

“In-situ Slum Rehabilitation Scheme”
at
District Centre, Dilshad Garden(Delhi)

PROJECT AUTHORITY:
Delhi Development Authority

[PUBLIC-PRIVATE PARTNERSHIP PROJECT]
WITH EWS HOUSING (DOCUMENT)

SURESH GOEL & ASSOCIATES
ARCHITECTS PLANNERS ENGINEERS

PROJECT BRIEF

The **In-situ Slum Rehabilitation Scheme** aims to benefit the slum dwellers originated on the land at District Centre, Dilshad Garden(Delhi) by protecting their livelihoods and giving the slums a facelift with multi-storey apartments having all the basic amenities.



In-situ Slum Rehabilitation Scheme, Dilshad Garden(Delhi)

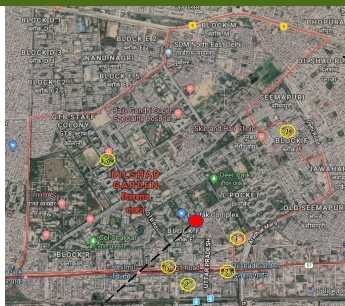
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Project Outline

In-situ Slum Rehabilitation Scheme, Dilshad Garden(Delhi)

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SITE & ITS SURROUNDINGS



DILSHAD GARDEN

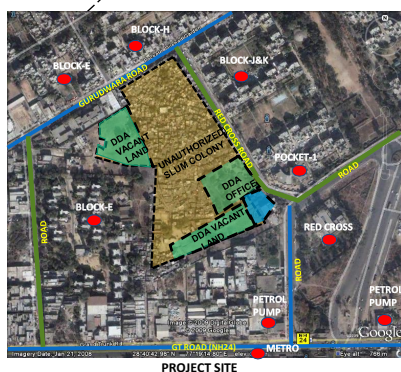


DELHI DISTRICT MAP



SITE AREA = 6.57 ha (16.234 acre)

Existing Households = 3914 (Source: DUSIB Survey 2015)



PROJECT SITE



Plotted developments on the west



Factory & Plotted developments on the south



Industrial Area on the southern edge



Industrial Buildings on the south






Dilshad Garden Metro Station on the south



Plotted developments on the northern edge

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EXISTING INFRASTRUCTURE					
<p><u>Sewerage system</u></p>  <p>Open Drains running along the internal streets within the colonies.</p>	<p><u>Power supply</u></p>  <p>Entangled wires from the electric poles.</p>	<p>The physical infrastructure such as streets & roads, dhalao, electricity, etc are present but there are some haphazard environmental conditions on the site.</p>			
<p><u>Water supply</u></p>  <p>Hand Pump and water tankers from Delhi Jal Board for Water Supply.</p>	<p><u>Garbage Disposal system</u></p>  <p>Garbage dumped outside Dhalao</p>			<p>Social infrastructure in terms of convenience shopping, market, ration shop, high school, dispensary, private clinics, open ground, temple, mosque, PCO, are present on site.</p>	
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OPEN SPACES	
<p>Vacant land around the jhuggies along with the central open courtyard of the existing DDA office form the open space network.</p>  <p>Open Space used for recreation</p>  <p>Open Space used as dumpyard</p>	 <p>There are total 95(approx.) trees are scattered on the site. DDA office complex mainly has trees of Neem, Jamun, Shuhtoot, etc. and other trees such as Shisham, Peepal, Pilkhan, Babool, etc are also predominant on the site.</p>
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DEVELOPMENT NORMS**Slum & JJ Cluster Regulations & Guidelines**

a)	Minimum Plot Size	2000 sq.m. plot facing a min. 9m wide road
a)	Maximum Dwelling Units	900 DUs/ Ha
a)	Maximum F.A.R.	400
a)	Ground Coverage	No restriction except setbacks
		<u>Rehabilitation Component</u>
a)	F.A.R.	As per relevant land use
a)	Area	Min. 60% Max. 40%
a)	Parking	0.5 ECS per 100 sq.m *can be relaxed wherever required
a)	Other Controls	Scheme/ design should be compatible for differently-able persons

