



MKS
VENTURES

To,
The executive Engineer
HSVP, Sector-34, Division No.-VI
Gurugram, Haryana

Subject:- Approval Of service plan estimate of the affordable Residential Plotted colony (Under Deen Dayal Jan Awas Yojna-2016) on the land measuring 12.125 acres (License No. 22 of 2022) in sector-2, Sohna, Distt:Gurugram Belonging to M/S Metro Technobuild Private Limited

Dear Sir,

With reference to above mentioned subject, we hereby submitting six set of the service plan estimate for your consideration please.

Kindly do the needful and oblige,

Thanking you

Yours Faithfully,

For Metro Technobuild Private Limited

Auth. Signatory

For Metro Technobuild Private Limited

Director/Auth. Signatory

22/04/2022
Metro Technobuild Private Limited

22/04/2022
Metro Technobuild Private Limited

Service estimate design report and calculation of internal development works for proposed "affordable Plotted colony (under Deen Dayal Jan Awas yojna-2016) area measuring 12.125 acres (license no. 22 of 2022 dated) in sector-2, Sohna, Dist: Gurugram belonging to M/S Metro Technobuild Pvt Ltd

Sohna Town of Haryana situated on NH-248A road at a distance of 54 Km from Delhi. Being in the national capital region, the town has developing potential. Further, It has also started sharing the growing residential, commercial and Industrial load of Delhi. In order to review the growing the growing pressure on population in National Capital region of Delhi. It has been decided by the Haryana government to develop various infrastructure facilities in Sohna, Distt: Gurugram urban complex. This report is part of service estimates for proposed "affordable plotted Colony"(under Deen Dayal Jan Awas Yojna-2016) in sector-2, Sohna, Distt: Gurugram belonging to M/S Metro Technobuild Pvt. Ltd. Following provision which are as under:-

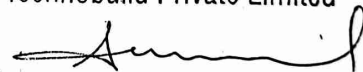
1. Water Supply

The Source of water supply in this area is by HSVP mains. It has been proposed to construct underground tanks of capacity as per attached details and to location for domestic purpose and for fire protection. The underground tank will be fed from the HSVP based supply, which will feed O.H. tanks on the roof of the building and has been designed as per the Hazen Williams formula. Presently there is proposed HSVP WS in the area. However the provision of the tube well have been taken due to non availability of water but after getting the approval from competent authority through tube well/tankers any other approved source till HSVP W/S will be made available. The proposed tube wells shall be 510 mm bore drilled with reverse rotary ring and installed with 80 mm i/d slotted tube as strainer, hence the provision of One No Tube Wells has been taken in this estimate.

Design

The scheme has been designed for the population of 2349 persons considering @13.50 persons unit for affordable plotted colony and other provision etc. The Combined quantum of water supply (domestic + flushing) per head/day has been taken as 172.50 liters per head per day as per design calculated.

For Metro Technobuild Private Limited



Pumping equipment's

It has been proposed to install pumping set as described with standby of equal capacity. The provision for standby generating sets has also been provided in case of any time electricity failure. Generators will be provided separately or added to the capacity of main generator.

Director/Auth. Signatory

2. Sewerage

The scheme is designed for sewer connecting to the STP and bypass connecting to HSVP sewer scheme. The sewer lines have been designed for three times average DWF in relation to water supply demand. It has assumed that above that about 80% of the domestic and flushing water supply shall find its way into the proposed sewer. Sewer lines shall be running by gravity and discharge to STP proposed. Treated water will be used for Irrigation & flushing (through recycling) under the pipe line system.

designed as per manning's formula. Necessary provision of rainwater harvesting agreements has also been taken in this estimate.

4. Roads

Road, Parking and payment have been provided to above areas and estimates is prepared as revised specification adopted by HSVP.

5. Street Lighting and electrification

Provision for external lighting and electrification of proposed area has been made.

6. Horticulture

Estimate and details of plantation, landscaping, signage etc. have been included.

7. Fire Fighting

Provision of Fire Fighting system has been made.

8. Provision for electric panel or ESS provision has been made in this estimate.

9. Specification

The work will be carried out in accordance with the standard specification of PH as laid down by the Haryana Government/ HSVP.

10. Rates

The estimate has been based on the present on the present market rates.

