WATER IS PRECIOUS

9.394 ACRE AFFORDABLE RESIDENTIAL PLOTTED COLONY (UNDER DDJAY) IN SECTOR 2, SOHNA

License no 197 of 2022 Dated 29.11.2022

M/S SU FARMS LLP in collaboration with Santur Builders Pvt. Ltd.

ESTIMATE FOR PROVIDING WATER SUPPLY, SEWERAGE, STORM WATER DRAINAGE, ROADS, STREET LIGHTING AND HORTICULTURE IN RESPECT OF 9.394 ACRE AFFORDABLE RESIDENTIAL PLOTTED COLONY (UNDER DDJAY) IN SECTOR 2, SOHNA

CONSERVE WATER

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PROJECT REPORT/ESTIMATE FOR PROVIDING WATER SUPPLY, SEWERAGE, STORM WATER DRAINAGE, ROADS, STREET LIGHTING AND HORTICULTURE IN RESPECT OF 9.394 ACRE AFFORDABLE RESIDENTIAL PLOTTED COLONY (UNDER DDJAY) IN SECTOR 2, SOHNA .

REPORT

The Haryana Government has prepared a master plan for development of Residential/Industrial / Commercial urban estate SOHNA . M/S SU FARMS LLP in collaboration with Santur Builders Pvt. Ltd. has decided to develop a part of the area in this master plan and has named this part as 9.394Acre Residential plotted colony . This scheme is located in sector –2 of HARYANA SHEHRI VIKAS PRADHIKARAN, SOHNA. License has already been granted by DTCP with License no 197 of 2022 Dated 29.11.2022.The brief details of the colony are as under:-

WATER SUPPLY

1 Source

The source of water supply in this area is tubewells at present as the underground water is potable and fit for human consumption. Moreover water is available at reasonable depth. The average yield of tubewell with 60-80 ft strainers will be about 25000 litre per hour. The recharging of underground water table in this belt is stated to be good. The number of tubewells required for the above area has been worked out. The requirement of tubewells includes provisions of 10% stand by. Ultimately, water shall be supplied to the Project by HARYANA SHEHRI VIKAS PRADHIKARAN SOHNA.

2 Design

The scheme has been designed for approved population of 2484 persons. The rate of water supply per head per day has been taken as 155.25 litres (135 + 15 %) as per HSVP norms. In addition to above necessary provision of water for community area, shopping centres, parks etc. have been taken into account for calculating the maximum quantity of water requirement.

For Santur Builders (P) Ltd.

Director

3 Pump chambers and Pumping Machinery

It is proposed to equip each tubewell with an electrically driven set ejecto type or submersible pump capable of delivering of 25,000 litre per hour. It is also proposed to equip required Nos pumping sets with stand by diesel engine / gen set or solar power bank for operation during failure of electricity.

4 Under Ground Storage

It has been proposed to construct Underground storage tank for Fire fighting water supply and for drinking water supply. Provision has been made for 250KL capacity in two Compartments, which caters for the domestic as well as for firefighting requirement. The water for domestic water compartment shall overflow the fire compartment of 75 KL capacity so that the water in the fire compartment also remains fresh.

5 Boosting Station

The boosting station is being planned near UGSR catering to the above requirement

6 Distribution System

The distribution system for this development has been designed to supply water@ 155.25 litre per head her day @ 3 times the average rate of on Hazen William formula. Necessary provision for laying CI/DI pipes conforming to relevant 1S standards along with valves and specials has been made in the project. The minimum terminal head at any point will be more than 27.00 meters so that it can serve stilt and 4 stories construction. Minimum pipe dia for distribution is kept as 100 mm dia. for drinking water supply.

7 Rising mains

Rising mains from HSVP water main or sector road to water works have also been proposed and provision has been made in this estimate.

8 Sewerage

The sewer lines have been designed for 3 times average DWF in relation to the water supply demand assuming that 75% of the domestic water supply shall find its way into the proposed sewer. SW/RCC pipe sewers have been proposed and designed to run half full. The

sewers have been designed on 0.77 M per second minimum velocity i.e. self cleansing velocity. Necessary provision for laying s.w. /R.C.C. pipes manholes etc. has been made in this estimate.

9 Storm water Drainage

The storm water drainage is being designed to carry 6.25mm rainfall per hour. Also suitable provisions are contemplated in our scheme to ensure better recharging of underground water table in the area R.C.C. Hume pipes drain with minimum 400mm dia is proposed in this area.

10 Roads

The roads in the colony are 9M & 12M wide. The following specifications have been adopted which are reproduced below.

(i) 250 mm WMM
(ii) 200 mm GSB
(iii) 50 mm thick D.B.M
(iv) 30 mm BC

The above construction shall be done on well compacted sub grade as per specifications. Complete work will be carried out as per MORTH specifications, IRC guide lines or HSVP specifications, which ever applicable.

11 Street lighting

The provision has been made on lump sum basis.

12 Horticulture

The usual provision of road side plantation of tree guards has been made for all roads. The parks shall be developed by providing lawns etc.

13 Specifications

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

14 Rates

Estimate for providing services in this pocket has been prepared on the recent market rates.

15 Cost

The total cost of development in this project including various P.H. and B & R services works out to Rs ~~1001.90~~ 981.56 Lac including 3% contingencies & P.E. charges and 49% departmental, administrative, unforeseen and escalation charges.

The cost per gross acre for the phase works out to be Rs ~~106.65~~ 104.49 lac which covers the provision of services like water supply, sewerage, storm water drainage, roads, street lighting and plantation including maintenance thereof as well as future expansion whatsoever indicated.

9.394 ACRES AFFORDABLE RESIDENTIAL PLOTTED COLONY, SOHNA
DESIGN CALCULATIONS

Daily Requirement

1.	**Total No. of Plots**		= 138
	Population per plot (@ 18)		= 2484 persons
	Therefore population = 18 x 138		
	Water requirement for plots @ 155.25 litre/head/day 2484 x 155.25		= 385641.00 litre or 385.64 KL
2.	**Add Requirement for Institutions etc.**		
a.	No of commercials	= 1 No	
	Daily water requirement	@ 32000 litre/Acre	
	Area of commercial = 752.86sqm.	= 0.186Acres	
	Therefore daily water requirement	= 0.186 x 32000	= 5952.00 litres = 5.95 KL
b.	Community facility		
	Area of community place		= 0.939 acres
	Daily water requirement @25000litre/acre =0.939 X 25000		= 23475.00 litres = 23.47 KL
	Total		**= 29.42KL**
	say		**= 32.00 kl**
3.	**Area under Parks** Green Parks		= 0.705 acres
	Therefore daily water requirement @ 25000 litre/Acre = 0.705 x 25000		= 17625.00 Litre = 17.62 KL

4.	**Area under roads and kerbs** out of 9.394 acres		= 1.56 acres
	Therefore daily water requirement	= 1.56 x 5000	= 7800.00 litres
	For sweeping of roads +car wash		= 7.80 KL
	say		= 10.00 KL
	Total daily requirement		
	a. For domestic use (1+2)	= 385.64+32.00	= 417.64 KL
	b. Under parks & roads (3+4)	= 17.62+10.00	= 27.62 KL
	Assuming requirement for flushing etc. as 1/3 of total domestic demand and daily requirement for flushing		= 1/3 X 417.64 = 139.21 KL
	Daily requirement of potable drinking water supply = 417.64 – 139.21		= 278.43 KL

TUBE WELLS FOR 9.394 ACRES AFFORDABLE RESIDENTIAL PLOTTED COLONY, SOHNA

TUBEWELL

Assuming working hours of tube well	= 16
Assuming discharge/hour of each tube well	= 25000 lit/hour
Total domestic demand (DRINKING)	= 278.43KL
No. of tubewells required for drinking water supply	= 278.43 / 25 X16
	= 0.70
Add 10% stand by	= 0.07
Total no of tubewells required = 0.70 + 0.07	= 0.77 no.
Say	1 no.

