PROJECT REPORT / ESTIMATES FOR PROVIDING INTERNAL SERVICES e.g. WATER SUPPLY, FIRE, SEWERAGE & STORM WATER DRAINAGE ETC. IN RESPECT OF PROPOSED BUILDING PLAN OF AFFORDABLE GROUP HOUSING COLONY ADMEASURING 4.150 ACRES (LICENCE NO.159 OF 2022 DATED.03/10/2022) IN SECTOR-79B, GURUGRAM MANESAR URBAN COMPLEX BEING DEVELOPED BY SH.BHEEM SINGH & INDER SINGH S/O SULTAN SINGH,FORSYTHIA PROPBUILD IN COLLABORATION WITH SILVER X PROJECTS INDIA PVT.LTD.

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,

AFFORDABLE GROUP HOUSING COLONY IN SECTOR-79B, GURUGRAM MANESAR for development by **SH.BHEEM SINGH & INDER SINGH S/O SULTAN SINGH,FORSYTHIA PROPBUILD IN COLLABORATION WITH SILVER X PROJECTS INDIA PVT.LTD.**

Water Supply

The source of water supply shall be HSVP / 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 Department as laid down by the HSPV / HUDA/Haryana Government.

9	**Rates**					
	Estimates for providing services in this site has been prepared on the recent HSVP rates.					
10	**Cost**					
	The total cost of development in this Project including various PH & B & R services works out to **Rs. 583.0 lacs** which includes 3% contingency and PE charges and 49% departmental charges also.					
	The cost per gross acre for this works out to **Rs. 140.48 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.					
	SH.BHEEM SINGH & INDER SINGH S/O SULTAN SINGH,FORSYTHIA PROPBUILD IN COLLABORATION WITH SILVER X PROJECTS INDIA PVT.LTD.					
	Authorised Signatory					

AFFORDABLE GROUP HOUSING PROJECT AT SECTOR-79B GURUGRAM

1	**DESIGN CALCULATION**				
i)	**Daily Domestic Water Requirement**				
a)	**Residential (D.U)**			599	
	Population @ 5 person per unit - DU			5	
	Therefore population (DU)			2995	persons
	Population (Maintenance & Security Personnel)			10	persons
	Total Population			3005	persons
			SAY	**3005**	**persons**
	Water requirement		@	172.5	liter / head / day
				518362.50	lpd
			or	**518.40**	**KLD____(a)**
b)	Anganwadi	0.0473	@	25000	lit/acre/day
	Therefore daily water requirement			1183.28	lit/day
				1.18	KLD ____ (b)
c)	Community center / Common facilities	0.0473			
	Daily water requirement		@	25000	lit/acre/day
	Therefore daily water requirement			1183.28	lit/day
				1.18	KLD ____ (c)
d)	No. of Convenient Shopping	0.307413			
	Daily water requirement		@	32000	lit/acre
	Therefore daily water requirement			9837.21275	lit/day
				9.90	KLD ____ (d)
ii)	**Total Daily Water Requirement for (a+b+c+d)**			**530.67**	**KLD**
a)	Domestic Water Requirement @	67%		355.55	KLD
			Say	**360.00**	**KLD**
b)	Flushing Water Requirement @	33%		175.12	KLD
			Say	**175.00**	**KLD**
iii)	**Water usage from STP**				
a)	Area under Parks	0.62	acre		
	Daily water requirement		@	25000	lit/acre/day
				15598.90	lit/day
				15.60	KLD
b)	Area under Roads & Open Parking Area				
	Daily water requirement	0.71	acre	5000	lit/acre/day
				3570.72	lit/day
				3.58	KLD
c)	Under Road+ Parks (a+b)		**Total**	19.18	KLD
			Say	**19.20**	**KLD**
iv)	**Total treated water requirement [ii (b) + iii (c)]**			**195.00**	KLD
v)	**Total Daily Requirement [ii (a) + iv]**			**555.00**	**KLD**
			SAY	**555.00**	**KLD**
2	**Tubewell**				
	Assuming working hours of tubewells			14	hours
	Assuming discharge/hour of each tubewell			18	KL/hours
	Total fresh water demand			**360.00**	**KLD**

	No. of tubewells required	360.00	/18/14	1.43		
	Add 10% standby			0.14		
			Total	1.57		
			Say	2.00		
	So It is proposed 2 No.of tubewell if permission will get from CGWA. the provision of 2 nos. of tubewell has been made in the estimate becouse the water demand for flushing, horticulture and the road washing purpose is to be meet from recirculation after treatment at STP and ultimate water supply is to be provided by HSVP					
3	**Pumping machinery for tubewell**					
	Gross working load		=	55.00	m	
	Average fall in SL		=	3.05	m	
	Depression head		=	6.10	m	
	Friction loss in main		=	2.50	m	
			=	66.65	m	
		Say	=	**70.00**	m	
	BHP = 18000x82x1/60x60x75x0.6		=	7.78	BHP	
	With 60% efficiency	Say		10.00	BHP	
	It is proposed to install 2 nos. Submersible pumping set with a discharge of 18000 ltrs/hrs driven With 10.00 hp electrical motor					
4	**Underground Tanks**					
4.1	**Domestic Underground Tank**					
	Daily fresh water requirement for domestic use			=	360.00	KL
	Capacity of under ground tank					
	24 hours storage	360.00	x 24 / 24	=	360.00	KL
			Say Total		**360.00**	**KL**
4.2	**Fire water tank demand**					
	Fire Tank Capacity Proposed As / IS Code 15105 & NBC 2016 (as no. of hydrants are less than 100)			**=**	**75.00**	**KL**
	say			**=**	**100.00**	**KL**
	Capacity of under ground tank for Domestic use including fire fighting			=	460.00	KL
			Say Total		**460.00**	**KL**
	It is proposed to provide under ground tank of capacity **460 KL** which also includes **100 KL** capacity for fire fighting.					
	This tank will have four compartments, one for fire, one 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.					

