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SIGNATURE GLOBAL (INDIA) PRIVATE LIMITED
GURUGRAM

**COMMERCIAL PLOTTED COLONY (SCO),
SECTOR - 36, SOHNA
AREA 5.21875 ACRES**

**PROJECT REPORT/ESTIMATES FOR PROVIDING INTERNAL
SERVICES e.g. WATER SUPPLY, SEWAGE & STORM WATER
DRAINAGE ETC. COMMERCIAL PLOTTED COLONY, SECTOR
- 36, AT SOHNA(HARYANA).**

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SERVICES PLANS & ESTIMATE

"COMMERCIAL PLOTTED COLONY (SCO-
5.21875a)"

AT SECTOR-36

SOHNA (Haryana)

M/s SIGNATURE GLOBAL (INDIA) PVT. LTD

GURUGRAM



PROJECT REPORT/ESTIMATES FOR PROVIDING INTERNAL SERVICES e.g. WATER SUPPLY, SEWERAGE & STORM WATER DRAINAGE ETC. IN RESPECT OF PLOTTED COMMERCIAL COLONY , SECTOR - 36, AT SOHNA.

COMMERCIAL PLOTTED COLONY is proposed at sector 36, at Sohna for development by M/s SIGNATURE GLOBAL (INDIA) PVT. LTD., Gurugram.

Water Supply

1 Source

The source of water supply in this area is tubewells as the underground water is sweet and fit for human consumption, moreover, the water is available at reasonable depth. The average yield of tubewell with 60'-80' stainer will be about 36000 lph per hour. The recharging of under ground water table in this belt is stated to be good. However still we shall resort to rain water harvesting system to keep up the recharging system. The number of tubewells required for the above area has been worked out to 1 Nos and the tubewells will be bored in tune with growth of demand to avoid absolution of the tubewells. The ultimate requirement of tubewells includes provision of 10% standby.

2 Design

The scheme has been designed for population of 2426 persons. The rate of water supply per head per day has been taken assumed as 45 litres per head per day as per HUDA norms. In addition to above necessary provision of water for shopping centers, parks etc. have been taken into account for calculating the maximum number of tubewell water required.

3 Pump Chambers and Pumping Machinery

It is proposed to equip each tubewell with an electrically driven pumping set-Ejecto type or submersible pump capable of delivering about 12500 litre per hour. It is also proposed to equip 2 Nos pumping sets with stand by diesel gen set engines for operation during failure of electricity at three locations.

4 Under Ground Storage

Underground storage tank provision has been made for 100KL in two compartments near the UGSR, which caters for the present and of future requirement. The water from the tubewell will be stored in raw domestic water compartment and after treatment water will be stored in the treated water compartment.

5 Boosting Station

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



6 Distribution System

The distribution systems for this development are has been designed to supply @ 45 Litres per head per day @ 3 times the average rate of flow on 'Hazen William's formula with C-120. Necessary provision for laying D.I. CLASS K9 pipes only conforming to relevant IS standards along with valves and specials has been made in this estimate. The minimum terminal head at any point in this system will be about 27.00 metres . Minimum pipe diameters for distribution are kept as 80 mm dia.

7 Rising Mains

Rising mains from HUDA water main on sector road to water works have also been designed and provision for 100 mm i/d D.I. pipe line has been made in this estimate.

8 Sewerage

The sewer lines have been designed for 3 times average DWR in relation to the water supply demand assuming that 75% fo the domestic water supply shall find its way into the proposed sewer RCC NP-3. pipe sewers have been proposed designed to run half full. The sewers have been designed on 2.50 ft. per second velocity ie. Self cleansing velocity. Necessary provisions for laying S.W. pipes manholes etc. has been made in this estimate.

9 Storm Water Drainage

The storm water drain is being designed to carry 6.25 mm rain fall per hour. Also suitable provisions are contemplated in our scheme to ensure better recharging of under ground water table in the area. RCC Hume pipe drain with minimum 400 mm dia is proposed in this area.