So it is proposed to provide 1 Nos of tube well. The requirement of flushing water supply is to met from treated water from S.T.P. and ultimately water is to be supplied by HSVP FROM its main water supply.

Pumping machinery for tube wells

Gross working load	= 45.00 m
Average fall in is S.L.	= 15.00 m
Depression head	= 10.00 m
Friction Loss in pipe and flushing	= 4.00m
Total	= 74.00 m
SAY	= 80.00
B.H.P. = 25000 x 80 / 60x60x75x0.6 With 60% efficiency	= 12.34
Say	= 15.00 B.H.P.

Boosting Machinery (Drinking water)

Daily requirement for domestic use (Drinking)		= 278.43 KLD
Assuming 8 hours running 1 pump (with one stand by) discharge/hour.	= 278.43 / 8	= 34.80 KL/HR = 580.00 ltr/m
say		= 600.00 ltr/m

Head of Pump

i)	Suction Lift	4m
ii)	Friction Loss in main & specials	4m
iii)	Clear Head	27m
		35m
say		**40 m**

B.H.P. of Motor	600 x 40 / 60x75x0.6	= 8.88
	Say	10.00 HP

Hence It is proposed to provide 2 nos. pumping sets each capable of delivering 600 lpm of water at a total head of 40 m connected with 6.00 B.H.P. electric motor, 1 nos. working and 1 nos. stand bye .

Underground Storage Tank (Drinking water supply)

Daily requirement for domestic use including institutional demand		= 278.43 KL
Capacity of under ground tank taking storage (25 + 33 = 58%) say 60% of daily	= 278.43 x 0.6	= 167.06 KL

demand

Say =175.00 KL

Storage required for fire demand = 100x√2.48x 1/3 = 52.49 KL

say = 75.00 KL

Hence it is proposed to provide common underground tank of capacity 250KL which also includes 75 KL capacity for firefighting as well . The water first enters the fire tank and overflows domestic tank so that the water remain fresh in the tank.

BOOSTING MACHINERY(Flushing water supply)

Daily requirement for domestic use (flushing)		= 139.21 KL
Add for horticulture and roads		= 27.62 KL
TOTAL		= 166.83 KL
Assuming 8 hours running 1 pump (with one stand by)		
Discharge/hour	$= \frac{166.83}{8}$	= 20.85 KL
Discharge/minute		= 347.56 liter/m
	say	**= 400.00 liter/m**

HEAD OF PUMP

i)	Suction lift	= 4 M
ii)	Friction Loss in main & specials	= 4 M
iii)	Clear head	= 27 M
TOTAL		= 35 M
SAY		= 40 M
B.H.P. of Motor	$= \frac{400 \times 40.00}{60X75X0.6}$	= 5.92
SAY		= 7.50

UNDERGROUND STORAGE TANK(Flushing water supply)

Daily requirement for flushing including horticulture	= 166.83 KL
Capacity of underground tank taking = (25 + 33=58 %) say 60 % of daily demand = 166.83 x 0.6	= 100.10 KL
SAY	= 100.00 KL

DIESEL GENERATING SET(BOOSTING STATION)DRINKING

Pumping sets 1 Nos. 10.00 H.P. each	= 10.00 H.P.
Lightening etc	= 2.00 H.P.
	= 12.00 H.P.
Capacity of D.G.S.	= 13.42 KVA
= 12x 0.746 x 1.50	= 1.34 KVA
Add 10 % extra	= 14.77 KVA
SAY	= 15.00 KVA

DIESEL GENERATING SET(TUBE WELL)

Pumping sets 1 Nos.	= 15.00 B.H.P.
Capacity of diesel genset Or 15.00 x 0.746 x 1.50	= 16.78 KVA
Add 10 % extra	= 1.68
	= 18.46 KVA
SAY	= 20.00 KVA

DIESEL GENERATING SET(FLUSHING WATER)

Capacity of diesel genset 7.5 x 0.746 x 1.50 x 1.10 = 9.23 KVA

SAY = 10.00 KVA

OVER HEAD SERVICE RESERVIOR

There is no necessity of O.H.S.R. as the capacity of U.G.S.T. has been increased by 25% of demand of water supply.

Capacity of S.T.P.

Capacity of S.T.P. = 0.80 X 417.64 = 334.11 KLD

Add 5% for marginal factor

SAY = 0.40 MLD

9.394 ACRES AFFORDABLE RESIDENTIAL PLOTTED COLONY, SOHNA

FINAL ABSTRACT OF COST

		Amount (Rs. In Lac)
Sub Work No. I	Water Supply	~~203.20~~ 194.71
Sub Work No. II	Sewerage	~~160.80~~ 148.23
Sub Work No. III	Storm Water Drainage	117.~~30~~
Sub Work No. IV	Road and Footpath	215.60
Sub Work No. V	Street Lighting	36.00
Sub Work No. VI	Horticulture Work	~~8.40~~ 8.72
Sub Work No. VII	Maintenance Charges for 10 years i/c resurfacing of roads after 1st 5 years and 2nd 5 years	260.60
	Total	~~1001.90 Lac~~ 981.56 lacs say 981.56 lacs

Dev. cost per acre ~~1001.90~~ 981.56 lac/9.394acre= ~~106.61~~ 104.49 lac per acre

Checked subject to Comments in forwarding letter No. 350138 Dt. 24/12/2024 ... and notes attached with the estimate

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

Executive Engineer HSVP Division No. VI Gurugram

For Santur Builders (P) Ltd.

Director

Director Town & Country Planning Haryana, Chandigarh

Superintending Engineer, HSVP, Circle, Gurugram

[Pick the date]

FINAL ABSTRACT OF COST (WATER SUPPLY)

SUB WORK NO. 1	Amount (Rs. In Lac)
Sub Head No. 1 Head Works	87.09 ~~92.50~~
Sub Head No. 2 Pumping Machinery	39.52 ~~42.20~~
Sub Head No. 3 Distribution System (Drinking), Rising main	39.40
Sub Head No. 4 Distribution System (Flushing and irrigation)	28.70 ~~29.10~~
	Rs 194.71 lacs
~~Total~~	~~203.20~~

c.o. to final abstract of cost

Sub Work-I

Sub Head No. I **Water Supply**

Head Works Rs in (Lac)

1. Boring and installing 210 i/d tubewells with reserve/ direct rotary rig complete with pipe and strainer to a depth of about 200m

   1 Nos. @ 15.00 Lacs each — 15.00

2. Constructing pump chambers as per standard design of PWD PH/HSVP of size 4.90x4.25 m

   1 Nos. @ 4.00 Lacs each — 4.00

3. Construction of boundary wall around the water works site @ Rs 3.00 lac (L.S.) — 3.00

4. Provision of footpath hedges and lawns at water works. (L.S.) — 1.00

5. Construction of boosting chambers of suitable size along with under ground tank of capacity 300 KL pumping machinery and generating set etc. complete in all respects.

