PROJECT REPORT / ESTIMATES FOR PROVIDING INTERNAL SERVICES e.g. WATER SUPPLY, FIRE, SEWERAGE & STORM WATER DRAINAGE ETC. IN RESPECT OF GROUP HOUSING PROJECT AT SECTOR-92, GURGRAM (HARYANA)

Sohna (Gurgram) is located at 28°28′N 77°02′E28.47°N 77.03°E/28.47; 77.03. It has an average elevation of 220 metres (721 ft) Gurgram district, comprising four blocks Pataudi, Sohna, Gurgram and Farrukhnagar, was created on 15 August, 1979.On its north, it is bounded by the district of Rohtak and the Union Territory of Delhi. Faridabad district lies to its east. On its south, the district shares boundaries with the district of Mewat. To its west lies the district of Rewari and the State of Rajasthan. Gurgram is situated between the Himalayas and Aravalis mountain ranges. It is surrounded on three sides by Haryana and to the east, across the river Yamuna by Uttar Pradesh. Its greatest length is around 13 miles and the greatest breadth is 17 miles. Delhi's altitude ranges between 213 to 305 meters above sea level.

AFFORDABLE HOUSING is a residential proposed at Sohna, at Gurgram for development by **M/S NANI RESORTS AND FLORICULTURE PVT.LTD**

Water Supply

The source of water supply shall be HUDA water supply connection. It has been proposed to construct undergorund tanks of capacity as per attached detaileds for domestic and other purpose. The underground tanks will be filled up from the riser and then pumped to the overhead water tanks of each tower.

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' strainer will be about 18000 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 2 Nos and the tubewells will be bored in tune with growth of demand to avoid absolence of the tubewells. The ultimate requirement of tubewells includes provision of 10% standby.

2 Pumping Equipments

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

3 Sewerage

This scheme is designed for sewer connecting to the proposed sewage treatment. The sewerage system has been marked on the respective plans.

The sewer lines have been designed for 3 times average DWR in relation to the water supply demand assuming that 80% fo the domestic water supply shall find its way into the proposed sewer SW 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 SW pipes manholes etc. has been made in this estimate.

Necessary design statement for entire sewerage system has been prepared and attached with estimate.

4 Storm Water Drainage

The storm water drain is being designed to carry 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 NP_2 pipe drain with minimum 400 mm dia is proposed in this area.

5	**Roads**					
	Cost of road has been taken in the estimate					
6	**Street Lighting**					
	Provision for street lighting on surrounding area has been made.					
7	**Horticulture**					
	Estimates and details of plantation, landscaping, signage etc. has been included					
8	**Specifications :**					
	The work will be carried out in accordance with the standard specifications of PH as laid down by the HUDA/Haryana Government.					
9	**Rates**					
	Estimates for providing services in this site has been prepared on the recent market rates.					
10	**Cost**					
	The total cost of development in this Project including various PH & B & R services works out to **Rs. 391 lacs** which includes 3% contingency and PE charges and 49% departmental charges also.					
	The cost per gross acre for this works out to **Rs. 78.04 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.					
	M/S NANI RESORTS AND FLORICULTURE PVT.LTD					
	Authorised Signatory					

GROUP HOUSING AT SECTOR-92, GURUGRAM (HARYANA)

1 DESIGN CALCULATION

i)	**Daily Domestic Water Requirement**					
a)	**Residential (D.U)**			729		
	Population @ 5 person per unit - DU			5		
	Therefore population (DU)			3645	persons	
	Population (Maintenance & Security Personnel)			10	persons	
	Total Population			3655	persons	
			SAY	**3655**	**persons**	
	Water requirement		@	172.5	liter / head / day	
				630487.50	lpd	
			or	**630.00**	**KLD____(a)**	
b)	Anganwadi	1	@	25000	lit/day	
	Therefore daily water requirement			25000	lit/day	
				25	KLD ____ (b)	
c)	No. of Club	1				
	Daily water requirement lumpsum		@	25000	lit/acre	
	Therefore daily water requirement			25000	lit/day	
				25	KLD ____ (c)	
d)	No. of Convenient Shopping	1				
	Daily water requirement lumpsum		@	20000	lit/acre	
	Therefore daily water requirement			20000	lit/day	
				20.00	KLD ____ (d)	
ii)	**Total Daily Water Requirement for (a+b+c+d)**			**700.00**	**KLD**	
a)	Domestic Water Requirement @	70%		490.00	KLD	
			Say	**500.00**	**KLD**	
b)	Flushing Water Requirement @	30%		210.00	KLD	
			Say	**210.00**	**KLD**	
iii)	**Water usage from STP**					
a)	Area under Parks	1.12	acre			
	Daily water requirement		@	25000	lit/acre/day	
				28000.00	lit/day	
				28.00	KLD	