4.3	**STP Underground Tank**					
	Daily recycled water requirement for flushing & irrigation use			=	195.00	KL
	Capacity of Recycled Treated water tank 24 hours storage			=	195.00	KL
			Say	=	200.00	KL
	TOTAL UG STORAGE (DOMESTIC + FLUSHING + HORTICULTURE)				**660.00**	**KL**
	FIRE WATER TANK				**100.00**	**KL**
	RAW WATER TANK				**120.00**	**KL**
	DOMESTIC WATER TANK				**240.00**	**KL**
	FLUSHING, HORTICULTURE & ROAD WASHING (PART OF STP)				**200.00**	**KL**
	PROPOSED CAPACITY OF STP (80% OF DOMESTIC AND FLUSHING WATER)				**460.00**	**KLD**
5	**DOMESTIC WATER PUMPS - LOCATED IN PUMP ROOM**					
a.)	**RAW WATER FILTER FEED PUMP**					
	Daily requirement for domestic use			=	360.00	KL
	Assuming 12 hours running 1 pumps (with one standby)					
	Discharge/hour	360.00	/12 / 1	=	30.00	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	30.00	x1000x35/4500x60x0.60		6.5	HP
			SAY	**=**	**7.00**	**HP**
b.)	**Domestic Water Transfer Pumps**					
	Daily requirement for domestic use overhead tank filling			=	360.00	KL
	Assuming 6 hours running 2 pumps (with one standby)					
	Discharge/hour	360	/ 6 / 2	=	30.00	KL/HR
	Head of pump					
	i) Suction lifts			=	0.0	m
	ii) Friction loss in M<main & specials			=	10.4	m
	iii) Clear head			=	45.0	m
	iv) Residual head			=	15.0	m
				=	70.4	m
	Adding Safety Factor @ 10%			=	77.5	m
				Say =	80.0	m
	BHP of motor	30.00	x1000x80/4500x60x0.60		13.0	HP
			SAY	**=**	**14.00**	**HP**
6	**FLUSHING WATER PUMPS - LOCATED IN STP**					
	Daily requirement for flushing use			=	195.00	KL
	Assuming 8 hours running 2 pumps (with one standby)					
	Discharge/hour	195.00	/ 8 / 2	=	12.19	KL/HR
	Head of pump					
	i) Suction lifts			=	0.0	m
	ii) Friction loss in M<main & specials			=	10.4	m
	iii) Clear head			=	45.0	m
	iv) Residual head			=	15.0	m
				=	70.4	m
	Adding Safety Factor @ 10%			=	77.4	m
				Say =	80.0	m
	BHP of motor	12.19	x1000x95/4500x60x0.60		6.0	HP
			SAY	**=**	**7.00**	**HP**

7	**PUMPS FOR FIRE PROECTION**					
	Pump Description	**Location**	**Nos.**	**Discharge**	**Head**	**HP**
i)	**Diesel Pump**	Pump Room	**1**	**4500**	**100.00**	
ii)	**Hydrant Pump**	Pump Room	**1**	**2280**	**100.00**	**85**
iii)	**Jockey Pump**	Pump Room	**1**	**180**	**100.00**	**7.5**
8	**Capacity of Gen Set**	Nos.	HP			
a.)	Raw Water Transfer Pumps (1 Working + 1 Standby)	1	7.0	=	7	HP
b.)	Domestic water transfer pumps (2 Working + 1 Standby)	2	14.0	=	28	HP
c.)	Flushing water transfer pumps (2 Working + 1 Standby)	2	7.0	=	14	HP
d)	Fire Pump **(Jockey)**	1	7.5	=	7.5	HP
e.)	Tubewell	2	10.0	=	20	HP
f.)	Lighting			=	25	HP
	Total				**101.5**	**HP**
	or	101.5	x0.746x1.50		113.58	KVA
			Say		120.00	KVA
	Requirement of 120 KVA capacity will be added in to the main D.G. set to provide standby supply.					

AFFORDABLE GROUP HOUSING PROJECT AT SECTOR-79B GURUGRAM

SH.BHEEM SINGH & INDER SINGH S/O SULTAN SINGH,FORSYTHIA PROPBUILD IN COLLABORATION WITH SILVER X PROJECTS INDIA PVT.LTD.

Description		Amount (Lacs.)
Sub Work - I Water Supply		**194.00**
Sub Work - II Sewerage		**132.10**
Sub Work - III Storm Water Drainage		**43.94**
Sub Work - IV Roads & Footpath		**136.60**
Sub Work - V Street Lighting		**15.92**
Sub Work - VI - Horticulture		**11.89**
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)		**48.48**
	Total	**582.92**
	Say	**583.00**

(RUPEES FIVE CRORE EIGHTY THREE LACS ONLY)

SH.BHEEM SINGH & INDER SINGH S/O SULTAN SINGH,FORSYTHIA PROPBUILD IN COLLABORATION WITH SILVER X PROJECTS INDIA PVT.LTD.

