HSVP SUBMISSION REPORT

ON

"SERVICES PLAN AND ESTIMATE"

FOR EXTERNAL SERVICES
(SWERAGE, STORM WATER DRAINAGE, WATER SUPPLY ROAD WORKS, LIGHTING & HORTICULTURE)

FOR

''AEFORDABLE PLOTTED COLONY'
A PROPOSED LAYOUT PLAN UNDER DDJAY SCHEME IN 7.9375 ACRE, SECTOR-1,VILL, & TEH.-FARRUKHNAGAR DISTT. GURUGRAM

BEING DEVELOPED BY
M/S CORRE INFRASTRUCTURE AND DEVLOPERS

PROIECT REPORT/ESTIMATE FOR PROVIDING EXTERNAL SERVICES, Cg, WATER SUPPLY, SEWERAGE, STORM WATER DRAINAGE, ETC. IN RESPECGT OF RESIDENTIAL COLONY KNOWN AS 'AFFORDABLE PLOTTED COLONY' UNDER DDJAY SCHEME IN 7.9375 ACRE, SECTOR-1,VILL, & Teh.- FARRUKHNAGAR DISTT. GURUGRAM

REPORT

Farrukhnagar is a leading industrial city of India in the state of HARYANA, situated in the National Capital Region near the National Capital. Being in the national capital Region, the town has fast developing tendency and potential. Further, it has also started sharing the growing industrial load of Delhi. In order to relieve the growing pressure of population, in National Capital of Delhi, Haryana Urban Development Authority has already developed residential sectors which are inhabited to great extent. Further to the increasing demand HSVP has planned to develop new sectors at outskirt of Farrukhnagar town. This report and estimate is for approval of proposed layout

.plan under DDJAY Scheme for area measuring 7.9375 ACRE, SECTOR-1,VILL, & Teh.- FARRUKHNAGAR DISTT. GURUGRAM, BEING DEVELOPED BY M/S CORRE INFRASTRUCTURE AND DEVLOPERS

WATER SUPPLY

The source of water supply shall be HSVP water supply connection, water supply shall be through and this water is potable. It has been proposed to construct underground tanks of capacity of Raw Water ~~130~~ 75 KL (~~130~~ 75 Kl x 1), Domestic treated water ~~130~~ 75 KL (~~130~~ 75 Kl x 1) and firefighting tanks 050 KL (050 x 1) nos , and at location as per drawing for the purpose of domestic and fire protection. It has been proposed to construct underground tanks of capacity as per attached details and at location for domestic purpose. The underground tanks will be fed from HSVP supply, from there water will be pumped to O.H tanks on the roof of each Block.

DESIGN:

The scheme has been designed for population of residential colony. The rate of water supply per head per day has been taken assumed as ~~172.5~~ 155.25 liters per day per head as per HSVP norms.

PUMPING EOUIPMENTS

It has been proposed to install pumping set as described with standby of equal capacity. Standby electric power requirement is proposed as DG Sets in case of electricity failure.

SEWERAGE SCHEME

Sewer line from proposed development will be connecting to proposed external Sewage Treatment Plant (Capacity 340 KLD) within the complex and excess water, if any, will be disposed off to proposed HSVP Master Sewer. The sewerage system has been marked on the respective plans.

Sewer lines have been designed for 3.0 times average D.W.F in relation to water supply demand. It has been assumed that about 80% of the domestic water supply shall find its way into the proposed sewer. Sewer lines shall be laid to a gradient maintaining minimum 2.46 ft/sec (0.72 m/sec) self-cleaning velocity. Sewer line up to 250 mm dia has been designed to run half full and above 250 mm dia has been designed to run three fourth full at peak flow. Necessary provision for laying S.W pipe sewer line, construction of required number of manholes etc. have been made in the estimate. The sewer line has been designed as per Manning's formulae.
Necessary design statement for entire sewerage system has been prepared and attached with estimate.

STORM WATER DRAINAGE:

We are proposing to lay underground R.C.C pipe drains with required number of MANHOLE for disposal of storm water which will be connecting rain water harvesting system to recharge the aquifer and surplus storm water will be allowed to flow to the HSVP Master drain along the services road. The intensity of rain fall has been taken as ¼" (6.25mm) per hour and storm water line has been designed as per Manning's formulae.

SPECIFICATIONS:

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

Roads:
Cost of road has been taken in the estimate.

Street Lighting:
Provision for streets lighting has been included.

Horticulture:
Estimates and details of plantation, landscaping, signage, etc. has also been included.

Rates:
The estimate has been prepared based on the present market rates.

Cost:
The total cost of the scheme, including cost of all services works out to be **Rs. ~~103.00~~ 118.75 883.15 lakhs** including 3% contingencies @ 49% departmental charges, price escalation, unforeseen & admin charges etc.

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DESIGN CALCULATION:

(i) Water requirement Chart

Water Requirement Chart											
DDJAY AT SECTOR - 10 (12 Acre)											
S. No.	Description	No. of plot	Occupancy per plot	Total population	Total water requirement per person	Total water requirement	Total Domestic water requirement per person	Total Domestic water requirement	Total Flushing water requirement per person	Total Flushing water requirement	Total flow into STP (80% of total water requirement)
					Ltr	Ltr	Ltr	Ltr	Ltr	Ltr	Ltr
1	**Water Requirement**										
A	**Residential Plot**					333011	115.57	223108	56.93	109903	266409
1	No. of plots	143	13.5	1931	~~172.5~~ 172.50	~~333011~~	~~112.5~~	~~217181~~	~~60~~	~~115830~~	~~266409~~
2	~~Visitor 10%~~			~~193~~	~~15~~	~~2896~~	~~5~~	~~965~~	~~10~~	~~1930.5~~	~~2316.6~~
B	Commercial	0.3175 Acre @	LS	32000 Ltr/Acre		~~10160~~ 20000		~~6604~~ 10000		~~3556~~ 10000	~~8128~~ 16000
C	Community Site	0.7941 Acre @	LS	25000 Ltr/Acre		19853 ~~30000~~		13904 ~~20000~~		6948 ~~10000~~	15882 ~~24000~~
D	Floor Mopping					500		500			
E	Filter Back Wash					3000		3000			
F	~~Maintenance Staff~~ MISC.			~~20~~	~~45~~	~~5000~~ ~~900~~	~~25~~	~~3250~~ ~~500~~	~~20~~	~~1750~~ ~~400~~	~~4000~~ ~~720~~
								249366			
	Grand Total			2144		~~390307~~ 371524		~~252146.5~~		~~138160.5~~ 122157	~~309445.6~~ 294419
	Say (In KLD)					~~390~~		~~252~~		~~138~~	~~309~~
						Say 372KL		250KL		122KL	295KL