b)	Area under Roads					
	Daily water requirement		Lumpsum	7500	lit/acre/day	
				7500	lit/day	
				7.5	KLD	
c)	Under Road+ Parks (a+b)		**Total**	35.50	KLD	
			Say	**36.00**	**KLD**	
iv)	**Total treated water requirement [ii (b) + iii (c)]**			**246.00**	KLD	
v)	**Total Daily Requirement [ii (a) + iv]**			**746.00**	**KLD**	
			SAY	**746.00**	**KLD**	
2	**Tubewell**					
	Assuming working hours of tubewells			14	hours	
	Assuming discharge/hour of each tubewell			18	KL/hours	
	Total fresh water demand			**500.00**	**KLD**	
	No. of tubewells required	500.00	/18/10	1.98		
	Add 10% standby			0.20		
			Total	2.18		
			Say	2.00		
	It is proposed to provide (i.e. 2 No.) to cater the present requirement					
3	**Pumping machinery for tubewell**					
	Gross working load		=	70.00	m	
	Average fall in SL		=	3.05	m	
	Depression head		=	6.10	m	
	Friction loss in main		=	2.50	m	
			=	81.65	m	
		Say	=	**82.00**	m	
	BHP = 18000x77x1/60x60x75x0.6		=	9.11	BHP	
	With 60% efficiency	Say		10.0	BHP	
4	**Underground Tank**					
	Daily fresh water requirement for domestic use			=	500.00	KL
	Capacity of under ground tank					
	36 hours storage	500.00	x 36 / 24	=	750.00	KL
	For fire 100 sqrt (P)= 100 sqrt (3.64)			=	191.18	KL
	Fire Tank Capacity Proposed As / IS Code 15105 & NBC 2016 (as no. of hydrants are more than 100)		**Say**	**=**	**200.00**	**KL**
			Total		**950**	**KL**
	It is proposed to provide under ground tank of capacity **950 KL** which also includes **200 KL** capacity for fire fighting.					
	This tank will have Six compartments, two for fire, two for raw and the other two for domestic use. The water first enters the fire compartment, then over flows to the raw use compartment so that the water in the fire compartment shall remain fresh.					
	FIRE WATER TANK				**200.00**	**KL**
	TOTAL UG STORAGE (DOMESTIC + FLUSHING + HORTICULTURE)				**1000.00**	**KL**
	RAW WATER TANK				**250.00**	**KL**
	DOMESTIC WATER TANK				**500.00**	**KL**
	FLUSHING, HORTICULTURE & ROAD WASHING (PART OF STP)				**250.00**	**KL**

5	**DOMESTIC WATER PUMPS - LOCATED IN PUMP ROOM**					
a.)	**RAW WATER FILTER FEED PUMP**					
	Daily requirement for domestic use			=	500.00	KL
	Assuming 12 hours running 1 pumps (with one standby)					
	Discharge/hour	500.00	/12 / 1	=	41.67	KL/HR
	Head of pump					
	i) Suction lifts			=	0.0	m
	ii) Friction loss in M<main & specials			=	0.0	m
	iii) Clear head			=	35.0	m
				=	35.0	m
	BHP of motor	41.67	x1000x35/4500x60x0.60		9.0	HP
			SAY	**=**	**10.0**	**HP**
b.)	**Domestic Water Transfer Pumps**					
	Daily requirement for domestic use overhead tank filling (in two shifts)			=	250.00	KL
	Assuming 6 hours running 1 pumps (with one standby)					
	Discharge/hour	250.00	/ 6 / 1	=	41.67	KL/HR
	Head of pump					
	i) Suction lifts			=	0.0	m
	ii) Friction loss in M<main & specials			=	15.0	m
	iii) Clear head			=	45.0	m
	iv) Residual head			=	15.0	m
				=	75.0	m
	BHP of motor	41.67	x1000x55/4500x60x0.60		19.3	HP
			SAY	**=**	**20.0**	**HP**
6	**FLUSHING WATER PUMPS - LOCATED IN STP**					
	Daily requirement for flushing use (in two shifts)			=	105.00	KL
	Assuming 6 hours running 1 pumps (with one standby)					
	Discharge/hour	105.00	/ 6 / 1	=	17.50	KL/HR
	Head of pump					
	i) Suction lifts			=	0.0	m
	ii) Friction loss in M<main & specials			=	15.0	m
	iii) Clear head			=	45.0	m
	iv) Residual head			=	15.0	m
				=	75.0	m
	BHP of motor	17.50	x1000x55/4500x60x0.60		8.1	HP
			SAY	**=**	**10.0**	**HP**
7	**PUMPS FOR FIRE PROECTION**					
	Pump Description	**Location**	**Nos.**	**Discharge**	**Head**	**HP**
i)	**Diesel Pump**	Pump Room	**2**	**2280**	**95.00**	
ii)	**Hydrant Pump**	Pump Room	**1**	**2280**	**95.00**	**80**
iii)	**Jockey Pump**	Pump Room	**1**	**180**	**95.00**	**10**

8	**Capacity of Gen Set**	Nos.	HP			
a.)	Raw Water Transfer Pumps	2	10.0	=	20	HP
b.)	Domestic water transfer pumps	2	20.0	=	40	HP
d.)	Flushing water transfer pumps	2	10.0	=	20	HP
g.)	Fire Pump **(Jockey)**	1	10.0	=	10	HP
h.)	Tubewell	2	10.0	=	20	HP
j.)	Lighting			=	25	HP
					135	HP
	or	135	x0.746x1.50		151.065	KVA
			Say		160	KVA
	Requirement of 160 KVA capacity will be added in to the main D.G. set to provide standby supply.					

Estimate for Providing in Internal Development works for Housing for

M/S NANI RESORTS AND FLORICULTURE PVT.LTD At Gurgoan (Haryana)

Description	**Amount (Lacs.)**
Sub Work - I Water Supply	**176.20**
Sub Work - II Sewerage	**69.74**
Sub Work - III Storm Water Drainage	**35.37**
Sub Work - IV Roads & Footpath	**41.44**
Sub Work - V Street Lighting	**7.69**
Sub Work - VI - Horticulture	**8.07**
Sub Work - VII - Maintenance of Services for 10 years including resurfacing of roads after 1st 5 years & II phase i.e. 10 years of maintenance (as per HUDA norms)	**52.35**
Total	**390.85**
Say	**391.00**

(RUPEES FIVE CRORE EIGHTY SEVEN LACS ONLY)

M/S NANI RESORTS AND FLORICULTURE PVT.LTD At Gurgoan (Haryana)