Resettlement/EWS Houses

a)	Number of Houses	3914 (as per DUSIB Survey)
b)	Area of each Dwelling Unit	Min. 25 sq.m & Max. 40 sq.m (Including Balcony, Common areas, etc. but excluding stilts).
c)	Each Dwelling Unit will adhere to the following norms:	
	One room	Minimum area 6.5 sq.m.
	One Multipurpose room	Minimum area 9.0 sq.m.
	One Kitchen	Minimum area 3.3 sq. m.
	One bath	Minimum area 1.2 sq. in
	One W.C.	Minimum area 0.9 sq. m.
	Clear effective width of staircase	1500 mm min.
	Riser	175 mm max.
	Tread	250 mm min.

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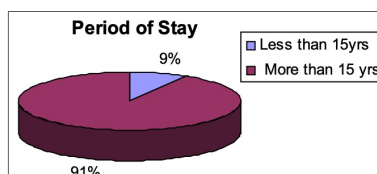
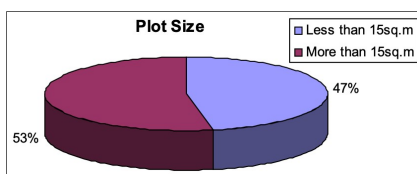
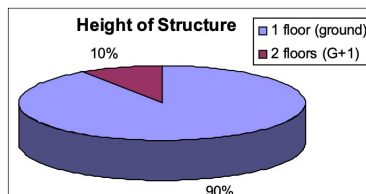
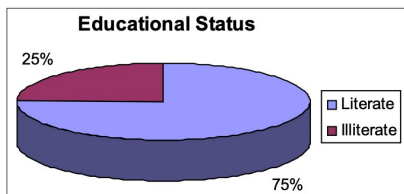
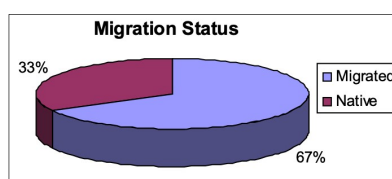
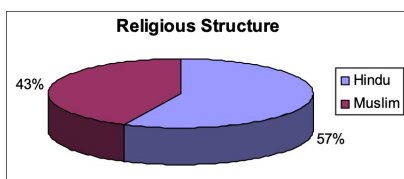
Socio-Economic & Household Survey

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SOCIO-ECONOMIC & HOUSEHOLD SURVEY

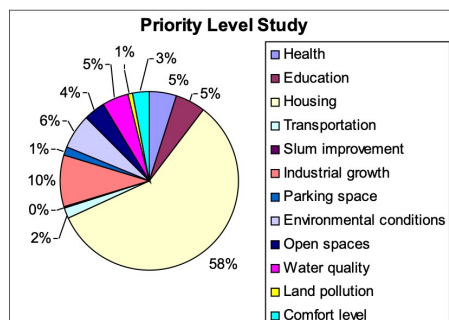
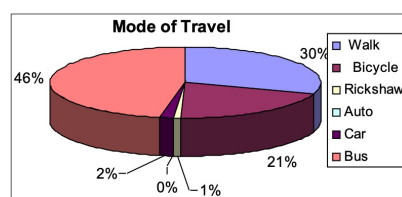
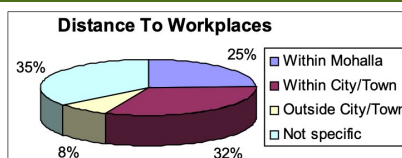
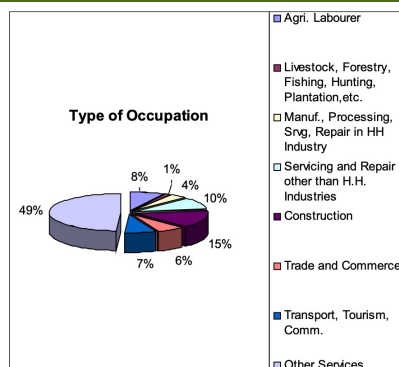
A site survey was carried out which revealed certain facts and figures about the site.