(i) Total of domestic and flushing requirement = 372 ~~390.00~~ KLD
SAY = ~~390.00 KLD~~ 340.0

Domestic requirement @ 65% = 250 ~~252.00~~ KLD say 250 KL
Flushing requirement @35% = 117 ~~138.00~~ KLD say 125 KL

STP Capacity @ 80% of total Domestic water requirement 295
And 80% of total flushing water requirement = ~~309.00~~ KLD
SAY (Add 5% safety margin) = ~~30.9~~ KLD 14.75
= ~~309 + 31 = 340~~ KLD
Say = ~~340~~ KLD 309.75
310 KLD

(ii) Horticulture water requirement (Organized Green) = **24.3 KLD, SAY = 25 KL**
(2430.916 sqmt. 10 ltr. /sqm)

TOTAL WATER DEMAND (i+ii) = 122 ~~138~~ + 25 = ~~163~~ KLD
147

SAY = ~~165.00~~ KLD
150

(i) Fire Fighting requirement
$100\sqrt{P} = 100\sqrt{2.143} = 146.41$
1.931 138.96 x 1.3
= 46.32 ~~150~~ KL

SAY = 50 ~~150~~ KL

II. Summary of UGT & Source of water

(i) Domestic water (From HSVP) = 250 ~~252.00~~ KLD @ 60% storage = 150 KL
(ii) Flushing water (From STP) = 125 ~~138.00~~ KLD say 150 KL
(iii) Horticulture (From STP) = 25.00 KLD @ 60% storage = 90 KL say 100 KL
(iv) Firefighting water tank = ~~150.00~~ KLD
50.0

Therefore it is proposed to construct underground tank of Raw Water ~~130~~ KL (~~130~~ x 1), domestic water ~~130~~ KL (~~130~~ x 1) and firefighting tank ~~150~~ KL (~~150~~ x 1) nos at location as per marked on site plan and flushing and garden irrigation water ~~163~~ KL (163 x1) tank located in STP.

Total capacity of UGT = ~~130 + 130 + 150 + 163 = 573 KLD~~ say 575 KLD
150 KL + 50 KL + 100 KL = 300 KL

PUMPING SYSTEM FOR WATER SUPPLY:

(A) Total domestic water requirement = 250 ~~252~~ KL

(i) Pumping @ 8 hours /day = 250 ~~252~~ / 8 = ~~31.5~~ 31.25 KL/hr
= ~~525~~ lpm
SAY = ~~530~~ lpm 530
= ~~265~~ 265 lpm (2 w+1 s)

~~BOOSTING MACHINERY FOR DOMESTIC PUMP~~

(ii) Gross working head
(1) Residual head = 4 ~~15~~ meter
(2) Friction loss = 4 ~~30~~ meter
(3) Static head required = 30 ~~20~~ meter
38 m

TOTAL = ~~65~~ meter, Say = ~~70~~ meter
say 40

(vi) HP = ~~265~~ 265 x ~~70~~ 40 / 60x75x0.65 = ~~6.34~~ 3.92 HP, SAY = ~~5~~ HP / each pump

It is proposed to provide 3 Nos. pumps of ~~265~~ 265 lpm @ ~~70~~ 40 Mtr. Head (2Working + 1 Stand by) for Domestic Supply.

(B) Total flushing/ Irrigation water requirement = ~~165~~ 150 KL

(i) Pumping @ 8 hours / day = ~~165~~ 150 /8 = ~~20.625~~ KL/hr.

SAY = ~~343.75~~ lpm ~~312.50~~ 18.75

OR = ~~175~~ lpm (2W+1S) 156.25

say 175 lpm

BOOSTING MACHINERY FOR FLUSHING PUMP

(ii) Gross working head

(1) Residual head = ~~15~~ 4 meter

(2) Friction loss = ~~30~~ 4 meter

(3) Static head required = ~~20~~ 30 meter

TOTAL = ~~65~~ 38 meter, Say = ~~70~~ 40 mtr.

(vi) HP = ~~175~~ 175 x ~~70~~ 40 / 60x75x0.65 = ~~4.18~~ 2.60 HP, SAY = ~~5~~ 3 HP / each pump

It is proposed to provide 3 Nos. pumps of ~~175~~ 175 lpm @ ~~70~~ 40 Mtr. Head (2 Working + 1 Stand by) for Flushing Supply.

CAPACITY OF DG SETS.

S.NO.	EQUIPMENT	QTY	HP	Total HP
(1)	TRANSFER PUMPS (Domestic)	3 2	7.0 5.0	~~21~~ 10.
(2)	TRANSER PUMPS (Flushing / Irrigation)	3 2	~~5.0~~ 3.0	~~15~~ 6.0
(3)	Add for lighting			10
	TOTAL			~~46~~
			*0.746	~~34.316 KW~~ 19.40
			*1.5	~~51.474 KVA~~ 29.09
		SAY		~~55~~ 30 **KVA**

Provide a DG set of ~~55~~ 30 **KVA** capacity for power back-up.

'AFFORDABLE PLOTTED COLONY' - DDJAY - 7.9375 Acre		
FINAL ABSTRACT OF COST		7.9375 ~~8.0000~~
S.NO	DESCRIPTIONS	AMOUNT (RS.)
~~PART - A~~		
SUB WORK NO. I	WATER SUPPLY	~~148.00~~ ~~189.50~~ 169.55
SUB WORK NO. II	SEWERAGE SYSTEM	~~103.90~~ ~~172.20~~ 118.12
SUB WORK NO.III	STORM WATER DRINAGE	~~151.71~~ ~~154.80~~ 100.90
		~~403.68~~
		914.88
SUB WORK NO.IV	ROAD & FOOT PATHS	~~155.76~~
SUB WORK NO. V	PLANTATION & ROAD SIDE TREES	6.84 ~~21.49~~
		~~177.25~~
~~PART - C~~		30.45
SUB WORK NO.VI	STREET LIGHTING	~~31.00~~
SUB WORK NO. VII	MTC. CHARGES INCL RESURFACING OF ROADS AFTER 1st 5 YEARS AND 2nd YEAR OF MTC (AS PER HSVP NORMS)	242.35 ~~217.52~~
		883.09 lacs ~~248.52~~
	~~(A+B+C)~~	~~829.37~~ ~~942.27~~
		~~829.37~~ ~~942.30~~
SAY IN LAKHS		~~829.00~~ ~~942.30~~
Deviation of Cost	~~103.63~~ ~~118.72~~	
Say	~~103.63~~ ~~118.75~~	Lakhs Per Acre

