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LC-5014

SERVICE ESTIMATE, DESIGN REPORT AND CALCULATION OF INTERNAL DEVELOPMENT WORKS

FOR

PROPOSED "AFFORDABLE RESIDENTIAL PLOTTED COLONY'' (DDJAY) AREA MEASURING 9.731 ACRES (LICENSE NO. 139 OF 2023 DATED 06.07.2023) IN THE REVENUE ESTATE OF VILLAGE -PATAUDI,SECTOR – 4, PATAUDI, DISTT. GURUGRAM BELONGING TO SH. HIMANSHU GARG S/O NITANAND GARG, SH. NITANAND GARG S/O LATE SH. KASHMIRI LAL, SMT. NIRMAL GARG W/O SH. NITANAND GARG AND SMT. JYOTI GARG W/O SH. HIMANSHU GARG.

SERVICE ESTIMATE, DESIGN REPORT AND CALCULATIONS OF INTERNAL DEVELOPMENT WORKS FOR REVISED "AFFORDABLE RESIDENTIAL PLOTTEDCOLONY"(DDJAY) AREA MEASURING 9.731 ACRES (LICENSE NO. 139 OF 2023 DATED 06.07.2023) IN THE REVENUE ESTATE OF VILLAGE -PATAUDI, SECTOR – 4, PATAUDI, DISTT. GURUGRAM BELONGING TO SH. HIMANSHU GARG S/O NITANAND GARG, SH. NITANAND GARG S/O LATE SH. KASHMIRI LAL, SMT. NIRMAL GARG W/O SH. NITANAND GARG AND SMT. JYOTI GARG W/O SH. HIMANSHU GARG.

PATAUDI town of Haryana State situated on N.H. -352 W road at a distance of 58 Km from Delhi. Being in the national capital region, the town has fast developing tendency and potential. Further, it has also started sharing the growing residential, commercial and Industrial load of Delhi. In order to review the growing pressure of population in National Capital of Delhi, It has been decided by the Haryana Government to develop various infrastructure facilities in PATAUDIUrban Complex. Thelayout plan for an area measuring 9.731 Acres (Drg. No. 10038 dated 12.02.2024) has been issued in respect of Affordable Residential Plotted Colony under DDJAY by DTCP Chandigarh. This report is for a part of service estimate for proposed "Affordable Residential Plotted Colony" (DDJAY) Area Measuring 9.731 Acres (License No. 139 Of 2023 Dated 06.07.2023) In the revenue estate of village -Pataudi, Sector – 4, Pataudi, Distt. Gurugram Belonging to Sh. Himanshu Garg S/o Nitanand Garg, Sh. Nitanand Garg S/o Late Sh. Kashmiri Lal, Smt. Nirmal Garg W/o Sh. Nitanand Garg and Smt. Jyoti Garg W/o Sh. Himanshu Garg.has been prepared with the following provisions 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 tankswill 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 / under executionHSVP W/S in this area. However the provision of tube wells has been taken due to non-availability of water but after getting the approval from the competent authority through tube wells / tankers / any other approved source till HSVP W/Swill made available. The proposed tube well shall be 510mm bore drilled with reverse rotary rig and installed with 80mm i/d housing pipe and 50mm i/d slotted tube as strainer, hence the provision of 1 Nos. Tube Wells has been taken in this estimate.

   DESIGN

   The scheme has been designed for population of 3114persons and considering @ 18.00 persons / unitsfor Affordable Residential Plotted Colony and other provision etc. The combined quantum of water supply (domestic + flushing) per head / day has been taken as 155.25Liters perhead per day as per design calculation.

   PUMPING EQUIPMENTS

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

2. **SEWERAGE**

The scheme is designed for sewer connecting to the STP and bypass connection to HSVPSewerage scheme.The sewer lines have designed for three times average D.W.F in relation to water supply demand. It has assumed that about 80% of the domesticand 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 purpose (through recycling) under the pipe line system.

3. **STORM WATER DRAINAGE**

It has been proposed to lay R.C.C pipeswith required number of manholes for disposal of storm water, which will be connected to the HSVP drain. The intensity of rain fall has been taken as 6.00mm per hour. A minimum size of 400mm i/d R.C.C pipe for storm water drain will be provided and designed as per manning's formula. Necessary provision of rainwater harvesting arrangement has also been taken in this estimate.

4. **ROADS**

Road, Parking and Pavement have been provided to above areas and estimate is prepared as revised specifications adopted by HSVP.

5. **STREET LIGHTING AND ELECTRIFICATION :-**

Provision for external lighting, electrificationand ESSof proposed area has been made.

6. **HORTICULTURE :-**

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

7. **FIRE FIGHING :-**

Provision of Fire Fighting system has been made.

8. **SPECIFICATIONS**

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

9. **RATES**

The estimate has been based on the present market rates.

10. **COST**

The total cost of the scheme including cost of all services works out to Rs. ~~923.40~~1073.52 Lacs including 3% contingencies and 49% departmental charges + Price escalation and cost per acre comes out to Rs. ~~94.00~~110.32 Lacs.

(Authorized Signatory)

1. DESIGN CALCULATION :-

Total Area of plot	=9.731Acresor 39379.897Sqm.
Proposed Area Under Plots	= 5.0434 Acres
Permissible Commercial Area	= 1575.195 sqm. OR 0.3892 Acres
Proposed Commercial Area	= 1575.053 sqm. Or 0.3890Acres
Proposed Communitysite	= 0.9734Acres
Proposed Plots	= 173 Plots
ESS	= 49.00 Sqm

I) Water Requirement :-

- Total Plots = 173 Plots
  Total Population @ 18.00Persons/Plot = 3114 Persons
  @155.25 LPCD = 4,83,448.50LPD
- Commercial area = 0.3890Acres OR (1575.053 Sqm.)
  @ 3 Sqm / person = 526 Persons @ 45 LPCD = 23670.00LPD
- Community Building (Area 0.9734Acre) = 24335.00 LPD
- ESS ,Guards and Mtc. Staff etc. = 10000.00 LPD

Total = ~~541453.50~~LPD Or ~~5.42~~ 542.0 KLD
58005 **Say 550 KLD**

II. FIRE DEMAND

(i) Population = 3114 Persons
(p) ½ x 100/1000 = (3.114) ½ x 100 = 176.46/3 = 58.82 KLD
(Considering 1/3 of total population)
Add. @ 15% extra for margin factor = 8.82 KLD
Total = 67.64 KLD
Say = 70.00 KLD

III. Garden Irrigation Requirement (For Total Area) = 40.00 KLD

IV. Total Water Requirement for UGT

(Excluding Fire Demand)
Hence Domestic Water Requirement (67%) = 550 x 67% = 369.00 KLD
Hence Flushing Water Requirement (33%) = 550 x 33% =181.00 KLD
Day Requirement considering = 370 K.L. for Domestic
= 180 K.L. for Flushing

But it is proposed to construct an UGT i.e. ~~370~~ 300 K.L. in two compartment for domestic use and ~~180~~ 150 incl. 70 KL-fire K.L. for non potable water in two compartment (at STP) and 70 K.L. for fire fighting purposes for UGT in two compartment as shown location in the plan.

Total Capacity of UGT = ~~370~~ 230 + 70 = ~~440.00~~ 300.0 KLD
Total Storage Requirement for Flushing and irrigation at STP(180+40) = ~~220~~ 230.00 KLD
(Flushing 180 K.L. + Irrigation 40 KLD X 60% = ~~220~~ 132 KLD) Say : 150 KL

V. Tube Well **For UGT**

a) Yield		= 15 K.L. / Hr.
b) Working Hour per day		= 16 Hr. / Per Day
c) Total water demand		= 369 M3/Day
d) Number of tube well required (Water Demand / Discharge / Hr. working Per day)		= 1.54 Nos
e) Add 5% extra		= 0.08
	Total	= 1.62 Nos
	Say	= 2 No.

Water to the proposed development is to be supplied by HSVP. Howeverconsider @ 50 %T.W.S. i.e. 1 Nos. T.W. to install for proposed requirement of water for augmentation / standby purposes and provision has also been taken in the estimates due to non availability of water but after getting the approval from the competent authority.

VI) Pumping Machinery for Tube wells

a) Gross Working Head	= 80 Mtr
b) Average fall in S.L	= 2 Mtr
c) Depression Head	= 6 Mtr
d) Friction loss in main	= 10 Mtr
Total	= 98 Mtr
e) Discharge	= 15000 LPH (Or 4.17 LPS Say 4.50 LPS)
f) Horse Power	= 9.80 H.P.
HP = (4.50 x 98) / (75 x 0.60)	
Say	= 10.00 H.P.

