

INTERNAL DEVELOPMENT WORKS

DESIGN AND COST ESTIMATES

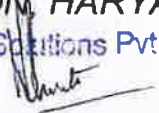
FOR

**PROPOSED BUILDING PLAN FOR GROUP HOUSING
COLONY AREA MEASURING 22.123 ACRES
(LICENCE NO-102 OF 2011 DATED-07.12.2011)
FALLING IN SECTOR-104, GURGAON BEING
DEVELOPED BY M/S MAGIC INFO SOLUTIONS PVT.
LTD. AND OTHERS.**

Anil Baraya 
Council Registration No. CA/86/10310

OWNER

**M/S MAGIC INFO SOLUTIONS PVT. LTD.
GURGAON, HARYANA
For Magic Info Solutions Pvt. Ltd.**


Authorised Signatory



PROPOSED BUILDING PLAN FOR GROUP HOUSING COLONY AREA
MEASURING 22.123 ACRES (LICENCE NO-102 OF 2011 DATED-07.12.2011)
FALLING IN SECTOR-104, GURGAON BEING DEVELOPED BY M/S MAGIC
INFO SOLUTIONS PVT. LTD. AND OTHERS.

REPORT

The project consists of a housing complex located in Gurgaon at Sector - 104 in the State of Haryana, consists of 11 nos. of towers with apartments & additionally EWS, convenient shopping, community facilities and school blocks. The total site area is ~~21.8745~~ ^{22.123} acres.

WATER SUPPLY

The source of water supply shall be HUDA water supply connection. It has been proposed to construct underground tanks of capacity as per attached details for domestic purpose. The under ground tanks will be filled up from the HUDA riser and then pumped to the tanks of each tower proposed on the terraces of each building.

DESIGN

The scheme has been designed and the total water supply requirements calculated for population as given in attached sheets.

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.

SEWERAGE SCHEME

This scheme is designed for sewer connecting to the HUDA sewer which shall be passing along the service road. The sewerage system has been marked on the respective plans.

The sewer lines have been designed for three times average D.W.F in relation to water supply demand. It has been assumed that about 75% of the domestic water supply shall find its way into the proposed sewer. Sewer lines shall be laid to a gradient maintaining minimum 0.75 m/sec self cleaning velocity. Necessary provision for laying S.W/RCC pipe sewer line, construction of required number of manholes etc., have been made in the estimate.

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

For Magic Info Solutions Pvt. Ltd.

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STORM WATER DRAINAGE

The storm water drain 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. RCC hume pipe drain with minimum 400 mm dia is proposed in this area. Storm water has been designed running full.

SPECIFICATIONS

The work will be carried out in accordance with the standard specifications of P.H as laid down by the Haryana Govt./HUDA.

Roads :

Cost of road has been taken in the estimate.

Street Lighting

Provision for lighting on surrounding area has been made.

Horticulture

Estimates and details of plantation, landscaping, signage, etc., has been included.

Rates

The estimate has been based on the present market rates.

Cost:

The total cost of the scheme, including cost of all services works out to be Rs ~~1925.29~~ ^{1687.50} lakhs (Rupees ~~Nineteen hundred twenty five lakh and twenty nine thousand only~~ ^{Sixteen thousand Eighty seven}) including 3% contingencies and 49% departmental charges for price escalation, unforeseen Admin ~~charges~~ ^{costs}.

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1. DESIGN CALCULATION

S.No	Description	Population			Litres/Capital/Day LPCD	Total Water Requirement In LPD
		No. of units	Occupancy per Area	Total Population		
	PARCEL A <i>Tower 1 to 6, Community bldg, Nursery school, shops</i>					
i.	For main apartments @ 5 persons max. per unit	537	5	2685 <i>Person</i>	172.50	4,63,162.50
ii	Service Personnel/Domestic Servants units	120	2	240	135	32,400.00
iii.	Nursery School					
	Staff / Students			41	45	1000 1,845.00
	Visitors <i>bldg</i>			5	15	75.00
iv.	Community Facility					
	Staff			11	45	495.00
	Visitors			96	15	1,440.00
v.	Convenient Shopping					
	Staff			3	45	135.00
	Visitors			22	15	330.00
						507,962.50
	TOTAL					4,99,882.50
					Say	5,00,000

Domestic water requirement
Flushing water requirement

$$\begin{aligned}
 & \text{S16 } 500 \times 2/3 = 331.50 \text{ } 332 \text{ M}^3 \text{ say } 335 \text{ k} \\
 & \text{S10 } 500 \times 1/3 = 178.5 \text{ } 178 \text{ M}^3 \text{ say } 180 \text{ k}
 \end{aligned}$$

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S.No.	Description	Population			Litres/Cap ital/Day	Total Water Requirement
		No.of units	Occupancy per Area	Total Population	LPCD	In LPD
	PARCEL B	<i>Tower no. 7 & 8</i>				
i.	For main apartments @ 5 persons max. per unit	252	5	1260	172.50	2,17,350.00
ii.	Convenient Shopping					
	Staff			3	45	135.00
	Visitors			22	15	330.00
	TOTAL					2,17,815.00
					Say	2,20,000

Domestic water requirement
Flushing water requirement

220x2/3=
220x1/3=

147 M³ *Say. 150K*
73 M³ *Say. 75K*

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S.No	Description	Population			Litres/Capital/Day LPCD	Total Water Requirement In LPD
		No. of units	Occupancy per Area	Total Population		
	PARCEL C					
						<i>Tower 9, 10, 11, Primary School, EWS, N. School</i>
i.	For main apartments @ 5 persons max. per unit	388	5	1940	172.50	3,34,650.00
ii.	EWS Units	208	5	1040	135	1,40,400.00
iii.	Nursery School					
	Staff / Students			41	45	1,845.00
	Visitors			5	15	10000 75.00
iv.	Primary School					
	Staff / Students			136	45	6120.00
	Visitors			15	15	225.00
v.	Convenient Shopping					
	Staff			2	45	90.00
	Visitors			21	15	315.00
						5354.55
	TOTAL					4,83,720.00
					Say	4,85,000

Domestic water requirement
Flushing water requirement

(B + C)

~~485x2/3=323 M³~~
~~485x1/3=162 M³~~

536 KL + 224 KL = 756 KL

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For Major Info See P.V.L. 1991.
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Dom. @ 65% = 491 KL say 500 KL
Flushing @ 35% = 265 KL

Total water demand in M³/day

- (a) For Domestic purpose = ~~810~~ ⁸³⁵ M³/day
(b) For Flushing purpose = ~~395~~ ^{23460.930} M³/day
(c) For Landscape/Gardening Purpose ~~164.14~~ ^{26557 Sqmt.} M³/day
(Say ~~6.565~~ ^{5.80} Acres @25 kl/Acre) = ~~164.14~~ ¹⁴⁵ M³/day
Total = 1369.14 KLD 1425 = 1370 KLD

II. UNDER GROUND WATER TANKS

- a) Total water demand (Daily for Domestic purposes) = ~~1205~~ ¹²⁸⁰ M³/day
b) Proposed underground tanks for Domestic use. (One day storage) = ~~810~~ ⁸³⁵ M³/day
c) Proposed underground tanks for Flushing / Irrigation use. (One day storage) = ~~560~~ ⁵⁹⁰ M³/day
c) Proposed over head tanks for Domestic use. (Half day storage) = ~~405~~ ^{417.50} M³/day
d) Proposed over head tanks for Flushing use. (Half day storage) = ~~200~~ ²²⁵ M³/day
d) Separate static storage for fire fighting purpose provided. 100 x 50 = 27512 = ~~600~~ ³⁰⁰ M³/day

III. BOOSTING MACHINERY

A. Domestic (Parcel A)

- a. Daily Domestic water demand = ~~340~~ ³³⁵ M³/day
b. Discharge per hour @ 8 hr. pumping / day = ~~42.5~~ ^{41.87} M³/hr.
Say 697.9 ~~708~~ ⁷⁰⁰ LPM

- c. Proposed Pump discharges 700 lpm = ~~20~~ ²⁵ HP
i. Proposed pumping for domestic (1 working + 1 stand)
Gross Working Head
d. Suction lift – positive suction 0 Mtrs.
e. Frictional Loss in Mains & S 4.6 Mtrs.
f. Residual head 15 Mtrs.