Authorized Signatory

SUMMARY OF SUB WORK - I (WATER SUPPLY)						
					Amount (Lacs.)	
	Sub Head - (I) Head Works				38.60	
	Sub Head - (II) Pumping Machinery				30.08	
	Sub Head - (III) Distribution System				19.86	
	Sub Head - (IV) Irrigation Scheme				3.47	
	Sub Head - (V) Fire Scheme				22.80	
	Total				**114.81**	
	Add 3% Contingencies				3.44	
					118.25	
	Add 49% Departmental Charges				57.94	
			Total		176.20	
	(CO to final abstract of cost)			**Say**	**176.20**	

	Sub Work I				**Water Supply**	
	Sub Head No. I				**Head Works**	
S. No.	**Description**	**Unit**	**Qty**	**Rate**	**Amount (Rs.)**	
					(in Lakhs)	
1	Boring and installing 510 mm i/d tubewells with reverse/direct rotary rig complete with pipe strainer to a depth of about 80 m. complete	Nos.	2	200000.00	4.00	
2	Constructing pump chambers as per standard design of PWD PH/HUDA of size 1.50x1.50 m	Nos.	2	75000.00	1.50	
3	Construction of boosting chambers of suitable size along with under ground tank of capacity 950 KL pumping machinery and generating set etc. complete in all respects.					
	Details of boosting station					
i)	construction of boosting chamber				4.00	
ii)	UG tank 950 KL capacity incl. 200 KL for fire fighting in two compartments @ 2800 / KL.				26.60	
4	Provision for carriage of material and other unforeseen items				0.50	
5	Provision for facilites staff for Maintenance				2.00	
	(C.O. to abstract of cost of Sub-work No.I)				**38.60**	**Lacs**
				Say	**38.60**	**Lacs**

	Sub Work I				Water Supply	
	Sub Head No. II				Pumping Machinery	
S. No.	Description	Unit	Qty	Rate	Amount (Rs.)	
					(in Lakhs)	
1 (i)	Providing & installing electricity driven pumping set capable of delivering 695 LPM of water against a total head of 35 m complete with motor and other accessories (For Filter feed pump - 10 HP)	Nos.	2	57000.00	1.14	
(ii)	Providing & installing electricity driven pumping set capable of delivering 695 LPM of water against a total head of 75 m complete with motor and other accessories (For Domestic - 20 HP)	Nos.	2	85000.00	1.70	
(iii)	Providing & installing electricity driven pumping set capable of delivering 195 LPM of water against a total head of 75 m complete with motor and other accessories (For Flushing - 10.0 HP)	Nos.	2	57000.00	1.14	
2	Provision for diesel engine generator set each for standby Arrangements for booster pump complete with gear head arrangements of following capacities.					
	1 No. - 160 KVA	Nos.	1	1000000.00	10.00	
3	Providing & installing pumping set of following capacities for fire protection:					
i)	180 LPM @ 95 M Head (10 HP)	Nos.	1	57000.00	0.57	
ii)	2280 LPM @ 95 M Head (80 HP) Hydrant	Nos.	1	178000.00	1.78	
iii)	2280 LPM @ 95 M Head (DG Pump)	Nos.	2	345000.00	6.90	
4	Provision for diesel engine genset stand bye arrangements for Tubewells	Nos.	2	120000.00	2.40	
5	Provision for cheap pressure type chlorination plant complete	Nos.	2	15000.00	0.30	
6	Provision for making foundations & erection of pumping machinery	LS			0.75	
7	Provision for pipes, valves & specials inside the pump chamber	LS			1.00	
8	Provision for electric services connection including electric fittings for tubewells chambers complete	LS			1.65	
9	Provision for carriage for materials and other unforeseen items	LS			0.75	
	(C.O. to abstract of cost of Sub-work No.I)				**30.08**	
				Say	**30.08**	

	Sub Work I				Water Supply	
	Sub Head No. III				Distribution System/Rising Main	
S. No.	Description	Unit	Qty	Rate	Amount (Rs.)	
1	Providing, laying, jointing & testing ASTM pipes including cost of excavation complete as per ISI marked.					
v)	65 mm dia	M	55	620.00	34100.00	
vi)	80 mm dia	M	700	700.00	490000.00	
vii)	100 mm dia	M	925	1050.00	971250.00	
2	Providing, laying, jointing & testing CPVC pipes including cost of excavation complete as per ISI marked.					
i)	25 mm dia	M	50	59.00	2950.00	
ii)	32 mm dia	M	200	87.00	17400.00	
iii)	40 mm dia	M	200	119.00	23800.00	
iv)	50 mm dia	M	55	198.00	10890.00	
3	Providing, fixing & Testing Ball valves including cost of complete in all respects.					
i)	25 mm dia (CPVC)	Nos.	5	120.00	600.00	
ii)	32 mm dia (CPVC)	Nos.	15	150.00	2250.00	
iil)	40 mm dia	Nos.	15	201.00	3015.00	
4	Providing, fixing & Testing Butter Fly valves including cost of complete in all respects.					
i)	50 mm i/d	Nos.	5	600.00	3000.00	
ii)	80 mm i/d	Nos.	2	890.00	1780.00	
iii)	100 mm i/d	Nos.	2	1083.00	2166.00	
5	Providing, fixing & Testing Non Return valves (NRV) including cost of complete in all respects.					
i)	100 mm i/d	Nos.	2	1520.00	3040.00	
6	Providing and fixing air valves and scour valves including cost of complete in all respects.	Nos.	2	1200.00	2400.00	
7	Providing and fixing indicating plates for Buteerfly valve, air valve etc.	Nos.	4	600.00	2400.00	
8	Provision for carriage of material	LS	-	-	75000.00	
9	Provision for cutting the roads and making to its original conditions.	LS	-	-	75000.00	
10	Making water supply connection.	LS	-	-	150000.00	
11	Provision for rising main from tubewells to UG Tank					
i)	100 mm i/d	M	230	500.00	115000.00	
	(C.O. to abstract of cost of Sub-work No.I)				**1986041.00**	
				Say	**19.86**	**Lacs**