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

VII) Boosting Machinery for domestic water For UGT

Total Water Requirement **= 369.00 KLD**

Pumping per hour @ 8 hr. pumping / day	= 369/8 KL / hr.
	= 46.125 KL / hr.
	= 768.75lpm = 12.81lps
	Say 2 No. 7.00 LPS each
Gross working head	For UGT
- Suction lift	= 5.00 mts.
- Frictional loss in mains & specials	=10.00 mts.
- Clear Head required	= 30.00 mts.
Total	= 45.00 mts.
Say	= 45.00 mts.
Pump HP	=(7.00x45)/(75x0.60)
	= 7.00 H.P.
	Say = 7.50 HP

It is proposed to provide 3 Nos. of pumping set of 7.00 lps discharge at 45mts Head each (2W + 1S) for UGT.

VIII) Boosting Machinery for flushing water at STP

Total Water Requirement	**= 181 K.L.D**
Pumping per hour @ 8 hr. pumping / day	= 181/8 KL / hr.
	= 22.625 KL / hr.
	= 377.08lpm = 6.28lps,
	Say 2 No.4.00lps each
Gross working head	
- Suction lift	= 5.00 mts.
- Frictional loss in mains & specials	= 10.00 mts.
- Clear Head required	= 30.00 mts.
Total	= 45.00 mts.
Say	= 45.00 mts.
Pump HP	= (4.00 x 45) / (75 x 0.60)
	= 4.00 HP
Say	= 5.00 HP

It is proposed to provide 3 Nos of pumping set of 4.00lps discharge at 45 mts Head each (2W + 1S)

IX) Boosting Machinery for Irrigation water

Total Water Requirement	**= 40 KLD**
Pumping per hour @ 5 hr. pumping / day	= 40 /5 KL / hr.
	= 8.00 KL / hr.
	= 133.33lpm = 2.23lps
Say	=3.00 LPS
Gross working head	
- Suction lift	= 5.00 mts.
- Frictional loss in mains & specials	= 5.00 mts.
- Clear Head required	= 25.00 mts.
Total	= 35.00 mts.
Say	= 35.00 mts.
Pump HP	= (3.00 x 35) / (75 x 0.60)
	= 2.33 HP
Say	=3.00 HP

It is proposed to provide 2 No. of pumping set of 3.00 lps discharge at 35 mts Head each (1W + 1S)

X) DG Set for plumbing

DG Set Requirement		**For UGT**
Submersible Pump	(1 x 10)	= 10.00HP
Domestic Pump	(2 x 7.50)	= 15.00 HP
Street Light and other etc.		= 10.00HP
Total pump load		**= 35.00 HP**
		= 35.00 x 0.746 x 1.50
		= 39.17 K.W
Total DG capacity		**= 1 No. 40 KVA**

Hence it is proposed to provide 1 No. D.G. Set of 40 KVA capacity at U.G.T.
DG Set for S.T.P. (for flushing & Irrigation + Surplus Treated Water)
Requirement = 2 X 3.0 HP + 5.00 HP = 15.00 HP (15 X 0.746 X 1.50) = 16.785 KVA
Say = 20.00 KVA

FLOW TO SEWAGE TREATMENT PLANT

Total Water Requirement = (369for domestic &181 KLDfor flushing)

i)	80% of total Domestic Water Demand = 80% of 369 KLD	= 295.20 KLD
ii)	80% of total Flushing Water Demand =80% of 181 KLD	= 144.80KLD
	Total	**=440.00 KLD**
	Considering 5% marginal factor	= 22.00 KLD
	G. Total	**= 462.00 KLD**

Say 470 KLD

Proposed STP Capacity = 470 KLD Or0.47MLD

(Authorized Signatory)

FINAL ABSTRACT OF COST

SR. NO.	SUB WORK	DESCRIPTION	AMOUNT (Rs. In Lacs)
			217.10 ~~174.25~~
1	SUB WORK NO.I	WATER SUPPLY SCHEME	164.55 ~~162.19~~
2	SUB WORK NO. II	SEWERAGE SCHEME	132.50 ~~114.44~~
3	SUB WORK NO. III	STORM WATER DRAINAGE	236.85 ~~187.44~~
4	SUB WORK NO. IV	ROAD AND FOOTPATH	37.32 ~~22.41~~
5	SUB WORK NO. V	STREET LIGHTING	8.82 ~~8.64~~
6	SUB WORK NO. VI	HORTICULTURE (PLANTATION &ROAD SIDE TREES)	276.38 ~~254.03~~
7	SUB WORK NO. VII	MTC. OF SERVICES & RESURFACING OF ROADS (After 1st 5 years of 1st Phase & Next 5 years in 2nd Phase)	
			1073.52 Tos
		TOTAL	~~923.40~~

Cost Per Acre = Rs. 1073.52 ~~923.40~~ Lacs / 9.731 = 110.32 ~~94.90~~ Lacs Per Acre

AUTHORISED SIGNATORY

Superintending Engineer,
HSVP, Circle-I, Gurugram.

Checked subject to Comments in forwarding letter No. 233791 Dt. 28/08/2024 and notes attached with the estimate

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

Executive Engineer
HSVP Division No. V,
Gurugram

C/S

Director
Town & Country Planning
Haryana, Chandigarh

SUB WORK NO. 1 (Abstract of cost) WATER SUPPLY SCHEME

SR. NO.	SUB WORK	DESCRIPTION	AMOUNT (Rs. In Lacs)
			57.75
1	Sub Head No. 01	Head Works	~~39.45~~
			30.70
2	Sub Head No. 02	Pumping Machinery	~~24.30~~
			46.92
3	Sub Head No. 03	Water Supply Distribution & Rising main pipe	~~43.37~~
4	Sub Head No. 04	External Fire Hydrants	3.82
			2.28
6	Sub Head No. 05	Irrigation	~~2.60~~
			141.47
		TOTAL	~~113.54~~
		Add 3% contingency & P.E. Services	~~3.41~~ 4.24
		Total	~~116.95~~ 145.71
		Add 49% Department charges + Price Escalation	~~57.30~~ 71.39
		G. Total	~~174.25~~ 217.10
		Say in Lacs	~~174.25~~ 217

(C.O. to Final Abstract Of Cost)

SUB WORK NO. I **WATER SUPPLY**
Sub Head No. 01 **Head Works**

Sr. NO.	Description	Amount in Rs.
1	Construction of U.G. tanks and Fire Tank Including pipes, valve & Specials. 440 KLD @ Rs. 4500/- per K.L.D (230KL+70KL)	~~1980000.00~~ 16.50 lacs
	230 KLD Storage att S.T.P. @ Rs. 4500/- per KLD	~~1035000.00~~ 8.25 lacs
2	Provision for construction of Boosting Station 1 Nos @ Rs. 250000/- each (L.S.)	~~250000.00~~ 4.00 lacs
3	Boring and installing tube well reverse rotary rig complete with pipes and strainer to a depth of about 120 Mtr complete in all respect. 1 Nos @ Rs. 1500000/- each	~~500000.00~~ 15.00 lacs
4	Provision for construction of tube well chamber size 1.50m x 1.50m complete in all respect. 1 Nos @ Rs. 80000/- each	80000.00
		1.00 lacs
5	Provision for carriage of material and unforeseen items L.S.	~~50000.00~~
	boundary wall around the T.W side & water works	3.00 lacs
6	Provision of specials for tube well & rising main to UGT L.S. (L.S.)	~~50000.00~~
7	Prov. for footpath, Hedges and lawn at T.W (L.S.)	1.50 lacs
8	Prov. for Cond. of staff Total (L.S.)	7.50 lacs
		~~3945000.00~~
	Say in Lacs	~~39.45~~ 57.75 lacs

(C.O. to Abstract of cost of Sub Work No. I)