11 Cost

The total cost of the scheme including cost of all services works out to Rs.123.88 lacs

For Metro Technobuild Private Limited



Director/Auth. Signatory

For Metro Technobuild Private Limited



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1. DESIGN CALCULATION

Total Area of Plot	:-	12.125 Acres or 49067 SQM
Permissible Area under Plot	:-	7.205 Acres or 29129 SQM
Proposed area under Plots	:-	5.197 acres or 23944 SQM
Permissible Commercial Area	:-	.471 acres or 1912 SQM
Proposed Commercial Area	:-	0.471 acres or 1912 SQM
Proposed Community Centre	:-	1.213 acres or 4907 SQM
Area of Milk & Vegetable booth	:-	.0068 acres or 27.50 SQM
Proposed Plot	:-	174 Plots

2. Water Requirement

A. Total Plots	:-	174 Plot
Total Population@13.50 persons/ plot:	-	2349 persons
@172.50 LPCD	:-	405202.50LPD
2. Commercial area	:-	1912 SQM
@3 Sqm/person=637 person @45 LPCD:-		28665 LPD
3. Community Site(Area 12.125 acres):-		30382 LPD
4. Milk Booth	:-	2500 LPD
5. Green Belt & Other Services (Irrigation)	:-	22206 LPD.
Total	:-	488955.5 LPD or 489 KLD Say 491 KLD

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B. Fire Requirement

(i) Population	:-	2349 persons
$(p/100)^{1/2} \times 100 = (2.349)^{1/2} \times 100$:-	153.26 KLD
		Say 155 KLD
C. Garden Irrigation Requirement(For total Area)	:-	34 KLD
5669 SQM@6 LPD		

D. Total Water Requirement for UGT

(Excluding Fire Demand)

Hence Domestic Water Requirement(67%)

:- $491 \times 67\% = 330$ KLD



But it is proposed to construct an under ground tank i.e 200 KL two compartments for domestic use and 100 kl for non potable water in two compartments (at STP) and 150 KL for fire fighting purpose for UGT in two compartments as shown location in the plan.

Total Capacity of UGT = 200+150+100 =450 KLD

Total Requirement for Flushing and irrigation at STP =81+56=137 KLD

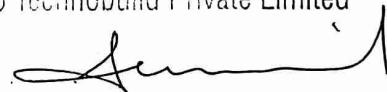
D. Tube Well	For UGT
a) Yield	=21 KL/Hr.
b) Working Hour per day	=16 Hr./per day
c) Total Water Demand	=330 M3/Day
d) Number of tubewell Required	=1 Nos
(Water Demand/Disachrge/ Hr. Working per Day)	
Total	= 1 Nos

(Water to the proposed development is to be supplied by HSVP. However consider 1.00 Nos T.W.'s to install for proposed requirement of water for augmentation/standby purpose and provision has also been taken in the estimate due to non-availability of water but after getting the approval from the competent authority.

for Metro Technobuild Private Limited

E) Pumping Machinery for Tube wells

a) Gross Working Head	= 80Mtr
b) Avg. Fall in SL	= 2Mtr
c) Depression Head	= 6Mtr
d) Friction loss in main	= 10Mtr
Total	=98 Mtr
e) Discharge	=21000 LPH (or 5.83 LPS say 6 LPS)
f) Horse Power	=9.80 HP
HP=(6X98)/(75X0.60)	= 13.06 Say 15 H.P.



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It is proposed to provide one no. pumping set of 4.50 LPS discharge at 98 Mtr head(1W).

F) Boosting Machinery for domestic water for UGT

Total water Requirement	= 336 KLD
Pumping per hour @8 hr pumping/day	= 336/10 KL/Hr.
	=33.6

- Suction lift	=5.00 mts
- Friction loss in main & spl.	=10.00 mts
- Clear Head Required	= 30 mts
Total	=45 mts
Say	=45 mts
Pump HP	= (5X45)/(75X0.60)
	=5 H.P.
Provide	=7.5 H.P.

It is Proposed to provide 3 nos of pumping set of 5 lps discharge at 45 mts head each(2W+1S) for UGT

F) Boosting Machinery for flushing water at STP

Total Water Requirement =162 KLD

Pumping per hour @10 hr pumping/day =162/10

= 16.2 KL/hr.