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g. Static Head 54.00 Mtrs.
h. Basement ht. 6 m
Total 79.6 Mtrs

SAY 85 M

g. HP of each pump required
Pump - HP = $\frac{700 \times 85}{60 \times 75 \times 0.60}$ = 22.03
= 20.34 HP
Say 20 HP

B. Domestic (Parcel B) + c)

- a. Daily Domestic water demand
b. Discharge per hour @ 8 hr. pumping / day

Say

491
147 M³/day
61.38 18.375 M³/hr.
1022.91 306 LPM
3 300 LPM 240.93
Say 356 LPM
300 lpm = 10 HP
3.50 12.50

- c. Proposed Pump discharges
i. Proposed pumping for domestic
(Working + 1 stand)
Gross Working Head

d. Suction lift - positive suction 0 Mtrs.
e. Frictional Loss in Mains & S 1.49 Mtrs.
f. Residual head 15 Mtrs.
g. Static Head 54.00 Mtrs.
h. Basement ht. 6 m
Total 76.49 Mtrs
SAY 85 M

g. HP of each pump required
Pump - HP = $\frac{300 \times 85}{60 \times 75 \times 0.60}$ = 11.02
= 8.72 HP
Say 10 HP

C. Domestic (Parcel C)

- a. Daily Domestic water demand
b. Discharge per hour @ 8 hr. pumping / day

Say

323 M³/day
40.375 M³/hr.
673 LPM
675 LPM

- c. Proposed Pump discharges
i. Proposed pumping for domestic
(1 working + 1 stand)
Gross Working Head

675 lpm = 20 HP

d. Suction lift - positive suction 0 Mtrs.
e. Frictional Loss in Mains & S 4.24 Mtrs.
f. Residual head 15 Mtrs.
g. Static Head 54.00 Mtrs.
h. Basement ht. 6 m
Total 79.24 Mtrs
SAY 85 M

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g. HP of each pump required

$$\text{Pump - HP} = \frac{675 \times 85}{60 \times 75 \times 0.65}$$

$$= 19.62 \text{ HP}$$

Say 20 HP

D. Flushing

a. Daily Flushing water demand

b. Discharge per hour @ 8.00 hr. pumping / day

Say

c. Proposed Pump discharges

i. Proposed pumping for flushing

(1 working + 1 stand)

Gross Working Head

d. Suction lift - positive suction

e. Frictional Loss in Mains & Specials

f. Residual head

g. Static Head

h. Basement ht.

Total

SAY

g. HP of each pump required

$$\text{Pump - HP} = \frac{775 \times 90}{60 \times 75 \times 0.65}$$

$$590 \text{ M}^3/\text{day}$$

$$395 \text{ M}^3/\text{day}$$

$$73.75 \text{ M}^3/\text{hr}$$

$$1229.16 \text{ LPM}$$

$$1230.12 \text{ LPM}$$

$$775 \text{ LPM}$$

$$775 \text{ LPM} = 25.0 \text{ HP}$$

$$615$$

0 Mtrs.

8.94 Mtrs.

15 Mtrs.

54.00 Mtrs.

6 Mtrs.

83.94 Mtrs

90 M

$$20.9$$

$$= 23.85$$

Say 25.0 HP

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IV. PUMPS FOR FIRE PROTECTION

S. No.	Parameters	Location	Pump Sets			
			Jockey	Jockey	Main	Diesel
a)	Discharge in lpm	Pump Room	180 lpm	180 lpm	2850 lpm	2850 lpm
b)	Head in meters		105	75	105	110
c)	HP		15	16	75	100
d)	Quantity in Nos.		2	1	4	2

V. GENERATING SETS:

HP of Domestic Pump Parcel A = $20 \times 1 = 20$
 HP of Domestic Pump Parcel B = $10 \times 1 = 10$
 HP of Domestic Pump Parcel C = $12.5 \times 20 \times 1.3 = 32.5$

HP of Flushing Pump = $25 \times 2 = 25$
 HP of Jockey pump = $10 \times 3 = 10$
 HP of Jockey pump = $7.5 \times 3 = 22.5$
 HP of T.W. = $10 \times 3 = 30$

Total HP = 107.5 HP

IN KVA

With diversity factor (1.5)

$172.5 \times 0.746 = 128.68$
 $128.68 \times 1.5 = 193.02$
 = 125 KVA

For Magic Info Solutions Pvt. Ltd.


 Lead Signatory

Anil Baraya
 Council Registration No. CA/86/10310



SUMMARY OF DESIGN REQUIREMENTS

Sl.No	Description		
1	Total population	7588 7165	Persons
2	Total water requirements (Domestic)	1205	KLD
3	Total water requirements (Horticultural)	165	KLD
4	U.G Tanks (Domestic) Raw domestic, Flushing	1370	
5	U.G Tanks (Fire)	600	KL
6	OH Tanks (Domestic)	405	KL
	OH Tanks (Flushing)	200	KL
7	No. of WS Boosting Pump Set (Three Domestic and One Flushing)	4	Sets
8	HP of each WS Boosting pump Domestic = 20 + 10 + 20 Domestic + 25 Flushing	75	HP
9	Main Electrical pumps	3	Nos
10	Sprinkler Electrical Fire pumps	3	Nos
11	Diesel Fire pumps	3	Nos
12	Jockey Fire pumps	6	Nos
13	Generating sets (KVA)	125	KVA

For Magic No Solutions Pvt. Ltd.


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Anil Baraya 
Council Registration No. CA/86/10310



FINAL ABSTRACT OF COST

		Amount in Rs. Lacs
SUB WORK NO. I	WATER SUPPLY SCHEME	307.67 403.84
SUB WORK NO. II	SEWERAGE SCHEME	170.54 235.75
SUB WORK NO. III	STORM WATER DRAINAGE	73.25 110.82
SUB WORK NO. IV	STREET LIGHTING	25.18 33.95
SUB WORK NO. V	ROAD WORKS	423.47 442.84
SUB WORK NO. VI	HORTICULTURE	529.34 12.07
SUB WORK NO. VII	MAINTENANCE CHARGES & RESURFACING OF ROADS	396.84 447.73
	TOTAL	1687.00 1925.29

say Rs Per Lacs/Acre = $\frac{1925.29}{22.123} = 87.03$ Lacs.
~~1687.00~~ 76.25

AUTHORISED SIGNATORY

say Rs. = ~~87.00~~ Lacs.
 76.25

For Magic Info

[Signature]

Anil Baraya *AB*
 Council Registration No. CA/86/10310

72/11
 Sub Divisional Engineer
 HUDA Sub Divn. No. 6
 GURGAON

ms
 Executive Engineer
 HUDA Division No. V,
 Gurgaon *A*

95
 Superintending Engineer
 HUDA Circle No. 1,
 Gurgaon

Checker subject to comments
 in forwarding letter No. 9471
 Dt. 8/7/13 and not attached
 with the estimate

Director General
 Town and Country Planning,
 Haryana, Chandigarh

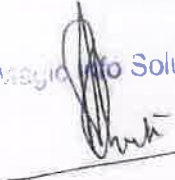
87/13
 Executive Engineer (W)
 for Circle
 HUDA



SUB WORK No. 1

Water Supply & Fire Fighting

1	SUB Head No. 01	Head works	90.51 Lacs
2	Sub Head No. 02	Pumping Machinery	11,288,000.00
			97.50 Lacs
3	Sub Head No. 03	Rising Main	5.82 Lacs
			855,250.00
4	Sub Head No. 04	Distribution System	1,992,125.00
		Domt + Flushing	40.11 Lacs
5	Sub Head No. 05	Fire rising Main	2,637,000.00
			23.20 Lacs
6	Sub Head No. 06	Irrigation	6.00 Lacs
			2,275,000.00
		TOTAL	263.14 Lacs
		Add 3% contingencies & PH Charges	601,421.25
			7.89 Lacs
		TOTAL	271.03 Lacs
		Add 49% Departmental charges, price escalation, unforeseen,	132.81 Lacs
			10,117,910.16
		TOTAL	403.84 Lacs
		SAY IN LACS	30,766,706.41
			307.67

For Masjido Solutions Pvt. Ltd.