Say ₹ 883.10 lacs

₹ 883.10 lacs

7.9375 ACR = 111.25 lacs Per ACR

Executive Engineer
HSVP Division No. VI
Gurugram

Director
Town & Country Planning
Haryana, Chandigarh

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Superintending Engineer,
HSVP Circle, Gurugram

Checked subject to Comments
In forwarding letter No. 27573
Dt. 26-12-2023 ... and notes
attached with the estimate

Executive Engineer (M)
for Chief Engineer-I
HSVP, Panchkula

'AFFORDABLE PLOTTED COLONY' - DDJAY - 7.9375 Acre		
SUB WORK No. 1	**Water Supply scheme**	
		79.04 Lacs
Sub Head No. 01	Head work	~~56.17~~ 41.55
Sub Head No. 02	Water Supply & Pumping Machinery	26.55 Lacs ~~30.69~~ 30.69
Sub Head No. 03	Water distribution lines (Domestic)	27.73 Lacs ~~26.39~~
Sub Head No. 04	Rising Main From HSVP	~~18.42~~ 8.45 Lacs ~~12.29~~
Sub Head No. 05	Fire Hydrant	1.82 Lacs ~~1.29~~
Sub Head No. 06	Water Supply Irrigation / Flushing Water line	25.96 Lacs ~~21.10~~
TOTAL		~~189.44~~ ~~147.93~~
SAY (IN LAKHS)		189.50 148.00 69.55 Lacs

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'AFFORDABLE PLOTTED COLONY' - DDJAY - 7.9375 Acre					
				Head Works	
	Sub -Work No. 1 **Sub -** **Head No. 01**		~~Source of Temporary arrangement (Bore well)~~		
S.NO	**Description**	**Unit**	**Qty**	**Rate**	**Amount**
1	Boring and installing 510 mm i/d borewell with reverse rotary rig complete with pipe and strainer to a depth of about 80 metre in all respect including cost of Valve chamber & pump chamber.	Each	~~1~~ 1	~~5,00,000~~ ~~10,00,000.00~~ 15.00	15.00 lacs ~~10,00,000.00~~
2	Provision of consturction of tube well chamber of standard size for houshing tubewell	Each	~~1~~ 1	~~2,25,000.00~~ 1.00	1.00 lacs ~~2,25,000.00~~
3	Providing the submersible pump for the following				
a)	Tubewell pump				
i)	~~375~~ ~~500~~ LPM AT ~~100~~ M HEAD (12.50 HP)	Each	1	~~2,00,000.00~~	2,00,000.00
4	~~575~~ KL 200 KL cap. including 50 KL fire reserve and 100 KL cap. F. Water Tank near STP UGT ~~410000~~ ltrs capacity compartments.	KL	~~575~~ ~~410~~ 300 KL 150+50+100	~~650~~ ~~3,500.00~~ 5500	~~87,37,500.00~~ ~~14,35,000.00~~ 16.50 lacs
5	Construction of boundary wall gate around the tube well site	LS		~~1,00,000.00~~	1,00,000.00
6	Provision of footpath hedges and lawns at tubewell	LS		~~1,00,000.00~~	1,00,000.00
7	Provision for carriage of materials and other unforseen items.	LS		~~1,00,000.00~~	1,00,000.00
8	Provision for construction of staff quarters for MTC staff.	LS		~~5,00,000.00~~	~~5,00,000.00~~ 7.50 lacs
9	Pour. for Cosg. of booster Chamber	(L.S)			4.00 lacs
	Total Abstract of cost			~~5962500~~	~~36,60,000.00~~ 51.50
	SAY IN LAKH			~~59.65~~	~~36.60~~ 1.55
	Add 3% contingencies & PH Charges			~~1.79~~	~~1.10~~ 53.05
	TOTAL			~~61.44~~	~~37.70~~ 25.99
	Add 49% Departmental charges, price escalation, unforeseen,			~~30.11~~	~~18.47~~ 79.04
	TOTAL			~~91.55~~	~~56.17~~

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'AFFORDABLE PLOTTED COLONY' - DDJAY - 7.9375 Acre					
	Sub -Work No. 1 **Sub -Head No. 02**	**Water Supply Pumping Machinery**			
S.NO	**Description**	**Unit**	**Qty**	**Rate**	**Amount**
1	Provision for diesel engine generator set each for standby arrangements for T.W. & Booster pump complete with ~~55~~ 30 **KVA** capacities.	LS	1	~~5,50,000.00~~	4,50,000.00
2	Providing Boosting pumps for the following.				
(a)	DOMESTIC PUMP				
(i)	~~265~~ 250 lpm & ~~70~~ 40 m Head (2 working+1 Standby) (5.0 HP)	Each	3	~~1,80,000.00~~	~~4,50,000.00~~ 3.00 lacs
(b)	FLUSHING / IRRIGATION PUMP			0.60	
(i)	~~175~~ 125 lpm & ~~70~~ 40 m Head (2 working+1 Standby) (3.0 HP)	Each	3	~~1,00,000.00~~	~~3,00,000.00~~ 1.80 lacs
3	Provision for chlorination plant complete.	Each	1	1,00,000.00	1,00,000.00
4	Provision for making foundations and erection of pumping machinery.	LS		1,00,000.00	1,00,000.00
5	Provision for pipes, valves and specials inside the pump chamber and boosting chamber.	LS		~~1,00,000.00~~	1,00,000.00
6	Provision for elecric service connection including electrical fitting for tube-well and boositing chamber etc. (lumpsum) including cost of transfarmor.	LS		2,50,000.00	2,50,000.00
7	Provision for carriage of material and other unforeseen Items etc.	LS		~~1,50,000.00~~	1,50,000.00
	Total Abstract of cost				~~20,00,000.00~~
	SAY IN LAKH				17.30 ~~20.00~~
	Add 3% contingencies & PH Charges				0.52 ~~0.60~~
	TOTAL				17.82 ~~20.60~~
	Add 49% Departmental charges, price escalation, unforeseen,				8.73 ~~10.09~~
	TOTAL				26.55 ~~30.69~~