SUB WORK NO. 1 WATER SUPPLY
Sub Head No. 02 Pumping Machinery

Sr. NO.	Description	Amount in Rs.
1	Providing and installing Hydro pneumatic pumping set of following capacities for domestic water Supply with specials	4.50 lacs
	7.00 lps at 45 mts head - 3 No. (2W+1SB) - @ Rs. ~~80,000~~/- each Set (7.50HP)	~~240000.00~~
2	Providing and installing Hydro Pneumatic pumping set of following capacities for Flushing water supply & irrigation etc.	3.00 lacs
i	4.00 lps at 45 mts head - 3 No. (2W+1SB) @ Rs. ~~60,000~~/- 1 Set (5.00 HP each)	~~180000.00~~
ii	3.00 lps at 35 mts head - 2 No. (1W+1SB) @ Rs. ~~40,000~~/- 1 Set (3.00 HP each)	1.20 lacs ~~40000.00~~
3	Providing and installing Submersible pump for tube wells with specials	2.00 lacs
	4.50 lps at 98 mts head - 1 Nos (1W) @ Rs. ~~1,20,000~~/- 1 Set (10HP each)	~~120000.00~~
4	Provision for ESS (Electric Panel Foundation) L.S.	150000.00
5	Provision for D.G. Set for stand by arrangement for all machinery (40 KVA + 20 KVA) = 1 No.60 KVA @ Rs. 12,00,000/- each	1200000.00
6	Provision for making foundations & erection of pumping machinery	150000.00
7	Provision for pipes, valve & specials inside boosting chamber L.S.	200000.00
8	Provision for electric services connection including electric fittings for boosting chambers and pump chamber etc. Incl. Cost of Transformer	~~100000.00~~ 2.50 lacs
9	Provision for carriage of materials and other unforeseen items L.S.	50000.00
	Total	~~2430000.00~~
	Say in Lacs	~~24.30~~ 30.70 lacs

(C.O. to Abstract of cost of Sub Work No. I)

SUB WORK NO. 1 **WATER SUPPLY**

Sub Head No. 03 **Water Supply Distribution & Rising Main Pipe**

Sr.	Description	Amount in Rs.
1	Providing, laying, jointing & testing pipe lines including cost of excavation etc. complete in all respects (Dosso + Flushtory + Rising mains)	
i)	100mm dia D.I. Pipe 1736 Mtr @ Rs. 1475/- Per Mtr	2560600.00
ii)	150mm i/d D.I. Pipes -448 Mtr @ Rs. ~~1875/-~~ Per Mtr 2040/-	~~840000.00~~ 9.14 lacs
iii)	200mm i/d D.I. Pipes 47 Mtr @ Rs. ~~2475~~/- per mtr 2700/-	~~116325.00~~ 1.27 lacs
2	Providing and fixing sluice valve including cost of surface box and masonry chamber etc. complete in all respect	1.80 lacs
	a) 100mm i/d 15 No. @ Rs. 10000/- each	~~150000.00~~
	b) 150mm i/d 8 No. @ Rs. 15000/- each	120000.00
	c) 200mm i/d 2 No. @ Rs. 25000/- each	~~5~~0000.00
3	Providing and fixing indicating plates for sluice valve 25 No. @ Rs. 2000/-	50000.00
4	Providing and fixing air valve and score valve etc. L.S.	50000.00
5	Provision for carriage of materials and other unforeseen items	50000.00
6	Provision for making connection with HSVP Pipe & T.W's etc.	300000.00
7	Provision for cutting the road and making good the same	250000.00
		46.92 lacs
	Total	~~4336925.00~~
	Say in Lacs	~~43.37~~

(C.O. to Abstract of cost of Sub Work No. I)

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SUB WORK NO. 01 **WATER SUPPLY**

SUB HEAD NO. 04 **EXTERNAL FIRE HYDRANTS**

Sr.	Description	Amount in Rs.
1	Providing, Laying, jointing and testing D.I./ K7 Pipes for fire rising main including cost of fittings, valves, connection etc. complete in all respect	
a)	100mm dia - 84 M @ Rs. 1475/- Per Mtr	123900.00
2	Providing and fixing fire Hydrant with accessories 14 No. @ Rs. 15000/- each	210000.00
3	Providing and fixing indicating plate -14 No. @ Rs. 2000/- each	28000.00
4	Provision for carriage of material L.S.	20000.00
	Total	**381900.00**
	Say In Lacs	**3.82** Lacs

(C.O. to Abstract of cost of Sub Work No. I)

SUB WORK NO. 01 **WATER SUPPLY**

SUB HEAD NO. 05 **IRRIGATION**

Sr. NO.	Description	Amount in Rs.
1	Providing, Laying, jointing and testing UPVC pipe lines suitable for 6 kg pressure including cost of fittings, valves, connection etc. complete in all respect	0.48
a)	25mm dia - 160 M @ Rs. 300/- Per Mtr	~~80000.00~~
2	Providing and fixing 25mm dia, Irrigation hydrant valve complete in all respect 20 Nos @ Rs. 5000/- each	100000.00
3	Provision for carriage of materials and other unforeseen items L.S.	10000.00
4	Provision for indicating plate with safety box etc. complet in all respect 20 Nos @ Rs. 2000/- each	40000.00
5	Provision for road cutting and making it condition as original L.S.	30000.00
	Total	~~260000.00~~
	Say in Lacs	~~2.60~~ 2.28 lacs

(C.O. to Abstract of cost of Sub Work No. I)

SUB WORK NO. II **SEWERAGE SCHEME**

Sr.	Description	Amount in Rs.
1	Providing, jointing, cutting and testing stoneware pipe grade A and lowering into trenches including cost of excavation, bed concrete, cost of manholes etc. complete 1700/-	13.55 lacs
	a) SW Pipe 200mm i/d avg. depths 0 - 2.00M 797M @ Rs. ~~2270~~/- per Mtr	~~1809190.00~~
	b) SW Pipe 250mm i/d avg depth 2.00 M 162 M @ Rs. ~~2430~~/- per Mtr 2000/-	~~393660.00~~ 3.24
	c) SW Pipe 300mm i/d avg depth 2.75 M 48 M @ Rs. ~~2700~~/- per Mtr	~~129600.00~~
	2880/-	1.38 lacs
2	Providing, laying, jointing & testing pipe lines including cost of excavation etc. complete in all respect - 150mm dia Heavy Class DI pipes (overfow for STP) 2040/-	2.35 lacs
	a) 150MM i/d D.I. Pipe - 115 M @ Rs. ~~1875~~/- Per Mtr	~~215625.00~~
		5.00 lacs
3	Provision of lighting and watching etc. and vent pipe as per P.H	~~50000.00~~
	Req. at suitable Places	
4	Provision for cartage of material & other unforseen items (LS)	250000.00
5	Provision for making connection with HSVP	300000.00
6	Provision for construction of Sewerage Treatment Plant (STP) including the cost of tertiary treatment level with recycling storage tank and machinery with all arrangement etc. complete in all respec. 470 KLD or (0.47 MLD) Capacity @ Rs. 16000/- per KLD	7520000.00
		2.00 lacs
7.	Prov. for cutting of Roads & making good to its original condition (LS)	~~10568075.00~~ 107.22 lacs
	Add 3% contingency & P.E. Services	~~317042~~ 3.22 lacs
	Total	~~10885117~~
	Add 49% Department charges + Price Escalation	~~5333707~~ 110.44 lacs
	G. Total	~~16218825~~ 54.11 lacs
	Say in Lacs	~~162.19~~ 164.55 lacs

(C.O. to Final Abstract of Cost)

SUB WORK NO. III **STORM WATER DRAINAGE SCHEME**

Sr.	Description	Amount in Rs.
1	Providing, lowering, laying, jointing RCC pipe class Np3 with cement joint,	31.33
	a) RCC Np3 pipe 400mm i/d = 853 M @ Rs. ~~2950~~/- Per Mtr 2500	~~2516350.00~~
2	Provision for Rain Water Harvesting arrangement including the cost of screening chamber and pit with all type of pipes and other material etc. complete in all respect as per standard drawing and bore upto requirement of site etc. 10 Nos RWH @ Rs.3,50,000/- each	3500000.00
		5.00 lacs
3	Provision for road gulley & pipe with connection	~~1000000.00~~
4	Provision for lighting and watching	180000.00
5	Provision for timbering and shoring	~~40000.00~~
		10.00 lacs
6	Provision for cartage of material & other unforseen items (L.S)	~~50000.00~~
	cutting of roads & making good to its in original	
7	Provision for making connection with HSVP storm water drain	300000.00
8	Prov. for temporary disposal arrangements till HSVP Services are Provide	10.00 lacs
	Total (L.S)	~~7456350.00~~ 86.33 lacs
	Add 3% contingency & P.E. Services	~~223690.50~~ 2.59 lacs
	Total	~~7680040.50~~ 88.92 lacs
	Add 49% Department charges + Price Escalation	~~3763219.85~~ 43.58 lacs
	G. Total	~~11443260.35~~
	Say in Lacs	~~114.44~~ 132.50 lacs

