m)	Area (in Acre)	Percentage
Residential	1036.30	0.26	36.25
Green/ Open Area	482.80	0.12	16.89
Pavements	527.90	0.13	18.47
Roads	811.50	0.20	28.39
Total	2858.50	0.71	100.00
Dwelling Units Details			
Particulars			Numbers
No. of DUs provided in group housing for slum HHs of Ankuli Gudia Bandha Sahi (Newly Proposed)			35
No. of DUs provided in group housing for slum HHs of Ankuli Bauri Sahi (Newly Proposed)			42
No. of DUs provided in group housing for slum HHs from other slums (Newly proposed)			35
Total HH accommodated			112

PROPOSED LAYOUT FOR PANKELAPALLI SLUM

GROUP HOUSING BLOCKS



TYPICAL FLOOR PLAN (GR. FL.) TYPE 'B'

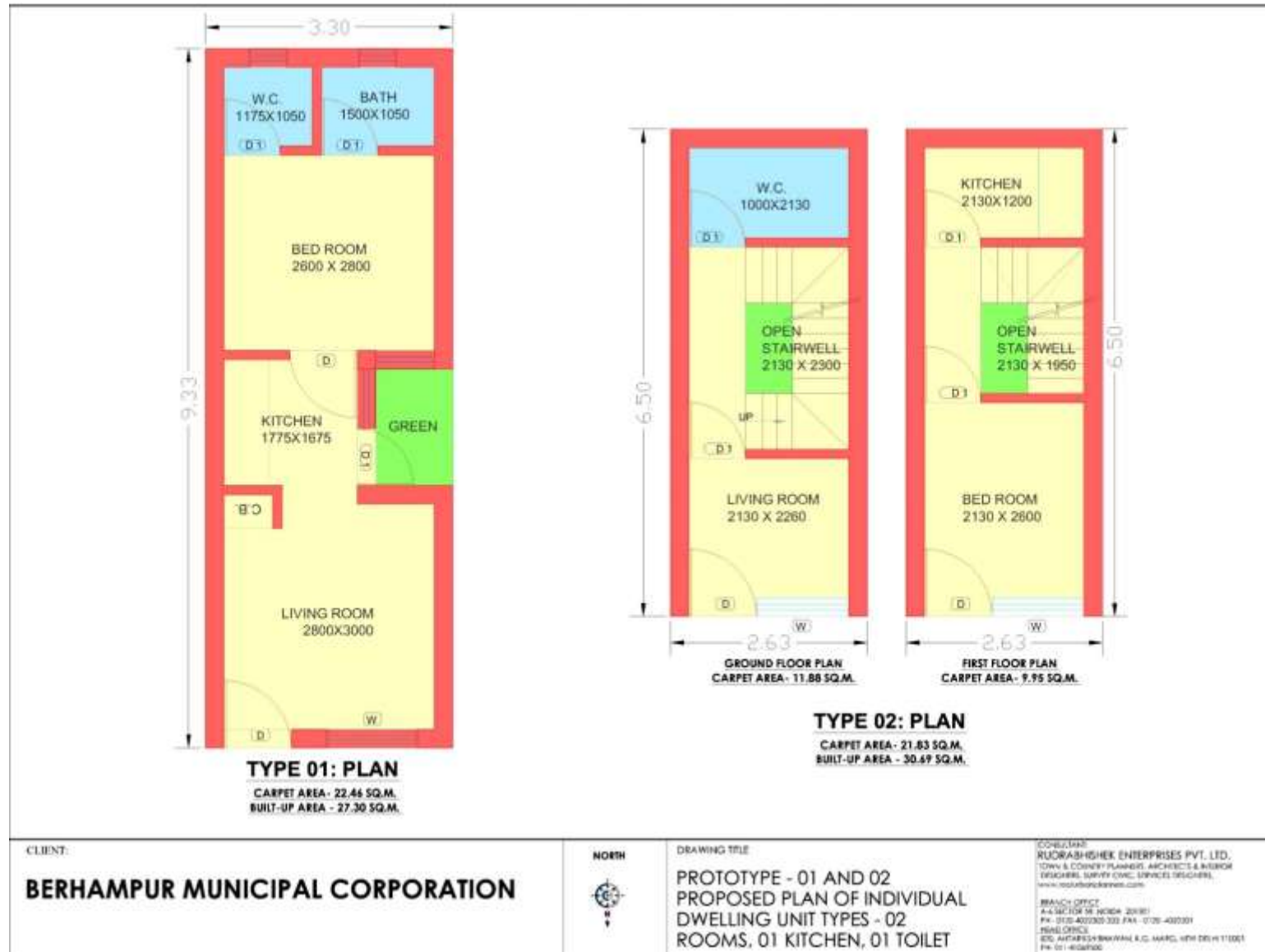


TYPICAL FLOOR PLAN (1ST TO 3RD FL.) TYPE 'B'

BUILT UP AREA PER FLOOR - 131.05 SQ. M.
 TOTAL NUMBER OF FLOORS - 4 NOS. (G-3)
 TOTAL BUILT UP AREA PER BLOCK - 524.20 SQ. M.