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SUMMARY OF SUB WORK - I (WATER SUPPLY)

			Amount (Lacs.)
Sub Head - (I) Head Works			50.70
Sub Head - (II) Pumping Machinery			48.80
Sub Head - (III) Distribution System			10.50
Sub Head - (IV) Irrigation Scheme			4.44
Sub Head - (V) Fire Scheme			12.00
Total			**126.44**
Add 3% Contingencies			3.79
			130.23
Add 49% Departmental Charges			63.81
	Total		194.05
(CO to final abstract of cost)		**Say**	**194.00**

	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	1000000.00	20.00	
2	Constructing pump chambers as per standard design of PWD PH/HUDA of size 1.50x1.50 m	Nos.	2	100000.00	2.00	
3	Construction of boosting chambers of suitable size along with under ground tank of capacity 460 KL pumping machinery and generating set etc. complete in all respects.					
	Details of boosting station					
i)	construction of boosting chamber	Nos.	2	LS	5.00	
ii)	UG tank 460 KL capacity including 100 KL for fire fighting @ 4500 / KL.	KL	460.00	4500.00	20.70	
4	Provision for carriage of material and other unforeseen items				1.00	
5	Provision for facilites staff for Maintenance				2.00	
	(C.O. to abstract of cost of Sub-work No.I)				**50.70**	**Lacs**
				Say	**50.70**	**Lacs**

	Sub Work I				**Water Supply**	
	Sub Head No. II				**Pumping Machinery**	
S. No.	**Description**	**Unit**	**Qty**	**Rate**	**Amount (Rs.)**	
					(in Lakhs)	
1	Providing & installing electricity driven electro or submersible pumping set capable of delivering 18 KL/hrs of water against a total head of 70 m complete with motor and other accessories.	Nos.	2	160000.00	3.20	
2	Providing & installing electricity driven pumping set capable of delivering 500 LPM of water against a total head of 35 m complete with motor and other accessories (For Filter feed pump - 7HP) (1 working + 1 standby)	Nos.	2	150000.00	3.00	
3	Providing & installing electricity driven pumping set capable of delivering 500 LPM of water against a total head of 80 m complete with motor and other accessories (For Domestic - 14 HP) (2 working + 1 standby)	Nos.	3	165000.00	4.95	
4	Providing & installing electricity driven pumping set capable of delivering 207 LPM of water against a total head of 80 m complete with motor and other accessories (For Flushing - 7 HP) (2 working + 1 standby)	Nos.	3	140000.00	4.20	
5	Provision for diesel engine generator set each for standby Arrangements for booster pump complete with gear head arrangements of following capacities.					
	1 No. - 120 KVA	KVA	120.00	11000.00	13.20	
6	Providing & installing fire pumps electrical operated pumps 2280 LPM -1No, Jockey pump 180 LPM-1No, Diesel operated pumps 2280 LPM -1 Nos. complete with all the accessories suction and delivery header ect.	LS			14.00	
7	Provision for diesel engine genset stand bye arrangements for Tubewells	Nos.	1	150000.00	1.50	
8	Provision for cheap pressure type chlorination plant complete	LS			1.00	
9	Provision for making foundations & erection of pumping machinery	LS			1.00	
10	Provision for pipes, valves & specials inside the pump chamber	LS			1.00	
11	Provision for electric services connection including electric fittings for tubewells chambers complete	LS			1.00	
12	Provision for carriage for materials and other unforeseen items	LS			0.75	
	(C.O. to abstract of cost of Sub-work No.I)				**48.80**	
				Say	**48.80**	