 Digitally signed by Anil Baraya

Anil Baraya
 Council Registration No. CA/86/10310



Sub -Work No. 1
Sub -Head No. 02

Water Supply & Fire Fighting Pumping Machinery

SL NO	Description	Unit	Qty	Rate	Amount
1	Providing and installing electricity driven pumping set capable of delivering water against head as given below complete with motor and other accessories.				
	Domestic 700 lpm at 85 M Head 25HP (A)	1 Set	2 Nos	250000.00	5.00 Lac
	Domestic 675 lpm at 85 M Head 350 LPM 12.5 HP	Set	+	145000.00	145,000.00
	Domestic 300 lpm at 85 M Head	Set	4 Nos	1.25 Lac	5.00 Lac
	Flushing 775 LPM at 90 M Head 615 25HP	2 + 1 Set	3 Nos	2.50 Lac	7.50 Lac
2	Provision for diesel engine generator set each for standby by Arrangement For T.W. & Booster Pump complete with gear head arrangements of following capacities 125 KVA.				
	200	LS	1	1,000,000	1,000,000.00
3	Providing and installing pumping set of following capacities for Fire protection.				
	180 lpm at 105M head (15HP)			1.50	4.50 Lac
		Each	2	120,000	360,000.00
	180 lpm at 75M head (7.5 HP)			5.00	24.00
	2850 lpm at 105M head 75HP	Each	4	250000	750,000.00
	105 m Head 75HP			9.00	18.00
	2850 lpm at 105M head (185HP)	Each	2	600000	5,400,000.00
4	Provision for chlorination plant complete				
		Each	2	1.00	2.00 Lac
				60000	180,000.00
5	Provision for making foundations and erection of Pumping Machinery.				
		LS			300,000.00
6	Provision for pipes, valves and specials inside boosting chamber.				
		LS			300,000.00
7	Provision for electric service connection including electrical Fittings for tubewell and boosting chamber etc.				
		LS			350,000.00
8	Provision for carriage of material and other unforeseen items etc.				
		LS			150,000.00
9	Construction of U. G Tanks (810 Domestic + 395 Fire)				
		KL	1205	1600	1,928,000.00
	TOTAL(C/O To Abstract of cost for subwork No.1)				47.50 Lac
	SAY IN LACS				112.88

For Magic Info Solutions Pvt. Ltd.

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Sub -Work No. 1
Sub -Head No. 03

Water Supply Rising Main from HUDA

SL.NO	Description	Unit	Qty	Rate	Amount
1	Providing , laying, jointing and testing GI pipe lines including Cost of excavation etc. completes all respects .				
	100 mm dia. Pipe DI pipe.	Mtr	425	1450	616,250.00
	150 mm dia. Pipe DI pipe.	Mtr	20	1750	35,000.00
			50	1575	0.79 Lacs
2	Providing and fixing sluice valve including cost of surface box and masonry chamber etc. completed in all respects.				
	a. 100 mm dia.	Each	5	6500	32,500.00
	a. 150 mm dia.	Each	2	8500	8,500.00
				10000	0.20 Lacs
3	Providing and fixing indicating plates for sluice valve and air Valves .				
		Each	2	1000	0.02 Lacs
				500	3,000.00
4	Provision for carriage for materials and other unforeseen items .				
		LS		50,000	50,000.00
5	Making water supply connection . on master road				
		Each	1 (LS)	50,000	50,000.00
6	Provision for cutting of roads and making good to its original Conditions.				
7	Provision for 150 mm dia. interconnection line			80,000	0.58 Lacs
	TOTAL (C/O To Abstract of cost for subwork No.1)			1575	60,000.00
	SAY IN LACS				855,250.00
					8.55

For More Info Sub-10/1/14
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Sub -Work No. 1
Sub -Head No. 03

Water supply Distributing System
Dom. + Flushing

SL .NO	Description	Unit	Qty	Rate	Amount
1	Providing , Laying, jointing and testing G.I water supply pipe line including Fittings, valves, cost of excavation etc. complete in all respect.				
	Domestic				
	G.I Pipe 25 mm	M	84	325	27,300.00
	G.I Pipe 32 mm	M	160	400	64,000.00
	G.I Pipe 40 mm	M	32	450	14,400.00
	G.I Pipe 65 mm	M	228	657	328,500.00
	G.I Pipe 80 mm	M	280	600	179,400.00
DL	G.I Pipe 100 mm	M	265	800	201,600.00
OU	G.I Pipe 150 mm	M	20	1050	21,000.00
	Flushing				
	G.I Pipe 20 mm	M	48	275	13,200.00
	G.I Pipe 25 mm	M	136	325	44,200.00
	G.I Pipe 32 mm	M	32	400	12,800.00
	G.I Pipe 50 mm	M	593	475	281,675.00
	G.I Pipe 65 mm	M	404	500	202,000.00
	G.I Pipe 80 mm	M	396	600	237,600.00
	G.I Pipe 100 mm	M	40	800	32,000.00
2	Provision for carriage of materials and other unforeseen items.				1.00 Lac
	Providing and fixing valve. complete in all respect				75,000.00
	20 mm dia	Each	3	1050	3,150.00
	25 mm dia	Each	6	1450	8,700.00
	32 mm dia	Each	4	1800	7,200.00
	40 mm dia	Each	11	2400	26,400.00
	50 mm dia	Each	11	3000	33,000.00
	65 mm dia	Each	14	4500	63,000.00
	80 mm dia	Each	4	5500	22,000.00
	100 mm dia	Each	15	6500	97,500.00
	150 mm dia	Each	2	8500	17,000.00
4	Provision for cutting & roads and making				
	(C/O TO Abstract of Cost for Subwork No.1 and its in original)				4,992,125.00
	SAY IN LACS				49.92

1.54 Lac
34.20 Lac
0.63 Lac

0.16 Lac
1.80 Lac
0.28 Lac
0.50 Lac
40.11 Lac

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Material Statement for Water supply - Domestic											
S.NO.	LINE NO	LENGTH OF PIPE	SIZE OF RISER PIPE IN MM Dia	PIPE IN 25 MM Dia	PIPE IN 32 MM Dia	PIPE IN 40 MM Dia	PIPE IN 50 MM Dia	PIPE IN 65 MM Dia	PIPE IN 80 MM Dia	PIPE IN 100 MM Dia	PIPE IN 150 MM Dia
1	D1-D2	30	85					30			
2	D2-D4	80	85					80			
3	D3-D4	24	85					24			
4	D4-D6	72	80								
5	D6-D5	20	65					20			
6	D6-D8	60	100							60	
7	D7-D8	12	40			12					
8	D8-D9	12	100							12	
9	D9-D10	52	100							52	
10	D11-D12	8	32		8			8			
11	D12-D14	36	32		36			36			
12	D13-D14	8	25	8							
13	D14-D16	20	40			20		20			
14	D15-D16	24	65					24			
15	D16-D18	84	65					24		84	
16	D18-D17	24	65					24			
17	D18-D20	92	80								
18	D19-D20	24	65						24	92	
19	D20-D21	16	100								
20	D21-D10	72	100							16	
21	D10-PUMP	20	150							72	
22	D22-D23	48	25	48				48			20
23	D24-D23	32	65					32			
24	D23-D25	56	65					56		45	
25	D25-D26	23	65					23		56	
26	D25-D27	32	80								
27	D27-PUMP	20	100						32	35	
28	D28-D29	64	32		64			64			
29	D30-D29	24	65					24			
30	D29-D31	64	65					24		64	
31	D32-D31	24	65					24			
32	D31-D33	23	80					24			
33	D34-D35	60	65						29		
34	D40-D38	52	32		52			52			
35	D38-D39	20	65					20			
36	D38-D36	28	65					28			
37	D37-D36	28	25	28						26	
38	D36-D35	16	65					16			
39	D35-D33	80	80								
40	D33-PUMP	20	100						20	80	
TOTAL				84	160	32	0	437	299	263	20

For Magic Info Solutions Pvt. Ltd.