S. No.	Description	Unit	Qty	Rate	Amount (Rs.)	
	Sub Work I				**Water Supply**	
	Sub Head No. IV				**Irrigation**	
S. No.	**Description**	**Unit**	**Qty**	**Rate**	**Amount**	
1	Providing, laying, jointing & testing uPVC pipe line confirming to IS 4985 including cost of Excavation etc. complete in all respect.					
i)	25 mm dia	M	50	150.00	7500.00	
ii)	65 mm dia	M	50	240.00	12000.00	
ii)	80 mm dia	M	1000	273.00	273000.00	
2	Providing and fixing 20mm dia Irrigation hydrant valve complete in all respect.	Nos.	33	550.00	18150.00	
3	Providing & fixing valve 25mm dia	Nos.	33	120.00	3960.00	
4	Providing, fixing & Testing Butterfly valves including cost of complete in all respects.					
i)	80 mm i/d	Nos.	3	890.00	2670.00	
5	Providing and fixing air valves and scour valves including cost of complete in all respects.	Nos.	3	1200.00	3600.00	
6	Providing and fixing indicating plates for sluice valve, air valve etc.	Nos.	6	600.00	3600.00	
7	Provision for carriage of materials etc. and other unforsean charges	LS	-	-	7500.00	
8	Provision for cutting of roads & making good to its in original condition	LS	-	-	15000.00	
	(C.O. to abstract of cost of Sub-work No.I)			**Total**	**346980.00**	
				Say	**3.47**	**Lacs**

S. No.	Description	Unit	Qty	Rate	Amount (Rs.)	
	Sub Work I				**Water Supply**	
	Sub Head No. V				**Fire Scheme**	
S. No.	**Description**	**Unit**	**Qty**	**Rate**	**Amount (Rs.)**	
1	Providing, laying, jointing & testing M.S. pipes for fire ring main including cost of Fittings, Valves & excavation complete (as per ISI marked) in all respect.					
a)	150 mm dia	M	1200	1250.00	1500000.00	
b)	100 mm dia	M	50	1000.00	50000.00	
c)	80 mm dia	M	100	900.00	90000.00	
2	Providing and fixing External Fire Hydrants complete with hose box, and accesories.	Nos.	29	10000.00	290000.00	
3	Providing & fixing sluice valve.					
a)	150 mm dia	Nos.	4	12000.00	48000.00	
b)	100 mm dia	Nos.	2	9000.00	18000.00	
c)	80 mm dia	Nos.	29	6000.00	174000.00	
4	Providing, fixing & Testing Non Return valves (NRV) including cost of complete in all respects.					
i)	100 mm i/d	Nos.	2	1520.00	3040.00	
5	Provision for cutting of roads and carriage of materials etc. and other unforsean charges	LS	-	-	40000.00	
6	Provision for indication plates	Nos.	29	600.00	17400.00	
7	Provision for carriage of material	LS	-	-	50000.00	
	(C.O. to abstract of cost of Sub-work No.I)			**Total**	**2280440.00**	
				Say	**22.80**	**Lacs**

S. No.	Description	Unit	Qty	Rate	Amount (Rs.)	
	Sub Work II				**Sewerage Scheme**	
S. No.	**Description**	**Unit**	**Qty**	**Rate**	**Amount (Rs.)**	
1	Providing, lowering, jointing, cutting salt glazed stone ware pipes and specials into trenches including cost of excavation, bed concrete lot of manholes complete.					
i)	**250 mm i/d**					
a)	Average depth 1.5 m to 4.5 m	M	704	1100.00	774400.00	
2	Provision for lighting, watching and temporary diversion of traffic	LS	-	-	45000.00	
3	Provision for cutting of roads and carriage of materials etc. and other unforsean charges	LS	-	-	25000.00	
4	Provision for connection with HUDA	LS	-	-	200000.00	
5	Cost of 550 Kld Sewerage Treatment Plant.	LS	550	6000	3300000.00	
6	Provision for CI / DI pipe 150 mm dia pipe from STP. To Huda Main Line.	LS	-	-	200000.00	
				Total	**4544400.00**	
	Add 3% contingencies				136332	
					4680732.00	
	Add 49% Deptt. Charges				2293558.68	
				Total	**6974290.68**	
				Say	**69.74**	**Lacs**

S. No.	Description	Unit	Qty	Rate	Amount (Rs.)	
	Sub Work - III				**Storm Water Drain**	
S. No.	**Description**	**Unit**	**Qty**	**Rate**	**Amount (Rs.)**	
1	Providing, lowering, jointing, cutting RCC NP2 pipes and specials into trenches including cost of excavation cost of manholes, ventilating chambers etc. complete in all respects.					
i)	**300 mm i/d**					
a)	Average depth upto 1.5 m	M	671	1050.00	704550.00	
2	Provision for Road Gully & Drain	LS	-	-	200000.00	
3	Provision for cutting of roads and carriage of materials etc. and other unforseen items	LS	-	-	50000.00	
4	Provision for disposal arrangements Recharge Pit .	Nos	5	200000.00	1000000.00	
5	Provision for lighting, watching and temporary diversion of traffic	LS	-	-	200000.00	
6	Provision for connection with HUDA	LS	-	-	150000.00	
				Total	**2304550.00**	
	Add 3% contingencies				69136.50	
					2373686.50	
	Add 49% Deptt. Charges				1163106.385	
				Total	**3536792.89**	
				SAY	**35.37**	**Lacs**