10 Roads

The roads in the colony are being planned such that minimum width of road provided is 7 m carrier road leading to higher width of roads. The roads shall be premixed 20 mm bituminous layer over 22.5 cm avg. water bound macadam over 25.5 cm thick (GSB) as per MORTH specs..

11 Street Lighting

The provision has been made on lump sum basis

12 Horticulture

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



13 **Specifications :**

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

14 **Rates**

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

15 **Cost**

The total cost of development in this Project phase one including various PH & B & R services works out to Rs 312.22 lacs which includes 3% contingency and P.E. charges and 49% departmental charges, Price escalation, unforeseen, Admn. charges also.

The cost per gross acre for this phase works out to Rs. 59.827 Lacs/acre which covers the provision of services like water supply, sewerage, storm water drainage, roads, street lighting and plantations including plantations maintenance thereof as well as future expansion whatsoever indicated.



COMMERCIAL PLOTTED COLONY, SECTOR - 36, SOHNA
AREA 5.21875 ACRES
FINAL ABSTRACT OF COST

1.	SUB WORK NO. I	WATER SUPPLY	RS.	81.56 Lacs.
2.	SUB WORK NO. II	SEWERAGE SCHEME	RS.	42.01 Lacs.
3.	SUB WORK NO. III	STORM WATER DRAIN	RS.	74.97 Lacs.
4.	SUB WORK NO. IV	ROAD WORK	RS.	27.67 Lacs.
5.	SUB WORK NO. V	ELECTRICAL	RS.	7.73 Lacs.
6.	SUB WORK NO. VI	HORTICULTURE	RS.	9.41 Lacs.
7.	SUB WORK NO. VII	MAINTANCE CHARGES & RESURFACING OF ROADS 10 years i/c resurfacing of roads after 1st 5 years & 2nd 5 years.	RS.	68.88 Lacs.

TOTAL RS. 312.22 Lacs.

COST/GROSS ACRE (IN LACS/ ACRE)

Total =312.22/5.21875 RS. 59.827 Lacs./ acre



COMMERCIAL PLOTTED COLONY, SECTOR - 36, SOHNA
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WATER SUPPLY ABSTRACT OF COST

Sub Head 1	Head Works	Rs.	28.50 Lacs.
Sub Head 2	Pumping Machinery	Rs.	9.80 Lacs.
Sub Head 3	Distribution System	Rs.	15.36 Lacs.
	Total	Rs.	53.66 Lacs.
	Add 3% Contingencies	Rs.	1.61 Lacs.
	Add 49% Departmental Charges	Rs.	26.29 Lacs.
	Total	Rs.	81.56 Lacs.
	C.O. to Final Abstract of cost	Say	81.56 Lacs.

V. K. Jain

COMMERCIAL PLOTTED COLONY, SECTOR - 36, SOHNA
AREA 5.21875 ACRES

DESIGN CALCULATION

**Daily water
requirement**

NO OF PLOTS = 84

TOTAL BUILT UP AREA ON G+4 FLOORS = 24259.00 M²

NO OF PERSONS @ 1 PERSON PER 10 M² OF AREA $24259/10 = 2426$

WATER DEMAND = $2426 \times 45 = 109170$ LITRES PER DAY

ADD FOR VISITORS = $109170 + 3000 = 112170$ LITRES PER DAY

TOTAL WATER DEMAND FOR SCO = 112.170 M³ PER DAY

TOTAL WATER REQUIREMENT OF SCO 112.17 M³

1

Total water required 112.17 M³ KLD

SAY 100.00 KLD

Tubewell

I

Assuming working 8 hours

Assuming 15 KL/hours

**discharge/hour of
each tubewell**

Total domestic 100.00 KLD

No. of tubewells 100.00 /8/15 0.83

required

Add 5% standby 0.04

Total 0.88



It is proposed to
provide 1 Nos.
Tube well to cater
the present
requirement

**Pumping machinery
for tubewell**

II	Gross working load	=	45.00 m
	Average fall in SL	=	3.05 m
	Depression head	=	6.10 m
	Friction loss in main	=	2.50 m
		=	56.65 m
	Say	=	60.00 m

BHP =	=	5.50 BHP
250(lpm)x60x/4500x0.6		
With 60% efficiency	Say	6 BHP

Underground Tank

III	Daily requirement for domestic use	=	100.00 KL
	Capacity of underground tank		
	21 hours storage	100.00 x 8 / 24	= 87.50 KL
		Say	100.00 KL
	Total		100.00 KL

It is proposed to
provide under ground
tank of capacity
100KL.