	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 G.I pipes including cost of excavation complete as per ISI marked. (Domestic water supply line)					
a)	40 mm dia	M	146	600.00	87600.00	
b)	65 mm dia	M	0	875.00	0.00	
c)	80 mm dia	M	144	1000.00	144000.00	
d)	100 mm dia	M	0	1250.00	0.00	
2	Providing, laying, jointing & testing upvc pipes SH-80 comfirming to IS 4985 including cost of exavation complete as per ISI marked (Flushing water supply line)					
a)	32 mm dia	M	120	350.00	42000.00	
b)	65 mm dia	M	190	750.00	142500.00	
c)	80 mm dia	M	0	800.00	0.00	
d)	100 mm dia	M	0	1000.00	0.00	
3	Providing, fixing & Testing Ball valves including cost of complete in all respects.					
i)	25 mm dia	Nos.	0	900.00	0.00	
ii)	32 mm dia	Nos.	8	1250.00	10000.00	
iil)	40 mm dia	Nos.	8	1500.00	12000.00	
3	Providing, fixing & Testing Sluice valves including cost of complete in all respects.					
i)	65 mm i/d	Nos.	1	8500.00	8500.00	
ii)	80 mm i/d	Nos.	1	10000.00	10000.00	
iii)	100 mm i/d	Nos.	0	12000.00	0.00	
iv)	150 mm i/d	Nos.	0	15000.00	0.00	
4	Providing, fixing & Testing Non Return valves (NRV) including cost of complete in all respects.					
i)	80 mm i/d	Nos.	1	12000.00	12000.00	
4	Providing and fixing air valves and scour valves including cost of complete in all respects.	Nos.	2	10000.00	20000.00	
5	Providing and fixing indicating plates for sluice valve, air valve etc.	Nos.	2	1000.00	2000.00	
6	Provision for carriage of material	LS	-	-	100000.00	
7	Provision for cutting the roads and making to its original conditions.	LS	-	-	100000.00	
8	Making water supply connection.	LS	-	-	100000.00	
10	providing laying jointing & testing of DI K-9 pipes including cost of excavation complete as per ISI marked for rising main from tubewells to UG Tank					
i)	100 mm i/d	M	270	950.00	256500.00	
ii)	150 mm i/d	M	0	1250.00	0.00	
	(C.O. to abstract of cost of Sub-work No.I)				**1047100.00**	
				Say	**10.50**	**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 SH-40 pipe line confirming to IS 4985 including cost of Excavation etc. complete in all respect.					
i)	25 mm dia	M	26	300.00	7800.00	
ii)	65 mm dia	M	480	750.00	360000.00	
ii)	80 mm dia	M	0	800.00	0.00	
2	Providing and fixing 20mm dia Irrigation hydrant valve complete in all respect.	Nos.	17	3500.00	59500.00	
3	Providing & fixing valve 25mm dia	Nos.	17	400.00	6800.00	
7	Provision for carriage of materials etc. and other unforsean charges	LS	-	-	10000.00	
	(C.O. to abstract of cost of Sub-work No.I)			**Total**	**444100.00**	
				Say	**4.44**	**Lacs**
	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	300	1850.00	555000.00	
b)	100 mm dia	M	150	1550.00	232500.00	
c)	80 mm dia	M	0	1200.00	0.00	
2	Providing and fixing 2-Way Connection for internal hydrants and accesories.	Nos.	8	7500.00	60000.00	
3	Providing & fixing sluice valve.					
a)	150 mm dia	Nos.	2	15000.00	30000.00	
b)	100 mm dia	Nos.	2	12000.00	24000.00	
c)	80 mm dia	Nos.	0	10000.00	0.00	
5	Provision for security services equipments for fire fighting	LS	-	-	300000.00	
	(C.O. to abstract of cost of Sub-work No.I)			**Total**	**1201500.00**	
				Say	**12.00**	**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 of DWC HDPE pipe and specials into trenches including cost of excavation, bed concrete lot of manholes complete.					
i)	**200 mm i/d**					
a)	Average depth 0.0 m to 1.5 m	M	136	1250.00	170000.00	
a)	Average depth 1.5 m to 4.5 m	M	0	1500.00	0.00	
b)	Average depth 4.5 m to 6.0 m	M	0	1800.00	0.00	
i)	**250 mm i/d**					
a)	Average depth 0.0 m to 1.5 m	M	100	1500.00	150000.00	
a)	Average depth 1.5 m to 4.5 m	M	136	1800.00	244800.00	
b)	Average depth 4.5 m to 6.0 m	M	0	2250.00	0.00	
ii)	**300 mm i/d**					
a)	Average depth 1.5 m to 4.5 m	M	5	1800.00	9000.00	
b)	Average depth 4.5 m to 6.0 m	M	0	2250.00	0.00	
2	Provision for lighting, watching and temporary diversion of traffic	LS	-	-	100000.00	
3	Provision for timbering and shuttering	LS	-	-	100000.00	
4	Provision for cutting of roads and carriage of materials etc. and other unforsean charges	LS	-	-	100000.00	
5	Provision for connection with HSVP / GMDA line	LS	-	-	100000.00	
6	Cost of 460Kld Sewerage Treatment Plant.	Per KLD	460	16000	7360000.00	
7	Provision for CI / DI pipe 150 mm dia pipe from STP. To Huda Main Line.	Mtrs	175	1575	275625.00	
				Total	**8609425.00**	
	Add 3% contingencies				258282.75	
					8867707.75	
	Add 49% Deptt. Charges				4345176.798	
				Total	**13212884.55**	
				Say	**132.10**	**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)	**400 mm i/d**					
a)	Average depth upto 1.5 m	M	534	2500.00	1335000.00	
b)	Average depth 1.5 m to 4.5 m	M	0	2600.00	0.00	
ii)	**500 mm i/d**					
a)	Average depth upto 1.5 m	M	0	3200.00	0.00	
b)	Average depth 1.5 m to 4.5 m	M	0	3800.00	0.00	
2	Provision for Road Gully & Drain	LS	-	-	250000.00	
3	Provision for cutting of roads and carriage of materials etc. and other unforseen items	LS	-	-	100000.00	
4	Costruction of rain water harvesting pit of material as per details and spacification given below and as per attached drawing including, cost of excavation of all kind soil foundation trances of drain including dressing of sides of remming and getting out excavtion of soil	Nos	4	250000.00	1000000.00	
5	Provision for lighting, watching and temporary diversion of traffic	LS	-	-	100000.00	
6	Provision for connection with HSVP / GMDA line					
	400 mm i/d (Average depth upto 1.5 m)	M	30	2600.00	78000.00	
				Total	**2863000.00**	
	Add 3% contingencies				85890.00	
					2948890.00	
	Add 49% Deptt. Charges				1444956.1	
				Total	**4393846.10**	
				SAY	**43.94**	**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	Acres	4.150	175000	726250.00	
2	Construction of road by:- i) 200 mm thick GSB ii) 250 mm thick WMM iii) 50 mm thick DBM iv) 25 mm thick BL	Sq. mtr.	2890.1	1200	3468168.00	
3	Providing for kerbs & Chennels 6 mtrs wide road (437.90 x 2 =875.8)	M	875.8	600	525480.00	
4	Provision of foot path of precast conc. 6 mtrs wide road (437.9 x 1.2 x 2 =1050.96)	Sq. mtr.	1051.0	750	788250.00	
5	Provision for parking arrangement 3796.6 sqm.@ 750/sqm	Sq. mtr.	3796.6	750	2847450.00	
6	Provision for Carriage of material	LS.			150000.00	
7	Provision for traffic lighting and guide map/ indicators	LS.			150000.00	
8	Provision for tower indicator	LS.			150000.00	
9	Provision for demarc above and unformation items	LS.			95000.00	
			Total		**8900598.00**	
	Add 3% contingencies				267017.94	
					9167615.94	
	Add 49 % department charges				4492131.81	
				Total	**13659747.75**	
		SAY		**SAY**	**136.60**	**Lacs**