Authorised Signatory

Anil Baraya
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For Magic Info Solutions Pvt. Ltd.

Authorised Signatory

22.8
m

86.8
m.

40 m



Material Staement for Water supply - Flushing

S.NO.	LINE NO	LENGTH OF PIPE	SIZE OF RISER PIPE IN MM Dia	PIPE IN 20 MM Dia	PIPE IN 25 MM Dia	PIPE IN 32 MM Dia	PIPE IN 40 MM Dia	PIPE IN 50 MM Dia	PIPE IN 65 MM Dia	PIPE IN 80 MM Dia	PIPE IN 100 MM Dia	PIPE IN 150 MM Dia
1	F1-F2	30	50					30				
2	F2-F4	80	50					80			80	
3	F3-F4	24	50					24				
4	F4-F6	72	65						72		72	
5	F6-F5	20	50					20				
6	F6-F8	60	80							60	60	
7	F7-F8	12	32			12						
8	F8-F9	12	80							12	12	
9	F9-F10	52	80							52	52	
10	F11-F12	8	25		8							
11	F12-F14	36	25		36						36	
12	F13-F14	8	20	8								
13	F14-F16	20	32			20					20	
14	F15-F16	24	50					24				
15	F16-F18	84	50					84			84	
16	F18-F17	24	50					24				
17	F18-F20	92	65						92		92	
18	F19-F20	24	50					24				
19	F20-F21	16	80							16		
20	F21-F10	72	80							72	72	
21	F10-F41	20	100								20	
22	F25-F26	32	50					32				
23	F23-F25	23	50					23			23	
24	F24-F23	56	50					56				
25	F27-F23	36	65						36		36	
26	F27-F22	12	20	12								
27	F27-F41	100	65						100		100	
28	F28-F42	40	25		40							
29	F34-F35	60	50					60				
30	F40-F38	52	25		52							
31	F38-F39	20	50					20			20	
32	F38-F36	28	50					28			28	
33	F37-F36	28	20	28								
34	F36-F35	16	50					16			16	
35	F35-F31	104	65						104		104	
36	F32-F31	24	50					24				
37	F29-F31	64	80							64	64	
38	F30-F29	24	50					24				
39	F29-F42	20	80							20	20	
40	F42-F41	80	80							80	80	
41	F41-PUMP	20	100								20	20
	TOTAL			48	136	32	0	583	404	296	40	0

For Magic Info Solutions Pvt. Ltd.

Authorised Signatory

Anil Baraya
Council Registration No. CA/86/10310



Grand Total Domestic + Flushing
 150 mm Ø 40 m + 46 m = 86 m
 100 mm Ø 868 m + 1982 = 2850 m
 65 mm Ø 228 m = 228 m

Sub -Work No. 1
Sub -Head No. 05

Water supply & Fire fighting Fire Rising Main

SL NO	Description	Unit	qty	Rate	Amount
1	Providing , Laying , jointing and testing M.S. pipes lines for fire rising main including cost of fittings, valves, connection etc. complete in all respect.			1575	17.64
i	150 mm m.s. pipe line	M	1120	1600	3,072,000.00
iii	80 mm i/d	M	137	1000	137,000.00
2	Providing and fixing valves including cost of surface boxes and masonry chambers, etc., complete in all respects.				0.60 lacs
	150 mm d	Each	6	7500	45,000.00
3	Providing and fixing fire Hydrant, etc.				
		Each	44	7500	330,000.00
4	Providing for carriage of material as other unforeseen items .			10000	4.40 lacs
		LS		30000	30,000.00
5	Providing for indication plates for valves			1000	0.06
		Each	6	500	3,000.00
6	Provision of cutting of roads and making good to its original conditions (L/s)				
		Each		20000	20,000.00
Total cost of Abstract of cost for Subwork No.1					3,637,000.00
SAY IN LACS					23.20 - 36.37

For Magic Info Solutions Pvt. Ltd.

Authorized Signatory

Anil Baraya
Council Registration No. CA/86/10310



5.00

Material Staement for Fire Rising Main

Material Staement for FIRE

S.NO.	LINE NO	LENGTH OF PIPE	PIPE IN 150 MM Dia	PIPE IN 80 MM Dia
1	FIRE RING	1120	1120	
2	Y 1-16	38		38
3	Y 17 , 18	20		20
4	Y 19-26	16		16
5	Y 27-37	22		22
6	Y 38	8		8
7	Y 39	8		8
8	Y 40	7		7
9	Y 41	3		3
10	Y 42	3		3
11	Y 43	6		6
12	Y 44	6		6
	TOTAL	1257	1120	137

For Magic Info Solutions Pvt. Ltd.

Authorised Signatory

Anil Baraya *AB*
Council Registration No. CA/86/10310



Sub -Work No. 1

Water supply Irrigation

Sub -Head No. 06

SL . NO	Description	Unit	Qty	Rate	Amount
1	Providing , Laying, Jointing and testing pipe line Confirming to IS 4985 (upvc) including cost of excavation etc. complete in all respect.				
a	25 mm dia	M	500	250	125,000.00
	110 mm dia <i>will be connected M</i>	M	2000	950	1,900,000.00
2	Providing and fixing 20 mm dia. Irrigation hydrant Valve complete in all respect.				
		Each	100	3500	150,000.00
3	Provision for carriage of Material and other as foreseen Items.				
		LS		50000	50,000.00
4	Provision of cutting of roads and making good to its original conditions (L/s)				
		LS		50000	50,000.00
	TOTAL				2,275,000.00
	SAY IN LACS				6.60 <i>22.75</i>

For Magic Irrigation Pvt. Ltd.

Signature

Anil Baraya *AR*
Council Registration No. CA/86/10310



Sub -Work No. II

Sewerages Scheme

Sub -Head No. 01

SL. NO	Description	Unit	Qty	Rate	Amount
1	Providing , jointing , cutting and testing SW pipe class "A" and lowering into trenches including cost of Excavation, bed concrete, cost of manholes etc. Complete.				
a	SW pipe 200 mm i/d avg. depth 2 - 4 M	M	586	1500	8.82 Lacs
		M	828	850	881,600.00
b	SW pipe 250 mm i/d avg. depth 2- 4 M	M	651	1800	11.72 Lacs
		M		1250	813,750.00
c	SW pipe 300 mm i/d avg. depth 2-4 M	M	120	2150	2.58 Lacs
		M		1600	192,000.00
2	Provision for cartage if material an other unforeseen items.				
		LS		100000	100,000.00
3	Provision for lighting and watching.				0.50 Lacs
		LS		25000	25,000.00
4	Provision for making HUDA connection. on main Road				
		LS		50000	50,000.00
5	Provision for temporary disposal arrangement till such time HUDA services are made available				125.00 Lacs
		LS		50000	50,000.00
6	Providing STP 1000 KLD or 1.0 mld				2.50 Lacs
7	Provision for vent pipe as per P.H. rep. (C.S.)			9000000	9,000,000.00
7	Provision for cutting of road and making good				1.00 Lacs
	TOTAL				11,112,350.00
	SAY IN LACS				111.12

153.62 Lacs

Anil Baraya *AR*
Council Registration No. CA/86/10310



Contd.