(C.O. to Final Abstract of Cost)

Sub Work No. IV ROAD AND FOOTPATH

S. No.	Description	Unit	Qty	Rate (In Rs.)	Amount (In Rs.)	
1	Provision for leveling & earth filling as per site conditions	Per Acre	9.731	~~150000~~ 1.75 lacs	~~1459650~~ 17.03 lacs	
2	i) Providing and laying Bituminous road (250mm GSB, 250mm WMM, 50mm DBM, 30mm BC).	Sqm	6610	1500	~~7932000~~ 99.15	
3	Provision for kerbs & channels of C.C. 1.2:4	Metre	~~2250~~ 2300	600	1380000	
4	Provision for arrangement of guide map and indicating board etc.	LS			300000	
5	Provision for footpath with 100mm thick PCC under pavement cement concrete of specified grade 1:4:8 and Interlocking tile 80mm thick etc. complete in all respact. (24m wide road)	Sqm	~~1380~~ 250	1800/-	~~1104000~~ 2.50 lacs	
6	Prov. for Traffic Light Control	(LS)			LS 2.00 lacs	
7	Prov. for Pavement in Comm. area i.e 30% of the area 1575.05/2		7905 sqm	150/ sqm	11.85 lacs	
8	Provision for carriage of material & other unforseen items	LS			100000	
	Sub Total				~~12245650~~	154.33 lacs
	Add 3% contingencies & P.E. Services				~~367370~~	4.63 lacs
	Sub Total				~~12613020~~	158.96 lacs
	Add 49% Departmental Charges + Price Escalation				~~6180380~~	77.89 lacs
	Total				~~18793399~~	
	Say Rs. In Lacs				~~187.94~~	236.85 lacs

(C.O. to Final Abstract of cost)

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Sub Work No. V STREET LIGHTING

S. No.	Description	Unit	Qty	Rate (In Rs.)	Amount (In Rs.)
1	Provision for Street Lighting at surrounding area as per standard specifications of HVPN etc. complete	Acre	9.731	250000	~~1459650~~ 24.33
	Add 3% contingencies & P.E. Services				~~43790~~ 0.72
	Total				~~1503440~~ 25.05 lacs
	Add 49% Departmental Charges + Price Escalation				~~736685~~ 12.27 lacs
	Total				~~2240125~~ 37.32 lacs
	Say Rs. In Lacs				~~22.41~~ Rs 37.32 lacs

(C.O. to Final Abstract of cost)

Sub Work No. VI HORTICULTURE

S. No.	Description	Unit	Qty	Rate (In Rs.)	Amount (In Rs.)
1	Development of Lawn Areas				
a.	Trenching of ordinary soil upto depth of 60 cm i/c removal & stacking of serviceable material & disposing by spreading and levelling within a lead of 50 M and making up the trench area for proper levels by filling with earth or earth mixed with manure before and after flooding trench with water i/c cost of imported earth and manure with all fitting and valve etc. complete				
b.	Rough dressing of turfed area				
c	Grassing with "Cynadon dactylon" i/c watering and maintenance of lawns for 30 days till the grass forms a thick lawn, free from weeds and fit for moving in row 7.5 cm part in eighter direction				
d	organized green 3001.44 Sqm Or 0.75 Acres (As per detail given in green park area calculation)	Acre	0.75	150000	112500
2	Providing and planting both side trees along road boundary @ 12 m interval (Length appx ~~2250~~ 2300 M) =~~2250~~ 2300/12 = ~~250~~ Nos 191.66 Say No. of trees = ~~250~~ 350 Nos Cost details : Excavation = Rs. 60 Manure = Rs. 90 Tree Plant & Guard (160+1000) = Rs. ~~1650~~ 2160 Total Rs. = Rs. ~~1800~~ 2310			2310	4.62 lacs
		Each	250	~~1800~~	~~450000~~
	Total				~~562500~~ 5.75 lacs
	Add 3% contingencies & P.E. Services				~~16875~~ 0.17 lacs
	Total				~~579375~~ 5.92 lacs
	Add 49% Departmental Charges + Price Escalation				~~283894~~ 2.90 lacs
	Total				~~863269~~ 8.82 lacs
	Say Rs. In Lacs				~~8.64~~
					8.82 lacs

(C.O. to Final abstract of cost)

Sub Work No. VII **Mtc. Of services & Resurfacing of Road**

S. No.	Description	Unit	Qty	Rate (In Rs.)	Amount (In Rs.)
1	Mtc. Of water supply, sewer, storm water drain, roads, street light, hort. Etc. for period of 10 years including operation charges full establishment etc. complete in all respects ~~9.731 acres @ Rs. 7.50 lacs per acre~~	Acre	9.731	~~750000~~ 8.00 lacs	~~7298250~~ 77.85 lacs
2	Provision for resurfacing of roads after 5 years of 1st phase with provision of 50mm thick DBM including leveling coarse and 30mm BC as per crust design whichever is safer	Sqm	6610 + 250 = 6860	~~600~~ 660/-	~~3966000~~ 45.28 lacs
3	2nd phase after next five years of 1st phase (50mm DBM & 30mm BC or as per crust design whichever is safer	Sqm	6610 + 250 = 6860	~~800~~ 825/-	56.96 lacs ~~6288000~~
	Sub Total				~~16552250~~ 180.09 lacs
	Add 3% contingencies & P.E. Services				~~496568~~ 5.40 lacs
	Sub Total				~~17048818~~
	Add 49% Departmental Charges				~~8353921~~ 85.49 lacs
	Total				~~25402738~~ 90.89 lacs
	Say Rs. In Lacs				~~254.03~~ 276.38 lacs

(C.O. to Final abstract of cost)

SUMMARY OF DESIGN REQUIREMENT

S. No.	Description	Qty	Unit
1	Total Population	3114	Persons
2	Total Water Requirement (Domestic)	369	KLD
3	Total Water Requirement (Flushing)	148	KLD
4	Total Water Requirement (Horticulture)	40	KLD
5	U. G Tank (Domestic - 310 KLD)	1	No.
6	U. G Tank (Fire - 60 KLD)	1	No.
7	No. of Domestic WS pumps UGT	2+1	Set
8	No. of Flushing pumps	2+1	No.
9	No. of submersible pumps	1	No.
10	Generating sets (40 KVA + 15 KVA)	1 + 1	40 + 20 KVA
11	STP (470 KLD)	1	No.
12	Surplus Sewage Treated water	249	KLD
13	Storage of Sewage Treated water (S.T.P.)	230	KLD
14	Total no. of Plots	173	No.

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TOTAL MATERIAL STATEMENT FOR WATER SUPPLY i.e. DOMESTIC, FLUSHING & RISING MAIN ETC.

S. No.	Description	Size of pipe upto valve in 80mm	Size of pipe upto valve in 100mm	Size of pipe upto valve in 150mm	Size of pipe upto valve in 200mm	Size of pipe upto valve in 250mm
1	Domestic	-	763 M	231 M	47 M	0
2	Flushing	-	852 M	217 M	0	0
3	Rising Main	-	121 M	0	0	0
	Total	-	**1736 M**	**448 M**	**47 M**	**0**

MATERIAL STATEMENT (DOMESTIC WATER SUPPLY)

S. No.	Line Designation		Size of Pipe Provided	Length of Pipe (Mtr)	Length in Mtr			
	From	To			250MM	200MM	150MM	100MM
1	UGT	A	200	22		22		
2	A	B	200	25		25		
3	B	C	150	38			38	
4	C	D	150	20			20	
5	D	E	150	54			54	
6	E	F	150	48			48	
7	F	G	150	71			71	
8	G	H	100	58				58
9	H	I	100	39				39
10	I	J	100	28				28
11	A	B1	100	148				148
12	B	B1	100	124				124
13	B1	B2	100	55				55
14	C	C1	100	67				67
15	D	D1	100	20				20
16	F	F1	100	39				39
17	G	G1	100	77				77
18	H	H1	100	98				98
19	I	I1	100	10				10
	Total			**1041**	**0**	**47**	**231**	**763**

Dom + Flushing Total

200mm i/d Pipe Length	47 mtr	+ —	= 47m
150mm i/d Pipe Length	231 mtr	+ 217m	= 448m
100mm i/d Pipe Length	763 mtr	+ 852m & 121	= 1736m
Total	1041 mtr		

MATERIAL STATEMENT (FLUSHING WATER SUPPLY)