S. No.	Description	Unit	Qty	Rate	Amount (Rs.)	
	Sub Work V				**Street Lighting**	
S. No.	**Description**	**Unit**	**Qty**	**Rate**	**Amount (Rs.)**	
1	Providing and fixing of Street Lighting on internal roads as per standerd spcification of HVPNL and CFL complete in all respect					
	Provision made on LS cost @ 250000 per acres	Acres	4.150	250000.00	1037500.00	
	Add 3% contingencies				31125.00	
	Total				1068625.00	
	Add 49% Deptt. Charges				523626.25	
			Total		**1592251.00**	
		SAY			**15.92**	**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 HSVP / HUDA Norms)	per acre	4.150	150000	622500	
	Planting of tree with tree guards on green at 20 m intervals along with road					
	Road 437.9 / 12 =36.49 x 2 = 72.98 say - 73 Nos.)					
	Green (437.9 x 2 / 20 = 43.79 Say = 44 Nos.)					
	(73+44=117) trees @ Rs. 1300/- each	Nos.	117	1300	1,52,100	
					774600.00	
	Add 3% contingency charges				23238.00	
					797838.00	
	Add 49% Deptt. Charges				390940.62	
				Total	**1188778.62**	
				Say	**11.89**	**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.					
	4.150 acres @ 5 lacs per acre	per acre	4.150	500000	2075000	
2	Provision for resurfacing & strengthening of road after five years of Ist phase @ 250/- per sqm	Sq. mtr.	2890.1	250	722535.00	
3	Provision for resurfacing & strengthening of road after ten years of 2nd phase @ 125/- per sqm	Sq. mtr.	2890.1	125	361267.50	
					3158802.5	
	Add 3% contingency & PE charges				94764.075	
				Total	**3253566.575**	
	Add 49% Departmetal charges				1594247.622	
				Total	**4847814.197**	
			say		**48.48**	**Lacs**

AFFORDABLE GROUP HOUSING PROJECT AT SECTOR-79B GURUGRAM

TITLE - SEWER QUANTITY SHEET

S.No.	Line No.		Length	Dia of Pipe		Slope	Fall	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.)	(mtr.)	(cum.)	(mtr.)	(mtr.)	(mtr.)	(mtr.)
	START														
1	SW 1	SW 2	9.5	200	0.200	150	0.06	0.80	0.86	0.83	6.45	9.5	0.0	0.0	0.0
2	SW 2	SW 3	12.4	200	0.200	150	0.08	0.86	0.95	0.90	8.96	12.4	0.0	0.0	0.0
3	SW 3	SW 4	13.4	200	0.200	150	0.09	0.95	1.04	0.99	10.38	13.4	0.0	0.0	0.0
4	SW 4	SW 5	10.5	200	0.200	150	0.07	1.04	1.11	1.07	8.63	10.5	0.0	0.0	0.0
5	SW 5	SW 6	7.3	200	0.200	150	0.05	1.11	1.15	1.13	6.26	7.3	0.0	0.0	0.0
6	SW 6	SW 7	8.2	200	0.200	150	0.05	1.15	1.21	1.18	7.29	8.2	0.0	0.0	0.0
7	SW 7	SW 8	8.4	200	0.200	150	0.06	1.21	1.26	1.24	7.74	8.4	0.0	0.0	0.0
8	SW 8	SW 9	27.4	250	0.250	200	0.14	1.26	1.40	1.33	29.09	27.4	0.0	0.0	0.0
9	SW 9	SW 10	8.8	250	0.250	200	0.04	1.40	1.45	1.42	9.86	8.8	0.0	0.0	0.0
10	SW 10	SW 11	9.2	250	0.250	200	0.05	1.45	1.49	1.47	10.58	9.2	0.0	0.0	0.0
11	SW 11	SW 12	8.8	250	0.250	200	0.04	1.49	1.54	1.51	10.37	0.0	8.8	0.0	0.0
12	SW 12	SW 13	7.9	250	0.250	200	0.04	1.54	1.58	1.56	9.53	0.0	7.9	0.0	0.0
13	SW 13	SW 14	7.7	250	0.250	200	0.04	1.58	1.61	1.59	9.48	0.0	7.7	0.0	0.0
14	SW 14	SW 15	10	250	0.250	200	0.05	1.61	1.66	1.64	12.60	0.0	10.0	0.0	0.0
15	SW 15	SW 16	8.2	250	0.250	200	0.04	1.66	1.70	1.68	10.58	0.0	8.2	0.0	0.0
16	SW 16	SW 17	9.6	250	0.250	200	0.05	1.70	1.75	1.73	12.66	0.0	9.6	0.0	0.0
17	SW 17	SW 37	11	250	0.250	200	0.06	1.75	1.81	1.78	14.87	0.0	11.0	0.0	0.0
	START														
18	SW 18	SW 19	6.9	200	0.200	150	0.05	0.80	0.85	0.82	4.65	6.9	0.0	0.0	0.0
19	SW 19	SW 20	8.5	200	0.200	150	0.06	0.85	0.90	0.87	5.99	8.5	0.0	0.0	0.0
20	SW 20	SW 21	9.3	200	0.200	150	0.06	0.90	0.96	0.93	6.88	9.3	0.0	0.0	0.0
21	SW 21	SW 22	7.9	200	0.200	150	0.05	0.96	1.02	0.99	6.12	7.9	0.0	0.0	0.0
22	SW 22	SW 23	7.7	200	0.200	150	0.05	1.02	1.07	1.04	6.20	7.7	0.0	0.0	0.0
23	SW 23	SW 24	9.8	200	0.200	150	0.07	1.07	1.13	1.10	8.24	9.8	0.0	0.0	0.0
24	SW 24	SW 25	8	200	0.200	150	0.05	1.13	1.19	1.16	7.01	8.0	0.0	0.0	0.0
25	SW 25	SW 26	8.5	200	0.200	150	0.06	1.19	1.24	1.22	7.73	8.5	0.0	0.0	0.0
26	SW 26	SW 27	28.9	250	0.250	200	0.14	1.24	1.39	1.32	30.36	28.9	0.0	0.0	0.0
27	SW 27	SW 28	7.5	250	0.250	200	0.04	1.39	1.43	1.41	8.32	7.5	0.0	0.0	0.0
28	SW 28	SW 29	8	250	0.250	200	0.04	1.43	1.47	1.45	9.08	8.0	0.0	0.0	0.0
29	SW 29	SW 30	10	250	0.250	200	0.05	1.47	1.52	1.49	11.64	10.0	0.0	0.0	0.0
30	SW 30	SW 31	7.9	250	0.250	200	0.04	1.52	1.56	1.54	9.43	0.0	7.9	0.0	0.0
31	SW 31	SW 32	7.7	250	0.250	200	0.04	1.56	1.59	1.57	9.38	0.0	7.7	0.0	0.0
32	SW 32	SW 33	10	250	0.250	200	0.05	1.59	1.64	1.62	12.47	0.0	10.0	0.0	0.0
33	SW 33	SW 34	8.2	250	0.250	200	0.04	1.64	1.69	1.66	10.47	0.0	8.2	0.0	0.0
34	SW 34	SW 35	10.5	250	0.250	200	0.05	1.69	1.74	1.71	13.73	0.0	10.5	0.0	0.0
35	SW 35	SW 36	10.6	250	0.250	200	0.05	1.74	1.79	1.76	14.22	0.0	10.6	0.0	0.0
36	SW 36	SW 37	17.8	250	0.250	200	0.09	1.79	1.88	1.84	24.70	0.0	17.8	0.0	0.0
37	SW 37	STP	5	300	0.300	250	0.02	1.88	1.90	1.89	7.66	0.0	5.0	0.0	0.0
Total			**377.0**								**400.0**	**237.0**	**141.0**	**0.0**	**0.0**