This tank will have two compartments, for domestic use.

BOOSTING MACHINERY

IV

Daily requirement for domestic use			=	100.00 KL
Assuming 8 hours running one pumps (with one standby) 1w+1s				
Discharge/hour	100.00	/ 8 / 1	=	12.50 KL/HR
Head of pump				
i) Suction lifts			=	0.00 m
ii) Friction loss in main & specials			=	10.00 m
iii) Clear head			=	25.00 m
iv) residual head			=	15.00
			=	50.00 m
BHP of motor	12.50	x1000		3.86 HP
		x35/4500 x60		
		x0.60		
		SAY	=	4.00 HP
Gen Set	Nos.	HP		
Pumps	1	4.0	=	4.00 HP
Tubewell	1	6	=	6.00 HP
Lighting			=	10.00 HP
				20.00 HP
or	20	x0.746x1.50		22.38 KVA
		Say		25.00 KVA



COMMERCIAL PLOTTED COLONY, SECTOR - 36, SOHNA
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S. No.	Description	Unit	Qty	Rate	Amount
Sub-head I		Water Supply			
				Head Works	
1	Boring and installing 510 mm i/d tubewells with reverse/direct rotary rig complete with pipe strainer to a depth of about 100 m. complete	Nos.	1	1,200,000	12.00 Lacs
2	Constructing pump chambers as per standard design of PWD PH/HUDA of size 4.90x4.25 m	Nos.	1	200,000	2.00 Lacs
3	Construction of boundary wall gate around the Tubewell site				
a)	Water Works	Nos	1	500,000	5.00 Lacs
b)	Tubewells	Nos	1	150,000	1.50 Lacs
4	Provision of footpath hedges and lawns at tubewell	Nos	1	100,000	1.00 Lacs
5	Construction of boosting chambers of suitable size along with under ground tank of capacity 100 KL, pumping machinery and generating set etc. complete in all respects.				
	Details of boosting station				
i)	construction of boosting chamber	LS			2.00 Lacs
ii)	UG tank 100 KL capacity incl. 100 KL in two compartments	KL	100	5000.00	5.00 Lacs
C.O. to Abstract of Cost Water Supply					28.50 Lacs
Say					28.50 Lacs



S. No.	Description	Unit	Qty	Rate	Amount
	Sub-work-1				
	Sub Head II			Pumping Machinery	
1	Provision for cheap pressure type chlorination plant complete	Nos.	1	100,000	1.00 Lacs
2	Provision for making foundations & erection of pumping machinery	Nos.	1	30,000	0.30 Lacs
3	Provision for pipes, valves & specials inside the pump chamber	Nos.	1	50,000	0.50 Lacs
6	Provision for electric services connection including electric fittings for tubewells chambers complete including cost of Transformer and erection	LS			1.00 Lacs
7	Providing and installing centrifugal boosting pumping set, capable of delivering water at 50 M head complete in all respects (1 working + 1 standby)	Set	1	500,000	5.00 Lacs
8	Providing Gen set 25 KVA (working + standby)	Nos.	1	150,000	1.50 Lacs
9	Provision for carriage for materials and other unforeseen items.	Ls			0.50 Lacs
	C.O. to Abstract of Cost Water Supply				9.80 Lacs
				Say	9.80 Lacs