S. No.	Line Designation		Size of Pipe Provided	Length of Pipe (Mtr)	Length in Mtr		
	From	To			200MM	150MM	100MM
1	STP	a	150	29		29	
2	a	b	150	25		25	
3	b	c	150	48		48	
4	c	d	150	17		17	
5	d	e	150	54		54	
6	e	f	150	44		44	
7	f	g	100	71			71
8	g	h	100	58			58
9	h	i	100	39			39
10	i	j	100	35			35
11	a	b1	100	148			148
12	b	b1	100	124			124
13	b1	b2	100	48			48
14	c	c1	100	74			74
15	d	d1	100	17			17
16	f	f1	100	32			32
17	g	g1	100	84			84
18	h	h1	100	105			105
19	i	i1	100	17			17
	Total			**1069**	**0**	**217**	**852**

150mm i/d Pipe Length 217 mtr
100mm i/d Pipe Length 852 mtr
Total 1069 mtr

MATERIAL STATEMENT FOR BOREWELL RISING MAINS AND HUDA MAIN

S. No.	Name of Line		Size of Pipe Provided	Length of Pipe (Mtr)	Length in Mtr		
	From	To			100mm	150mm	
1	T.W.	UGT	100	6	6		
2	HSVP Line	UGT	100	115	115		
	Total			**121**	**121**	**0**	

MATERIAL STATEMENT FOR SEWERAGE SCHEME

S. No.	Line No.		Length (In Mtr)	Pipe Dia	Length in Mtr			
					200mm i/d	250mm i/d	300mm i/d	400mm i/d
	From	To			0 to 2.00 Mtr	0 to 2.50 Mtr	0 to 2.75 Mtr	0 to 3.00 Mtr
1	A	B	105	200	105			
2	B2	B1	34	200	34			
3	B3	B1	15	200	15			
4	B1	B	38	200	38			
5	B	C	60	200	60			
6	C1	C	82	200	82			
7	C	D	70	200	70			
8	D1	D	34	200	34			
9	D	E	95	250		95		
10	E	F	20	250		20		
11	F1	F	70	200	70			
12	F	G	47	250		47		
13	G1	G	174	200	174			
14	G	H	25	300			25	
15	H1	H	115	200	115			
16	H	STP	23	300			23	
17	STP - HUDA / Sewer By Pumping 150mm i/d D.I. Pipe = 115 Mtr					-	-	-
	Total		**1007**		**797**	**162**	**48**	**0**

200mm i/d Pipe Length 797 Mtr
250mm i/d Pipe Length 162 Mtr
300mm i/d Pipe Length 48 Mtr
150mm i/d D.I./HDPE Pipe (By Pumping) = 115 Mtr

MATERIAL STATEMENT OF STORM WATER DRAINAGE SCHEME

Sr. No.	Line Reference		400mm i/d RCC Np3 Pipe	450mm i/d RCC Np3 Pipe
			Length in Mtr	Length in Mtr
	From	To		
1	A	B	~~98~~ 70	
2	B1	B	~~70~~ 98	
3	B	C	58	
4	C1	C	78	
5	C	D	75	
6	D1	D	38	
7	D	GOVT SWD LINE	60	
8	F	G	180	
9	G1	G	148	
10	G	GOVT SWD LINE	48	
	Total Length		853	

Total Length 400mm i/d RCC Np3/DWC pipe = 853 Mtr

Total Rain Water Harvesting (RWH) = 10 Nos

Material Statement of Road Works

Sr. No.	Road No.	Road Width	Length	Width	Area	
1	1	9.00	232.00	5.50	1276.00	Sqm
2	2	9.00	143.00	5.50	786.50	Sqm
3	3	9.00	40.00	5.50	220.00	Sqm
4	4	9.00	112.00	5.50	616.00	Sqm
5	5	9.00	38.00	5.50	209.00	Sqm
6	6	9.00	205.00	5.50	1127.50	Sqm
7	7	9.00	105.00	5.50	577.50	Sqm
8	8	9.00	29.00	5.50	159.50	Sqm
9	9	24.00	94.00	2 X 7.00	1316.00	Sqm
	G. Total		**998.00**		**6288.00**	Sqm
Add 5% extra for curves					314.40	Sqm
Total					**6602.40**	**Sqm**
				Say	**6610.00**	**Sqm**

(24m)

ii) Kerbs & Channels

i)	9.00 Mtr wide road (2 x 904)		1808 Mtr
ii)	24.00 Mtr wide road (2 x 2 x 94)		376 Mtr
		Total	**2184 Mtr**
	Add 5% for curves		109 Mtr
		G. Total	**2293 Mtr**
		Say	~~2293~~ **Mtr** 2300

II) Footpath :-

~~(i) 9M wide road = 904 M x 1.20M = 1084.80 Sqm~~

(ii) 24 M wide road = 94 M x 2 x 1.20M = 225.60 Sqm

Total = ~~1310.40~~ Sqm 1.24

Add 5% for curves = ~~65.52~~ Sqm

Total = ~~1375.92~~ Sqm

236.88

Say ~~1380~~ Sqm

250

MATERIAL STATEMENT (FIRE HYDRANT)

i) Length of Water Supply (Domestic) = 1041 Mtr
ii) Length of 100mm i/d F.H. = 14 X 6 = 84 Mtr
iii) Nos of F.H. = 34 Nos

Note : Fire Hydrant considering @ 80 Mtr /each in Domestic Water Supply line
= 1041 / 75 = 14 Nos

SUBHEAD : IRRIGATION WATER SUPPLY SCHEME - DESIGN CALCULATION (HORTICULTURE)

HYDRAULIC STATEMENT OF IRRIGATION WATER SUPPLY

S. No.	Line Reference	Requirement	Peak Flow in LPH	Velocity (m/s)	Size of the pipe required (in mm)	Size of the Pipe Recommend (mm)	Hydraulic Radius	Total Friction Loss in m/m	Length (M)	Loss of Head in Line (M)	Formation Level	Available head (M)
1	From Flushing Water Supply line	40 K.L.	-	-	25.00	25	-	-	160	-	-	-

Note :- **20 Nos connections are to be done from flushing water supply line i.e. 20 Nos x 8 Mtr/each =160 Mtr for 25mm i/d**

HYDRAULIC STATEMENT OF WATER SUPPLY (DOMESTIC)

SUBHEAD : DOMESTIC WATER SUPPLY SCHEME - DESIGN CALCULATION

S. No.	Line Reference		Type of Colony	Residential Plots			Population @ 18.00 Person per plot	Water Requirement @ 155.25 LPCD	Other Water Requirement i.e. Comm. / Community building / Milk booth/ other services	Total Water Requirement in LPD	Water Requirement @ 67% of total water requirement	Peak Flow in LPH	Velocity (m/s)	Size of the pipe in (mm)	Total Friction Loss in M/M	Length in (M)	Loss of Head in Line (M)	Formation Level at Lower End	Available Head at Lower end (M)	Terminal Head (M)	Remarks
	From	To		Self	Branch	Total			in LPD												
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1	UGT	A	Plotted Res.	2	171	173	3114.00	483449	58005	541453.50	362774	136040	0.49	200	0.002	32	0.04	239.40	284.42	45.02	Formation Level at Water Works i.e. UGT = 239.40M Boosting Head = 45.00 M Hydraulic Head = 284.46 M
2	A	B	--do--	5	140	145	2574.00	399614	53605	452618.50	303254	113720	0.40	200	0.002	35	0.05	239.34	284.37	45.03	
3	B	C	--do--	4	112	116	2088.00	324162	24335	348497.00	233493	87560	0.62	150	0.005	38	0.19	239.28	284.18	44.90	
4	C	D	--do--	0	103	103	1854.00	287834	24335	312168.50	209153	78432	0.43	150	0.003	28	0.08	239.30	284.12	44.82	
5	D	E	--do--	6	94	100	1800.00	279450	24335	303785.00	203538	76326	0.45	150	0.003	54	0.16	239.28	283.96	44.68	
6	E	F	--do--	7	87	94	1692.00	262683	24335	287018.00	192302	72113	0.43	150	0.003	48	0.14	239.28	283.82	44.54	
7	F	G	--do--	6	71	77	1386.00	215177	24335	239511.50	160473	60177	0.38	150	0.002	71	0.14	239.40	283.68	44.28	
8	G	H	--do--	9	39	48	864.00	134136	24335	158471.00	106176	39816	0.47	100	0.005	58	0.29	239.40	283.39	43.99	
9	H	I	--do--	6	13	19	342.00	53096	0	53096.50	35578	13340	0.23	100	0.001	39	0.04	239.50	283.35	43.85	
10	I	J	--do--	10	0	10	180.00	27945	0	27945.00	18729	7021	0.16	100	0.001	28	0.03	239.55	283.32	43.77	
11	A	B1	--do--	28	0	28	504.00	78246	5000	83246.00	55775	20916	0.31	100	0.002	148	0.30	239.49	284.12	44.63	
12	B	B1	--do--	16	8	24	432.00	67068	28870	95738.00	64144	24054	0.34	100	0.003	124	0.37	239.49	284.00	44.51	
13	B1	B2	--do--	8	0	8	144.00	22356	28870	51226.00	34187	12820	0.23	100	0.001	55	0.06	239.60	283.94	44.34	
14	C	C1	--do--	9	0	9	162.00	25151	0	25150.50	16851	6319	0.16	100	0.001	67	0.07	239.23	284.11	44.88	
15	D	D1	--do--	3	0	3	54.00	8384	0	8383.50	5617	2106	0.16	100	0.001	20	0.02	239.30	284.10	44.80	
16	F	F1	--do--	10	0	10	180.00	27945	0	27945.00	18725	7021	0.16	100	0.001	59	0.04	239.36	283.78	44.42	
17	G	G1	--do--	23	0	23	414.00	64274	0	64273.50	43063	16149	0.23	100	0.001	77	0.08	239.50	283.60	44.10	
18	H	H1	--do--	20	0	20	360.00	55890	24335	80225.00	53751	20157	0.31	100	0.001	88	0.20	239.60	283.19	43.59	
19	I	I1	--do--	3	0	3	54.00	8384	0	8383.50	5617	2106	0.16	100	0.001	10	0.01	239.55	283.34	43.79	