Pipe in excavation depth					
	(0.0 - 1.5)	(1.5 - 3.0)	(3.0 - 4.5)	(4.5 - 6.0)	
200 mm Dia pipe	136.0	0.0	0.0	0.0	
250 mm Dia pipe	100.0	136.0	0.0	0.0	
300 mm Dia pipe	0.0	5.0	0.0	0.0	

AFFORDABLE GROUP HOUSING PROJECT AT SECTOR-79B GURUGRAM

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	STM 1	STM 2	15	400	0.400	400	0.90	0.94	0.92	14.63	15.0	0.0	0.0	0.0
2	STM 2	STM 3	15	400	0.400	400	0.94	0.98	0.96	15.08	15.0	0.0	0.0	0.0
3	STM 3	STM 4	15	400	0.400	400	0.98	1.01	0.99	15.53	15.0	0.0	0.0	0.0
4	STM 4	STM 5	15	400	0.400	400	1.01	1.05	1.03	15.98	15.0	0.0	0.0	0.0
5	STM 5	RWHP 1	5.3	400	0.400	400	1.05	1.06	1.06	5.75	5.3	0.0	0.0	0.0
6	RWHP 1	STM 6	5.1	400	0.400	400	1.06	1.08	1.07	5.59	5.1	0.0	0.0	0.0
7	STM 6	STM 8	15	400	0.400	400	1.08	1.11	1.09	16.74	15.0	0.0	0.0	0.0
	START													
1	STM 7	STM 8	15	400	0.400	400	0.90	0.94	0.92	14.63	15.0	0.0	0.0	0.0
2	STM 8	STM 11	15	400	0.400	400	1.11	1.15	1.13	17.19	15.0	0.0	0.0	0.0
	START													
1	STM 9	STM 10	19.2	400	0.400	400	0.90	0.95	0.92	18.80	19.2	0.0	0.0	0.0
2	STM 10	STM 11	14.7	400	0.400	400	0.95	0.98	0.97	14.89	14.7	0.0	0.0	0.0
3	STM 11	STM 12	15	400	0.400	400	1.15	1.19	1.17	17.64	15.0	0.0	0.0	0.0
4	STM 12	STM 13	15	400	0.400	400	1.19	1.23	1.21	18.09	15.0	0.0	0.0	0.0
5	STM 13	STM 14	15	400	0.400	400	1.23	1.26	1.24	18.54	15.0	0.0	0.0	0.0
6	STM 14	RAHP 2	7.3	400	0.400	400	1.26	1.28	1.27	9.18	7.3	0.0	0.0	0.0
7	RAHP 2	STM 15	4.2	400	0.400	400	1.28	1.29	1.29	5.33	4.2	0.0	0.0	0.0
8	STM 15	STM 16	18.6	400	0.400	400	1.29	1.34	1.32	24.04	18.6	0.0	0.0	0.0
9	STM 16	STM 17	14.1	400	0.400	400	1.34	1.37	1.36	18.68	14.1	0.0	0.0	0.0
10	STM 17	STM 18	9.1	400	0.400	400	1.37	1.40	1.39	12.27	9.1	0.0	0.0	0.0
11	STM 18	STM 19	10.1	400	0.400	400	1.40	1.42	1.41	13.81	10.1	0.0	0.0	0.0
12	STM 19	STM 36	24.2	400	0.400	400	1.42	1.48	1.45	33.92	24.2	0.0	0.0	0.0
	START													
1	STM 20	STM 21	15	400	0.400	400	0.90	0.94	0.92	14.63	15.0	0.0	0.0	0.0
2	STM 21	STM 22	15	400	0.400	400	0.94	0.98	0.96	15.08	15.0	0.0	0.0	0.0
3	STM 22	STM 23	15	400	0.400	400	0.98	1.01	0.99	15.53	15.0	0.0	0.0	0.0
4	STM 23	RWHP 3	5	400	0.400	400	1.01	1.03	1.02	5.28	5.0	0.0	0.0	0.0
5	RWHP 3	STM 24	5.6	400	0.400	400	1.03	1.04	1.03	5.97	5.6	0.0	0.0	0.0
6	STM 24	STM 25	15	400	0.400	400	1.04	1.08	1.06	16.29	15.0	0.0	0.0	0.0
6	STM 25	STM 27	15	400	0.400	400	1.08	1.11	1.10	16.74	15.0	0.0	0.0	0.0
	START													
1	STM 26	STM 27	13.9	400	0.400	400	0.90	0.93	0.92	13.54	13.9	0.0	0.0	0.0
2	STM 27	STM 28	15	400	0.400	400	1.11	1.15	1.13	17.19	15.0	0.0	0.0	0.0
3	STM 28	STM 29	15	400	0.400	400	1.15	1.19	1.17	17.64	15.0	0.0	0.0	0.0
4	STM 29	STM 30	15	400	0.400	400	1.19	1.23	1.21	18.09	15.0	0.0	0.0	0.0