S. No.	Description	Unit	Qty	Rate	Amount
	Sub-work-1				
	Sub Head III				
	Distribution System/Rising Main				
1	Providing, laying, jointing & testing D.I. Class K9 pipes including cost of excavation complete as per ISI marked.				
i)	100 mm dia	M	1,000	1150.00	11.50 Lacs
2	Providing and fixing sluice valves including cost brick masonry chambers complete in all respects.				
i)	100 mm i/d	Nos.	7	12000.00	0.84 Lacs
3	Providing and fixing air valves and scour valves including cost of brick masonry chamber.	Nos.	1	10000.00	0.10 Lacs
4	Providing and fixing indicating plates for sluice valve, air valve etc.	Nos.	2	600.00	0.01 Lacs
5	Provision for carriage of material	LS			0.50 Lacs
7	Provision for cutting the roads and making to its original conditions.	LS			1.00 Lacs
8	Rising Main from HUDA/HSVP B.S. to Site in future.	LS			1.00 Lacs
9	Provision for rising main from tubewells to UG Tank				
i)	80 mm i/d	M	45	900.00	0.41 Lacs
	C.O. to Abstract of Cost Water Supply				15.36 Lacs
				Say	15.36 Lacs



COMMERCIAL PLOTTED COLONY, SECTOR - 36, SOHNA
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S. No.	Description	Unit	Qty	Rate	Amount
Sub Work No. II		Sewerage Scheme			
1	Providing, lowering, jointing, cutting salt glazed stone ware/RCC NP3 pipes and specials into trenches including cost of excavation, bed concrete lot of manholes complete.				
i)	200 mm i/d				
a)	Average depth up to 3.0 m	M	810	1375.00	11.14 Lacs.
2	Capacity of STP @ 80% of Daily Water Requirement = 112.17 KLD * 0.8= 89.6KLD Say = 90 KLD Constructing Sewage treatment including all civil works, sump pits and mechanical equipments in phase wise				
	90 KLD	NOS	1	1200000.00	12.00 Lacs.
3	Provision for providing oblique junctions	LS			1.00 Lacs.
4	Provision for temporary timbering etc.	LS			0.50 Lacs.
5	Provision for providing and fixing vent shaft at suitable places as per PH requirements	LS			1.00 Lacs.
6	Provision for Rising Main	LS			1.00 Lacs.
7	Provision for cutting of roads and carriage of materials etc. and other unforeseen charges	LS			1.00 Lacs.
	Total				27.64
	Add 3% contingencies and P.E. charges				0.83 Lacs.
	Add 49% Deptt. Charges, price escalation, unforeseen, Admn. charges				13.54 Lacs.
				Total	42.01 Lacs.
	C.O. to Final Abstract of cost			SAY	42.01 Lacs.



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S. No.	Description	Unit	Qty	Rate	Amount
Sub Work No. III		Storm Water Drain			
1	Providing, lowering, jointing, cutting RCC NP3 pipes and specials into trenches including cost of excavation cost of manholes, ventilating chambers etc. complete in all respects.				
i)	400 mm i/d				
a)	Average depth upto 2.0 m	M	732	3343.00	24.47 Lacs.
ii)	450 mm dia i/d				
a)	Average depth upto 2.0 m	M	20	3500.00	0.70 Lacs.
2	Provision for road gullies	nos	83	5000.00	4.15 Lacs.
3	Constructing 4.0x4.0x 4.0 rain water harvesting pits including boring & lowering of 160 OD uPVC pipe upto 20 meter with excavation of earth, filling of bajari along the PVC pipes and chamber. The brick ballast 40 size also filled chamber.	Item	6	250000.00	15.00 Lacs.
4	Provision for lighting, watching and temporary diversion of traffic	LS			1.50 Lacs.
5	Provision for cutting of roads and carriage of materials etc. and other unforeseen items	LS			1.00 Lacs.
6	Provision for temporary disposal arrangements/Re-charge pit	LS			1.50 Lacs.



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S. No.	Description	Unit	Qty	Rate	Amount
Sub Work No. IV		Road Work			
1.0	Provision for leveling and earth filling as per site conditions.	per acre	5.21875	75,000.00	3.91 Lacs.
2.0	Road work as per HUDA Norms	cum.	700	1,100.00	7.70 Lacs.
3.0	Providing for Kerbs & Channels	R.m.	648	500.00	3.24 Lacs.
4.0	Provision for plot indicator / guide map / demarcation burji etc. / traffic light etc.	L.S.	job		1.00 Lacs.
5.0	Pedestrian Track on both sides of roads with interlock pavers etc. as per specifications.	m2	300	450.00	1.35 Lacs
6.0	Provision for carriage of material	L.s.		L.s.	1.00 Lacs.
TOTAL					18.20 Lacs.
Add 3% contingencies and P.E. Charges					0.55 Lacs.
Add 49% Departmental Charges, price escalation, unforeseen, admn. Charges					8.92 Lacs.
GRAND TOTAL					27.67 Lacs.
C.O. to Final Abstract of cost				SAY	27.67 Lacs.