HYDRAULIC STATEMENT OF WATER SUPPLY (FLUSHING) RECYCLING OF TREATED SEWAGE WATER

SUBHEAD : FLUSHING WATER SUPPLY SCHEME - DESIGN CALCULATION

S. No.	Line Reference		Type of Colony	Residential Plots			Population @ 18.00 Person per flat	Water Requirement @ 155.25 LPCD	Other Water Requirement i.e. Commercial, Community Centre / booth/other in LPD	Total Water Requirement in LPD	Water Requirement @ 33% of total water requirement	Peak Flow in LPH	Velocity (m/s)	Size of the pipe in (mm)	Total Friction Loss in M/M	Length in (M)	Loss of Head in Line (M)	Formation Level at Lower End	Available Head at Lower end (M)	Terminal Head (M)	Remarks
	From	To		Self	Branch	Total															
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1	STP	a	Plotted Res.	2	171	173	3114.00	483449	58005	541454	178680	67004	0.62	150	0.005	29	0.15	239.40	284.31	44.91	Formation Level at STP = 239.46 M
2	a	b	-do-	3	140	143	2574.00	399614	53005	452619	149364	56011	0.36	150	0.002	25	0.05	239.34	284.26	44.92	Boosting Head = 45.00 M
3	b	c	-do-	4	112	116	2088.00	324162	24335	348497	115004	43126	0.34	150	0.002	48	0.10	239.28	284.16	44.88	Flushing Hydraulic Head at STP = 284.46 M
4	c	d	-do-	0	203	103	1854.00	287834	24335	312169	103016	38631	0.29	150	0.001	17	0.02	239.30	284.14	44.84	
5	d	e	-do-	6	94	100	1800.00	279450	24335	303785	100249	37593	0.27	150	0.001	54	0.05	239.28	284.09	44.81	
6	e	f	-do-	7	87	94	1692.00	262683	24335	287018	94716	35518	0.27	150	0.001	44	0.04	239.28	284.05	44.77	
7	f	g	-do-	6	71	77	1386.00	215177	24335	239513	79039	29639	0.47	100	0.005	71	0.36	239.40	283.69	44.29	
8	g	h	-do-	9	39	48	864.00	134136	24335	158471	52295	19611	0.39	100	0.003	58	0.17	239.40	283.52	44.12	
9	h	i	-do-	6	13	19	342.00	53096	0	53096	17522	6571	0.16	100	0.001	39	0.04	239.50	283.48	43.98	
10	i	j	-do-	10	0	10	180.00	27945	0	27945	9222	3458	0.16	100	0.001	55	0.04	239.55	283.46	43.91	
11	a	b1	-do-	28	0	28	504.00	78246	5000	83246	27471	10302	0.20	100	0.001	168	0.15	239.49	284.16	44.67	
12	b	b1	-do-	16	8	24	432.00	67068	28670	95738	31594	11847	0.23	100	0.001	124	0.12	239.49	284.26	44.77	
13	b1	b2	-do-	8	0	8	144.00	22356	28670	51026	16839	6314	0.30	100	0.001	48	0.05	239.60	284.21	44.61	
14	c	c1	-do-	9	0	9	162.00	25151	0	25151	8300	3112	0.14	100	0.001	74	0.07	239.25	284.04	44.81	
15	d	d1	-do-	3	0	3	54.00	8384	0	8384	2767	1037	0.16	100	0.001	17	0.02	239.80	284.12	44.32	
16	f	f1	-do-	10	0	10	180.00	27945	0	27945	9222	3458	0.16	100	0.001	32	0.03	239.36	284.02	44.66	
17	g	g1	-do-	23	0	23	414.00	64274	0	64274	21210	7954	0.20	100	0.001	84	0.08	239.50	283.61	44.11	
18	h	h1	-do-	20	0	20	360.00	55890	24335	80225	26474	9928	0.23	100	0.001	105	0.11	239.60	283.41	43.81	
19	i	i1	-do-	3	0	3	54.00	8384	0	8384	2767	1037	0.16	100	0.001	57	0.03	239.55	283.46	43.91	

DESIGN STATEMENT OF SEWERAGE SCHEME

SUBHEAD : SEWERAGE SCHEME - DESIGN CALCULATION

S. No.	Line Reference		Type of Colony	Residential Plots			Population @ 18.00 Person per plot	Water Requirement @ 155.25 LPCD	Other Requirement (i.e. comm. / community building and other services	Total water requirement LPD	Sew. Quantity after evaporation losses @ 20% (in LPD)	Sewerage Discharge Peak Flow (cu/sec)	Size of pipe in (mm)	Gradient 1 in (n)	Velocity (m/sec)	Carrying capacity of pipe (m/sec)	Length in Mtr	Fall + Extra Fall in line due to slope (m)	Ground Level		Formation Level		Invert Level		Depth		
	From	To		Self	Branch	Total										m3 /sec			Start	End	Start	End	Start	End	Start	End	Average
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
1	A	B	Plotted Resi.	20	0	20	360.00	55890	24335	80225	64180	0.0022	200	225	0.76	0.012	105	0.47	219.25	219.20	219.60	219.45	218.40	217.93	1.20	1.52	1.36
2	B2	B1	-do-	10	0	10	180.00	27945	0	27945	22356	0.0008	200	225	0.76	0.012	24	0.11	219.02	219.21	219.35	219.50	218.35	218.24	1.20	1.26	1.23
3	B3	B1	-do-	3	0	3	54.00	8384	0	8384	6707	0.0002	200	225	0.76	0.012	15	0.07	219.22	219.21	219.55	219.50	218.35	218.28	1.20	1.22	1.21
4	B1	B	-do-	6	13	19	342.00	53096	0	53096	42476	0.0015	200	225	0.76	0.012	18	0.17	219.21	219.20	219.50	219.45	218.24	218.07	1.26	1.38	1.32
5	B	C	-do-	9	39	48	864.00	134330	24335	158671	126777	0.0044	200	225	0.76	0.012	60	0.27	219.19	219.21	219.40	219.40	217.93	217.66	1.52	1.74	1.63
6	C1	C	-do-	23	0	23	414.00	64274	0	64274	51419	0.0018	200	225	0.76	0.012	62	0.26	219.15	219.21	219.50	219.40	218.50	218.24	1.00	1.26	1.13
7	C	D	-do-	8	71	79	1422.00	220765	24335	245101	196080	0.0068	200	225	0.76	0.012	70	0.31	219.11	219.16	219.40	219.28	217.66	217.35 217.32	1.74	1.93	1.84
8	D1	D	-do-	18	0	18	188.00	27945	0	27945	22356	0.0008	200	225	0.76	0.012	44	0.19	219.12	219.16	219.36	219.28	218.36	218.21	1.00	1.07	1.04
9	D	E	-do-	34	69	103	1854.00	287824	24335	312159	249728	0.0086	250	385	0.76	0.019	95	0.31	219.16	219.12	219.38	219.30	217.32	217.01	1.96	2.29	2.13
10	E	F	-do-	0	103	103	1854.00	287824	24335	312159	249728	0.0086	250	385	0.76	0.019	20	0.07	219.12	219.13	219.30	219.28	217.01	216.94	2.29	2.34	2.32
11	F1	F	-do-	9	0	9	162.00	25151	0	25151	20120	0.0007	200	225	0.76	0.012	70	0.31	219.08	219.12	219.23	219.28	218.23	217.92	1.00	1.36	1.18
12	F	G	-do-	5	112	117	2106.00	326957	24335	351292	281033	0.0097	250	385	0.76	0.019	47	0.15	219.12	219.14	219.28	219.34	216.94	216.79 216.76	2.34	2.55	2.45
13	G1	G	-do-	21	0	21	414.00	64274	24335	92944	74355	0.0026	300	225	0.76	0.012	174	0.77	219.12	219.14	219.68	219.34	218.68	217.81	1.00	1.51	1.26
14	G	H	-do-	1	140	142	2556.00	396819	53095	449824	359859	0.0125	300	385	0.76	0.027	25	0.06	219.16	219.06	219.34	219.48	216.76	216.70	2.58	2.76	2.64
15	H1	H	-do-	28	0	28	504.00	78246	5809	88246	80597	0.0031	300	270	0.76	0.032	135	0.53	219.40	219.06	219.55	219.48	218.55	218.54	1.00	0.85	0.93
16	H	STP	-do-	3	170	173	3114.00	483684	58095	541854	433483	0.0150	300	385	0.76	0.027	21	0.06	219.06	219.15	219.48	219.45	216.70	216.64	2.76	2.82	2.76
17	STP	150 mm ϕ D.I. PIPE (BY PSSIDC)															115	0.50	216.56	218.12	218.46	219.82	217.46	216.96	2.00	2.36	2.17