S. No.	Description	Unit	Qty	Rate	Amount (Rs.)	
	Sub Work IV				**Road Work**	
S. No.	**Description**	**Unit**	**Qty**	**Rate**	**Amount (Rs.)**	
1	Provision for leveling & earth filling as per site condition 5.01 acre @ 125000/acre	Acres	5.01	75000	375750.00	
2	Construction of road by:- i) soling coat 100 mm thick (63-45) mm gauge compacted to 75 mm thick WBM conforming to MOTspecification (table 400-6,grading no 2) 1763.885 sqm.X0.10 m - 176.388 cum say 177 cum @ 950/ cum	Cu. mtr.	177.0	600	106200.00	
	ii) Wearing coat (top coat) 100 mm thick (53-22.4)mm gauge compacted to 75mm thick conforming to MOT specifications (table 400-6, grading no 3) 1763.885 sqm.X0.10 m - 176.388 cum say 177 cum @ 950/ cum	Cu. mtr.	177.0	600	106200.00	
	iii) 25mm thick pre-mix carpet with seal coat 1763.885 sqm. say 1764 sqm @ 265/ sqm	Sq. mtr.	1764.0	200	352800.00	
3	Provision for making approach and pavement to building block by providing concrete pavement or tiles. Etc. 4629.616 sqm. Say 4630 sqm @ 500 / sqm.	Sq. mtr.	4630.0	300	1389000.00	
4	Provision for parking arrangement 650 sqm.@ 500/sqm	Sq. mtr.	650	300	195000.00	
5	Provision for Carriage of material	LS.		75000.00	75000.00	
6	Provision for traffic lighting and guide map/ indicators	LS.		100000.00	100000.00	
			Total		**2699950.00**	
	Add 3% contingencies				80998.50	
					2780948.50	
			Total		27.81	Lacs
	Add 49 % department charges				13.63	Lacs
		SAY			**41.44**	**Lacs**

S. No.	Description	Unit	Qty	Rate	Amount (Rs.)	
	Sub Work V				**Street Lighting**	
S. No.	**Description**	**Unit**	**Qty**	**Rate**	**Amount (Rs.)**	
1	Supply, installation, testing and commissioning of Street Lighting GI Poles, Light Fixtures, Feeder Pillars, Cables & Wires including cable end terminations and Earthing Station etc. for Street Lighting	per acre	5.010	100000.00	**501000.00**	
	Add 3% contingencies				15030.00	
	Total				516030.00	
	Add 49% Deptt. Charges				252854.7	
			Total		**768885.00**	
		SAY			**7.69**	**Lacs**
	Sub Work VI				**Horticulture**	
S. No.	**Description**	**Unit**	**Qty**	**Rate**	**Amount (Rs.)**	
1	Development of lawn area					
	a) Trenching the ordinary soil upto depth of 60 cm.Including removal & packing of serviceable material & disposing at a lead of 50 M and making up the trenched area to prope level by filling with earth mixed with manure befor & after flodding trench with water including cost of imported earth & manure.					
	b) Rough dressing of trenched area.					
	c) Grassing including watering & maintenance of lawns free from weeds & fit for mowing in rows including hedges, shrubs & green belts (as per HUDA Norms)					
	5.01 acres @ Rs. 0.75 lacs.				375,750	
	200 trees @ Rs. 750/- each				150,000	
					525750.00	
	Add 3% contingency charges				**15772.50**	
				Total	**541522.50**	
	Add 49% Deptt. Charges				**265346.03**	
				Total	**806868.53**	
			say		**8.07**	**Lacs**

S. No.	Description	Unit	Qty	Rate	Amount (Rs.)	
	Sub Work VII				**Maintenance Charges & Resurfacing of Roads**	
S. No.	**Description**	**Unit**	**Qty**	**Rate**	**Amount (Rs.)**	
1	Provision for maintenance charges for water supply, sewerage,storm water draienage, roads, street light, horticulture etc. complete including operation & establishments charges as per HUDA norms after completion & resurfacing of roads after 10 years or 1st phase.					
	5.01 acres @ 3.5 lacs per acre				1753500	
2	Provision for resurfacing & strengthening of road after five years of Ist phase @ 200/- per sqm	Sq. mtr.	5100	200	1020000.00	
3	Provision for resurfacing & strengthening of road after ten years of 2nd phase @ 125/- per sqm	Sq. mtr.	5100	125	637500.00	
					3411000	
	Add 3% contingency & PE charges				102330	
				Total	**3513330**	
	Add 49% Departmetal charges				1721531.7	
				Total	**5234861.7**	
			say		**52.35**	**Lacs**