SUB WORK No. 11

Sewerage Scheme

1	Sub Head No. 01	Sewerage Scheme	11,112,350.00
			153.62
		TOTAL	11,112,350.00
		Add 3% contingencies & PH Charges	333,370.50
			4.66
		TOTAL	11,445,720.50
		Add 49% Departmental charges, price escalation, unforeseen, Admin.	5,608,403.05
			158.22 lacs
			77.53 lacs
			235.75 lacs
		TOTAL	17,054,123.55
		SAY IN LACS	170.54

C.O. to final abstract of cost

Anil Baraya *AB*
Council Registration No. CA/86/10310



Material Statement for Sewerage system

Line No.	Dia of Pipe (mm)	Length of line In mtr.	Length of line In mtr.		
			200mm	250mm	300mm
1-2	200	30	30		
2-4	200	80	80		
3-4	200	24	24		
4-6	200	72	72		
5-6	200	20	20		
6-8	250	60		60	
7-8	200	12	12		
8-9	250	12		12	
9-10	250	52		52	
11-12	200	8	8		
12-14	200	36	36		
13-14	200	8	8		
14-16	200	20	20		
15-16	200	24	24		
16-18	200	84	84		
17-18	200	24	24		
18-20	250	92		92	
19-20	200	24	24		
20-21	250	16		16	
21-10	250	72		72	
10-STP	300	20			20
26-25	200	32	32		
25-23	250	23		23	
24-23	200	56	56		
23-27	250	36		36	
22-27	200	12	12		
27-41	250	100		100	
28-42	200	40	40		
34-35	200	60	60		
40-38	200	52	52		
39-38	200	20	20		
38-36	200	28	28		
37-36	200	28	28		
36-35	200	16	16		
35-31	250	104		104	
32-31	200	24	24		
31-29	250	64		64	
30-29	200	24	24		
29-42	250	20		20	
42-41	300	80			80
41-STP	300	20			20
STP - MUN DRAIN	200	70	70		
TOTAL		1699	928	651	120

1359

586

m

m

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Council Registration No. CA/86/10310



Sub -Work No. III

Storm Water Scheme

Sub-Head No. 04

SL. NO	Description	Unit	Qty	Rate	Amount
1	Providing and laying R.C.C. pipe drain class NP -3 With center joint, manholes excavation etc. <i>Complete in all material</i>				<i>31.28 lac</i>
a	400 mm dia.	M	1738	<i>1800</i>	<i>2,085,600.00</i>
2	Provision for Road gully. <i>with 300 mm dia pipe connection, etc.</i>				<i>3.50 lac</i>
		LS			<i>200,000.00</i>
3	Provision for roof top rain harvesting arrangement.				
		Acres	22.123	<i>100000</i>	<i>2,212,300.00</i>
4	Provision for shorting & Timbering.				
		LS		<i>100000</i>	<i>100,000.00</i>
5	Provision for lighting, watching & Temp. drain arrangement and other unforeseen charges				
		LS		<i>50000</i>	<i>50,000.00</i>
6	Provision for carriage of material. <i>(L.S)</i>			<i>75000</i>	<i>75,000.00</i>
7	Provision for making connection to HUDA line. <i>on market line</i>				
		LS		<i>50000</i>	<i>50,000.00</i>
8.	<i>Provision for cutting of road and making tunnel to it in original condition (L.S)</i>				<i>1.00 lac</i>
	TOTAL				4,772,900.00
	SAY IN LACS				47.73

For Magic Info Solutions Pvt. Ltd.

Authorised Signatory

Anil Baraya *AB*
Council Registration No. CA/86/10310



Control Page

SUB WORK No. III

Storm Water Scheme

1	Sub Head No. 01	Storm Water Scheme	4,772,900.00
			72.21 Lac
		TOTAL	4,772,900.00
		Add 3% contingencies & PH Charges	143,187.00
			2.17 Lac
		TOTAL	4,916,087.00
		Add 49% Departmental charges, price escalation, unforeseen, Admin.	2,408,882.63
			36.44 Lac
			110.82 Lac
		TOTAL	7,324,969.63
		SAY IN LACS	73.28

For Magic Info Solutions Pvt. Ltd.

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 Anil Baraya *ARB*
 Council Registration No. CA/86/10310


C.O. to final abstract of cost

Material Statement for Storm Water Lines

Line No.	Dia of Pipe (mm)	Length of line In mtr.
		400mm
1-2	400	34
2-3	400	28
5-4	400	88
4-3	400	76
3-HUDA DRAIN	400	10
6-7	400	96
7-8	400	36
8-9	400	68
8-HUDA DRAIN	400	10
13-12	400	136
12-11	400	76
10-11	400	44
11-HUDA DRAIN	400	10
14-15	400	60
15-16	400	84
16-17	400	30
19-18	400	120
18-17	400	70
17-HUDA DRAIN	400	10
20-21	400	70
21-22	400	84
22-23	400	160
29-28	400	64
28-27	400	24
27-26	400	60
26-25	400	60
25-24	400	60
24-23	400	60
23-HUDA DRAIN	400	10
TOTAL		1738

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Anil Baraya *AB*
Council Registration No. CA/86/10310



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Sub -Work No. IV

Street Lighting

Sub-Head No. 01

SL .NO	Description	Unit	Qty	Rate	Amount
1	Providing Street lighting on roads as per standard specification of HVPN with CFL				22.12 lac
		Acre	21.8745	75000	1,640,587.50
			22.123	1.00 lac	
			TOTAL		1,640,587.50
			SAY IN LACS -		46.41

Add 3% Contingency & PB charge = 0.66 lac

22.78 lac

[For Magik Info Solutions Pvt. Ltd.]

Add 49% Admin, price escalation
Unforeseen, Admin. charge

11.17 lac

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33.95 lac

Anil Baraya
Council Registration No. CA/86/10310



C.O. to final abstract of cost

SUB-WORK No. IV

Road Works

Sub-Head No.01

1	Provision for leveling & earth filling as per site condition	1,531,215.00
	<i>22.123 Acre @ ₹ 1.00 Lac/Acre</i>	<i>Rs. 22.12 Lac</i>
2	Soling coat 100mm thick (63-45mm) gauge compacted to <i>300 mm GSB</i> Wearing coat (top coat) 100mm thick (53-22.4mm) gauge <i>250 mm Stone aggregate</i> compacted to 75mm thick conforming to MOT specifications (Table 400-6, grading No. 3) 50mm BM 20mm <i>ms</i> Type-A. <i>25875</i> 24758.686 sq.m. @ <i>850/-</i> 800/sq.m.	19,806,948.80 <i>219.94 Lac</i>
3	Provision for kerbs & channels on both side of road of CC 1:2:5:5. <i>(3825 @ Rs. 400)</i>	<i>18.00 Lac</i> 1,530,000.00
4	Provision for making up road to each block and pavements <i>L.S.-</i> <i>(L.S.)</i>	<i>20.00 Lac</i> 3,375,000.00
5	Provision for guide map and other unforeseen and indicating board etc. L.S.	<i>2.00 Lac</i> 450,000.00
6	Provision for traffic light Arrangement L.S.	450,000.00
7	Provision for carriage of material & other unforeseen charges <i>(L.S.)</i>	<i>2.00 Lac</i> 450,000.00
		<i>288.56 Lac</i>
	TOTAL	27,593,163.80
	SAY IN LACS	275.93

Anil Baraya *AB*
Council Registration No. CA/86/10310



Cont. Page

SUB WORK No. V

Road Works

			288.56 lacs
1	Sub Head No. 01	Road Works	27,593,163.80
		TOTAL	27,593,163.80
		Add 3% contingencies & PE Charges	827,794.91
		TOTAL	28,420,958.71
		Add 49% Departmental charges, price escalation, unforeseen, Admin.	13,926,269.77
		TOTAL	42,347,228.48
		SAY IN LACS	423.47

8.65 lacs
 297.21 lacs
 145.63 lacs
 442.84 lacs

For Maglo: [Signature] Council: T.M. D.A.