DESIGN CALCULATION OF STORM WATER DRAINAGE SCHEME

INTENCITY OF RAIN FALL = 0.006 MTR /HR

IMPERMEABILITY FACTOR = 0.6

S. No.	Name of Node		Area (Self)	Area (Self)	Branch Area	Total Area	Total Area	Rain fall	Discharge @ 17.36 LPS/ Hector	Length	Pipe dia	Slope	Velocity	Cap. Of drain	Fall + Extra Fall	Ground Level		Formation Level		Invert Level		Depth of M.H's		Average Depth	Remarks
	From	To	IN SQM	In Acre	In Acre	In Acre	In Hector	mm / hr.	IN LPS	In Mtr	In mm	In Mtr	IN m/sec	IN LPS	IN Mtr	Start	End	Start	End	Start	End	Start	End		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
1	A	B	4200	1.04	0	1.04	0.42	6.00	7.29	98	400	570	0.76	98.57	0.17	239.25	239.20	239.60	239.45	238.10	237.93	1.50	1.52	1.51	RWH-1
2	B1	B	2560	0.63	0	0.63	0.26	6.00	4.45	70	400	570	0.76	98.57	0.12	239.22	239.20	239.55	239.45	238.55	238.43	1.00	1.02	1.01	RWH- 2
3	B	C	2880	0.71	1.67	2.38	0.96	6.00	16.71	58	400	570	0.76	98.57	0.10	239.20	239.21	239.45	239.40	237.93	237.83	1.52	1.57	1.54	RWH- 3
4	C1	C	3200	0.79	0	0.79	0.32	6.00	5.56	78	400	570	0.76	98.57	0.14	239.25	239.21	239.50	239.40	238.50	238.36	1.00	1.04	1.02	
5	C	D	5260	1.30	3.17	4.47	1.81	6.00	31.40	75	400	570	0.76	98.57	0.13	239.21	239.16	239.40	239.28	237.83	237.70	1.57	1.58	1.58	RWH-4
6	D1	D	1800	0.44	0	0.44	0.18	6.00	3.13	38	400	570	0.76	98.57	0.07	239.12	239.16	239.36	239.28	238.36	238.29	1.00	0.99	1.00	
7	D	GOVT SWD	3600	0.89	4.94	5.83	2.36	6.00	40.96	60	400	570	0.76	98.57	0.11	239.16	239.08	239.28	239.28	237.70	237.59	1.58	1.69	1.64	RWH-5 , RWH-6
8	F	G	5760	1.42	0	1.42	0.58	6.00	10.00	180	400	570	0.76	98.57	0.32	239.32	239.14	239.60	239.34	238.60	238.28	1.00	1.06	1.03	RWH-7 , RWH-8
9	G1	G	6084	1.50	0	1.50	0.61	6.00	10.56	148	400	570	0.76	98.57	0.26	239.40	239.14	239.55	239.34	238.55	238.29	1.00	1.05	1.03	RWH-9
10	G	GOVT SWD	3980	0.98	2.92	3.90	1.58	6.00	27.42	48	400	570	0.76	98.57	0.08	239.14	239.12	239.34	239.30	238.28	238.20	1.06	1.10	1.08	RWH-10

Directorate of Town & Country Planning, Haryana

Nagar Yojana Bhavan, Plot no. 3, Sector-18 A, Madhya Marg, Chandigarh
Web site tcpharyana.gov.in - e-mail: tcpharyana7@gmail.com

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FORM LC -V
(See Rule 12)

License No. 139 of 2023

This License has been granted under the Haryana Development and Regulation of Urban Areas Act 1975 & the Rules 1976 made there under to Himanshu Garg S/o Shri Nitanand Garg, Nitanand Garg S/o Late Shri Kashmiri Lal, Smt. Nirmal Garg W/o Shri Nitanand Garg, And Jyoti Garg W/o Himanshu Garg, House No. 248, Sector-5, Gurugram-122001 to set up an Affordable Plotted Colony (DDJAY) on the land measuring 9.731 acres in the revenue estate of village Pataudi, Sector-4 Pataudi, Gurugram.

1. The particulars of the land, wherein the aforesaid affordable residential plotted colony is to be set up, are given in the schedule of land annexed hereto and duly signed by the Director, Town & Country Planning, Haryana.

2. The Licence is granted subject to the following conditions:-

   a) That the affordable residential plotted colony will be laid out in confirmation to the approved layout/building plan and development works will be executed in accordance to the designs and specifications shown in the approved plans.

   b) That the licencee shall abide by the Deen Dayal Jan Awas Yojna policy dated 08.02.2016, subsequent amendments from time to time and other direction given by the Director time to time to execute the project.

   c) That the conditions of the agreements already executed are duly fulfilled and the provisions of Haryana Development and Regulation of Urban Areas Act, 1975 and the Rules 1976 made there under are duly complied with.

   d) That the licensee shall maintain and upkeep of all roads, open spaces, public park and public health services for a period of five years from the date of issue of the completion certificate unless earlier relieved of this responsibility and thereupon to transfer all such roads, open spaces, public parks and public health services free of cost to the Govt. or the local authority, as the case may be, in accordance with the provisions of Section 3(3)(a)(iii) of the Haryana Development and Regulation of Urban Areas Act, 1975.

   e) That the licensee shall integrate the services with Haryana Shahari Vikas Pradhikaran services as and when made available.

   f) That the licensee shall transfer 10% area of the licensed colony free of cost to the Government for provision of community facilities or develop such area on its own in accordance with clause 4(j) of policy dated 08.02.2016 amended vide notification dated 25.08.2022.

   g) That the licensee shall transfer the part of licenced land falling under sector road/green belt free of cost to the Govt. or the local authority, as the case may be, in accordance with the provisions of Section 3(3) (a) (iii) of the Haryana Development and Regulation of Urban Areas Act, 1975.