   Details of boosting station

   i) Construction of boosting chamber @ 5.00lac (L.S.) — 5.00

   ii) U.G. tank 250 KL capacity incl 75 KL For fire fighting in two compartments @ RS 5500/KL =250X5500 — 13.75

   iii) U.G. tank flushing capacity 100 KL @Rs 5500/KL = 100X 5500 — 5.50

6.	Provision for staff quarters for Maintenance of scheme		
	i) 1 No 350 sft @ Rs ~~10.00~~ 7.50 Lac		~~10.00~~ 7.50
7.	Prov. for carriage of material (L.S.)		2.00
			~~60.25~~ 56.75
	P.E. & contingency charges @ 3%		~~1.81~~ 1.70
			~~62.06~~ 58.45
	Departmental, administrative, unforeseen and escalation charges @ 49%		~~30.41~~ 28.64
		Total	~~92.47~~ 87.09
		Say	~~92.50~~

Sub Work I — **Water Supply**

Sub Head No. II — **Pumping Machinery**

		Amount (Rs.) (in Lac)
1.	Providing and installing electricity driven electro or submersible pumping sets capable of delivering about 25.00 KL water per hour against a total head of 80 M complete with motor and other accessories (15 B.H.P.) 1 Nos. @ Rs 3.00 lac each	2.50
2.	Provision for diesel engine genset stand by arrangement for tubewells (20 KVA) (L.S.) or solar energy bank. (L.S.)	3.00
3.	Provision for cheap pressure type chlorination plant complete 1 Nos. @ Rs 1,00,000/-	1.00
4.	Provision for making foundations and erection of pumping machinery (L.S.)	2.00
5.	Provision for pipes, valves, and specials inside the pump chamber	2.00
6.	Provision for electric services connection including electric fittings for tubewells chambers and suitable transformers complete L.S.	2.50
7.	a) Providing and installing centrifugal boosting pumping sets, capable of delivering water at 40 M head complete in all respects (2X10.00 + 2x7.50=35H.P.) domestic drinking water supply @ Rs 7.00 lac (L.S.)	7.0
8.	Providing Diesel Gen set 15.00 KVA capacity for drinking water supply @ Rs ~~3.00~~ 2.25 lac (L.S.)	2.25 ~~3.00~~

9.	Providing Gen set 10 KVA capacity for flushing water supply (L.S.)	~~2~~.50
10.	Provision for carriage for materials and other unforeseen items L.S.	2.00
	Total	~~27.50~~ 25.75
	P.E. & contingency charges @ 3%	~~0.82~~ 0.77
		~~28.32~~ 26.52
	Departmental, administrative, unforeseen and escalation charges @ 49%	13.~~86~~
	Total	~~42.20~~ 39.52 lacs

9.394 ACRES AFFORDABLE RESIDENTIAL PLOTTED COLONY, SOHNA

SUB WORK NO. 1 — **WATER SUPPLY**

SUB HEAD NO. III — **DISTRIBUTION SYSTEM/RISING MAIN**

		Amount (Rs) in lac
1.	Providing, laying, jointing and testing C.I/D.I. K9 Pipes including cost of excavation complete as per specifications.	
	100 mm dia i/d 780 mtrs @ Rs. 1460/mtr	11.39
	150 mm dia i/d 280 mtrs @ Rs. 2040/mtr	5.71
2.	Providing and fixing sluice valve including cost brick masonry chambers complete in all respect.	
	100 mm dia i/d 3Nos. @ Rs. 12000/- each	0.36
	150 mm dia i/d 3Nos. @ Rs. 15000/- each	0.45
3.	Providing and fixing air valves and scour valves or scour taps including cost of brick masonry chamber	
	8 Nos. @ Rs. 10,000/- each	0.80
4.	Providing and fixing fire hydrants complete with masonry chambers	
	4 Nos. @ Rs. 15,000/- each	0.60
5.	Providing and fixing indicating plates for sluice valve, air valve etc.	
	18 Nos. @ Rs. 2000/- each	0.36
6.	Provision for rising main D.N. 150mm from main HSVP water line to U.G.S.T. 180m @ Rs 2040/- mtr	3.67
7.	Provision for D.N. 110mm D.I. rising main from tube well to U.G.S.T. 20m @ Rs 1460/- mtr	0.29

8.	Providing for carriage of material other unforeseen items	**2.00**
		25.63
	Add P.E. & Contingency charges @ 3%	0.77
		26.40
	Departmental, administrative, unforeseen and escalation charges @ 49%	12.93
	Total	39.33
	Say:	39.40

Sub Work No. 1

Sub Head No. IV

Water Supply
Flushing and Irrigation &
Overflow from S.T.P.

			Amount (Rs. in Lac)
1	Providing, laying, jointing and testing DI pipe K-9 pipes including cost of excavation etc. complete in all respect.		
	a)	80mm dia C.I./D.I. 820 m @ Rs. 1200/- M	9.84
	b)	100mm dia C.I./D.I. 260 m @ Rs. 1460/- M	3.80
2	Providing and fixing sluice valves including cost of brick masonry chambers complete in all respect.		
	a)	80mm dia 1 nos. @ Rs. 12000/- each	0.12
	b)	100mm dia 3 nos. @ Rs. 12000/- each	0.36
3.	Providing and fixing air valves and scour valves or scour taps including cost of brick masonry chamber 8 Nos. @ Rs. 10,000/- each		0.80
4.	Providing and fixing indicating plates for sluice Valves, air valves etc. 14nos. @ Rs. 2000/- each		0.28
5.	Provision for carriage of material and other unforeseen items. (L.S.)		2.00
6.	Providing and fixing 25mm dia irrigation hydrants and valves complete in all		0.50

respect(L.S.)

7.

Providing laying, jointing and testing UPVC pipe suitable for 6 kg pressure including cost of fitting ,valves, connection etc. complete in all respect 25mm dia (L.S.) for irrigation hydrant	1.00
Total	~~19.00~~ 18.70
Add 3% contingencies & P.E. charges	~~0.57~~ 0.56
	~~19.57~~ 19.26
Add 49% departmental, administrative, unforeseen and escalation charges.	~~9.58~~ 9.44
	28.70
Total	~~29.15~~
Say	~~29.10~~ 28.70

c.o. to final abstract of cost

9.394 ACRES AFFORDABLE RESIDENTIAL PLOTTED COLONY, SOHNA

SUB HEAD II **SEWERAGE SCHEME**

		Rs. in lac
1.	Providing, lowering, cutting, salt glazed stoneware pipes and specials into trenches including cost of excavation, bed concrete, cost of manholes complete in all respect.	
	i) 200 mm i/d	
	Av. Depth upto 1.5 M – 680 M @ Rs. 1700/- per M	11.56
	ii) Av. Depth upto 1.5 M -3.0M– 400 M @ Rs. 1800/- per M	7.20
2.	Provision for providing oblique junctions (L.S.)	2.00
3.	Provision for providing and fixing vent shafts at suitable places as per PH requirement (L.S.)	3.00
4.	Provision of temporary disposal arrangement till HSVP sewer laid (including cost of STP capacity 0.40 MLD) @ Rs 160.00 lacs/mld	64.00
5.	Provision of temporary timbering etc.	2.00
6.	Provision for cutting of roads and carriage of materials etc. and other unforeseen charges (L.S.)	5.00
7.	Provision for connection with HSVP main (L.S.)	2.00
	Total	104.76
	P.E. & Contingency charges @ 3%	3.14
		107.90
	Departmental, administrative, unforeseen and escalation charges @ 49%	52.87
	Total	160.77
	say	**160.80**

c.o. to final abstract of cost

[Pick the date]