=270 lpm = 4.5 lps say 5 lps

Say (1W+1S) 5 lps each

Gross working head	
- Suction Lift	=5.00 mtr
- Frictional loss in mains spl	=10.00 mts
- Clear Head required	= 30.00 mts
Total	= 45.00 mts
Say	=45.00 mts
Pump HP	=(5X45)/(75X.60)
	=5 HP
Say	=5.00 HP

It is proposed to provide 2 Nos of pumping set of 5.00 lps discharge at 45 mts head each(1W+1S)

G) Boosting Machinery for irrigation water

Total water requirement = 80 KLD

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Pumping per hour @4 hr pumpinf/day = 56/4 KL/hr

= 14 KL/Hr

= 233.35 lpm = 3.88 lps say 4 lps

Say = 4 lps


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Gross working head	
- Suction Lift	=3.00 mtr
- Frictional loss in mains spl	=3.00 mts
- Clear Head required	= 15.00 mts
Total	= 21.00 mts
Say	=21.00 mts
Pump HP	=(4X21)/(75X.60)
	=1.00 HP

H) DG Set for plimping

DG Set requirement	
Submersible Pump(1X10)	=10 HP
Domestic Pump (2X7.5)	= 15 HP
Flushing Pump (2X5)	= 10HP
Street Light and other etc.	=20 HP
Total Pump Load	= 55 HP
	= 55.00X0.746X1.5
	=61.55KW

Total DG Capacity = 1 No.s 62.50 KVA

Hence it is proposed to provide 1 no. D.G. set of 62.50 KVA Capacity

Flow to sewage Treatment Plan

Total water Requirement = 330 KLD for domestic & 162 KLD for flushing

1) 80% of total domestic water demand = 80% of 330 KLD = 264 KLD

2) 100% of total flushing water demand = 100% of 162 KLD = 162 KLD

Total = 426 KLD

Consider 10% marginal factor = 43 KLD

G. Total= 469 KLD

Say = 500 KLD

Proposed STP capacity 500 KLD or 0.5 MLD

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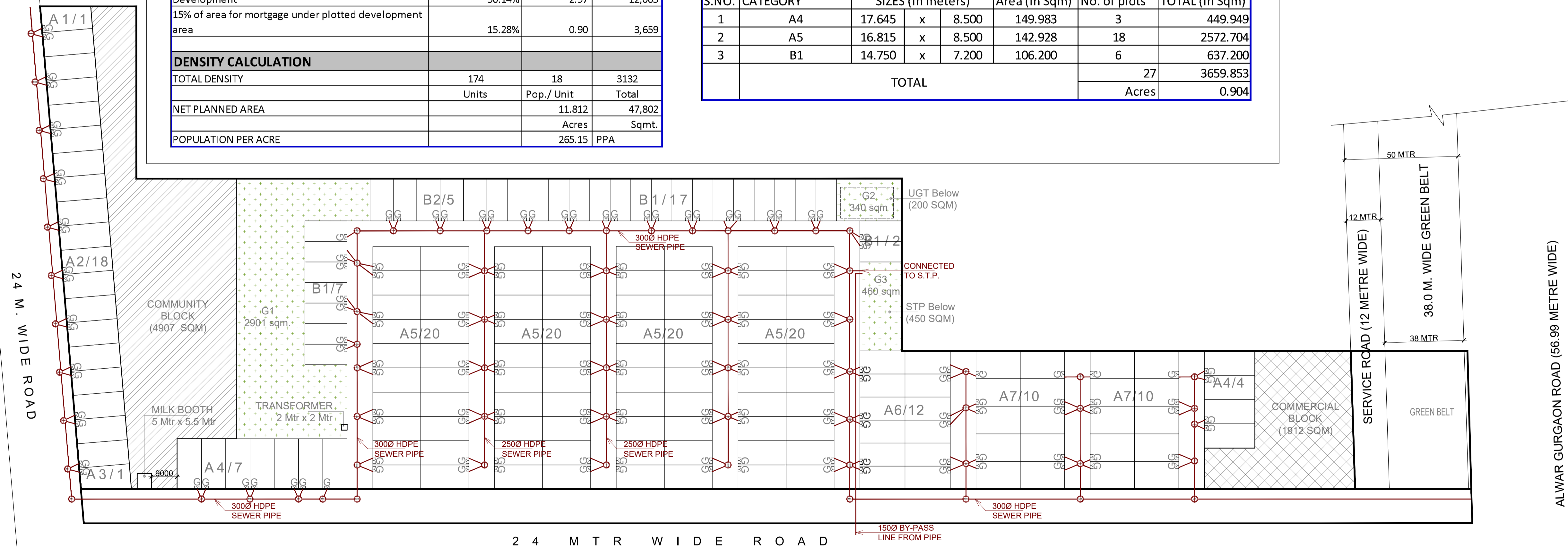
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DDJAY			
MASTERPLAN AREAS			
	Ratio (%)/Nos.	Area (in Acre)	Area (in Sqm)
Total Plot Area :		12.125	49,067
Organized open space to be provided	7.5%	0.909	3,680
10% of area to be transferred free of cost to the government for Community site	10%	1.212	4,907
Area under widening of existing NH-248		0.029	117
50% of Benefit for Road widening (A)		0.014	59
Area under 38mtr wide green belt		0.454	1,837
50% of Benefit for green belt (B)		0.227	919
Area under 12 mtr wide service road		0.143	579
50% of Benefit (C)		0.071	289
Total (A+B+C)		0.626	2,534
Balance Site Area		11.499	46,535
50% Benefit		0.313	1,267
Net Planned Area		11.812	47,802
Residential	61%	7.205	29,159
Commercial	4%	0.472	1,912
DESIGN PROPOSED			
RESIDENTIAL	50.09%	5.917	23,944
COMMERCIAL AREA	3.99%	0.471	1,912
COMMUNITY	10.00%	1.213	4,907
Organized open space (Green)	7.54%	0.915	3,701
Area for STP			450
Area for UGT			200
Area for Milk booth	0.05%		28
Area for Transformer	0.01%		6
Proposed plots		174	
Area to be Freezed of Area under Plotted Development	50.14%	2.97	12,005
15% of area for mortgage under plotted development area	15.28%	0.90	3,659
DENSITY CALCULATION			
TOTAL DENSITY	174	18	3132
	Units	Pop./ Unit	Total
NET PLANNED AREA		11.812	47,802
		Acres	Sqmt.
POPULATION PER ACRE		265.15	PPA