[Signature]
Authorised SignatoryAnil Baraya [Signature]
Council Registration No. CA/86/10310c.o. to final abstract of cost

Sub -Work No. VI

Horticulture Works

Sub -Head No. 01

SL. NO	Description	Unit	Qty	Rate	Amount
Dev of Lawn area					
(a)	Providing and supplying the soil type A soil to the specified area in accordance with the recommended depth and make the area ready for planting. Which includes removal of debris, levelling, soil type A filling	Trenches in ordinary soil up to depth of 60 cm incl. 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 before and after flooding trenches with water including cost of imported earth and manure			
a	Soil type A	CUM	6100	4000	6,100,000.00
b Rough dressing of trenched area					
2	Providing and supplying of soil type B soil to the specified area in accordance with the recommended depth and make the area ready for planting. This is also includes removal of debris, levelling, soil type B filling	Grassing with "Doub Grass" including watering and mow of lawn free from weeds and fit for mowing in Rows 7.5 cm in their direction including for Hedges and Grills, barbed wire fencing around Palle and Green belts			
a	Soil type B	CUM	5952	2100	12,499,200.00
3	Providing, supplying and installation of Delta terraxx sheets in the specified podium areas	Area = 23460.930 Sqn or 5.98 Acre			
a	DELTA TERRAXX SHEETS	SQM ACRE	46712 5.98	-500 1.00 lacs	7,856,000.00 5.98 lacs
4	Supplying of recommended planting material to the specified area and planting those in accordance with the drawing and maintaining the same for a period of 6 months which includes replacement of dead and disease plants, Cleaning of softscape area. Providing of stacking to plants if require plants, pest and disease	Planting of Trees with tree Guard on roads at 40'-0" interval Length of road = $3000/2 = 250$ Nos			

[For Magic Info Solutions Pvt. Ltd.]

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Anil Baraya
Council Registration No. CA/86/10310

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SUB WORK No. VII

Maintenance Charges & Resurfacing of Roads

Sub-Head No.01

1	Provision for maintenance charges for water supply, sewage, storm water drainage, roads, street light, horticulture etc., complete including operation and establishment charges as per HUDA norms after completion and resurfacing of roads after 10 years.	10,937,250.00
	22.123	
	21.8745 acres @ Rs. 500000 lacs per acre	Rs 110.62 lacs
2	Provision for resurfacing of roads after 1st 5 years of maintenance road area 24758.686 sq.m @ Rs. 350/-	8,665,540.10
	25875	Rs. 90.56 lacs
3	Provision of resurfacing of roads after 10 years road area 24758.686 sq.m @ Rs. 350/-	6,189,671.50
	25875	Rs. 90.56 lacs
TOTAL		25,792,461.60
SAY IN LACS		257.92

Anil Baraya *ARB*
Council Registration No. CA/86/10310



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SUB WORK No. VII

Maintenance Charges & Resurfacing of Roads

1	Sub Head No. 01	Maintenance Charges & Resurfacing of Roads	25,792,461.60 291.74 Lac
TOTAL			25,792,461.60
Add 3% contingencies & PE Charges			8.75 773,773.85 300.49 Lac
TOTAL			26,566,235.45
Add 49% Departmental charges, price circulation & unforeseen admin			13,017,455.37 147.24
TOTAL			39,583,690.82
SAY IN LACS			447.73 395.84

Anil Baraya *AB*
Council Registration No. CA/86/10310



c.o. to final abstract of cost

DESIGN OF EXTERNAL WATER SUPPLY - (DOMESTIC)																
Sl. No.	LINE NO	POPULATION	WATER REQ @172.5 LPCD & 135 FOR SERVANTS	TOTAL WATER REQ PER DAY ASSUMING 70% FOR DOM	WATER REQ. 2 TIMES OF DAILY REQ.	PUMP WORKING 12 HOURS	SELF WATER REQ IN LPM	PREVIOUS WATER REQ.	PROGRESSIVE WATER REQ. IN LPM	LENGTH H.O.F PIPE	HEAD LOSS MTR/MTR	TOTAL HEAD LOSS IN MTRS	HEAD LOSS PROGRESSIVE	VELOCITY IN M/SEC	SIZE OF RISER PIPE IN MM Dia	HEAD AVAILABLE
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
1	D1-D2	350	172.5	42282.5			69.20	0.00	69.20	30	0.005	0.14	0.14	0.347	65	80.26
2	D2-D4	80	135	48822.5	98645.00	4151.88	69.20	0.00	69.20	80	0.005	0.37	0.51	0.347	65	79.89
3	D3-D4	350	172.5	42282.5	98645.00	4151.88	69.20	0.00	69.20	24	0.005	0.11	0.11	0.347	65	80.28
4	D4-D6	80	135	7560	98645.00	4151.88	69.20	68.20	138.40	72	0.006	0.44	1.06	0.459	80	79.34
5	D6-D5	350	172.5	42282.5	98645.00	4151.88	69.20	0.00	69.20	20	0.005	0.09	0.09	0.347	65	80.30
6	D6-D8	80	135	7560	98645.00	4151.88	69.20	138.40	207.59	60	0.004	0.28	1.41	0.440	100	78.98
7	D7-D8	11	45	1008	2709.00	112.88	1.88	0.00	1.88	12	0.000	0.00	0.00	0.025	40	80.39
8	D8-D9	68	15	1354.5	2709.00	112.88	1.88	207.59	209.48	12	0.004	0.05	1.48	0.444	100	78.83
9	D9-D10			1354.5	2709.00	112.88	1.88	207.59	209.48	52	0.004	0.23	1.69	0.444	100	78.70
10	D11-D12	41	45	1291.5	2668.00	112.00	1.87	0.00	1.87	8	0.000	0.00	0.00	0.038	32	80.39
11	D12-D14	5	15	52.5	2668.00	112.00	1.87	0.00	1.87	38	0.000	0.01	0.01	0.038	32	80.39
12	D13-D14	3	45	94.5	851.00	27.13	0.45	0.00	0.45	8	0.000	0.00	0.00	0.015	25	80.40
13	D14-D16	22	15	231	651.00	27.13	0.45	1.87	2.32	20	0.000	0.00	0.01	0.031	40	80.39
14	D15-D18			325.5	131817.50	5484.08	61.40	0.00	61.40	24	0.008	0.19	0.19	0.459	65	80.21
15	D16-D18	545	172.5	65808.75	131817.50	5484.08	61.40	2.32	83.72	84	0.008	0.68	0.68	0.470	65	78.52
16	D18-D17	545	172.5	65808.75	131817.50	5484.08	61.40	0.00	61.40	24	0.008	0.19	0.19	0.459	65	80.21
17	D18-D20			65808.75	131817.50	5484.08	61.40	63.72	185.12	92	0.010	0.95	2.02	0.613	80	78.38
18	D19-D20	545	172.5	65808.75	131817.50	5484.08	61.40	0.00	61.40	24	0.008	0.12	0.12	0.459	65	80.21
19	D20-D21			65808.75	131817.50	5484.08	61.40	185.12	276.52	10	0.007	0.12	2.32	0.586	100	78.07
20	D21-D10			65808.75	131817.50	5484.08	61.40	185.12	276.52	72	0.007	0.53	2.85	0.586	100	77.54
21	D10-PUMP			67163.25	134326.50	5596.94	63.28	382.71	485.00	20	0.003	0.06	4.60	0.458	150	80.40
22	D22-D23	3	45	94.5												
23		22	15	231												