9.394 ACRES AFFORDABLE RESIDENTIAL PLOTTED COLONY, SOHNA

SUB HEAD – III **STORM WATER DRAINAGE**

1.	Providing, laying RCC pipes drain class NP – 3 with cement joint, manholes, excavation etc. complete in all respect	Rs. in lac
	400 mm i/d	
	Av. Depth upto 1.50 m – 800 M @ Rs. 2500/- per M	20.00
	Av. Depth upto 1.50 m – 280 M @ Rs. 2650/- per M	~~7.42~~ 7.69
2.	Provision for road gullies with 300 mm dia pipe connection L.S.	5.00
3.	Provision for Rain water harvesting pits 25.00 (L.S.)	25.00
4.	Provision for temporary arrangement for disposal of rain water till HSVP storm laid	10.00
5.	Provision for lighting, watching and diversion of traffic	2.00
6.	Provision for cutting of roads and carriage of materials etc. and other unforeseen items L.S.	3.00
7.	Provision for connection with HSVP storm on master line	2.00
8.	Provision for timbering and shoring etc.	2.00
	Total	~~76.42~~ 76.69
	P.E. & contingency charges @ 3%	2.30
	Total	78.99

Departmental, administrative, unforeseen and escalation charges @ 49%	38.57
Total	117.28
say	**117.30**

c.o. to final abstract of cost

For Santur Builders (P) Ltd.

Director

9.394 ACRES AFFORDABLE RESIDENTIAL PLOTTED COLONY

SOHNA

Sub Work No. IV **Road Work**

Item No.	Description of Item	Unit	Qty.	Rate (Rs)	Amount (Rs) in lac
1	**Site Clearance**				
1.1	Clearing and grubbing road land including uprooting rank, vegetation, grass, bushes, shrubs, saplings and trees girth upto 300 mm, removal of stumps of trees cut earlier and disposal of unserviceable materials and stacking of serviceable materials to be used or auctioned, upto a lead of 1000mm including removal and disposal of top soil not exceeding 150 mm thickness by manual means in areas of light jungle as per drawings and Clause 201 of Morth Specifications.	Hectare	0.90	100000	0.90
2	**Earth Works**				
2.1	Provision for leveling + earth filling as per site condition approximate	Acre	9.394	1.75 lac	16.43
3	**Provision for**				
i.	250mm WMM				
ii.	200mm GSB				
iii.	50mm thick D.B.M.				
iv.	30mm thick B.C.				
	Total	Sqm	6325	1500	94.87
4	**Miscellaneous Items**				
4.1	Construction of cement concrete Kerb and Channels as per specifications	Meter	2300	600	13.80
4.2	Providing and fixing guide maps at selected locations (L.S.)				1.00
4.3	Provision for plot indicators (L.S.)				1.50
4.4	Provision for demarcating burgies (L.S.)				1.00

[Pick the date]

4.5	Construction of metalled pavement in the commercial pocket = 752.86/2= 386.43 sq.m.	Sq.m.	400	1500	6.00
4.6	Provision for traffic light arrangement				2.00
4.7	Provision for carriage of material (L.S.)				3.00
					140.50
	Add 3% contingency & P.E. charges				4.21
	Total				144.71
	Departmental, administrative, unforeseen and escalation charges @ 49%				70.91
	Total				215.62
	SAY				215.60

For Santur Builders (P) Ltd.

Director

SUB WORK – V

9.394 ACRES AFFORDABLE RESIDENTIAL PLOTTED COLONY SOHNA

Street Lighting

		Amount (Rs. in lac)
Providing street lighting on internal Roads as per standard specification in 9.394acre area @ Rs. 2,50,000/- per acre 9.394x 250,000/-		= 23.48
		= 0.70
Add 3% contingencies & P.E. charges		= 24.18
Add departmental, administrative, unforeseen and escalation charges @ 49%		= 11.85
	Total	= 36.03
	Say	= 36.00

C/O to final abstract of cost

9.394 ACRES AFFORDABLE RESIDENTIAL PLOTTED COLONY

SOHNA

SUB WORK – VI

COST ESTIMATE

HORTICULTURE

AMOUNT (RS. IN LAC)

1 **Development of Lawn area**

a) Trenching the ordinary soil up to depth of 60 cm. Including removal and packing of serviceable material and disposing at a lead of 50 m/ and making up the trenched area to proper level by filling with earth mixed with manure including cost of imported earth and manure.

b) Rough dressing of trenched area.

c) Grassing with "doob grass" including watering and maintenance of lawns free from weeds and fit for moving rows 7.50 cm in either direction including for hedges and grill and barbed wire fencing around park and green belts (as per HSVP Norms) Area 0.705 Acres @ Rs. 1,50,000/- per acre — 1.06

2 **Planting or trees with tree guards on Roads at 12M intervals**

Total length of roads = 1150.00 M

No. of trees @ 12 m c/c = 1150 x 2 / 12 = ~~183.33~~ 191.66 Nos.

SAY = ~~170~~ 200 Nos.

Cost of the tree

Excavation Rs. 60/-

Manure Rs. 100/-

Tree plants Rs. 150/-

Tree guards Rs. 2000/-

Total = 2310 x ~~190~~ 200

TOTAL 4.39 ~~62~~

Add 3 % contingencies and P.E charges 5.45 ~~68~~

0.14 ~~7~~

C.O.S 5.85 lacs

[Pick the date]

	BFS 5.85 lacs ~~5.61~~
Add 49% departmental, administrative, unforeseen and escalation charges	2.~~75~~87
TOTAL	**8.~~36~~72**
say	Rs 8.72 lacs ~~8.40~~

C.O to final abstract of cost

SUB – WORK NO VII

MAINTENANCE CHARGES AND RESRURFACING OF ROADS

AMOUNT (RS. IN LAC)

2nd phase after 5 yrs of 1st phase

1. Provision for maintenance charges for water supply, sewerage, storm water drainage, roads, streetlights, horticulture etc. complete including operation and establishment charges as per HUDA norma after completion and resurfacing of roads after 10 years.		
9.394acres@ Rs. 8.00 lacs per acre	=	75.15
2. Provision for resurfacing of roads after 1st 5 years of maintenance i.e. 50mm thick B.M. and 30mm B.C. including leveling course		
(6325 + 400 = 6725) sqm @ Rs 660/- Per Sqm	=	44.38
3. Resurfacing of road after 10 years of maintenance by providing 50 mm thick B.M. and 30mm B.C.		
(6325 + 400 = 6725) sqm @ Rs 825/- Per Sqm	=	55.48
TOTAL	=	175.01
Add 3% PE and contingency charges	=	5.25
	=	180.26
Add 49% departmental, administrative, unforeseen and escalation charges.	=	80.33
Total	=	260.59
Say	=	260.60

HYDRAULIC DESIGN STATEMENT OF WATER SUPPLY (calculation of water load)

Providing Water Supply Scheme 9.394 ACRES AFFORDABLE RESIDENTIAL PLOTTED COLONY, SOHNA