Director General
Town & Country Planning
Haryana, Chandigarh

h) That the licensee understands that the development/construction cost of 30 m/24 m/18 m major internal roads is not included in the EDC rates and they shall pay the proportionate cost for acquisition of land, if any, alongwith the construction cost of 30 m/24 m/18 m wide major internal roads as and when finalized and demanded by the Department.

i) That the licensee shall obtain NOC/Clearance as per provisions of notification dated 14.09.2006 issued by Ministry of Environment & Forest, Govt. of India, if applicable before execution of development works at site.

j) That the licensee shall make arrangements for water supply, sewerage, drainage etc to the satisfaction of DTCP till these services are made available from External Infrastructure to be laid by Haryana Shehri Vikas Pardhikaran or any other execution agency.

k) That the licencee shall pay the differential amount if there will be any change in the said rates from the original calculation required to be deposited as and when demanded by the Department as the EDC have been charged on the basis of EDC Indexation Mechanism Policy dated 11.02.2016.

l) That the licensee shall obtain clearance from competent authority, if required under Punjab Land Preservation Land Act, 1900 and any other clearance required under any other law.

m) That the rain water harvesting system shall be provided as per Central Ground Water Authority Norms/Haryana Govt. notification as applicable.

n) That the provision of solar water heating system shall be as per guidelines of Haryana Renewable Energy Development Agency and shall be made operational where applicable before applying for an Occupation Certificate.

o) That the licensee shall use only LED fitting for internal lighting as well as campus lighting.

p) That the licensee shall convey the 'Ultimate Power Load Requirement' of the project to the concerned power utility, with a copy to the Director, within two months period from the date of grant of license to enable provision of site in licensed land for Transformers/Switching Stations/Electric Sub Stations as per the norms prescribed by the power utility in the zoning plan of the project.

q) That it will be made clear at the time of booking of plots/commercial space that specified rates include or do not include EDC. In case of not inclusion of EDC in the booking rates, then it may be specified that same are to be charged separately as per rate fixed by the Govt. You shall also provide detail of calculation of EDC per Sqm/per Sft to the allottees while raising such demand from the plot owners.

r) That the licensee shall keep pace of development at-least in accordance with sale agreement executed with the buyers of the plots as and when scheme is launched.

s) That the licensee shall arrange power connection from UHBVNL/DHBVNL for electrification of the colony and shall install the electricity distribution infrastructure as per the peak load requirement of the colony for which

licencee shall get the electrical (distribution) service plan/estimates approved from the agency responsible for installation of external electric services i.e. UHBVNL/DHBVNL and complete the same before obtaining completion certificate for the colony.

t) That the licensee shall complete the project within seven years (5+2 years) from date of grant of license.

u) That the licensee will pay the labour cess as per policy instructions issued by Haryana Government.

v) That the licensee shall submit compliance of Rule 24, 26, 27 & 28 of Rules 1976 & Section 5 of Haryana Development and Regulation of Urban Areas Act, 1975, and shall inform account number and full particulars of the scheduled bank wherein licencee have to deposit thirty percentum of the amount received from the plot holders for meeting the cost of Internal Development Works in the colony.

w) That the licencee shall permit the Director or any other officer authorized by him to inspect the execution of the layout and the development in the works in the colony and to carry out all directions issued by him for ensuring due compliance of the execution of the layout and development works in accordance with the license granted.

x) That the licencee shall follow the provisions of the Real Estate (Regulations and Development) Act, 2016 and Rules framed there under shall be followed by the applicant in letter and spirit.

y) That you shall execute the development works as per Environmental Clearance and comply with the provisions of Environment Protection Act, 1986, Air (Prevention and Control of Pollution of Act, 1981) and Water (Prevention and Control of Pollution of 1974). In case of any violation of the provisions of said statutes, you shall be liable for penal action by Haryana State Pollution Control Board or any other Authority Administering the said Acts.

z) That you shall obey all the directions/restrictions imposed by the Department from time to time in public interest.

aa) That no clubbing of residential plots for approval of integrated zoning plan of two adjoining plots under same ownership shall be permitted.

bb) That the aforesaid licence is being granted by considering the commercial component with FAR of 1.5. In case, you want to avail additional FAR of 1.75 for commercial component, you shall deposit the additional amount of fee and charges.

3. The licence is valid up to 05-07-2028.

(T.L. Satyaprakash, IAS)
Director General,
Town & Country Planning
Haryana, Chandigarh

Dated: 06-07-2023
Place: Chandigarh

Endst. No. LC-5014-JE (DS)-2023/ 22264 Dated: 07-07-2023

A copy along with a copy of schedule of land is forwarded to the following for information and necessary action: -

1. Himanshu Garg S/o Shri Nitanand Garg, Nitanand Garg S/o Late Shri Kashmiri Lal, Smt. Nirmal Garg W/o Shri Nitanand Garg, And Jyoti Garg W/o Himanshu Garg, House No. 248, Sector-5, Gurugram-122001 and LC-IV, Bilateral agreement.
2. Chairman, Pollution Control Board, Haryana, Sector-6, Panchkula.
3. Chief Administrator, HSVP, Panchkula.
4. Chief Executive Officer, GMDA, Gurugram.
5. Chief Administrator, Housing Board, Panchkula alongwith copy of agreement.
6. Managing Director, HVPN, Planning Directorate, Shakti Bhawan, Sector-6, Panchkula.
7. Joint Director, Environment Haryana - Cum-Secretary, SEAC, Paryavaran Bhawan, Sector -2, Panchkula.
8. Director Urban Estates, Haryana, Panchkula.
9. Administrator, HSVP, Gurugram.
10. Chief Engineer, HSVP, Gurugram.
11. Superintending Engineer, HSVP, Gurugram along with a copy of agreement.
12. Land Acquisition Officer, Gurugram.
13. Senior Town Planner, Gurugram.
14. Senior Town Planner (Enforcement), Haryana, Chandigarh.
15. District Town Planner, Gurugram along with a copy of agreement & Layout Plan.
16. Chief Accounts Officer (Monitoring) O/o DTCP, Haryana.
17. Accounts Officer, O/o Director, Town & Country Planning, Haryana, Chandigarh along with a copy of agreement.
18. PM (IT) for updation on the website.

(R.S. Batth)
District Town Planner (HQ)
For Director General, Town & Country Planning,
Haryana, Chandigarh

To be read with License No.139...Dated.06-07...of 2023

Detail of land owned by Himanshu Garg S/o Nitanand Garg 629/869 share, & Nitanand Garg S/o Kashmirilal 160/869 share & Smt.Jyoti Garg w/o Himanshu Garg 80/869 share:-

Village	Rect. No.	Killa No.	Area (K-M)
Pataudi	101	6/2/2	2-19
		14/2/1	3-0
		14/2/2	3-4
		15/1/1	3-4
		16/2/2	1-12
		16/3	1-12
		17/1/1	0-7
		17/1/2	2-0
		24/2	4-0
		25/1/1	1-19
		25/2/1	1-5
	111	4/2/1	3-16
		5/1	2-3
		7/1/2	3-8
		14/2/1	4-4
		17/1/2	1-5
		249/2/1/2/1	3-11
		Total	**43-9**

Detail of land owned by Smt. Nirmal Garg w/o Nitanand Garg:-

Village	Rect. No.	Killa No.	Area (K-M)
Pataudi	111	13	8-0
		14/1	3-4
		17/2	2-1
		18/1	7-3
		Total	**20-8**

Detail of land owned by Himanshu Garg S/o Nitanand Garg:-

Village	Rect. No.	Killa No.	Area (K-M)
Pataudi	101	17/1/3	2-0
		24/1	4-0
	111	4/1	4-0
		7/2	4-0
		Total	**14-0**
		Grand Total	**77-17**

Or 9.731 acres

Director General
Town & Country Planning
Haryana, Chandigarh

Tel. : 2570982
Toll Free No. : 1800-180-3030
Website : www.hsvp.in
Email : cencrhuda@ gmail.com

हरियाणा शहरी विकास प्राधिकरण

HARYANA SHEHARI VIKAS PRADHIKARAN

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

CE-I No. 2377/1
Dated: 28/08/2024

Annexure-A

SUB:- Approval of service plan estimate for Affordable Plotted Colony (DDJAY-2016) over an area measuring 9.731 acres (License no. 139 of 2023 dated 06.07.2023) in the revenue estate of Village Pataudi, Sector-4, Pataudi Gurugram being developed by Himanshu Garg S/o Nitanand Garg, Nitanand Garg S/o Late Kashmiri Lal, Smt. Nirmal Garg W/o Nitanand Garg & Jyoti Garg W/o Himanshu Garg.

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.

Tel. : 2570982
Toll Free No. : 1800-180-3030
Website : www.hsvp.in
Email : cencrhuda@ gmail.com

हरियाणा शहरी विकास प्राधिकरण
HARYANA SHEHARI VIKAS PRADHIKARAN
Address: C-3, HSVP , HQ Sector-6
Panchkula

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 (W),
for Chief Engineer-I, HSVP,
Panchkula
28/8/14