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SOCIO-ECONOMIC & HOUSEHOLD SURVEY



Priority level study revealed that:

Slum dwellers want the housing to be taken up on priority basis for better living conditions.

Second on priority list is slum Industrial growth as employment has been major concern for the slum dwellers to sustain in rising prices of all livelihoods.

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Design Analysis & Approach

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PROJECT COMPONENTS

Following calculations have been worked out considering the present scenario and desired RFP's for In-Situ slum rehabilitation projects of JJ clusters.

Table 3.1: PRESENT SCENARIO

Total Site Area	No. of HH's	Existing population	Density
6.575 Ha	3914	17,613	595.285 DU/ha

Table 3.2: PROPOSED SCENARIO

Total Site Area for Rehabilitation	No. of HH's	Proposed population	Density
5.313 Ha	4245	19,100	800 DU/ha

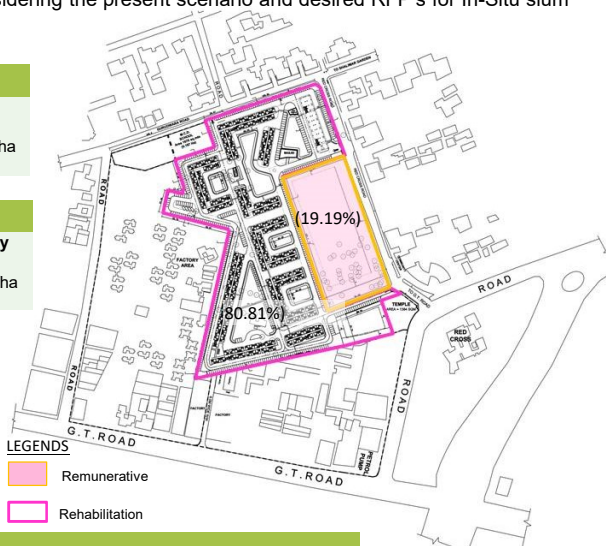
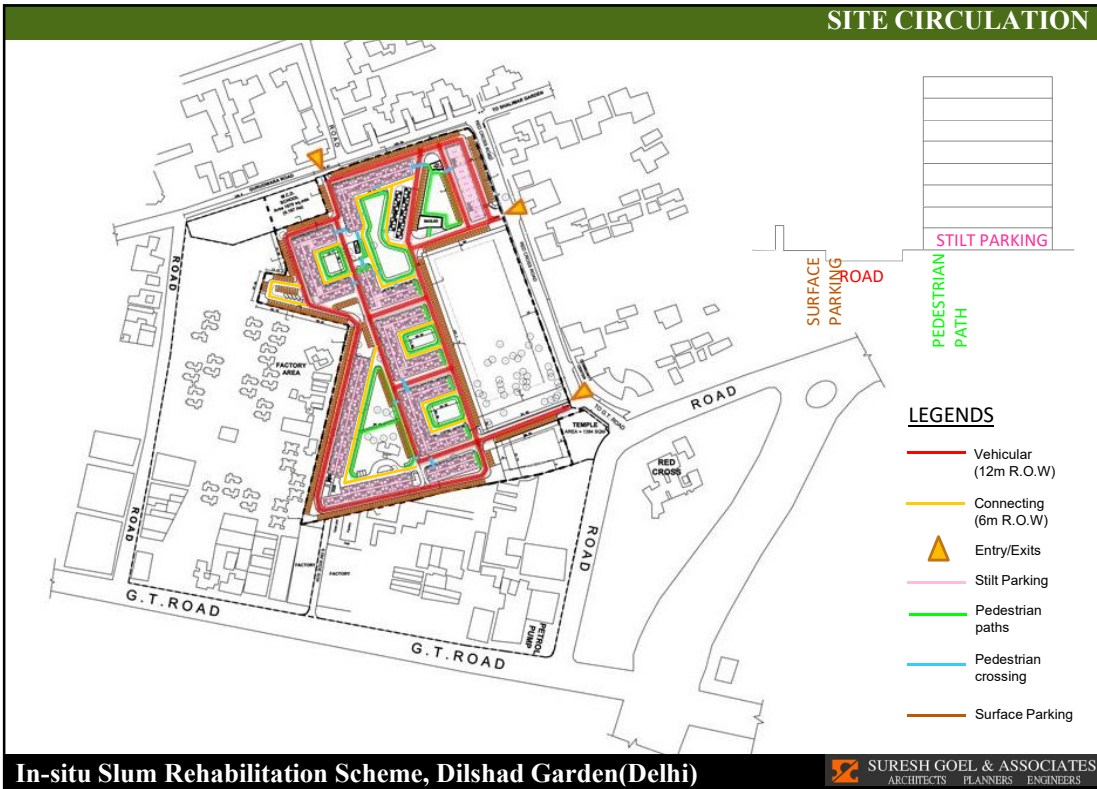
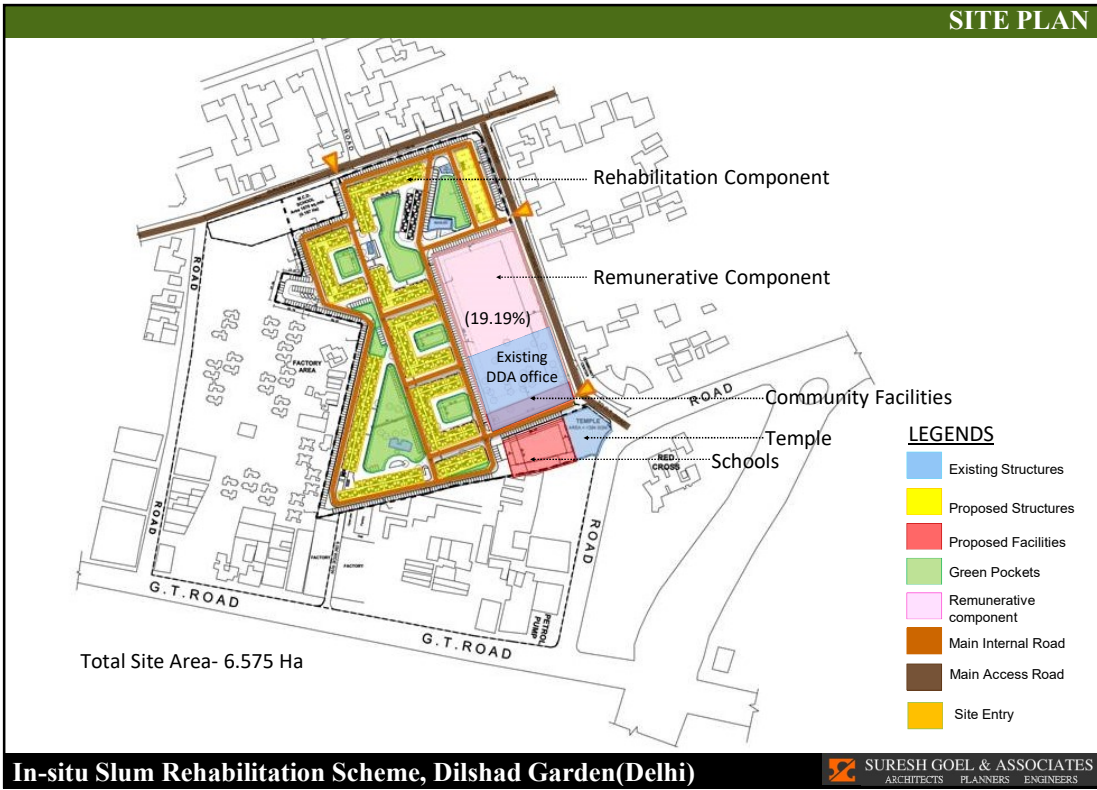