5	STM 30	STM 31	15	400	0.400	400	1.23	1.26	1.25	18.54	15.0	0.0	0.0	0.0
6	STM 31	STM 32	15	400	0.400	400	1.26	1.30	1.28	18.99	15.0	0.0	0.0	0.0
7	STM 32	STM 33	20	400	0.400	400	1.30	1.35	1.33	26.02	20.0	0.0	0.0	0.0
8	STM 33	STM 34	13.1	400	0.400	400	1.35	1.38	1.37	17.48	13.1	0.0	0.0	0.0
9	STM 34	STM 35	18.2	400	0.400	400	1.38	1.43	1.41	24.85	18.2	0.0	0.0	0.0
10	STM 35	STM 36	18.8	400	0.400	400	1.43	1.48	1.45	26.37	18.8	0.0	0.0	0.0
11	STM 36	RWHP 4	1.7	400	0.400	400	1.48	1.49	1.48	2.43	1.7	0.0	0.0	0.0
7	RWHP 4	EXT.	5	400	0.400	400	1.49	1.50	1.49	7.17	5.0	0.0	0.0	0.0
Total			**534.0**							**625.0**	**534.0**	**0.0**	**0.0**	**0.0**

Pipe in excavation depth

Dia pipe		(0.0 - 1.5)	(1.5 - 3.0)	(3.0 - 4.5)		(4.5 - 6.0)
400 mm Dia pipe		534.0	0.0	0.0		0.0
450 mm Dia pipe		0.0	0.0	0.0		0.0

AFFORDABLE GROUP HOUSING PROJECT AT SECTOR-79B GURUGRAM

HYDRAULIC STATEMENT OF DOMESTIC WATER SUPPLY

S.no	Line Reference		Unit / plot			Polpulation @ 5 person per unit	Water Requirment @172.5L PCD	Other Water Requirement i.e Comerical , Community Centre in LPD	Total Water Requirement	Domestic Water requirement @67% of total water requirement	Average Domestic Water Requirement (Total / (24))	Peak Flow in LPH (Average x 3)	Peak Flow in M3/Hr (Average x 3)	Velocity	Size of the pipe	Unit head Loss	Length in	Loss of head in line (m)			Cummulative	Total head loss
1	2	3	5	6	7	6	7	8	9	10	11	12	14	13	14	15	16	17	18	19	20	21
	From	To	Self	Previous	Total		(in LPD)	(in LPD)	(in LPD)	(in LPD)	(in LPH)	(in LPH)		(m2/s)	(in mm)	(in M/M)	(m)	SELF	ADD FOR FITTINGS @10% OF PIPE LENGTH	TOTAL		(m)
1	UGT	D9	0	599	599	2995	516638	13992	530630	355522	14813	44439	44.439	2.46	80	0.0728	5.00	0.364	0.036	0.400	5.442	5.442
2	D9	D8	0	599	599	2995	516638	13992	530630	355522	14813	44439	44.439	2.46	80	0.0728	16.90	1.230	0.123	1.353	5.042	5.042
3	D8	D7	100	199	299	1495	257888		257888	172785	7199	21597	21.597	1.19	80	0.0191	25.00	0.478	0.048	0.526	2.824	2.824
4	D7	D6	100	99	199	995	171638		171638	114997	4792	14376	14.376	0.79	80	0.0090	25.70	0.231	0.023	0.255	2.298	2.298
5	D6	D5	99	0	99	495	85388		85388	57210	2384	7152	7.152	1.58	40	0.0723	25.70	1.858	0.186	2.043	2.043	2.043
6	D8	D4	100	200	300	1500	258750	13992	272742	182737	7614	22842	22.842	1.26	80	0.0212	19.80	0.420	0.042	0.462	0.865	0.865
7	D4	D3	100	100	200	1000	172500	11625	184125	123364	5140	15420	15.42	0.85	80	0.0103	25.70	0.263	0.026	0.290	0.402	0.402
8	D3	D2	100	0	100	500	86250	11625	97875	65576	2732	8196	8.196	0.45	80	0.0032	25.70	0.082	0.008	0.090	0.113	0.113
9	D2	D1	0	0	0	0	0	11625	11625	7789	325	975	0.975	0.22	40	0.0018	11.40	0.021	0.002	0.023	0.023	0.023