Anil Baraya *AB*
Council Registration No. CA/86/1



Sl. No.	LINE NO	POPULATION	WATER REQ @ 172.5 LPCD & 135 FOR SERVANTS	TOTAL WATER REQ PER DAY ASSUMING 70% FOR DOM	WATER REQ. 2 TIMES OF DAILY REQD.	PUMP WORKING 12 HOURS	SELF WATER REQ IN LPM	PREVIOUS WATER REQ.	PROGRESSIVE WATER REQ. IN LPM	LENGT H OF PIPE	HEAD LOSS MTR/MTR	TOTAL HEAD LOSS IN MTRS	HEAD LOSS PROGRESSIVE E	VELOCITY IN M/SEC	SIZE OF RISER PIPE IN MM Dia	HEAD AVAILABLE
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
23	D24-D23	540	172.5	325.5	651.00	27.13	0.45	0.00	0.45	48	0.000	0.00	0.00	0.015	25	83.51
24	D23-D25			65205	130410.00	5433.75	90.56	0.00	90.56	32	0.008	0.24	0.24	0.455	65	83.27
25	D25-D26	720	172.5	89940	173880.00	7245.00	120.75	0.45	91.01	56	0.008	0.43	0.68	0.457	65	82.83
26	D25-D27			89940	173880.00	7245.00	120.75	0.00	120.75	23	0.013	0.30	0.30	0.608	65	83.21
27	D27-PUMP			89940	173880.00	7245.00	120.75	91.01	211.76	32	0.013	0.43	1.40	0.702	80	82.11
28	D28-D29	136	45	4284		7245.00	120.75	91.01	211.76	20	0.005	0.09	1.49	0.449	100	83.51
29	D30-D29	15	15	157.5												
30	D29-D31	880	172.5	4441.5	8883.00	370.13	6.17	0.00	6.17	64	0.002	0.11	0.11	0.128	32	79.01
31	D32-D31	540	172.5	82110	164220.00	6842.50	114.04	0.00	114.04	24	0.012	0.28	0.28	0.572	65	78.83
32	D31-D33			82110	164220.00	6842.50	114.04	6.17	120.21	64	0.013	0.82	1.21	0.603	65	77.91
33	D34-D35	720	172.5	65205	130410.00	5433.75	90.56	0.00	90.56	24	0.008	0.18	0.18	0.455	65	78.93
34	D40-D38	41	45	89940	173880.00	7245.00	120.75	120.21	210.77	23	0.013	0.30	1.70	0.688	80	77.42
35	D38-D39	5	15	1291.5				0.00	120.75	60	0.013	0.78	0.78	0.605	65	78.34
36	D38-D36	1040	135	1344	2688.00	112.00	1.87	0.00	1.87	52	0.000	0.01	0.01	0.039	32	79.10
37	D37-D36	2	45	98280	196560.00	8190.00	136.50	0.00	136.50	20	0.016	0.33	1.11	0.685	65	78.00
38	D36-D35	21	15	63	126.00	23.83	0.39	0.00	0.39	28	0.017	0.47	1.59	0.695	65	77.53
39	D35-D33			220.5	567.00	23.83	0.39	136.37	138.76	16	0.017	0.27	1.86	0.697	65	77.26
40	D33-PUMP			283.5	567.00	7268.63	121.14	136.37	259.51	80	0.019	1.56	4.19	0.860	80	74.92
				87223.5	174447.00	12702.38	211.71	259.58	470.28	20	0.020	0.39	5.89	0.997	100	79.11
				152428.5	304857.00											

COLUMN NAME FORMULAE

E C X D

F E X 2

G E / 12

H G / 60

L $J^{60/1000}/(1.292 \cdot (10^{\wedge} 5) \cdot (100) \cdot P^{2.63})^{1/10.54}$

M L X K

O $4.567 \cdot (10^{\wedge} 3) \cdot (100) \cdot (P^{8 \cdot 0.63}) \cdot L^{0.54}$

Q Head near pump - progressive head loss (column N)

For Magic Info Solutions Pvt. Ltd.

Authorised Signatory

Anil Baraya
Council Registration No. CA/86/10310



DESIGN OF EXTERNAL WATER SUPPLY - (FLUSHING)																
Sl. No.	LINE NO	POPUL ATION	WATER REQ @ 172.5 LPCD & 135 FOR SERVENTS	TOTAL WATER REQ. PER DAY ASSUMING 30% FOR FLU	WATER REQ. 2 TIMES OF DAILY REQD.	PUMP WORKING 12 HOURS	SELF WATER REQ IN LPM	PREVIOUS WATER REQ.	PROGRESSIVE WATER REQ. IN LPM	LENGT H OF PIPE	HEAD LOSS MTR/ MTR	TOTAL HEAD LOSS IN MTRS	HEAD LOSS PROGRES SIVE	VELOCITY IN M/SEC	SIZE OF RISER PIPE IN MM Dia	HEAD AVAILABLE
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
1	F1-F2	350 80	172.5 135	18112.5 3240	42705.00	1779.38	29.66	0.00	29.66	30	0.003	0.10	0.10	0.252	50	79.14
2	F2-F4			21352.5	42705.00	1779.38	29.66	0.00	29.66	80	0.003	0.28	0.38	0.252	50	78.86
3	F3-F4	350 80	172.5 135	18112.5 3240	42705.00	1779.38	29.66	0.00	29.66	24	0.003	0.08	0.08	0.252	50	79.16
4	F4-F6			21352.5	42705.00	1779.38	29.66	29.66	59.31	72	0.003	0.25	0.71	0.298	65	78.53
5	F6-F5	350 80	172.5 135	18112.5 3240	42705.00	1779.38	29.66	0.00	29.66	20	0.003	0.07	0.07	0.252	50	79.17
6	F6-F8			21352.5	42705.00	1779.38	29.66	58.31	88.97	80	0.003	0.16	0.94	0.295	80	78.30
7	F7-F8	11 98	45 15	148.5 432	1161.00	48.38	0.81	0.00	0.81	12	0.000	0.00	0.00	0.017	32	79.24
8	F8-F9			580.5	1161.00	48.38	0.81	88.97	89.78	12	0.003	0.03	0.98	0.288	80	78.26
9	F9-F10			580.5	1161.00	48.38	0.81	88.97	89.78	52	0.003	0.14	1.12	0.298	80	78.12
10	F11-F12	41 5	45 15	553.5 22.5	1152.00	48.00	0.80	0.00	0.80	8	0.000	0.00	0.00	0.027	25	79.24
11	F12-F14			576	1152.00	48.00	0.80	0.00	0.80	36	0.000	0.00	0.01	0.027	25	79.23
12	F13-F14	3 22	45 15	40.5 99	279.00	11.63	0.19	0.00	0.19	8	0.000	0.00	0.00	0.010	20	79.24
13	F14-F16			139.5	279.00	11.63	0.19	0.80	0.99	20	0.000	0.00	0.01	0.021	32	79.23
14	F15-F16	545	172.5	28203.75	58407.50	2350.31	39.17	0.00	39.17	24	0.008	0.14	0.14	0.332	50	79.10
15	F16-F18			28203.75	58407.50	2350.31	39.17	0.99	40.17	84	0.008	0.51	0.65	0.341	50	78.58
16	F18-F17	545	172.5	28203.75	58407.50	2350.31	39.17	0.00	39.17	24	0.008	0.14	0.14	0.332	50	79.10
17	F18-F20			28203.75	58407.50	2350.31	39.17	40.17	79.34	32	0.008	0.55	1.34	0.398	65	77.90
18	F19-F21	545	172.5	28203.75	58407.50	2350.31	39.17	0.00	39.17	24	0.008	0.14	0.14	0.332	50	79.10
19	F20-F22			28203.75	58407.50	2350.31	39.17	79.34	118.51	18	0.005	0.07	1.55	0.393	80	77.69
20	F21-F10			28203.75	58407.50	2350.31	39.17	79.34	118.51	72	0.005	0.33	1.88	0.393	80	77.36
21	F10-F41			28784.25	57668.50	2398.69	39.88	188.31	208.28	20	0.004	0.09	3.09	0.442	100	76.15
22	F25-F26			37260	74520.00	3105.00	51.75	0.00	51.75	32	0.010	0.31	0.31	0.439	50	78.93
23	F23-F25	720	172.5	37260	74520.00	3105.00	51.75	0.00	51.75	23	0.010	0.22	0.53	0.439	60	76.71
24	F24-F23	540	172.5	27945	55890.00	2328.75	38.81	0.00	38.81	56	0.008	0.32	0.32	0.329	50	78.92
25	F27-F23			27945	55890.00	2328.75	38.81	51.75	90.58	36	0.008	0.27	1.12	0.455	65	78.11
26	F27-F22	3 22	45 15	40.5 99	279.00	11.63	0.19	0.00	0.19	12	0.000	0.00	0.00	0.010	20	79.24