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'AFFORDABLE PLOTTED COLONY' - DDJAY - 7.9375 Acre					
	Sub -Work No. 1 **Sub -Head No. 03**	**Water Distribution Lines** Domestic			
S .NO	**Description**	**Unit**	**Qty**	**Rate**	**Amount**
1	Providing, laying, jointing and testing DI pipe lines including cost of excavation etc. complete in all respects.			1460	13.87 lacs
a	100 mm dia.	Mtr	950	~~1,250.00~~	~~11,87,500.00~~
b	150 mm dia.	Mtr	0	2,500.00	-
2	Providing and fixing sluice / Butterfly valve including cost of surface box and masonry chamber etc.completed in all respects.				0.60 lacs
(a)	100 mm dia.	Each	6	10,000.00	~~72,000.00~~
(b)	80 mm dia.	Each			-
4	Providing and fixing ball valves including cost of surface boxes and masonry chambers etc. complete in all respect.				
a	20 mm dia.	LS			50,000.00
b	25 mm dia.	LS			~~1,00,000.00~~
					0.50
5	Providing and fixing air valves and scour valves including cost of brick masonry chamber complete.	Each	6	10,000.00	60,000.00
6	Provision of cutting of roads & making good to its original condition ~~and carriage of material etc and other unforseen~~	LS		1,00,000.00	1,00,000.00
7	Provision for carriage of material and other unforeseen Items etc.	LS		~~1,50,000.00~~	1,00,000.00
	Total Abstract of cost				~~17,19,500.00~~
	SAY IN LAKH				18.07 ~~17.20~~
	Add 3% contingencies & PH Charges				0.54 ~~0.52~~
	TOTAL				18.61 ~~17.71~~
	Add 49% Departmental charges, price escalation, unforeseen,				9.12 ~~8.68~~
	TOTAL				~~26.39~~
					27.73 lacs

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'AFFORDABLE PLOTTED COLONY' - DDJAY - 7.9375 Acre					
	Sub -Work No. 1 Sub -Head No. 04	Rising Main From HSVP			
S .NO	Description	Unit	Qty	Rate	Amount
1	Provision for rising main from HSVP main to UGT 100mmd	Meter	95	1460/ ~~1,250.00~~	1.39 lks ~~1,18,750.00~~
2	Providing and fixing air valves and scour valves including cost of brick masonry chamber complete. 100 mm d	~~LS~~	1NO	~~10,000.00~~ 12000/	~~10,000.00~~ 0.12
3	Providing for water supply connection with ~~HSVP~~ supply line GMDA/HSVP	LS		~~1,00,000.00~~	~~1,00,000.00~~ 5 2.60
4	Provision of cutting of roads & making good to its original condition and carriage of material etc and other unforseen			~~5,72,000.00~~	2.00 ~~5,72,000.00~~
	Total Abstract of cost			1200750/-	~~8,00,750.00~~ 5.51
	SAY IN LAKH				~~12.00~~ ~~8.01~~ 0.16
	Add 3% contingencies & PH Charges				~~0.36~~ ~~0.24~~ 5.67
	TOTAL				~~12.36~~ ~~8.25~~ 2.78
	Add 49% Departmental charges, price escalation, unforeseen,				~~6.06~~ ~~4.04~~ 8.45
	TOTAL				~~18.42~~ ~~12.29~~

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'AFFORDABLE PLOTTED COLONY' - DDJAY - 7.9375 Acre					
	Sub -Work No. 1 Sub - Head No. 05	**FIRE HYDRANT**			
1	Providing , Laying , jointing and testing M.S. pipes lines including cost of excavation etc. complete in all respect.				
(a)	80 mm dia. Pipe.	M	14	1,000.00	14,000.00
2	Providing and fixing external fire hydrants etc.	EACH	7	10,000.00	1.05 70,000.00
	Total Abstract of cost				1.19 Lacs 84,000.00
	SAY IN LAKH				0.03 0.84
	Add 3% contingencies & PH Charges				0.03
	TOTAL				1.22 0.87
	Add 49% Departmental charges, price escalation, unforeseen,				0.60 0.42
	TOTAL				1.82 1.29

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'AFFORDABLE PLOTTED COLONY' - DDJAY - 7.9375 Acre					
	Sub -Work No. 1 Sub -Head No. 06		Flushing Water supply & Irrigation System		
S . NO	Description	Unit	Qty	Rate	Amount
1	Providing, Laying, Jointing and testing ~~uPVC~~ (6 kg/cm^2) pressure rating pipe line confirming to IS : 4985 including cost of excavation etc. complete in all respect. **(Flushing & Garden Hydrant Line)**				0.18
(a)	25 mm dia	Meter	60	300.00	~~12,000.00~~
(b)	32 mm dia	Meter	0	350.00	-
(c)	40 mm dia	Meter	0	450.00	-
(d)	50 mm dia	Meter			-
(e)	63 mm dia	Meter			-
(d)	75 mm dia	Meter	920	1460	13.43 -
(e)	~~90~~ mm dia	Meter	~~1280~~	~~1,000.00~~	~~12,80,000.00~~
2	Providing and fixing ball valves including cost of surface boxes and masonry chambers etc. complete in all respect.				
(a)	25 mm dia	Meter	5	600.00	3,000.00
(b)	32 mm dia	Meter	0	700.00	-
3	Providing and fixing sluice / Butterfly valve including cost of surface box and masonry chamber etc.completed in all respects.				
(a)	100 mm dia.	Each	5	12,000.00	0.60
(b)	80 mm dia.	Each	5	8,500.00	~~42,500~~.00
					0.50
4	Providing and fixing air release valve	Each	5	3,500.00	17,500.00
5	Provision for carriage of Material and other unforeseen. Items.	LS		~~50,000.00~~	1.00 ~~10,000.00~~
6	Provision of cutting of roads & making good to its original condition ~~and carriage of material etc and other unforseen~~	LS		~~10,000~~.00	1.00 ~~10,000.00~~
	Total Abstract of cost				~~13,75,000.00~~ 16.92
	SAY IN LAKH				~~13.75~~ 0.51
	Add 3% contingencies & PH Charges				~~0.41~~ 17.43
	TOTAL				~~14.16~~ 8.53
	Add 49% Departmental charges, price escalation, unforeseen,				~~6.94~~
	TOTAL				~~21.10~~ 25.96