BRANCH CONNECTION 40MM	=	120.0	
LENGTH OF 40MM DIA ON	=	26.00	
LENGTH OF 80MM DIA	=	144.00	
TOTAL LENGTH OF LOOP	**=**	**290.00**	
HEIGHT OF BUILDING FROM	=	45.00	MTR
PRESSURE REQUIRED AT TERRACE TO FILL TANK	=	15.00	MTR
MAXIMUM HEAD LOSS IN THE LOOP	=	5.44	MTR
LOSS IN PLATROOM	=	5.00	MTR
HEAD REQUIRED AT PUMP FOR FILLING OHT	=	70.44	
Adding Safety Factor 10%		77.49	
say	**=**	**80**	MTR

MUNICIPAL CONNECTION PIPE 100MM DIA	=	120	MTR
BORE-WELL PIPE 100MM DIA	=	150	MTR

AFFORDABLE GROUP HOUSING PROJECT AT SECTOR-79B GURUGRAM

HYDRAULIC STATEMENT OF FLUSHING WATER SUPPLY

S.no	Line Reference		Unit / plot			Polpulation @ 5 person per unit	Water Requirment @172.5 LPCD	Other Water Requirement i.e Comerical , Community Centre / Anganwadi in LPD	Total Water Requirement	Flushing Water requirement @33% of total water requirement	Average Flushing Water Requirement (Total / (24))	Peak Flow in LPH (Average x 3)	Peak Flow in M3/Hr (Average x 3)	Velocity	Size of the pipe	Unit head Loss	Length in	Loss of head in line (m)			Cummulative	Total head loss
1	2	3	5	6	7	6	7	8	9	10	11	12	14	13	14	15	16	17	18	19	20	21
	From	To	Self	Previous	Total		(in LPD)	(in LPD)	(in LPD)	(in LPD)	(in LPH)	(in LPH)		(m2/s)	(in mm)	(in M/M)	(m)	SELF	ADD FOR FITTINGS @10% OF PIPE LENGTH	TOTAL		(m)
1	STP	F9	0	599	599	2995	516638	13992	530630	175108	7296	21888	21.888	1.83	65	0.0539	5.00	0.270	0.027	0.297	5.387	5.387
2	F9	F8	0	599	599	2995	516638	13992	530630	175108	7296	21888	21.888	1.83	65	0.0539	17.40	0.938	0.094	1.032	5.091	5.091
3	F8	F7	99	500	599	2995	516638	13992	530630	175108	7296	21888	21.888	1.83	65	0.0539	19.30	1.041	0.104	1.145	4.059	4.059
4	F7	F6	100	400	500	2500	431250	13992	445242	146930	6122	18366	18.366	1.54	65	0.0390	25.70	1.001	0.100	1.101	2.915	2.915
5	F6	F5	100	300	400	2000	345000	13992	358992	118467	4936	14808	14.808	1.24	65	0.0261	25.70	0.672	0.067	0.739	1.813	1.813
6	F5	F4	100	200	300	1500	258750	13992	272742	90005	3750	11250	11.25	0.94	65	0.0157	44.80	0.704	0.070	0.775	1.074	1.074
7	F4	F3	100	100	200	1000	172500	11625	184125	60761	2532	7596	7.596	0.64	65	0.0076	25.70	0.195	0.020	0.215	0.299	0.299
8	F3	F2	100	0	100	500	86250	11625	97875	32299	1346	4038	4.038	0.34	65	0.0024	25.70	0.061	0.006	0.067	0.085	0.085
9	F2	F1	0	0	0	0	0	11625	11625	3836	160	480	0.48	0.17	32	0.0014	11.40	0.016	0.002	0.018	0.018	0.018

BRANCH LINE	=	120.0	
LENGTH OF 65MM DIA	=	190.0	
TOTAL LENGTH OF LOOP	**=**	**310.00**	
HEIGHT OF BUILDING	=	45.00	MTR
PRESSURE	=	15.00	MTR
MAXIMUM HEAD LOSS	=	5.39	MTR
LOSS IN PLATROOM	=	5.00	MTR
HEAD REQUIRED AT	=	70.39	
Adding Safety Factor		77.43	
say	**=**	**80**	MTR

IRRIGATION WATER PIPE			
65MM DIA PIPE	=	480	MTR
25MM DIA PIPE	=	26	MTR

AFFORDABLE GROUP HOUSING PROJECT AT SECTOR-79B GURUGRAM

Area statement for METTALIC ROAD

S.no.	Discription	Type	Number	Dimension			Calculation	Result	UNIT
				Length	Height	Breadth			
Addition									
1	A	Rectangle	1	206.800		6.000	Length X breadth	1240.800	SQ.MT
2	B	Rectangle	1	33.100		6.000	Length X breadth	198.600	SQ.MT
3	C	Rectangle	1	163.700		6.000	Length X breadth	982.200	SQ.MT
4	D	Rectangle	1	16.000		6.000	Length X breadth	96.000	SQ.MT
5	E	Rectangle	1	18.300		6.000	Length X breadth	109.800	SQ.MT
				437.90			**Total Addition =**	**2627.400**	SQ.MT
							ADD 10 % FOR CURVED ROAD	**262.740**	SQ.MT
							Total Mettalic Road Area (A1)=	**2890.140**	SQ.MT