DDJAY							
DETAIL OF RESIDENTIAL PLOT AREAS							
S.NO.	CATEGORY	SIZES (in meters)		Area (in Sqm)	No. of plots	TOTAL (in Sqm)	
1	A1	17.645	x	7.755	136.837	1	136.837
2	A2	17.645	x	8.500	149.983	18	2699.694
3	A3	17.550	x	7.405	129.958	1	129.958
4	A4	17.645	x	8.500	149.983	11	1649.813
5	A5	16.815	x	8.500	142.928	80	11434.240
6	A6	15.835	x	8.058	127.598	12	1531.176
7	A7	15.500	x	9.670	149.885	20	2997.700
8	B1	14.750	x	7.200	106.200	26	2761.200
9	B2	14.750	x	8.183	120.699	5	603.495
TOTAL						174	23944.113
						Acres	5.917

DDJAY							
DETAIL OF RESIDENTIAL PLOT AREAS (50% AREAS)							
S.NO.	CATEGORY	SIZES (in meters)		Area (in Sqm)	No. of plots	TOTAL (in Sqm)	
1	A2	17.645	x	8.500	149.983	14	2099.762
2	A3	17.550	x	7.405	129.958	1	129.958
3	A4	17.645	x	8.500	149.983	11	1649.813
4	A5	16.815	x	8.500	142.928	40	5717.120
5	B1	14.750	x	7.200	106.200	17	1805.400
6	B2	14.750	x	8.183	120.699	5	603.496
TOTAL						88	12005.549
						Acres	2.97

DDJAY							
DETAIL OF RESIDENTIAL PLOT AREAS (15% AREAS)							
S.NO.	CATEGORY	SIZES (in meters)		Area (in Sqm)	No. of plots	TOTAL (in Sqm)	
1	A4	17.645	x	8.500	149.983	3	449.949
2	A5	16.815	x	8.500	142.928	18	2572.704
3	B1	14.750	x	7.200	106.200	6	637.200
TOTAL						27	3659.853
						Acres	0.904