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'AFFORDABLE PLOTTED COLONY' - DDJAY - 7.9375 Acre					
	Sub -Work No. II			**Sewerages System**	
S . NO	**Description**	**Unit**	**Qty**	**Rate**	**Amount**
1	Supplying, lowering, laying, jointing, testing and commissioning of glazed stoneware pipes grade "A" conforming to IS 651:1992 with latest amendements including conveying of pipe to worksite and caulking with hemp / yarn dipped in tar and jointing with C.M. 1:1perfect linking and curing for 10 days, and testing with water with all lead including cost of jointing materials as directed etc., complete.		930	1700/	15.81 lacs
1.1	200 mm diameter	M	~~1100~~	~~1,250.00~~	~~13,75,000.00~~
1.2	250 mm diameter	M	5	2,000.00	0.10 ~~8,500.00~~
2	Provision for lighting and watching.	LS		1,50,000.00	1,60,000.00
3	Provision for providing oblique junction	LS		2,00,000.00	2,00,000.00
					2.00 lacs
4	Provision of making connection from ~~HSVP~~ GMDA/HSVP	LS		~~1,00,000.00~~	~~3,00,000.00~~
5	Treated Effluent Rising Mains from STPs to Municipal Sewer-cum Treated Effluent Distribution Main Line: From STP to Municipal Sewer: Size: 160 mm diameter	M	150	2040/ ~~1,575.00~~	3.06 lacs ~~2,36,250.00~~
5	Providing of temporary timbering	LS		~~50,000.00~~	40,000.00
	340 KLD		310	~~25,000/-~~	~~85,00,000/-~~
6	Providing STP up to testing level complete in all respect	KL	~~340~~	~~12,500.00~~	~~42,50,000.00~~ 49.60
			~~360~~	16000/KL	~~68,00,000 lacs~~
7	Provision for vent shafts at suitable places as per public health requirement	LS		~~2,00,000.00~~	2,00,000.00
8	Provision of cutting of roads & making good to its original condition and carriage of material etc and other unforseen	LS		2,00,000.00	2,00,000.00
	Total Abstract of cost			~~1121975~~	~~67,69,750.00~~ 76.97
	SAY IN LAKH				~~112.20~~ ~~67.70~~ 2.30
	Add 3% contingencies & PH Charges				~~3.37~~ ~~2.03~~ 79.27
	TOTAL				~~115.57~~ ~~69.73~~ 38.85
	Add 49% Departmental charges, price escalation, unforeseen,				~~56.63~~ ~~34.17~~
	TOTAL				~~172.19~~ ~~103.90~~ 118.12
					~~172.20~~

SANDEEP AGRAWAL ARCHITECT
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'AFFORDABLE PLOTTED COLONY' - DDJAY - 7.9375 Acre					
S .NO	**Sub -Work No. III**			**Storm Water System**	
S . NO	Description	Unit	Qty	Rate	Amount
1	Providing, lowering, laying & jointing RCC NP3 class pipes and specials into trenches including cost of excavation, cost of manholes etc. complete in all respects.				
(a)	250 mm dia.	M			27.75 lacs
(b)	400 mm dia.	M	1110	2,500.00	~~38,85,000.00~~
(c)	450 mm dia.	M	0	4,047.00	-
(d)	500 mm dia.	M	0	5,085.00	-
2	Provision for rainwater harvesting arrangements per acre for approximately 7.9375 acres by providing Recharging Well at selected place. (4 Nos. harvesting with double bore).	each	8	3.50 lacs ~~5,00,000.00~~	14.0 lacs ~~40,00,000.00~~
3	Provision of road gully chamber with pipe connection	LS		~~5,00,000.00~~	5,00,000.00
4	Provision for lighting and watching.	LS		~~2,00,000.00~~	2,00,000.00
5	Provision for connection with ~~HSVP~~ Storm water main line 1 no. GMDA / HSVP	LS		~~1,00,000.00~~	2.00 lacs ~~3,00,000.00~~
6	Provision of cutting of roads & making good to its original condition and carriage of material etc and other unforseen	LS		~~2,00,000.00~~	~~5~~,00,000.00
7	Provide for temporary disposal arrangement fill HSVS services are provided.	LS		10,00,000.00	10,00,000.00
	Total Abstract of cost			~~10085000~~	~~98,85,000.00~~ 65.75
	SAY IN LAKH				~~98.85~~ 1.97
	Add 3% contingencies & PH Charges				~~2.97~~
	TOTAL				~~101.82~~ 67.72
	Add 49% Departmental charges, price escalation, unforeseen,				~~49.89~~ 33.16
	TOTAL				~~151.71~~ 100.90 lacs

~~154.80~~

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'AFFORDABLE PLOTTED COLONY' - DDJAY - 7.9375 Acre					
S .NO	Sub -Work No.IV			Roads and Footpaths	
	ROAD NAME		Length (M)	Metalled portion	Area in sqmt.
(a)	9 M WIDE		803.0	5.50	4,416.50
(b)	24 M WIDE		117.0	14.00	1,638.00
(c)	Total Length of Road		920.0		6,054.50
	Total Area of Road =			6,055	m2
	Add 5% for curve =			303	m2
	Total Area			6,357	m2
	SAY			6,357	m2
	Kerb and Channels:	920.0	5% curves	46.00	966.00

S .NO	Description	Unit	Qty	Rate	Amount
1	Provision for leveling and earth filling as Per site condition.	Acre	~~8.0000~~ 7·9375	1,~~50~~75,000.00	~~12,00,000.00~~ 13.89 lacs
1	The necessary provision for construction of roads parking etc has beeb made in the estimate according to the HSVP norms the follwing specification has been proposed.				
2	Constriction of roads by providing granular sub base 200 mm as per MORT & H specs conforming to clause 401 grading -II 400.1				
(I)	Providing and laying spreading & compacting hand broken/ crushed stone aggregate to wet mix conforming to physical requirement laid in 400 of MORT & H specification n in two layers (Compacting to 250mm (125+125mm) by taking material 1:32 times of the (thickness of the layer) including premixing of material with water in mechanical mixer.				
(II)	50mm thick ~~B.M~~ DBM				
(III)	30mm thick ~~mix seal surfacing~~ BC				95.36 lacs
(IV)	Sqm	Sqm	6357.00	1,500.00	~~76,28,400.00~~
3	Provision for kerbs and channels		1932		11.59
(a)	Metre	mtr	~~966.00~~	600.00	~~5,79,600.00~~
4	Provision of guide maps and indicators	LS		~~1,00,000.00~~	2,00,000.00
5	provision for demarcating burgees	LS		50,000.00	50,000.00
6	Provision for traffic light arrangement	LS		~~1,00,000.00~~	2,00,000.00
7	Provide for parmanent in commercial area is 50% of the area ~~971.244~~ sqmt. say 645 Sqm 642.35	~~LS~~ Sqm	645 485.622	1500/ ~~600.00~~	9.68 lacs ~~2,91,373.20~~

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'AFFORDABLE PLOTTED COLONY' - DDJAY - 7.9375 Acre					
8	Provision for carriage of materials & other unforeseen Items.	LS		~~2,00,000.00~~	~~5~~,00,000.00
	Total Abstract of cost for Subwork No. IV				~~1,01,49,373.20~~
	SAY IN LAKHS				140.02 ~~101.49~~ as
	Add 3% contingencies & PH Charges				4.20 ~~3.04~~ as
	TOTAL				144.22 ~~104.54~~
	Add 49% Departmental charges, price escalation, unforeseen,				70.66 ~~51.22~~
	TOTAL				~~155.76~~
					214.88 as