Sr. No.	Name of Pipe Line	No of plots	Population @18 persons per plot	Water requirement @ 105 l/head /day in KLD	Water requirement for non residential plots				Gross requirement in KLPD	Gross water requirement in gallons per day (Total)
		As per plan			Plots area in acres	Type of building	Basis of water requirement	Total water requirement		
1	2	3	4	5	6	7	8	9	10	11
1	RA	-	-	-					-	
2	AB	-	-	-					-	
3	BB1	18	324	34.02					34.02	7480
4	BIC1	4	72	7.56					7.56	1660
5	BC	5	90	9.45					9.45	2080
6	CC1	18	324	34.02					34.02	7480
7	C1C2	2	36	3.78					3.78	830
8	CD	2	36	3.78					3.78	830
9	DD1	6	108	11.34					11.34	2490
10	D1E1	4	72	7.56					7.56	1660

HYDRAULIC DESIGN STATEMENT OF WATER SUPPLY (calculation of water load)

Providing Water Supply Scheme 9.394 ACRES AFFORDABLE RESIDENTIAL PLOTTED COLONY, SOHNA

Sr. No.	Name of Pipe Line	No of plots	Population @18 persons per plot	Water requirement @ 105 l/head /day in KLD	Water requirement for non residential plots				Gross requirement in KLPD	Gross water requirement in gallons per day (Total)
		As per plan			Plots area in acres	Type of building	Basis of water requirement	Total water requirement		
1	2	3	4	5	6	7	8	9	10	11
11	DE									
12	EE1	13	234	24.57					24.57	5410
13	E1E2	2	36	3.78					3.78	830
14	EE3	7	126	13.23					13.23	2910
15	AF				0.939	COMMUNITY	25KL/ACRE	17.96	17.96	3950
16	FF1	11	198	20.79					20.79	4570
17	F1F2	2	36	3.78					3.78	830
18	F1G1	4	72	7.56					7.56	1660
19	FG									
20	GG1	12	216	22.68					22.68	4990

HYDRAULIC DESIGN STATEMENT OF WATER SUPPLY (calculation of water load)

Providing Water Supply Scheme 9.354 ACRES AFFORDABLE RESIDENTIAL PLOTTED COLONY, SOHNA

Sr. No.	Name of Pipe Line	No of plots	Population @18 persons per plot	Water requirement @ 105 l/head /day in KLD	Water requirement for non residential plots				Gross requirement in KLPD	Gross water requirement in gallons per day (Total)
		As per plan			Plots area in acres	Type of building	Basis of water requirement	Total water requirement		
1	2	3	4	5	6	7	8	9	10	11
21	GHH1	4	72	7.56					7.56	1660
22	GH1	3	54	5.67					5.67	1250
23	HH1	10	180	18.9					18.9	4160
24	HHH2	4	72	7.56	0.186	COMMERCIAL	32KL/ACRE	3.97	11.53	2540
25	HI	7	126	13.23					13.23	2910

DESIGN STATEMENT

Providing Water Supply Scheme 9.394 ACRES AFFORDABLE RESIDENTIAL PLOTTED COLONY, SOHNA

S. No	Name of line	Water load in gallons per day			3 times water load in gallons per day	Designed water load in gallons per day	Size in mm	Length in m	Head loss per 1000m	Head loss in pipe line in m	Hydraulic levels in mtr		R.L. at L/E in mtr	Terminal head at L/E in m
		Self	Branch	Total							U/E	L/E		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	RA		62190	62190	186570	283000	150	20.00	8.27	0.16	249.00	248.84	212.71	36.13
2	AB		33660	33660	100980	167000	150	12.00	3.12	0.04	248.84	248.80	212.71	36.09
3	BB1	7480	1660	9140	27420	42000	100	90.00	1.74	0.15	248.80	248.65	212.75	35.90
4	B1C1	1660		1660	4980	24000	100	42.00	0.62	0.03	248.65	248.62	212.73	35.89
5	BC	2080	22440	24520	73560	117000	150	40.00	1.62	0.06	248.80	248.74	212.73	36.01
6	CC1	7480	830	8310	24930	42000	100	90.00	1.74	0.16	248.74	248.58	212.75	35.83
7	C1C2	830		830	2490	24000	100	23.00	0.62	0.01	248.58	248.57	212.75	35.82
8	CD	830	13300	14130	42390	67000	150	24.00	0.57	0.01	248.74	248.73	212.74	35.99
9	DD1	2490	1660	4150	12450	24000	100	60.00	0.62	0.04	248.73	248.69	212.75	35.94
10	D1E1	1660		1660	4980	24000	100	41.00	0.62	0.02	248.69	248.67	212.8	35.87

DESIGN STATEMENT

Providing Water Supply Scheme 9.394 ACRES AFFORDABLE RESIDENTIAL PLOTTED COLONY, SOHNA

S. No	Name of line	Water load in gallons per day			3 times water load in gallons per day	Designed water load in gallons per day	Size in mm	Length in m	Head loss per 1000m	Head loss in pipe line in m	Hydraulic levels in mtr		R.L. at L/E in mtr	Terminal head at L/E in m
		Self	Branch	Total							U/E	L/E		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
11	DE		9150	9150	27450	117000	150	42.00	1.62	0.07	248.73	248.66	212.77	35.89
12	EE1	5410	830	6240	18720	30000	100	60.00	0.94	0.06	248.66	248.60	212.80	35.80
13	E1E2	830		830	2490	24000	100	20.00	0.62	0.01	248.60	248.59	212.83	35.76
14	EE3	2910		2910	8730	24000	100	35.00	0.62	0.02	248.59	248.57	212.83	35.74
15	AF	3950	24570	28530	85590	117000	150	10.00	1.62	0.02	248.84	248.82	212.71	36.11
16	FF1	4570	2490	7060	21180	30000	100	58.00	0.94	0.06	248.82	248.76	212.74	36.02
17	F1F2	830		830	2490	24000	100	16.00	0.62	0.01	248.76	248.75	212.75	36.00
18	F1G1	1660		1660	4980	24000	100	40.00	0.62	0.02	248.76	248.74	212.72	36.02
19	FG		17510	17510	52530	117000	150	42.00	1.62	0.07	248.82	248.75	212.68	36.07
20	GG1	4990	1660	6650	19950	30000	100	60.00	0.94	0.06	248.75	248.69	212.72	35.97

DESIGN STATEMENT

Providing Water Supply Scheme 9.394 ACRES AFFORDABLE RESIDENTIAL PLOTTED COLONY, SOHNA

S. No	Name of line	Water load in gallons per day			3 times water load in gallons per day	Designed water load in gallons per day	Size in mm	Length in m	Head loss per 1000m	Head loss in pipe line in m	Hydraulic levels in mtr		R.L. at L/E in mtr	Terminal head at L/E in m
		Self	Branch	Total							U/E	L/E		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
21	G1H1	1660		1660	4980	24000	100	40.00	0.62	0.02	248.69	248.67	212.73	35.94
22	GH	1250	9610	10860	32580	117000	150	42.00	1.62	0.07	248.75	248.68	212.65	36.03
23	HH1	4160	2540	6700	20100	30000	100	60.00	0.94	0.05	248.68	248.63	212.73	35.90
24	H1H2	2540		2540	7620	24000	100	38.00	0.62	0.02	248.63	248.61	212.75	35.86
25	H1	2910		2910	8730	24000	150	38.00	0.62	0.02	248.88	248.66	212.63	36.03

SCHEDULE OF QUANTITIES

Providing Water Supply Scheme 9.394 ACRES AFFORDABLE RESIDENTIAL PLOTTED COLONY, SOHNA