COMMERCIAL PLOTTED COLONY, SECTOR - 36, SOHNA
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S. No.	Description	Unit	Qty	Rate	Amount
Sub Work No. V				Electrical	
1.0	Supply & erection of Street Lighting at surrounding as per HUDA specifications.	acres	5.21875	97500.00	5.09 Lacs.
	Add 3% contingencies				0.15 Lacs.
	Add 49% Deptt. Charges				2.49 Lacs.
			Total		7.73 Lacs.
	C.O. to Final Abstract of cost			SAY	7.73 Lacs.



COMMERCIAL PLOTTED COLONY, SECTOR - 36, SOHNA
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S. No.	Description	Unit	Qty	Rate	Amount
Sub Work No. VI		Horticulture			
1.0	Lawn				
	Preparation of lawn for grassing by excavation to a depth of 30 cms, removing all foreign bodies over 50 mm dia., refilling with the mix of earth and manure in ratio- 2:1 Grade lawn areas to finish levels as indicated on grading plants. All lawn areas shall slope to drain. Where no grades are shown areas shall have a smooth and continual grade between existing or fixed controls (such as walks, curbs, catch basins, elevation at steps or building) and levels shown on plans. Roll scarify take and level as necessary to obtain true, even lawn surface. All finish grades shall meet approval of the project Engineer before grassing is done. Grassing with seeding of specified grass including watering and maintenances of the lawn for 30 days or more till the grass form a thick lawn free of weeds and fit for mowing, the lawn after which it shall be maintained for period of 12 months, supply & spraying of insecticide and nutrients as required complete. (Inclusive of the cost of Selection No 1 grass)	Acre	5.21875	90,000.00	4.70 Lacs.
	Total				4.70 Lacs.
2.0	Providing & Laying sprinkler irrigation system along roads, parks etc.	Acre	5.21875	25,000.00	1.30 Lacs
	Total				1.30 Lacs.
3.0	Trees (Planting cost + cost of plant)(1no. Tree @ 5.0 mt. c/c)	nos.	22	850.00	0.19 Lacs
	TOTAL				6.19 Lacs.
	Add 3% contingencies and P.E. Charges				0.19 Lacs.
	Add 49% Departmental Charges, price escalation, unforeseen, admn. Charges				3.03 Lacs.
	GRAND TOTAL				9.41 Lacs.
	C.O. to Final Abstract of cost			SAY	9.41 Lacs.



COMMERCIAL PLOTTED COLONY, SECTOR - 36, SOHNA
AREA 5.21875 ACRES

S.No.	Description	Unit	Qty	Rate	Amount
Sub Work No. VII		Maintenance Charges & Resurfacing of Roads			
1.0	Provision for maintainance charges for water supply, sewerage, storm water drainage, roads, streetlight, horticulture etc. complete including operation and establishment charges as per HUDA norms after completion and resurfacing of roads after 10 years or 1st phase.	acre	5.21875	600,000.00	31.31 Lacs.
2.0	Provision for resurfacing of roads after 1st 5 years of maintainance.	sq.m.	2000	400.00	8.00 Lacs.
3.0	Provision for resurfacing of roads after 10 years.	sq.m.	2000	300.00	6.00 Lacs.
TOTAL					45.31 Lacs.
Add 3% contingencies and P.E. Charges					1.36 Lacs.
Add 49% Departmental Charges, price escalation, unforeseen, admn.charges					22.20 Lacs.
GRAND TOTAL					68.88 Lacs.
C.O. to Final Abstract of cost				SAY	68.88 Lacs.