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'AFFORDABLE PLOTTED COLONY' - DDJAY - 7.9375 Acre					
	Sub -Work No.V		Plantation and road side trees		
	Description	Unit	Qty	Rate	Amount
S .NO	Development of lawn area				
1	Trenching the ordinary soil up to dept of 60cm including removal and stacking serviceable material and disposing of by spreading and leveling within a lead of 50m and making up the trenches area to proper leads by filling with earth mixed with manure before and after flooding trench with water including cost of imported earth and manure.				
(a)	Rough dressing of turfed area				
(b)	Grassing with "Doob Grass" including watering and IV. Maintenance of lawns for 30 days till the grass forms a thick lawn, free from weeds and fit for moving in rows 7.5 m Apart in either direction ~~12 @ 150000 per acre~~. 2430.916 Sqm	Acre	0.6007 ~~8.0000~~	1,50,000.00	0.90 lacs ~~12,00,000.00~~
(c)	Providing tress, guards and planting tress along road at 12 m interval both side Total road length = 920Mtr. No of Tress = 920/12) = 76.66 x 2 Say = 154 Nos **Cost Analysis of Planting Trees** Excavation = 60.00 each Manure = ~~90.00~~ each 100.00 Tree plants = 150.00 each Tree guards = 2000.00 each Total Cost = Rs. ~~1300.00~~ per tree 2310	Each	154	2310 ~~1,300.00~~	3.56 lacs ~~2,00,200.00~~
	Total Abstract of cost				~~14,00,200.00~~
	SAY IN LAKHS				4.46 ~~14.00~~
	Add 3% contingencies & PH Charges				0.13 ~~0.42~~
	TOTAL				4.59 ~~14.42~~
	Add 49% Departmental charges, price escalation, unforeseen,				2.25 ~~7.07~~
	TOTAL				~~21.49~~
					6.84 lacs

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'AFFORDABLE PLOTTED COLONY' - DDJAY - 7.9375 Acre					
S .NO	Sub -Work No.VI				Street Lighting
	Description	Unit	Qty	Rate	Amount
1	Providing Street lighting with LED on roads as per standard specification of HVPN.		7.9375		19.84 lacs
(a)	Acre		~~8.0000~~	2,50,000.00	~~20,00,000.00~~
	Total Abstract of cost				~~20,00,000.00~~
	SAY IN LAKH				~~20.00~~
	Add 3% contingencies & PH Charges				0.60
	TOTAL				20.43 ~~20.60~~
	Add 49% Departmental charges, price escalation, unforeseen,				10.02 ~~10.09~~
	TOTAL				~~30.69~~
	SAY IN LAKHS				30.45 ~~31.00~~

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'AFFORDABLE PLOTTED COLONY' - DDJAY - 7.9375 Acre					
	Sub -Work No. VII		MTC. Charges & Resurfacing of Roads		
S.NO	Description	Unit	Qty	Rate	Amount
1	Provision for MTC charges for water supply, sewerage, storm water drainage, roads, street light and horticulture complete in all respects.		7.9375	8.00 lacs	63.50 lacs
1.1	Acres	Acre	~~8.0000~~	~~7,50,000.00~~	~~60,00,000.00~~
2	Resurfacing of roads after Ist 5 Yrs, 50mm thick B.M & 25 mm thick P. carpet.		6357	660/	41.96 lacs
(a)	Sqm	Sqm	~~6,054.50~~	~~600.00~~	~~36,32,700.00~~
3	Provision for resurfacing of roads after 10 yrs. by providing 25mm thick premire carpet.		6357	825/	52.45 lacs
(a)	Sqm	Sqm	~~6,054.50~~	~~750.00~~	~~45,40,875.00~~
					157.91 lacs
	Total Abstract of cost				~~1,41,73,575.00~~
	SAY IN LAKH				~~141.74~~
	Add 3% contingencies & PH Charges				4.74 ~~4.25~~
	TOTAL				~~145.99~~
	Add 49% Departmental charges, price escalation, unforeseen,				162.65 ~~71.53~~
	TOTAL				79.70 ~~217.52~~

242.35 lacs

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CA/2008/42063

DDJAY (7.9375 ACRE)

DESIGN CALCULATION FOR FLUSHING WATER SYSTEM

S. NO	Reference line		Number Of Plot			TOTAL POPULATION	Total Water Requirement.	Total Water Requirement	DIA	Velocity	Length of Line	(S) Slope of pipe	Head Loss for line Length	Fitting Loss @ 10% of pipe length	Total Head Loss	cumulativew head loss	ARV
	From	To	Self	Previous	Total	(In Nos)	(In LPD)	(In LPM)	(In MM)	m/sec	(In Mtr)	(In m/m)	(In Mtr)	(In Mtr)	(In Mtr)		
1	F1	F3	11	0	11	149	8966	19	90	1.5	117	0.047	5.55	0.555	6.11	6.110	1
2	F2	F3	29	0	29	392	23637	49	90	1.5	89	0.047	4.23	0.423	4.648	4.648	1
3	F3	F5	34	40	74	999	60315	126	90	1.5	188	0.047	8.93	0.893	9.818	15.928	
4	F4	F5	16	0	16	216	13041	27	90	1.5	80	0.047	3.80	0.380	4.178	4.178	1
5	F5	F7	5	90	95	1283	77431	161	90	1.5	32	0.047	1.52	0.152	1.671	20.105	
6	F6	F7	7	0	7	95	5705	12	90	1.5	36	0.047	1.71	0.171	1.880	1.880	
7	F7	F11	9	102	111	1499	90472	188	90	1.5	93	0.047	4.42	0.442	4.857	24.962	
8	F8	F10	27	0	27	365	22007	46	90	1.5	140	0.047	6.65	0.665	7.311	7.311	1
9	F9	F10	0	0	0	0	0	0	90	1.5	20	0.047	0.95	0.095	1.044	1.044	
10	F10	F11	5	138	143	1931	116554	243	90	1.5	100	0.047	4.75	0.475	5.222	12.533	
11	F11	STP	0	143	143	1931	116554	243	90	1.5	15	0.047	0.71	0.071	0.783	37.495	

910 mtr

say 920 mtr

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CA/2008/42063

DDJAY (7.9375 ACRE)