Table 3.3: AREA BREAKUP FOR SITE

Total Site Area	Facilities	NHP	Circulation	Remunerative Component	Residential + Commercial Component
100%	13.353%	14.434%	37.650%	19.193%	15.367%
6.575 ha	0.8780 ha	0.9491 ha	2.4755 ha	1.2620 ha	1.0104 ha

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UNIT PLAN & BROAD SPECIFICATIONS

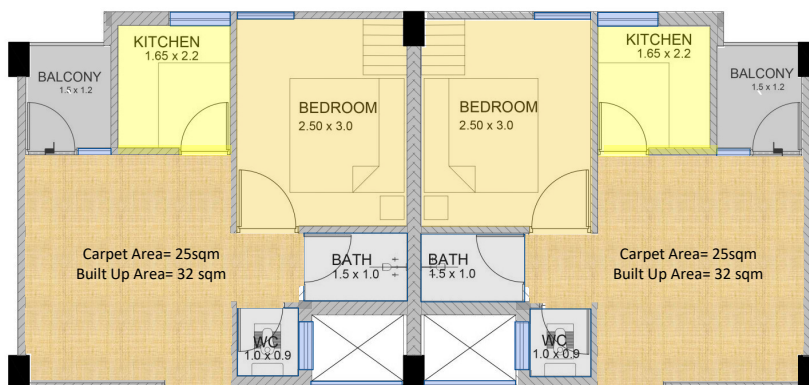


FIG: UNIT PLAN OF IN-SITU REDEVELOPMENT AT DISTRICT CENTRE, DILSHAD GARDEN

Broad Specifications

The broad specifications for these facilities besides those required as per structural design will be as under:

•Flooring

- 40mm thick CC flooring
- Kota Stone flooring
- 52mm thick CC flooring with hardner

•Finishing

- Internal Finish on Walls: White wash with lime.
- External Finish on Walls: Washed grit plaster of approved design/pattern. Colour of grit work to be approved by Chief Architect of DDA.
- For Wet area/Dado: 10 mm/5 mm thick Ceramic colored glazed tiles (NITCO, SOMANY, KAJARIA or equivalent Make), up to lintel level. Colour to be as per design/drawing.

•Steel Work: Pressed steel door frame.

- Wood Work: 30 mm thick flush door of block board construction with commercial ply veneers on both faces.

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LAYOUT PLAN OF BLOCKS



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AREA CALCULATIONS

Table 2 : Area Breakup as per final layout plan (Drg. No. - 08011-S1-AR-AP-001)

RESIDENTIAL B/UP AREA	No. of Blocks	STILT+NO. OF FLOOR	Max. DUs/ Floor	TOTAL DUs	Ground Coverage (in sqm)	TOTAL BUILT-UP AREA (in sqm)
Block-A	1	S+19	14	266	538	10222
Block-B	2	S+19	54	1026	2190	41610
Block-C	1	S+19	35	665	1453	27607
Block-D	1	S+19	34	578	1372	26068
Block-E	1	S+19	19	361	780	14820
Block-F	1	S+19	28	532	1192	19072
Block-G	1	S+19	30	570	1203	22857
Block-H	1	S+19	13	247	511	9709
TOTAL			227	4245	9239	171965
COMMERCIAL B/UP AREA	No. of Blocks	STILT+NO. OF FLOOR	Ground Coverage(in sqm)			TOTAL BUILT-UP AREA (in sqm)
Block-I	1	S+17	800			13600
TOTAL GROUND COVERAGE (RESIDENTIAL + COMMERCIAL)						10039
TOTAL GROUND COVERAGE (REHABILITATION AREA)						13015 (26%)
TOTAL RESIDENTIAL + COMMERCIAL AREA						185565
TOTAL COMMUNITY FACILITIES + EXISTING AREA						11050.78
TOTAL REHABILITATION AREA						196615.78
TOTAL FAR ACHIEVED						FAR = 392.63
MAXIMUM HEIGHT						63M + 5M OHT = 68M