Sr. No.	Name of Pipe Line	Pipe (length in M size in mm)					S.V. Qty. in Nos. Size in mm				
		100	150	200	250	300	100	150	200	250	300
1	2	3	4	5	6	7	8	9	10	11	12
1	RA		20.00								
2	AB		12.00					1			
3	BB1	90.00					1				
4	B1C1	42.00									
5	BC		40.00								
6	CC1	90.00									
7	C1C2	23.00									
8	CD		24.00								
9	DD1	60.00					1				
10	D1E1	41.00									

SCHEDULE OF QUANTITIES

Providing Water Supply Scheme 9.394 ACRES AFFORDABLE RESIDENTIAL PLOTTED COLONY, SOHNA

Sr. No.	Name of Pipe Line	Pipe (length in M size in mm)					S.V. Qty. in Nos. Size in mm				
		100	150	200	250	300	100	150	200	250	300
1	2	3	4	5	6	7	8	9	10	11	12
11	DE		42.00					1			
12	EE1	60.00									
13	E1E2	20.00									
14	EE3	35.00									
15	AF		10.00					1			
16	FF1	58.00									
17	F1F2	16.00									
18	F1G1	40.00									
19	FG		42.00								
20	GG1	60.00									

SCHEDULE OF QUANTITIES

Providing Water Supply Scheme 9.394 ACRES AFFORDABLE RESIDENTIAL PLOTTED COLONY, SOHNA

Sr. No.	Name of Pipe Line	Pipe (length in M size in mm)					S.V. Qty. in Nos. Size in mm				
		100	150	200	250	300	100	150	200	250	300
1	2	3	4	5	6	7	8	9	10	11	12
21	G1H1	40.00									
22	GH		42.00				1				
23	HH1	60.00									
24	H1H2	38.00									
25	HI		38.00								
	total	773.00	270.00				3	3			
	SAY	780.00	280.00				3	3			

STATEMENT OF WATER SUPPLY

FLUSHING / IRRIGATION/OVERFLOW

Providing Water Supply Scheme 9.394 ACRES AFFORDABLE RESIDENTIAL PLOTTED COLONY, SOHNA

Sr. No.	Name of Pipe Line	Pipe (length in M size in mm)			S.V. Qty. in Nos. Size in mm		
		80	100	150	80	100	150
1	2	3	4	5	6	7	8
1	R'A'		20.00				
2	A'B'		14.00			1	
3	B'C'		21.00				
4	C'C1'	85.00			1		
5	C1'D1'	42.00					
6	D1'D2'	14.00					
7	C'D'		53.00				
8	D'D1'	100.00					
9	D'E'		28.00			1	
10	E'E1'	65.00					

STATEMENT OF WATER SUPPLY							
FLUSHING / IRRIGATION/OVERFLOW							
Providing Water Supply Scheme 9.394 ACRES AFFORDABLE RESIDENTIAL PLOTTED COLONY, SOHNA							
Sr. No.	Name of Pipe Line	Pipe (length in M size in mm)			S.V. Qty. in Nos. Size in mm		
		80	100	150	80	100	150
1	2	3	4	5	6	7	8
11	E1'F1'	40.00					
12	F1'F2'	13.00					
13	F'F1'	65.00					
14	F'F3'	40.00					
15	B'B1'	70.00					
16	B1'B2'	25.00					
17	B1'G1'	41.00					
18	A'G'		24.00			1	
19	G'G1'	70.00					
20	G1'H1'	42.00					

STATEMENT OF WATER SUPPLY							
FLUSHING / IRRIGATION/OVERFLOW							
Providing Water Supply Scheme 9.394 ACRES AFFORDABLE RESIDENTIAL PLOTTED COLONY, SOHNA							
Sr. No.	Name of Pipe Line	Pipe (length in M size in mm)			S.V. Qty. in Nos. Size in mm		
		80	100	150	80	100	150
1	2	3	4	5	6	7	8
21	GH'		42.00				
22	H'H1'	70.00					
23	H1'H2'	30.00					
24	H'T'		30.00				
25	I'- HSVP SEWER (OVERFLOW)		20.00				
	TOTAL	812.00	252.00		1	3	
	SAY	820.00	260.00		1	3	

STATEMENT FOR CALCULATION OF SEWAGE LOAD

PROVIDING SEWERAGE SCHEME 9.394 ACRES AFFORDABLE RESIDENTIAL PLOTTED COLONY, SOHNA

S.No.	Name of Line	Water Requirement of plots			Demand of non residential areas			Total requirement in KLPD	Quantity of Sewage @ 75% of water requirement in cusecs.
		No. of Plots	Population@18 persons /plot	Water requirement @155.25LPCD in KLPD	Nature of bdg	Basis of water requirement	Gross requirement in KLPD		
1	AB	18	324	50.25				50.25	0.016
2	B1B3	8	144	22.32				22.32	0.007
3	B2B3	14	252	39.1				39.1	0.012
4	B3B6								
5	B4B5	4	72	11.16				11.16	0.004
6	B5B6	6	108	16.74				16.74	0.005
7	B6B	2	36	5.58				5.58	0.002
8	BC	5	90	13.95				13.95	0.004
9	CD								
10	D1D2	6	108	16.74				16.74	0.005

STATEMENT FOR CALCULATION OF SEWAGE LOAD

PROVIDING SEWERAGE SCHEME 9.394 ACRES AFFORDABLE RESIDENTIAL PLOTTED COLONY, SOHNA

S.No.	Name of Line	Water Requirement of plots			Demand of non residential areas			Total requirement in KLPD	Quantity of Sewage @ 75% of water requirement in cusecs.
		No. of Plots	Population@18 persons /plot	Water requirement @155.25LPCD in KLPD	Nature of bdg	Basis of water requirement	Gross requirement in KLPD		
11	D2D	18	324	50.25				50.25	0.016
12	DE				COMMUNITY	25KL/ACRE	29.42	29.42	0.009
13	E1E3	12	216	33.48	COMMERCIAL	32KL/ACRE	5.95	39.43	0.012
14	E2E3	2	36	5.58				5.58	0.002
15	E3E	11	198	30.69				30.69	0.009
16	EF								
17	F1F3	7	126	19.53				19.53	0.006
18	F2F3	10	180	27.9				27.9	0.008
19	F3F5	3	54	8.37				8.37	0.002
20	F4F5	12	216	33.48				33.48	0.010

STATEMENT FOR CALCULATION OF SEWAGE LOAD

PROVIDING SEWERAGE SCHEME 9.394 ACRES AFFORDABLE RESIDENTIAL PLOTTED COLONY, SOHNA

S.No.	Name of Line	Water Requirement of plots			Demand of non residential areas			Total requirement in KLPD	Quantity of Sewage @ 75% of water requirement in cusecs.
		No. of Plots	Population@18 persons /plot	Water requirement @155.25LPCD in KLPD	Nature of bdg	Basis of water requirement	Gross requirement in KLPD		
21	F5F								
22	F-STP								