PROPOSED GROUP HOUSING BLOCKS (4 DU PER FLOOR) FOR PANKELAPALLI SLUM

PROPOSED INDIVIDUAL DWELLING UNIT TYPES



INNOVATIVE APPROACH



APPROACH

PLANNING INNOVATIONS

- Layout is prepared keeping in view **natural topography**
- **Effective utilization** of existing land resource
- **Adequate Green Area** provided in the site

FINANCIAL IMPLEMENTATION

- **Public Private Partnership**
- **World Bank**
- **Community Participation**

PUBLIC CONSULTATION

- Helps in **increase in success rate** of the project
- Access to **appropriateness** of the proposed scheme

PREVENTION OF FUTURE GROWTH OF THE SLUM

- Reserve land for **public private housing** project
- **Increase in supply of developed land / houses / flats** in the city
- **Affordable housing and rental accommodation**

INNOVATIVE TECHNIQUES

- **Roof-top rain water harvesting system** for all the clusters
- Alternative power generation techniques like **solar panels** to be used for **street lighting, multipurpose community center** etc.
- Maximum use of locally available and **eco-friendly materials**
- **Top soil of the site will be conserved** and shall be used for gardening purpose.



Maintenance of Assets

MODELS IDENTIFIED FOR OPERATION & MAINTENANCE

BUILDING BLOCK LEVEL

- 16 members in 1 block level association
- Door to Door collection of Solid Waste
- Common assets of Building Blocks (staircase, corridors, terrace water tank etc.)

NEIGHBOURHOOD LEVEL

- Community based organization under umbrella of BMC shall take care of the common social infrastructure of the neighbourhood
- ULB will take care of the physical infrastructure facilities such as water supply distribution, cleaning of septic tank etc.

CITY LEVEL

- ULB will be responsible for O&M of main trunk lines of water supply, sewerage etc.
- ULB will also be responsible for transportation of solid waste from dhalao to disposal site.

PROJECT COST ESTIMATES

Abstracts of Cost

SR. NO.	PARTICULARS	COST
1	Civic Infrastructure	In Lakhs
1.1	Water Supply System	204.6
1.2	Sewerage System	274.75
1.3	Storm Water Drainage System	50.78
1.4	Rain Water Harvesting System	23.24
1.5	Solid Waste Management	11.86
1.6	Roads	254.97
1.7	Electricity	282.35
	Sub Total	1102.55
2	Housing	1837.94
	(Including Electrical and Sanitary fittings)	
3	Social Infrastructure	
	(Including Boundary Wall, Park, Entry Gate, Site clearance and Rent for HHs during Transit)	329.88
4	Other Charges + O&M	613.19
	Total Estimated Cost of Engineering and Construction	3883.57

Funding Pattern

Summary of costing (component wise)				(Rs in lacs)						
Sl.No	Scheme Component	Qty	Unit	Rate (Rs)	Proposed Project Cost	Appraised Project cost	Central Share	State share	ULB share	Beneficiary share
A. Housing										
				Sub Total (A)	1,937.04	1,837.94	1,458.05	167.51	-	212.38
B. Infrastructure (Social)										
				Sub Total (B)	715.63	329.88	3.38	298.20	28.30	0.00
C. Infrastructure (Physical)										
				Sub Total (C)	1102.55	1102.55	365.21	645.95*	91.39	
				Sub Total (B+C)- Infrastructure	1818.18	1432.43	368.59	944.15	119.69	0.00
				Sub Total (A+B+C)	3755.22	3270.37	1826.64	1111.66	119.69	212.38
D. O & M - 4% of subtotal (A+B+C)					150.21	130.81	98.11	17.01	15.70	
E. Other charges										
1	Project Mng Consultant @ 2% of Sub Total (A+B+C)				75.10	65.41	0	65.41	0	
2	Labour Cess @ 1% of (A+B+C)				37.55	32.70	0	32.70	0	
3	Contingencies @1% of Sub Total (A+B+C)				37.55	32.70	0	32.70	0	
4	DPR Preparation @0.75% of Sub Total (A+B+C)				28.16	24.53	0	24.53	0	
5	Cost Escalation @ 10% of Sub Total (A+B+C)				375.52	327.04	0	327.04	0	
				Sub Total:- (E)	553.89	482.38	-	482.38	-	
				Total (Other Charges +O&M)-(D+E)	704.10	613.19	98.11	499.39	15.70	-
				Grand Total	4,459.32	3,883.57	1,924.75	1,611.05	135.39	212.38

Note: 1. Cost of laying external sewerage pipeline (Cost 25.0 lacs) shall be incurred by State Government and is not included in the project cost.

2. The estimated cost of solar power system including Vat & sale tax is Rs. 29.58 lacs, out of which Rs. 8.87 lacs will be provided by Central Govt. as subsidy.

THANK

YOU.....