SITE LAYOUT PLAN

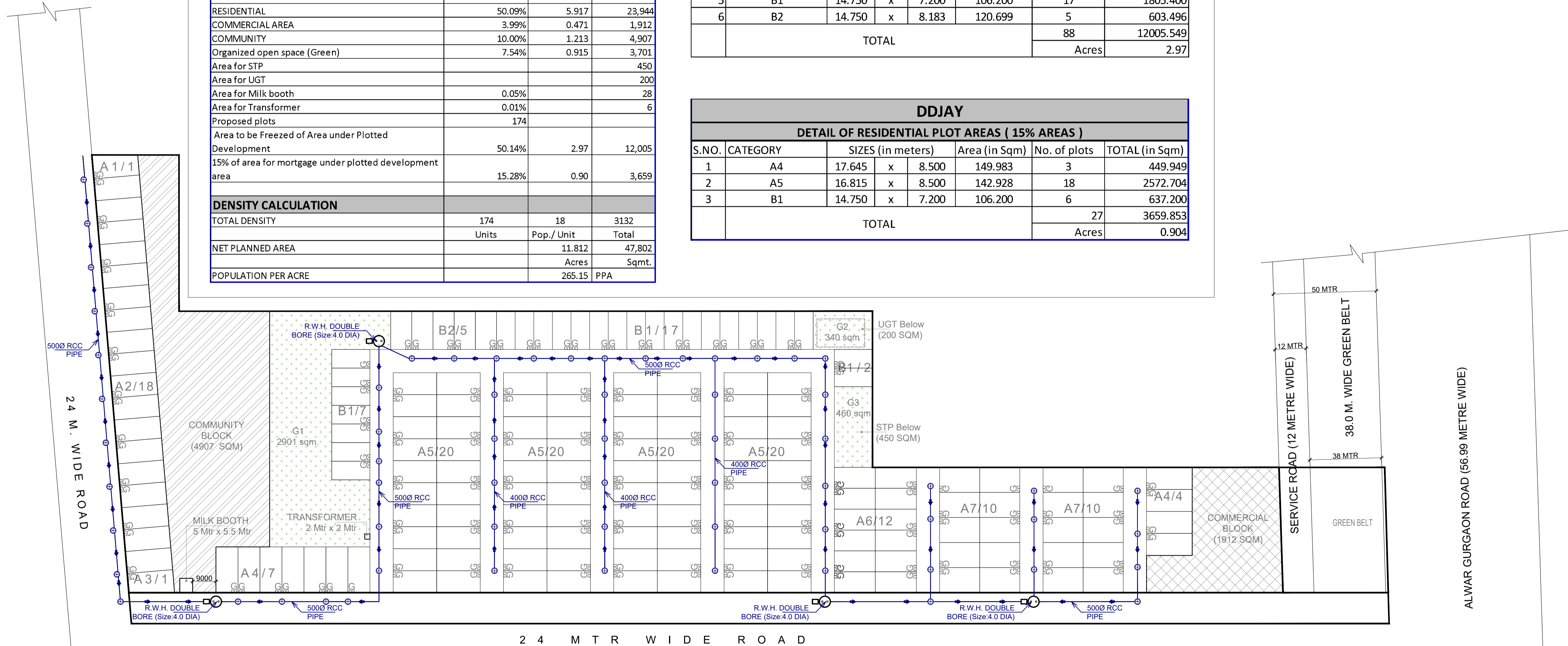
OWNER SIGN	ARCHITECT SIGN	
OWNER METRO TECHNO BUILD PVT. LTD.		
SUBMISSION DRAWING		
KEYPLAN 		
PROJECT PROPOSED MASTER PLAN OF LAND MEASURING 49,067 SQM. (12.125 ACRES) AT SECTOR - 2 SOHNA(GURUGRAM, HARYANA) BEING DEVELOPED BY METRO TECHNO BUILD PVT.LTD.		
DATE 26 - 03 - 22	PROJECT INCH. BALRAJ SINGH	CHECKED BY BALRAJ SINGH
SCALE 1: NTS	DEALT BY ISHAN UPADHYAY	APPROVED BY VISHAL SHARMA
DRAWING TITLE MASTER PLAN		
ARCHITECTS B- 421, NFC, Ph. +91-11-29216006 cca@inconfluence.com Member of IGBR N.D-65,INDIA Ph. +91-11-40564788 www.inconfluence.com ISO - 9001 : 2009 architecture urban design hospitality interiors		
DRAWING NO.	REVISION	