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PHASING

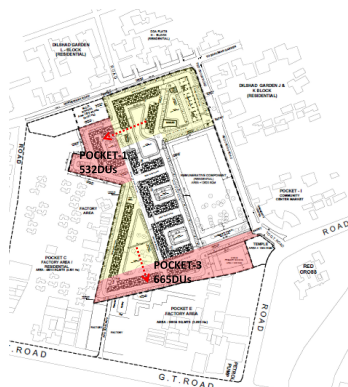


Fig3.1 PHASE-1: Construction of Pocket-1 & 3

PHASE I: -
In the Phase I of the development process, the vacant land (Pocket-1 & 3) will be cleaned and developed by constructing the dwelling units. The slum dwellers shifted from the Pocket 5 and Pocket-4 will be accommodated within these constructed pockets. (see Fig. 3.1).

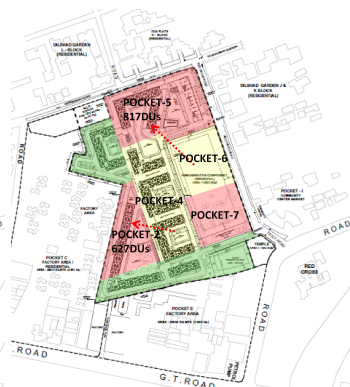


Fig3.2 PHASE-2: Construction of Pocket-2,5 & 7

PHASE II: -
In the Phase II of the development process, the now empty land (Pocket-2 & 5) will be cleaned and developed by constructing the dwelling units and facility areas. The slum dwellers shifted from the Pocket 4 and Pocket-6 will be accommodated within these constructed pockets. Also, the DDA office land will be given to the developer for freesale. (see Fig. 3.2).

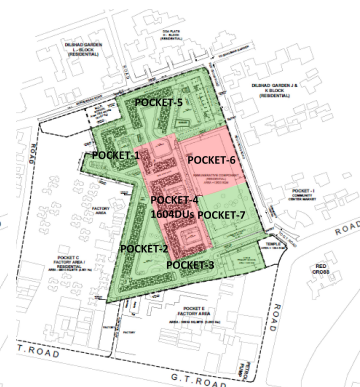


Fig3.3 PHASE-3: Construction of Pocket-4 & 6

PHASE III: -
In the Last Phase of the development process, the now vacant land (Pocket-4) will be cleaned and developed by constructing the dwelling units and the rest of land demarcated as remunerative component (Pocket-6) will be given to the developer for freesale. (see Fig. 3.3).

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Feasibility Assessment

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REHABILITATION COMPONENT

Table 4.1: SELLING RATE

SOURCE	RESIDENTIAL		COMMERCIAL
	90SQM (2BHK)	150SQM (3BHK)	
CIRCLE RATE (Source: doris.delhigovt.nic.in)	Rs.66,240 per sqm	Rs.78,200 per sqm	Rs.87,360 per sqm
MARKET RATE (Source: Sample Survey from Property Dealers of neighborhood)	Rs.1,12,000 per sqm	Rs.1,16,665 per sqm	Rs.1,67,580 per sqm