DESIGN CALCULATION FOR SEWERAGE LINE

S.No.	sewerage Line No.		Length(m)	Design of Sewerage System			Population	Sewage flow @ 80%LPCD	Peak Flow(lpd)	Peak Flow	Pipe Size(mm)	Slope(1 in)	Velocity (m/s)	Capacity of pipe(lps)	Fall(m)	Ground Level(m)		Invert Level(m)		q/Q	va/v	Actual velocity(va)	d/D	Depth(m)		Remark
	From	To		Self	Prev.	Total				(lps)		1 in				Start	End	Start	End					Start	End	
				plots																						
1	F1	F3	117 153	11	0	11	149	20493.00	51232.50	0.59	200.00	250.00	0.78	12.26	0.61	0.000	0.000	-1.100	-1.712	0.02	0.40	0.31	0.10	1.10	1.71	
2	F2	F3	89 48	29	0	29	392	54027.00	135067.50	1.56	200.00	250.00	0.78	12.26	0.19	0.000	0.000	-1.100	-1.292	0.06	0.55	0.43	0.17	1.10	1.29	
3	F3	F5	186 48	34	40	74	999	137862.00	344655.00	3.99	200.00	250.00	0.78	12.26	0.19	0.000	0.000	-1.712	-1.904	0.16	0.74	0.58	0.28	1.71	1.90	
4	F4	F5	80 153	16	0	16	216	29808.00	74520.00	0.86	200.00	250.00	0.78	12.26	0.61	0.000	0.000	-1.100	-1.712	0.04	0.51	0.40	0.15	1.10	1.71	
5	F5	F7	32 48	5	90	95	1283	176985.00	442462.50	5.12	200.00	250.00	0.78	12.26	0.19	0.000	0.000	-1.904	-2.096	0.21	0.79	0.62	0.32	1.90	2.10	
6	F6	F7	36 153	7	0	7	95	13041.00	32602.50	0.38	200.00	250.00	0.78	12.26	0.61	0.000	0.000	-1.100	-1.712	0.02	0.40	0.31	0.10	1.10	1.71	
7	F7	F11	93 48	9	102	111	1499	206793.00	516982.50	5.98	200.00	250.00	0.78	12.26	0.19	0.000	0.000	-2.096	-2.284	0.24	0.83	0.65	0.34	2.10	2.28	
8	F8	F10	140 198	27	0	27	365	50301.00	125752.50	1.46	200.00	250.00	0.78	12.26	0.79	0.000	0.000	-1.100	-1.892	0.06	0.55	0.43	0.17	1.10	1.89	
9	F9	F10	20 8	0	0	0	0	0.00	0.00	0.00	200.00	250.00	0.78	12.26	0.03	0.000	0.000	-1.100	-1.132	0.00	0.28	0.22	0.05	1.10	1.13	
10	F10	F11	100 192	5	27	32	432	59616.00	149040.00	1.73	200.00	250.00	0.78	12.26	0.77	0.000	0.000	-1.892	-2.660	0.07	0.59	0.46	0.19	1.89	2.66	
11	F11	STP	15 36	0	143	143	1931	266409.00	666022.50	7.71	200.00 250	250.00	0.78	12.26	0.14	0.000	0.000	-2.660	-2.804	0.31	0.88	0.69	0.39	2.66	2.80	

910
18
928 mtr
say 930mtr

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DDJAY (7.9375 ACRE)

DESIGN CALCULATION FOR STORM LINE

SL. NO.	NAME OF THE LINE		AREA TO BE SERVED IN ACRES			DISCHARGE @ 1/4" RAIN FALL	FINAL DISCHARGE	SIZE OF PIPE DRAIN (IN MM)	VELOCITY	DISCHARGE CAPACITY OF PIPE	Check	LENGTH OF PIPE	SLOPE	FALL IN MET-ERS	GROUND LEVEL		INVERT LEVEL		DEPTH OF PIPE AT		Remark
	FROM	TO	SELF	PREVIOUS	TOTAL	6.25MM/HR								As per pipe slope	U/End	L/End	U/End	L/End	U/End	L/End	
						(InM3/sec)	(In LPS)	(In mm)	(In m/sec)	(In LPS)		(In mtrs.)	(In mtrs.)	(In mtrs.)	(In mtrs.)	(In mtrs.)	(In mtrs.)	(In mtrs.)	(In mtrs.)	(In mtrs.)	
1	D-1	D-3	0.53	0.00	0.53	0.00371	3.7	400	0.69	87.26	OK	120	570	0 211	0.00	0.00	-1.30	-1.51	1.30	1.51	
2	D-2	D-3	1.04	0.00	1.04	0.00732	7.3	400	0.69	87.26	OK	93	570	0 163	0.00	0.00	-1.30	-1.46	1.30	1.46	
3	D-3	D-5	1.43	1.57	3.00	0.02110	21.1	400	0.69	87.26	OK	151	570	0.265	0.00	0.00	-1.51	-1.78	1.51	1.78	
4	D-4	D-5	0.89	0.00	0.89	0.00625	6.2	400	0.69	87.26	OK	85	570	0.149	0.00	0.00	-1.30	-1.45	1.30	1.45	
4	D-5	TO DRAIN	0.00	3.89	3.89	0.02735	27.3	400	0.69	87.26	OK	10	570	0.018	0.00	0.00	-1.78	-1.79	1.78	1.79	
5	D-6	D-13	0.94	0.00	0.94	0.00660	6.6	400	0.69	87.26	OK	152	570	0.267	0.00	0.00	-1.30	-1.57	1.30	1.57	
6	D-7	D-9	0.49	0.00	0.49	0.00347	3.5	400	0.69	87.26	OK	35	570	0.061	0.00	0.00	-1.30	-1.36	1.30	1.36	
7	D-8	D-9	0.35	0.00	0.35	0.00243	2.4	400	0.69	87.26	OK	27	570	0.047	0.00	0.00	-1.30	-1.35	1.30	1.35	
8	D-9	D-11	0.42	0.84	1.26	0.00883	8.8	400	0.69	87.26	OK	61	570	0.107	0.00	0.00	-1.36	-1.47	1.36	1.47	
9	D-10	D-11	1.19	0.00	1.19	0.00833	8.3	400	0.69	87.26	OK	154	570	0.270	0.00	0.00	-1.30	-1.57	1.30	1.57	
10	D-11	D-13	0.23	2.44	2.67	0.01876	18.8	400	0.69	87.26	OK	41	570	0.072	0.00	0.00	-1.57	-1.64	1.57	1.64	
11	D-12	D-13	0.43	0.00	0.43	0.00299	3.0	400	0.69	87.26	OK	58	570	0.102	0.00	0.00	-1.30	-1.40	1.30	1.40	
12	D-13	TO DRAIN	0.00	4.04	4.04	0.02834	28.3	400	0.69	87.26	OK	15	570	0.026	0.00	0.00	-1.64	-1.67	1.64	1.67	