PROJECT : AFFORDABLE HOUSING AT SECTOR-92, GURUGRAM (HARYANA)
TITLE - SEWERAGE QUANTITY SHEET

S.No.	Line No.		Length	Dia of Pipe		Slope	Depth			Excavation Depth	EXCAVATION			
							Start	End	Avg.		0.0 -1.5	1.5 - 3.0	3.0 - 4.5	4.5 - 6.0
	From	To	(mtr.)	(mm)	(mtr.)		(mtr.)	(mtr.)	(mtr.)	(cum.)	(mtr.)	(mtr.)	(mtr.)	(mtr.)
	start													
1	SW 1	SW 2	18.0	200	0.200	150	0.80	0.92	0.86	12.53	18.0	0.0	0.0	0.0
2	SW 2	SW 3	27.0	200	0.200	150	0.92	1.10	1.01	21.22	27.0	0.0	0.0	0.0
3	SW 3	SW 4	21.0	200	0.200	150	1.10	1.24	1.17	18.52	21.0	0.0	0.0	0.0
4	SW 4	SW 43	21.0	200	0.200	150	1.24	1.38	1.31	20.29	21.0	0.0	0.0	0.0
	start													
1	SW 9	SW 10	21.0	200	0.200	150	0.80	0.94	0.87	14.74	21.0	0.0	0.0	0.0
2	SW 10	SW 11	16.0	200	0.200	150	0.94	1.05	0.99	12.42	16.0	0.0	0.0	0.0
3	SW 11	SW 12	29.0	200	0.200	150	1.05	1.24	1.14	25.11	29.0	0.0	0.0	0.0
4	SW 12	SW 13	20.0	200	0.200	150	1.24	1.37	1.31	19.28	20.0	0.0	0.0	0.0
5	SW 13	SW 14	15.0	200	0.200	150	1.37	1.47	1.42	15.51	15.0	0.0	0.0	0.0
6	SW 14	SW 15	30.0	200	0.200	150	1.47	1.67	1.57	33.72	0.0	30.0	0.0	0.0
7	SW 15	SW 16	13.0	200	0.200	150	1.67	1.76	1.72	15.73	0.0	13.0	0.0	0.0
8	SW 16	SW 17	11.0	200	0.200	150	1.76	1.83	1.80	13.84	0.0	11.0	0.0	0.0
9	SW 17	SW 18	17.0	200	0.200	150	1.83	1.95	1.89	22.34	0.0	17.0	0.0	0.0
10	SW 18	SW 19	11.0	200	0.200	150	1.95	2.02	1.98	15.07	0.0	11.0	0.0	0.0
	start													
1	SW 20	SW 19	18.0	200	0.200	150	0.80	0.92	0.86	12.53	18.0	0.0	0.0	0.0
2	SW 19	SW 21	26.0	200	0.200	150	2.02	2.19	2.11	37.54	0.0	26.0	0.0	0.0
3	SW 21	SW 22	18.0	200	0.200	150	2.19	2.31	2.25	27.58	0.0	18.0	0.0	0.0
4	SW 22	SW 23	17.0	200	0.200	150	2.31	2.43	2.37	27.23	0.0	17.0	0.0	0.0
	start													
1	SW 24	SW 23	13.0	200	0.200	150	0.80	0.89	0.84	8.92	13.0	0.0	0.0	0.0
2	SW 23	SW 25	10.0	200	0.200	150	2.43	2.49	2.46	16.56	0.0	10.0	0.0	0.0
3	SW 25	SW 26	13.0	200	0.200	150	2.49	2.58	2.54	22.13	0.0	13.0	0.0	0.0
4	SW 26	SW 27	14.0	200	0.200	150	2.58	2.67	2.63	24.58	0.0	14.0	0.0	0.0
5	SW 27	SW 28	12.0	200	0.200	150	2.67	2.75	2.71	21.70	0.0	12.0	0.0	0.0
6	SW 28	SW 29	8.0	250	0.250	200	2.75	2.79	2.77	15.98	0.0	8.0	0.0	0.0
7	SW 29	SW 30	13.0	250	0.250	200	2.79	2.86	2.83	26.41	0.0	13.0	0.0	0.0
	start													
1	SW 32	SW 33	15.0	200	0.200	150	0.80	0.90	0.85	10.35	15.0	0.0	0.0	0.0
2	SW 33	SW 34	10.0	200	0.200	150	0.90	0.97	0.93	7.40	10.0	0.0	0.0	0.0
	start													
1	SW 35	SW 34	23.0	200	0.200	150	0.80	0.95	0.88	16.24	23.0	0.0	0.0	0.0
2	SW 34	SW 36	16.0	200	0.200	150	0.97	1.07	1.02	12.67	16.0	0.0	0.0	0.0
3	SW 36	SW 37	16.0	200	0.200	150	1.07	1.18	1.13	13.70	16.0	0.0	0.0	0.0

S.No.	Line No.		Length	Dia of Pipe		Slope	Depth			Excavation Depth	EXCAVATION			
							Start	End	Avg.		0.0 -1.5	1.5 - 3.0	3.0 - 4.5	4.5 - 6.0
	From	To	(mtr.)	(mm)	(mtr.)		(mtr.)	(mtr.)	(mtr.)	(cum.)	(mtr.)	(mtr.)	(mtr.)	(mtr.)
4	SW 37	SW 38	26.0	200	0.200	150	1.18	1.35	1.27	24.44	26.0	0.0	0.0	0.0
5	SW 38	SW 39	11.0	200	0.200	150	1.35	1.43	1.39	11.15	11.0	0.0	0.0	0.0
6	SW 39	SW 30	11.0	200	0.200	150	1.43	1.50	1.46	11.64	11.0	0.0	0.0	0.0
7	SW 30	SW 40	18.0	300	0.300	250	2.86	2.93	2.89	40.25	0.0	18.0	0.0	0.0
8	SW 40	SW 41	17.0	300	0.300	250	2.93	3.00	2.96	38.85	0.0	17.0	0.0	0.0
9	SW 41	SW 42	16.0	300	0.300	250	3.00	3.06	3.03	37.30	0.0	0.0	16.0	0.0
10	SW 42	SW 43	25.0	300	0.300	250	3.06	3.16	3.11	59.72	0.0	0.0	25.0	0.0
11	SW 43	SW 44	35.0	300	0.300	250	3.16	3.30	3.23	86.54	0.0	0.0	35.0	0.0
	start													
1	SW 7	SW 44	13.0	200	0.200	150	0.80	0.89	0.84	8.92	13.0	0.0	0.0	0.0
	start													
1	SW 8	SW 44	15.0	200	0.200	150	0.80	0.90	0.85	10.35	15.0	0.0	0.0	0.0
2	SW 44	STP.	5.0	300	0.300	250	3.30	3.32	3.31	12.64	0.0	0.0	5.0	0.0
Total			**704.0**							**904.0**	**375.0**	**248.0**	**81.0**	**0.0**