Table 4.2: REHABILITATION COMPONENT - Costing details

Land use	B/UP Area (SQM.)	Cost of construction	Sellable price
Rehabilitation Component	25 sqm Carpet Area/DU	(@ Rs.17,000 per sqm)	Not Applicable
Residential	B/UP Area = 1,63,168	Rs 2,92,34,05,000	
Commercial	B/UP Area = 13,600	(@ Rs.23,500 per sqm) Rs 31,96,00,000	(@ Rs. 1,50,000 per sqm) Rs. 2,04,00,00,000
Neighborhood Facilities NHP, Park + surface Parking	B/UP Area 9491+11339 = 20,830	(@ Rs. 15,000 per sqm) Rs 31,24,50,000	N/A for residential use 68 ECS FOR COMMERCIAL AREA USE @ 5,00,000 / ECS = 3,40,00,000
GROSS TOTAL		Rs. 3,55,54,55,000	
Add: 15% FOR INFRASTRUCTURE		Rs. 53,33,18,250	
		(@ Rs. 800 per sqm)	
Add: DEVELOPMENT OF SITE		Rs 4,00,60,800	
		(@ Rs. 3,500 per DU)	
Add: TRANSIT COST		Rs 1,36,99,000	
Add: TREE FELLING/TRANSPLANT (Compensatory tree: Ten times the no. Of trees felling/transplant)		(@ Rs. 32,000 per tree) Rs 6,40,000	
NET TOTAL		Rs. 4,14,31,73,050	Rs. 2,07,40,00,000
		LOSS of Rs. (-) 2,06,91,73,050 in Rehabilitation Component	

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REMUNERATIVE COMPONENT- RESIDENTIAL

Table 4.3: REMUNERATIVE COMPONENT- Land use details

Landuse	Land	MPD Proposal	B/UP Area	Free sale Commercial
Remunerative Component	1.2620 ha/19.193% of 6.575 ha -1.00ha	The minimum residential component of the land area for rehabilitation of squatters has to be 60% and maximum area for remunerative use has to be 40%	(Taking FAR as 200) 25,240 sqm	25,240 Sqm

Table 4.4: REMUNERATIVE COMPONENT - costing details

Landuse	DU Size / B/UP Area	Cost of Construction	Sellable Price
Freesale	25,240 sqm	(2BHK = 13,500 sqm, 3BHK = 11,250 sqm) = (150 DUs + 75 DUs)	
Freesale-Residential	90 sqm (2BHK)	(@ Rs. 17,000 per sqm)	(@ Rs 1,12,000 per sqm) Rs. 1,51,20,00,000
	150 sqm (3BHK)	Rs. 42,90,80,000	(@ Rs 1,16,665 per sqm) Rs. 1,31,24,81,250 = 2,82,44,81,250
Stilt Parking	(180 ECS) Stilt Area=5,048 sqm	(@ Rs. 15,050 per sqm) Rs. 7,59,72,400	(@ Rs. 5,00,000 per ECS) Rs. 9,00,00,000
GROSS TOTAL		Rs. 50,50,52,400	
Add: 15% FOR INFRASTRUCTURE		Rs. 7,57,57,860	
Add: DEVELOPMENT OF SITE		(@ Rs. 800 per sqm) Rs 1,00,96,000	
NET TOTAL		Rs. 59,09,06,260	Rs. 2,91,44,81,250
Profit of Rs. (+) 2,32,35,74,990 in Free sale Component			
Net Profit of Rs.(2,32,35,74,990 - 2,06,91,73,050)=(+) 25,44,01,940 (Twenty five Crore forty four lakh one thousand nine hundred forty only)			

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REMUNERATIVE COMPONENT- COMMERCIAL

Table 4.5: REMUNERATIVE COMPONENT- costing details			
Landuse	DU Size / B/UP Area	Cost of Construction	Sellable Price
Remunerative Component	18930 sqm		
Remunerative Component-Commercial		(@ Rs. 23,500 per sqm) Rs. 59,31,40,000	(@ Rs. 1,67,580 per sqm) Rs. 3,17,22,89,400
GROSS TOTAL		Rs. Rs. 59,31,40,000	
Add: 15% FOR INFRASTRUCTURE		Rs. 8,89,71,000	
Add: DEVELOPMENT OF SITE		(@ Rs. 800 per sqm) Rs. 1,00,96,000	
NET TOTAL		Rs. 69,22,07,000	Rs. 3,17,22,89,400
Profit of Rs. 2,48,00,82,400 in Free sale Component			
Net Profit of Rs.(2,48,00,82,400- 2,06,91,73,050)=(+)41,09,09,350 (Forty one Crore nine lakh nine thousand three hundred fifty only)			

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Thank You!