1002

say 1110 mL

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DDJAY 7.9375 ACRE, MATERIAL STATEMENT OF ROAD									
S.NO	NODE	WIDE(m)	LENGTH(m)	9 M	24 M	METAL PORTION in m		AREA SQMT.	AREA SQMT.
						9 M	24 M	9 M	24 M
1	R-1	9	68	68	0	5.5	14	374	0
2	R-2	9	104	104	0	5.5	14	572	0
3	R-3	9	91	91	0	5.5	14	501	0
4	R-4	9	99	99	0	5.5	14	545	0
5	R-5	9	26	26	0	5.5	14	143	0
6	R-6	9	117		117	5.5	14	0	1638
7	R-7	9	99	99	0	5.5	14	545	0
8	R-8	9	36	36	0	5.5	14	198	0
9	R-9	9	128	128	0	5.5	14	704	0
10	R-10	9	54	54	0	5.5	14	297	0
11	R-11	9	28	28	0	5.5	14	154	0
12	R-12	9	70	70	0	5.5	14	385	0
	TOTAL LENGTH		TOTAL	803	117			4417	1638

SANDEEP AGRAWA ARCHITECT
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DDJAY, 7.9375 ACRES

DESIGN CALCULATION FOR DOMESTIC WATER SYSTEM

S. NO.	Reference line		Number of plot			Popul. (Total No of Persons)	Total Requirement	Total Water Requirement.	DIA.	Velocity	Length of Line	(S) Slope of pipe	Head Loss for line Length	Fitting Loss @ 10% of pipe length	Total Head Loss	CUMMULATIVE	ARV
	FROM	TO	SELF	PREVIOUS	TOTAL		(In LPD)	(In LPM)	(In MM)	m/sec	(In Mtr)	(In m/m)	(In Mtr)	(In Mtr)	(In Mtr)		
1	D1	D3	11	0	11	149	16651	35	100	1.5	120	0.042	5.04	0.504	5.54	5.542	1
2	D2	D3	29	0	29	392	43897	91	100	1.5	93	0.042	3.90	0.390	4.29	4.295	1
3	D3	D5	34	40	74	999	112013	233	100	1.5	179	0.042	7.51	0.751	8.27	13.808	
4	D4	D5	8	0	8	108	12110	25	100	1.5	59	0.042	2.48	0.248	2.72	2.725	1
5	D5	D8	0	82	82	1107	124122	259	100	1.5	18	0.042	0.76	0.076	0.83	16.533	
6	D6	D8	27	0	27	365	40870	85	100	1.5	153	0.042	6.42	0.642	7.07	7.066	1
7	D7	D8	8	0	8	108	12110	25	100	1.5	59	0.042	2.48	0.248	2.72	2.725	
8	D8	D10	6	117	123	1661	186184	388	100	1.5	42	0.042	1.76	0.176	1.94	23.599	
9	D9	D10	9	0	9	122	13623	28	100	1.5	44	0.042	1.85	0.185	2.03	2.032	
10	D10	D14	5	132	137	1850	207375	432	100	1.5	30	0.042	1.26	0.126	1.39	25.631	
11	D11	D13	0	0	0	0	0	0	100	1.5	39	0.042	1.64	0.164	1.80	1.801	
12	D12	D13	5	0	5	68	7568	16	100	1.5	70	0.042	2.94	0.294	3.23	3.233	1
13	D13	D14	1	142	143	1931	216457	451	100	1.5	20	0.042	0.84	0.084	0.92	28.863	
14	D14	UGT	0	143	143	1931	216457	451	100	1.5	15	0.042	0.63	0.063	0.69	29.56	

94/mL

Say 950 mL

SANDEEP AGRAWAL ARCHITECT
SANDEEP AGRAWA
CA/2008/42063

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हरियाणा शहरी विकास प्राधिकरण
HARYANA SHEHARI
VIKAS PRADHIKARAN

Address: C-3, HSVP , HQ Sector-6
Panchkula

CE-I No. 275673
Dated: 26/12/2023

Annexure-A

SUB:- Approval of service plan estimate for Affordable Plotted Colony project under Deen Dayal Jan Awas Yojna (DDJAY-2016) over an area measuring 7.9375 acres (Licence no. 175 of 2023 dated 01.09.2023) in the revenue estate of Village Farrukhnagar, Sector-1, District Gurugram, Haryana being developed by Sh. Ballu Ram and others in collaboration with Corre Infrastructure & Developers (LC-4860).

Technical note and comments:-

1. All detailed working drawings would have to be prepared by the colonizer for Integrating the internal services proposals with the master proposals of town.
2. The correctness of the levels will be the sole, responsibility of the colonizer for the integration of internal proposals, with the master proposals, of town and will be got confirmed before execution.
3. The material to be used shall the same specifications as are being adopted by HSVP and further shall also confirm to such directions, as issued by Chief Engineer, HSVP from time to time.
4. The work shall be carried out according to Haryana PWD specification or such specifications as are being followed by HSVP. Further it shall also confirm to such other directions, as are issued by Chief Engineer, HSVP from time to time.
5. The colonizer will be fully responsible to meet the demand of water supply and allied services till such time these are made available by State Government/ HSVP. All link connections with the State Government/ HSVP system and services will be done by the colonizer. If necessary extra tube-wells shall also be installed to meet extra demand of water beyond the provision according to EDC deposited.
6. Structural design & drawings of all the structures, such as pump chamber, boosting chamber, RCC OHSR, underground tanks, quarters, manholes chamber, sections of RCC pipes sewer and SW pipes, sewer, ventilating shafts for sewerage and Masonry Ventilation Chamber *for* Chamber for storm water drainage, temporary disposal/ arrangement etc. will be as per relevant I.S codes and PWD specifications, colonizer himself will be responsible for structural stability of all structures.
7. Potability of water will be checked and confirmed and the tube-wells will be put into operation after getting chemical analysis of water tested.
8. Only C.I/D.I pipes will be used in water supply and flushing system, UPVC/HDPE pipe for irrigation purposes.

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9. A minimum 100 i/d C.I/D.I, 200mm i/d SW and 400mm id RCC NP-3 pipes will be used for water supply, sewerage and storm water drainage respectively.
10. Standard X-section for S.W. pipes sewer, RCC pipes sewer etc. will be followed as are being adopted in Haryana Public Health Engineering Deptt. or HSVP. If needed, the same may be sought by the colonizer from concerned Executive Engineer of HSVP.
11. The X-section, width of roads, will be followed as approved by the Chief Town Planner, Haryana, Chandigarh. The kerbs and channels will also be provided as per approved X-section and specifications. If needed, the same may be sought by the colonizer from concerned Executive Engineer of HSVP.
12. The specifications for various roads will be followed as per IRC/MORTH specifications.
13. The wiring system of street lighting and specifications of street lighting fixture will be as per relevant standards.
14. This shall confirm to such other conditions as are incorporated in the approved estimate and the letter of approval.

Executive Engineer (M),
for Chief Engineer-I, HSVP,
Panchkula.