Pipe in excavation depth					
	(0.0 - 1.5)	(1.5 - 3.0)	(3.0 - 4.5)		(4.5 - 6.0)
200 mm Dia pipe	375.0	192.0	0.0		0.0
250 mm Dia pipe	0.0	21.0	0.0		0.0
300 mm Dia pipe	0.0	35.0	81.0		0.0

PROJECT : AFFORDABLE HOUSING AT SECTOR-92, GURUGRAM (HARYANA)
TITLE - STORM QUANTITY SHEET

S.No.	Line No.		Length	Dia of Pipe		Slope	Depth			Excavation Depth	EXCAVATION			
							Start	End	Avg.		0.0 -1.5	1.5 - 3.0	3.0 - 4.5	4.5 - 6.0
	From	To	(mtr.)	(mm)	(mtr.)		(mtr.)	(mtr.)	(mtr.)	(cum.)	(mtr.)	(mtr.)	(mtr.)	(mtr.)
	start													
1	ST 1	ST 2	22.0	400	0.400	400	0.90	0.96	0.93	21.60	22.0	0.0	0.0	0.0
2	ST 2	ST 3	16.0	400	0.400	400	0.96	1.00	0.98	16.32	16.0	0.0	0.0	0.0
3	ST 3	ST 4	20.0	400	0.400	400	1.00	1.05	1.02	21.12	20.0	0.0	0.0	0.0
4	ST 4	RP-1	5.0	400	0.400	400	1.05	1.06	1.05	5.41	5.0	0.0	0.0	0.0
5	RP-1	ST 5	19.0	400	0.400	400	1.06	1.11	1.08	21.00	19.0	0.0	0.0	0.0
6	ST 5	RP-2	14.0	400	0.400	400	1.11	1.14	1.12	15.93	14.0	0.0	0.0	0.0
7	RP-2	ST 6	2.0	400	0.400	400	1.14	1.15	1.14	2.31	2.0	0.0	0.0	0.0
8	ST 6	ST 7	15.0	400	0.400	400	1.15	1.18	1.16	17.57	15.0	0.0	0.0	0.0
9	ST 7	ST 8	17.0	400	0.400	400	1.18	1.23	1.20	20.45	17.0	0.0	0.0	0.0
10	ST 8	ST 9	17.0	400	0.400	400	1.23	1.27	1.25	21.03	17.0	0.0	0.0	0.0
11	ST 9	ST 10	15.0	400	0.400	400	1.27	1.31	1.29	19.04	15.0	0.0	0.0	0.0
12	ST 10	ST 11	20.0	400	0.400	400	1.31	1.36	1.33	26.08	20.0	0.0	0.0	0.0
13	ST 11	RP-3	5.0	400	0.400	400	1.36	1.37	1.36	6.65	5.0	0.0	0.0	0.0
	start													
1	ST 12	ST 13	16.0	400	0.400	400	0.90	0.94	0.92	15.62	16.0	0.0	0.0	0.0
2	ST 13	ST 15	7.0	400	0.400	400	0.94	0.96	0.95	6.99	7.0	0.0	0.0	0.0
	start													
1	ST 14	ST 15	20.0	400	0.400	400	0.90	0.95	0.93	19.60	20.0	0.0	0.0	0.0
2	ST 15	ST 16	16.0	400	0.400	400	0.96	1.00	0.98	16.35	16.0	0.0	0.0	0.0
3	ST 16	ST 16A	16.0	400	0.400	400	1.00	1.04	1.02	16.86	16.0	0.0	0.0	0.0
4	ST 16A	ST 17	26.0	400	0.400	400	1.04	1.10	1.07	28.50	26.0	0.0	0.0	0.0
5	ST 17	ST 18	16.0	400	0.400	400	1.10	1.14	1.12	18.21	16.0	0.0	0.0	0.0
6	ST 18	ST 29	16.0	400	0.400	400	1.14	1.18	1.16	18.72	16.0	0.0	0.0	0.0
	start													
1	ST 19	ST 20	17.0	400	0.400	400	0.90	0.94	0.92	16.61	17.0	0.0	0.0	0.0
2	ST 20	ST 21	17.0	400	0.400	400	0.94	0.99	0.96	17.19	17.0	0.0	0.0	0.0
3	ST 21	RP-4	7.0	400	0.400	400	0.99	1.00	0.99	7.25	7.0	0.0	0.0	0.0
4	RP-4	ST 22	5.0	400	0.400	400	1.00	1.02	1.01	5.24	5.0	0.0	0.0	0.0
5	ST 22	ST 23	20.0	400	0.400	400	1.02	1.07	1.04	21.44	20.0	0.0	0.0	0.0
6	ST 23	ST 24	7.0	400	0.400	400	1.07	1.08	1.07	7.69	7.0	0.0	0.0	0.0
7	ST 24	ST 25	12.0	400	0.400	400	1.08	1.11	1.10	13.42	12.0	0.0	0.0	0.0
8	ST 25	ST 26	15.0	400	0.400	400	1.11	1.15	1.13	17.18	15.0	0.0	0.0	0.0
9	ST 26	ST 27	15.0	400	0.400	400	1.15	1.19	1.17	17.63	15.0	0.0	0.0	0.0
10	ST 27	ST 28	14.0	400	0.400	400	1.19	1.22	1.21	16.86	14.0	0.0	0.0	0.0
11	ST 28	ST 29	13.0	400	0.400	400	1.22	1.26	1.24	16.00	13.0	0.0	0.0	0.0
12	ST 29	RP-3	6.0	400	0.400	400	1.26	1.27	1.26	7.50	6.0	0.0	0.0	0.0
13	RP-3	ST 30	2.0	400	0.400	400	1.37	1.37	1.37	2.67	2.0	0.0	0.0	0.0
14	ST 30	EXT	2.0	400	0.400	400	1.37	1.38	1.38	2.68	2.0	0.0	0.0	0.0