DESIGN STATEMENT

PROVIDING SEWERAGE SCHEME 9.394 ACRES AFFORDABLE RESIDENTIAL PLOTTED COLONY, SOHNA

S. No.	Name of Line	Sewage Load in cusecs			3 times sewage load in cusecs	Designed discharge in cusecs	Size in mm	Length in m	Slope 1 in	Velocity in m/sec	Fall in m	Formation level in m		Invert level in m		Depth in m		Avg depth in m
		Self	Branch	Total								U/E	L/E	U/E	L/E	U/E	L/E	
1	AB	0.016		0.016	0.048	0.47	200	90.00	200	0.77	0.45	212.75	212.73	211.75	211.30	1.00	1.43	1.21
2	B1B3	0.007		0.007	0.021	0.47	200	40.00	200	0.77	0.20	212.80	212.75	211.80	211.60	1.00	1.15	1.08
3	B2B3	0.012		0.012	0.036	0.47	200	75.00	200	0.77	0.38	212.83	212.75	211.83	211.45	1.00	1.30	1.15
4	B3B6		0.019	0.019	0.057	0.47	200	45.00	200	0.77	0.22	212.75	212.73	211.45	211.23	1.30	1.50	1.40
5	B4B5	0.004		0.004	0.012	0.47	200	35.00	200	0.77	0.18	212.80	212.78	211.80	211.62	1.00	1.16	1.08
6	B5B6	0.005	0.004	0.009	0.027	0.47	200	65.00	200	0.77	0.33	212.78	212.73	211.62	211.29	1.16	1.44	1.30
7	B6B	0.002	0.008	0.010	0.090	0.47	200	25.00	200	0.77	0.13	212.73	212.72	211.23	211.10	1.50	1.62	1.56
8	BC	0.004	0.046	0.050	0.150	0.47	200	40.00	200	0.77	0.20	212.72	212.71	211.10	210.90	1.62	1.81	1.72
9	CD		0.050	0.050	0.150	0.47	200	12.00	200	0.77	0.06	212.71	212.70	210.90	210.84	1.81	1.86	1.83
10	D1D2	0.005		0.005	0.015	0.47	200	56.00	200	0.77	0.28	212.75	212.73	211.75	211.47	1.00	1.26	1.13

DESIGN STATEMENT

PROVIDING SEWERAGE SCHEME 9.394 ACRES AFFORDABLE RESIDENTIAL PLOTTED COLONY, SOHNA

S. No.	Name of Line	Sewage Load in cusecs			3 times sewage load in cusecs	Designed discharge in cusecs	Size in mm	Length in m	Slope 1 in	Velocity in m/sec	Fall in m	Formation level in m		Invert level in m		Depth in m		Avg depth in m
		Self	Branch	Total								U/E	L/E	U/E	L/E	U/E	L/E	
11	D2D	0.016	0.005	0.021	0.063	0.47	200	86.00	200	0.77	0.43	212.73	212.70	211.47	211.04	1.26	1.66	1.46
12	DE	0.009	0.071	0.080	0.240	0.47	200	31.00	200	0.77	0.16	212.70	212.68	210.84	210.68	1.86	2.00	1.93
13	E1E3	0.012		0.012	0.036	0.47	200	116.00	200	0.77	0.58	212.75	212.71	211.75	211.17	1.00	1.54	1.27
14	E2E3	0.002		0.002	0.006	0.47	200	20.00	200	0.77	0.10	212.75	212.71	211.75	211.65	1.00	1.06	1.03
15	E3E	0.009	0.014	0.023	0.069	0.47	200	70.00	200	0.77	0.35	212.71	212.68	211.17	210.82	1.54	1.86	1.70
16	EF		0.103	0.103	0.309	0.47	200	15.00	200	0.77	0.08	212.68	212.68	210.68	210.60	2.00	2.08	2.04
17	F1F3	0.006		0.006	0.018	0.47	200	30.00	200	0.77	0.15	212.63	212.65	211.63	211.48	1.00	1.17	1.09
18	F2F3	0.008		0.008	0.024	0.47	200	62.00	200	0.77	0.31	212.73	212.65	211.73	211.42	1.00	1.23	1.12
19	F3F5	0.002	0.014	0.016	0.048	0.47	200	41.00	200	0.77	0.20	212.65	212.66	211.42	211.22	1.23	1.44	1.34
20	F4F5	0.010		0.010	0.030	0.47	200	62.00	200	0.77	0.31	212.72	212.66	211.72	211.41	1.00	1.25	1.13

DESIGN STATEMENT

PROVIDING SEWERAGE SCHEME 9.394 ACRES AFFORDABLE RESIDENTIAL PLOTTED COLONY, SOHNA

S. No.	Name of Line	Sewage Load in cusecs			3 times sewage load in cusecs	Designed discharge in cusecs	Size in mm	Length in m	Slope 1 in	Velocity in m/sec	Fall in m	Formation level in m		Invert level in m		Depth in m		Avg depth in m
		Self	Branch	Total								U/E	L/E	U/E	L/E	U/E	L/E	
21	F5F		0.026	0.026	0.078	0.47	200	28.00	200	0.77	0.14	212.66	212.68	211.22	211.08	1.44	1.60	1.52
22	F-STP		0.129	0.129	0.387	0.47	200	16.00	200	0.77	0.08	212.68	212.98	210.60	210.52	2.08	2.46	2.27

Schedule of Quantities of S.W. Pipes

PROVIDING SEWERAGE SCHEME 9.394 ACRES AFFORDABLE RESIDENTIAL PLOTTED COLONY, SOHNA

S.No.	Name of Line	Dia of pipe in mm and Length in meters						
		200mm	250mm	300mm	350mm	400mm	450mm	500mm
1	AB	90.00						
2	B1B3	40.00						
3	B2B3	75.00						
4	B3B6	45.00						
5	B4B5	35.00						
6	B5B6	65.00						
7	B6B	25.00						
8	BC	40.00						
9	CD	12.00						
10	D1D2	56.00						

Schedule of Quantities of S.W. Pipes

PROVIDING SEWERAGE SCHEME 9.394 ACRES AFFORDABLE RESIDENTIAL PLOTTED COLONY, SOHNA

S.No.	Name of Line	Dia of pipe in mm and Length in meters						
		200mm	250mm	300mm	350mm	400mm	450mm	500mm
11	D2D	86.00						
12	DE	31.00						
13	E1E3	116.00						
14	E2E3	20.00						
15	E3E	70.00						
16	EF	15.00						
17	F1F3	30.00						
18	F2F3	62.00						
19	F3F5	41.00						
20	F4F5	62.00						

Schedule of Quantities of S.W. Pipes

PROVIDING SEWERAGE SCHEME 9.394 ACRES AFFORDABLE RESIDENTIAL PLOTTED COLONY, SOHNA

S.No.	Name of Line	Dia of pipe in mm and Length in meters						
		200mm	250mm	300mm	350mm	400mm	450mm	500mm
21	F5F	28.00						
22	F-STP	16.00						
	TOTAL	1060.00	M					
	SAY	1070.00	M					