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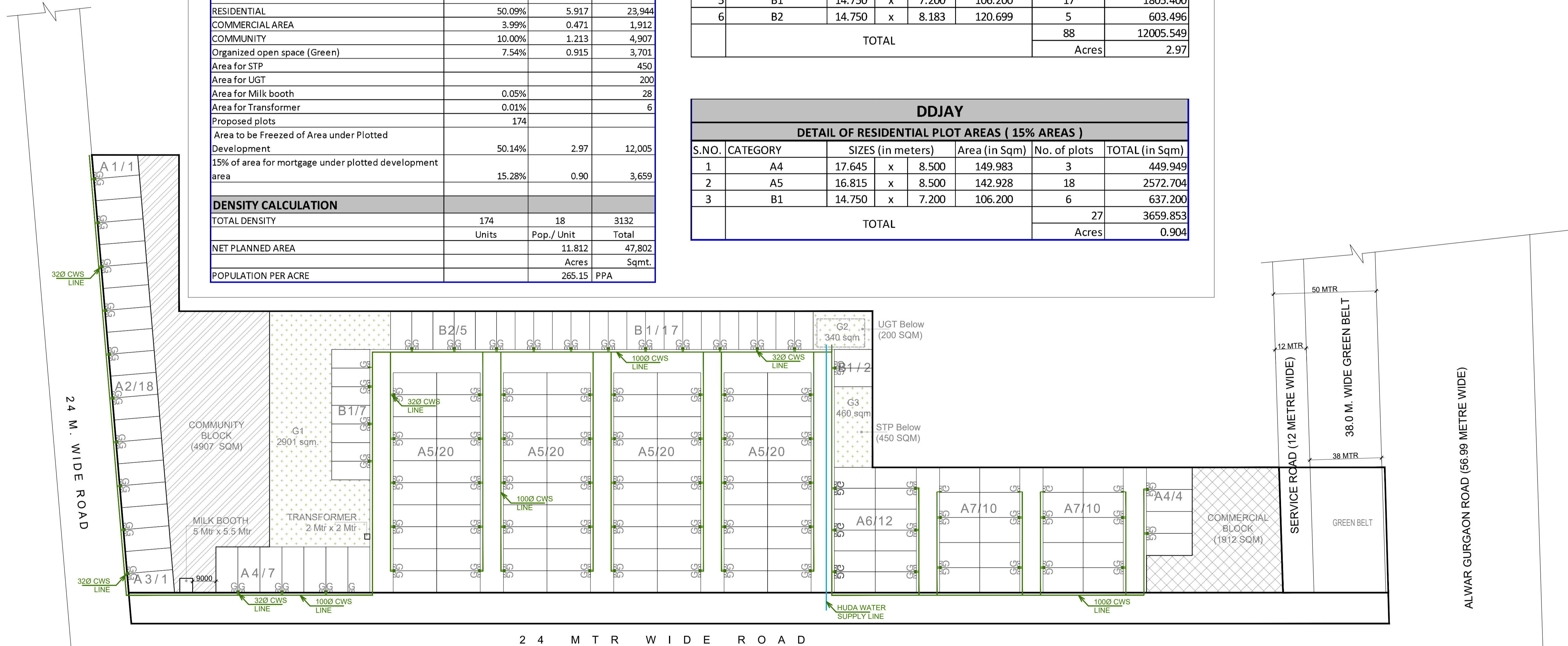
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SUBMISSION DRAWING		
KEYPLAN 		
PROJECT PROPOSED MASTER PLAN OF LAND MEASURING 49,067 SQM. (12.125 ACRES) AT SECTOR - 2 SOHNA(GURUGRAM, HARYANA) BEING DEVELOPED BY METRO TECHNO BUILD PVT.LTD		
DATE 20 - 04 - 22	PROJECT INCH. BALRAJ SINGH	CHECKED BY BALRAJ SINGH
SCALE 1: NTS	DEALT BY ISHAN UPADHYAY	APPROVED BY VISHAL SHARMA
DRAWING TITLE DOMESTIC WATER SUPPLY LAYOUT		
ARCHITECTS B- 421, NFC. Ph. +91-11-29216006 cca@inconfluence.com Member of IGBR N.D-65,INDIA Ph. +91-11-40564788 www.inconfluence.com ISO - 9001 : 2009 architecture urban design hospitality interiors		
DRAWING NO.	REVISION	