S.No.	Line No.		Length	Dia of Pipe		Slope	Depth			Excavation Depth	EXCAVATION			
							Start	End	Avg.		0.0 -1.5	1.5 - 3.0	3.0 - 4.5	4.5 - 6.0
	From	To	(mtr.)	(mm)	(mtr.)		(mtr.)	(mtr.)	(mtr.)	(cum.)	(mtr.)	(mtr.)	(mtr.)	(mtr.)
	start													
1	ST 31	ST 32	20.0	400	0.400	400	0.90	0.95	0.93	19.60	20.0	0.0	0.0	0.0
2	ST 32	ST 33	29.0	400	0.400	400	0.95	1.02	0.99	29.84	29.0	0.0	0.0	0.0
3	ST 33	ST 34	29.0	400	0.400	400	1.02	1.10	1.06	31.52	29.0	0.0	0.0	0.0
4	ST 34	ST 35	29.0	400	0.400	400	1.10	1.17	1.13	33.21	29.0	0.0	0.0	0.0
5	ST 35	ST 35A	29.0	400	0.400	400	1.17	1.24	1.20	34.89	29.0	0.0	0.0	0.0
6	ST 35A	RP-5	12.0	400	0.400	400	1.24	1.27	1.26	14.93	12.0	0.0	0.0	0.0
7	RP-5	ST 36	12.0	400	0.400	400	1.27	1.30	1.29	15.22	12.0	0.0	0.0	0.0
8	ST 36	EXT	4.0	400	0.400	400	1.30	1.31	1.31	5.14	4.0	0.0	0.0	0.0
	start													
1	ST 37	ST 39	15.0	400	0.400	400	0.90	0.94	0.92	14.63	15.0	0.0	0.0	0.0
	start													
1	ST 38	ST 39	17.0	400	0.400	400	0.90	0.94	0.92	16.61	17.0	0.0	0.0	0.0
2	ST 39	EXT	3.0	400	0.400	400	0.94	0.95	0.95	2.99	3.0	0.0	0.0	0.0
Total			**671.0**							**744.0**	**671.0**	**0.0**	**0.0**	**0.0**

Pipe in excavation depth					
	(0.0 - 1.5)	(1.5 - 3.0)	(3.0 - 4.5)		(4.5 - 6.0)
400 mm Dia pipe	671.0	0.0	0.0		0.0
500 mm Dia pipe	0.0	0.0	0.0		0.0

Area statement for METTALIC ROAD (A1)									
S.no.	Discription	Type	Number	Dimension			Calculation	Result	UNIT
				Length	Height	Breadth			
Addition									
41	M41	Rectangle	1	105.279		6.000	Length X breadth	631.674	SQ.MT
42	M42	Rectangle	1	28.006		5.700	Length X breadth	159.634	SQ.MT
43	M43	Rectangle	1	44.223		6.000	Length X breadth	265.338	SQ.MT
44	M44	Rectangle	1	15.512		4.571	Length X breadth	70.905	SQ.MT
45	M45	Rectangle	1	6.000		34.096	Length X breadth	204.576	SQ.MT
46	M46	Rectangle	1	12.300		6.000	Length X breadth	73.800	SQ.MT
47	M47	Rectangle	1	32.934		6.000	Length X breadth	197.604	SQ.MT
							Total Addition =	**1603.532**	SQ.MT
							ADD 10 % FOR CURVED ROAD	**160.353**	SQ.MT
							Total Mettalic Road Area (A1)=	**1763.885**	SQ.MT

Area statement for HARD PAVED ROAD (PART-02) (B1)									
S.no.	Discription	Type	Number	Dimension			Calculation	Result	UNIT
				Length		Breadth			
Addition									
31	H31	Rectangle	1	6.000		12.410	Length X breadth	74.460	SQ.MT
32	H32	Rectangle	1	6.000		59.388	Length X breadth	356.328	SQ.MT
33	H33	Rectangle	1	6.000		28.700	Length X breadth	172.200	SQ.MT
34	H34	Rectangle	1	6.000		18.915	Length X breadth	113.490	SQ.MT
35	H35	Rectangle	1	6.000		7.930	Length X breadth	47.580	SQ.MT
36	H36	Rectangle	1	6.000		117.316	Length X breadth	703.896	SQ.MT
37	H37	Rectangle	1	6.000		20.632	Length X breadth	123.792	SQ.MT
38	H38	Rectangle	1	6.000		96.407	Length X breadth	578.442	SQ.MT
39	H39	Rectangle	1	6.000		28.093	Length X breadth	168.558	SQ.MT
40	H40	Rectangle	1	6.000		115.778	Length X breadth	694.668	SQ.MT
41	H41	Rectangle	1	6.000		51.727	Length X breadth	310.362	SQ.MT
42	H42	Rectangle	1	6.000		46.759	Length X breadth	280.554	SQ.MT
43	H43	Rectangle	1	6.000		5.640	Length X breadth	33.840	SQ.MT
44	H44	Rectangle	1	6.000		63.310	Length X breadth	379.860	SQ.MT
45	H45	Rectangle	1	6.000		9.270	Length X breadth	55.620	SQ.MT
46	H46	Rectangle	1	6.000		19.182	Length X breadth	115.092	SQ.MT
							Total Addition =	**4208.742**	SQ.MT
							ADD 10 % FOR CURVED ROAD	**420.874**	SQ.MT
							Total Mettalic Road Area (B1)=	**4629.616**	SQ.MT