DESIGN STATEMENT

PROVIDING STORM WATER DRAINAGE SCHEME 9.394 ACRES AFFORDABLE RESIDENTIAL PLOTTED COLONY, SOHNA

S. No.	Name of Line	Area in Acres			Discharge in cusecs@¾" rainfall intensity	Designed discharge in cusecs	Size in mm	Length in mtr	Slope 1 in	Velocity in m/sec	Fall in mtr	Formation Levels in mtr		Invert level in mtr		Depth in mtr		Avg depth in mtr
		Self	Branch	Total								U/E	L/E	U/E	L/E	U/E	L/E	
1	AB	0.38		0.38	0.09	3.52	400	38.00	560	0.77	0.07	212.80	212.78	211.60	211.53	1.20	1.25	1.23
2	B1B	0.74		0.74	0.19	3.52	400	76.00	560	0.77	0.14	212.83	212.78	211.63	211.49	1.20	1.29	1.25
3	BC	0.33	1.12	1.45	0.36	3.52	400	42.00	560	0.77	0.08	212.78	212.75	211.49	211.41	1.29	1.34	1.32
4	C1C2	0.23		0.23	0.06	3.52	400	42.00	560	0.77	0.08	212.81	212.79	211.61	211.53	1.20	1.26	1.23
5	C2C	0.34	0.23	0.57	0.14	3.52	400	62.00	560	0.77	0.11	212.79	212.75	211.53	211.42	1.26	1.33	1.30
6	CD	0.17	2.02	2.19	0.55	3.52	400	25.00	560	0.77	0.04	212.75	212.73	211.41	211.37	1.34	1.36	1.35
7	D1D	0.87		0.87	0.22	3.52	400	88.00	560	0.77	0.16	212.75	212.73	211.55	211.39	1.20	1.34	1.27
8	DE	0.26	3.06	3.32	0.83	3.52	400	42.00	560	0.77	0.08	212.73	212.71	211.37	211.29	1.36	1.42	1.39
9	EF	0.02	3.32	3.34	0.84	3.52	400	10.00	560	0.77	0.02	212.71	212.71	211.29	211.27	1.42	1.44	1.43
10	F1F2	0.37		0.37	0.09	3.52	400	60.00	560	0.77	0.11	212.75	212.73	211.55	211.44	1.20	1.29	1.24

DESIGN STATEMENT

PROVIDING STORM WATER DRAINAGE SCHEME 9.394 ACRES AFFORDABLE RESIDENTIAL PLOTTED COLONY, SOHNA

S. No.	Name of Line	Area in Acres			Discharge in cusecs@¼" rainfall intensity	Designed discharge in cusecs	Size in mm	Length in mtr	Slope 1 in	Velocity in m/sec	Fall in mtr	Formation Levels in mtr		Invert level in mtr		Depth in mtr		Avg depth in mtr
		Self	Branch	Total								U/E	L/E	U/E	L/E	U/E	L/E	
11	F2F	0.87	0.37	1.20	0.30	3.52	400	90.00	560	0.77	0.17	212.73	212.71	211.44	211.27	1.29	1.44	1.36
12	FG	0.21	4.54	4.75	1.19	3.52	400	25.00	560	0.77	0.05	212.71	212.70	211.27	211.22	1.44	1.48	1.46
13	G1G	0.58		0.58	0.15	3.52	400	62.00	560	0.77	0.11	212.73	212.70	211.53	211.42	1.20	1.28	1.24
14	GH	1.39	5.33	6.72	1.68	3.52	400	42.00	560	0.77	0.08	212.70	212.68	211.22	211.14	1.48	1.54	1.51
15	H1H	0.65		0.65	0.16	3.52	400	62.00	560	0.77	0.11	212.69	212.68	211.49	211.38	1.20	1.30	1.25
16	HI	0.26	7.37	7.63	1.91	3.52	400	42.00	560	0.77	0.08	212.68	212.65	211.14	211.06	1.54	1.59	1.57
17	I1I3	0.62		0.62	0.16	3.52	400	100.00	560	0.77	0.18	212.75	212.71	211.55	211.37	1.20	1.34	1.27
18	I2I3	0.37		0.37	0.09	3.52	400	32.00	560	0.77	0.06	212.75	212.71	211.55	211.49	1.20	1.22	1.21
19	I3I	0.65	0.99	1.64	0.41	3.52	400	62.00	560	0.77	0.11	212.71	212.65	211.37	211.26	1.34	1.39	1.37
20	I- HSVP STORM	0.13	9.27	9.4	2.35	3.52	400	80.00	560	0.77	0.14	212.65	212.80	211.06	210.92	1.59	1.88	1.74

Schedule of Quantities of R.C.C. Pipes

PROVIDING STORM WATER DRAINAGE SCHEME 9.394 ACRES AFFORDABLE RESIDENTIAL PLOTTED COLONY, SOHNA

S.No.	Name of Line	Dia of pipe in mm and Length in meters					
		400mm	500mm	550mm	600mm	800mm	900mm
1	AB	38.00					
2	B1B	76.00					
3	BC	42.00					
4	C1C2	42.00					
5	C2C	62.00					
6	CD	25.00					
7	D1D	88.00					
8	DE	42.00					
9	EF	10.00					
10	F1F2	60.00					

Schedule of Quantities of R.C.C. Pipes

PROVIDING STORM WATER DRAINAGE SCHEME 9.394 ACRES AFFORDABLE RESIDENTIAL PLOTTED COLONY, SOHNA

S.No.	Name of Line	Dia of pipe in mm and Length in meters					
		400mm	500mm	550mm	600mm	800mm	900mm
11	F2F	90.00					
12	FG	25.00					
13	G1G	62.00					
14	GH	42.00					
15	H1H	62.00					
16	HI	42.00					
17	I1I3	100.00					
18	I2I3	32.00					
19	I3I	62.00					
20	I- HSVP STORM	80.00					
	TOTAL	**1082.00**					
	SAY	**1090.00**					

DESIGN DATA OF ROADS

9.394 ACRES AFFORDABLE RESIDENTIAL PLOTTED COLONY, SOHNA

9M, 9.55M &10.415M WIDE ROAD

S.NO	Name of Road	Length in M
1	R1	66.00
2	R2	83.00
3	R3	83.00
4	R4	66.00
5	R5	190.00
6	R6	42.00
7	R7	118.00
8	R8	34.00
9	R9	52.00
10	R10	55.00
11	R11	55.00
12	R12	55.00
13	R13	40.00
	TOTAL	**1039.00**
	Add 10 % at curves	**104.00**
	TOTAL	**1143.00**
	SAY	**1150.00**

Paved Area of Roads=1150X5.5M=	**6325.00**	**SQ.M**
Total length of roads=	**1150.00**	**M**
Length of kerbs = 2 X 1150	**2300.00**	**M**

हरियाणा शहरी विकास प्राधिकरण
HARYANA SHEHARI
VIKAS PRADHIKARAN

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Panchkula

C.E.I-No. 350/78
Dated: 24/12/2024
Annexure-A

SUB:- **Approval of revised service plan estimate for Residential Plotted Colony under Deen Dayal Jan Awas Yojana Scheme (DDJAY) an area measuring 9.394 acres (licence no. 197 of 2022 dated29.11.2022) in the revenue estate of Village Sohna, Sector-2, Sohna, Gurugram being developed by M/s S.U. Farms LLP in collaboration with Santur Builders Pvt. Ltd.**

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.

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Panchkula

8. Only D.I pipes will be used in water supply and flushing system, UPVC/ HDPE pipe for irrigation purposes.
9. A minimum 100 & 150mm i/d/D.I (K-7), 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 developer may be directed to get the Sewage Treatment Plant (STP) got designed from a Govt. Institute like IIT, NIT etc. so as to ensure that the technology adopted by him is appropriate. He must take this action before construction of STP and submit documentary proof for the same at the time of grant of occupation certificate. The efficacy of such STP shall be checked randomly by the concerned Regional Officer of HSPCB.
12. 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
13. The specifications for various roads will be followed as per IRC/MORTH specifications.
14. The wiring system of street lighting and specifications of street lighting fixture will be as per relevant standards.
15. This shall confirm to such other conditions as are incorporated in the approved estimate and the letter of approval.

Executive Engineer (M),
For Chief Administrator, HSVP,
Panchkula.