For Magic Info Solutions

Anil Baraya

AR



6/10/2010

SL. NO.	LINE NO.	POPULATION	WATER REQ @ 172.5 LPCD & 135 FOR SERVANTS	TOTAL WATER REQ PER DAY ASSUMING 30% FOR FLU	WATER REQ. 2 TIMES OF DAILY REQD.	PUMP WORKING 12 HOURS	SELF WATER REQ IN LPM	PREVIOUS WATER REQ.	PROGRESSIVE WATER REQ. IN LPM	LENGT. H.O.F. PIPE	HEAD LOSS MTR	TOTAL HEAD LOSS IN MTRS	HEAD LOSS PROGRESSIVE	VELOCITY IN M/SEC	SIZE OF RISER PIPE IN MM Dia	HEAD AVAILABLE
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
26	F27-F22	3	45	40.5												
		22	15	99	278.00	11.63	0.19	0.00	0.19	12	0.000	0.00	0.00	0.010	20	78.24
27	F27-F41			139.5	278.00	11.63	0.19	90.96	90.78	100	0.008	0.76	1.89	0.456	65	77.35
28	F28-F42	136	45	183.9	3907.00	158.63	2.64	0.00	2.64	40	0.001	0.05	0.05	0.090	25	79.19
		15	15	87.5	74520.00	3105.00	51.75	0.00	51.75	80	0.010	0.58	0.58	0.439	50	78.66
29	F34-F35	720	172.5	1903.5												
30	F40-F38	41	45	37260												
		5	15	553.6	1152.00	48.00	0.80	0.00	0.80	52	0.000	0.01	0.01	0.027	25	79.23
31	F38-F39	1040	135	576	84240.00	3510.00	58.50	0.00	58.50	20	0.012	0.24	0.83	0.465	50	78.41
32	F38-F38			42120	84240.00	3510.00	58.50	0.80	58.30	28	0.012	0.35	1.19	0.503	50	78.05
33	F37-F36	2	45	27												
		21	15	94.5	243.00	10.13	0.17	0.00	0.17	28	0.000	0.00	0.00	0.009	20	79.24
34	F36-F35			121.6	243.00	10.13	0.17	58.30	59.47	16	0.013	0.20	1.39	0.505	50	77.85
35	F55-F31			121.5	74783.00	3115.13	51.92	0.00	111.22	104	0.011	1.16	3.13	0.558	65	76.11
36	F52-F31	540	172.5	37381.5	55890.00	2328.75	38.61	0.00	36.81	24	0.006	0.14	0.14	0.328	50	79.10
37	F59-F31			27845	55890.00	2328.75	38.61	111.22	150.03	64	0.007	0.45	3.71	0.497	80	75.53
38	F50-F38	680	172.5	35190	70360.00	2932.50	48.88	0.00	48.88	24	0.009	0.21	0.21	0.415	50	79.03
39	F50-F42			35190	70360.00	2932.50	48.88	150.03	198.91	20	0.012	0.24	4.18	0.659	80	75.08
40	F42-F41			35190	70360.00	2932.50	48.88	152.88	201.55	60	0.012	0.97	5.34	0.668	80	73.90
41	F41-PUMP							500.59	500.59	20	0.022	0.44	10.76	1.082	100	78.24

COLUMN NAME FORMULAE

E C X D

F E X 2

G E / 12

H G / 60

L $J = 60 / 1000 / ((1.292 * (10 \sim 5) * (100) * P * 2.63)) / (10.54)$

M L X K

O $4.567 * (10 \sim 3) * (100) * (P * 0.63) * L * 0.54$

Q Head near pump - progressive head loss (column N)

For Magic Info Solutions Pvt. Ltd.

Authorised Signatory

Anil Baraya
Council Registration No. CA/86/10310



HYDRAULIC DESIGN STATEMENT

S.No.	Name of Line	Area In Acres Self Branch Total	Discharge In Cusecs @ 1/4" rain fall intensity	Designed discharge in Cusecs (Running/Fall)	Size in mm	Length in mtr.	Slope	Velocity in M/sec	Fall in Mtr.	Formation level (ft) U/E	Inverted level in mtr. U/E	Depth in mtr. U/E	AV depth in mtr.	Remarks
1	1-2	0.60	0.15	3.11	400	34	560	0.70	0.06	214.175	212.78	1.4	1.461	1.430
2	2-3	0.40	0.25	3.11	400	28	560	0.70	0.05	214.175	212.71	1.46	1.511	1.486
3	5-4	1.70	0.42	3.11	400	88	560	0.70	0.16	214.175	212.78	1.40	1.557	1.479
4	4-3	1.30	0.74	3.11	400	76	560	0.70	0.14	214.175	212.62	1.56	1.693	1.625
5	3-HUDA DRAIN	3.00	0.74	3.11	400	10	560	0.70	0.02	214.175	212.48	1.69	0.961	1.327 HUDA DRAIN
6	6-7	1.10	0.27	3.11	400	96	560	0.70	0.17	214.175	212.78	1.40	1.571	1.486
7	7-8	0.30	0.35	3.11	400	36	560	0.70	0.06	214.175	212.60	1.57	1.636	1.604
8	9-8	1.10	0.27	3.11	400	68	560	0.70	0.12	214.175	212.78	1.40	1.521	1.461
9	8-HUDA DRAIN	2.50	0.62	3.11	400	10	560	0.70	0.02	214.175	212.54	1.64	0.904	1.270 HUDA DRAIN
10	13-12	1.55	0.38	3.11	400	136	560	0.70	0.24	214.175	212.78	1.40	1.643	1.521
11	12-11	0.90	0.61	3.11	400	76	560	0.70	0.14	214.175	212.53	1.64	1.779	1.711
12	10-11	1.00	0.25	3.11	400	44	560	0.70	0.08	214.175	212.78	1.4	1.479	1.439
13	11-HUDA DRAIN	3.45	0.86	3.11	400	10	560	0.70	0.02	214.175	212.40	1.78	1.046	1.412 HUDA DRAIN
14	14-15	0.70	0.17	3.11	400	60	560	0.70	0.11	214.175	212.78	1.40	1.507	1.454
15	15-16	0.50	0.30	3.11	400	84	560	0.70	0.15	214.175	212.67	1.51	1.657	1.582
16	16-17	0.30	0.37	3.11	400	30	560	0.70	0.05	214.175	212.52	1.66	1.711	1.684
17	19-18	1.10	0.27	3.11	400	120	560	0.70	0.21	214.175	212.78	1.40	1.614	1.507
18	18-17	0.60	0.42	3.11	400	70	560	0.70	0.13	214.175	212.56	1.61	1.739	1.677
19	17-HUDA DRAIN	2.70	0.67	3.11	400	10	560	0.70	0.02	214.175	212.44	1.74	1.007	1.373 HUDA DRAIN
20	20-21	0.90	0.22	3.11	400	70	560	0.70	0.13	214.175	212.78	1.40	1.525	1.463
21	21-22	1.15	0.51	3.11	400	84	560	0.70	0.15	214.175	212.65	1.53	1.675	1.600
22	22-23	1.45	0.87	3.11	400	160	560	0.70	0.29	214.175	212.50	1.68	1.961	1.818
23	29-28	0.70	0.17	3.11	400	64	560	0.70	0.11	214.175	212.78	1.40	1.514	1.457
24	28-27	0.35	0.26	3.11	400	24	560	0.70	0.04	214.175	212.66	1.51	1.557	1.536
25	27-26	0.80	0.46	3.11	400	60	560	0.70	0.11	214.175	212.62	1.56	1.664	1.611
26	26-25	0.95	0.69	3.11	400	60	560	0.70	0.11	214.175	212.51	1.66	1.771	1.718
27	25-24	0.30	0.77	3.11	400	60	560	0.70	0.11	214.175	212.40	1.77	1.879	1.825
28	24-23	0.32	0.85	3.11	400	60	560	0.70	0.11	214.175	212.30	1.88	1.986	1.932
29	23-HUDA DRAIN	6.92	1.72	3.11	400	10	560	0.70	0.02	214.175	212.19	1.99	1.754	1.620 HUDA DRAIN

For Magic Info Solutions Pvt. Ltd.

Authorised Signatory

Anil Baraya
Council Registration No. CA/86/10310



DESIGN CHART FOR SEWERAGE SYSTEM																				
Line No.	No. of Dues served	Population	Av. Dis (Self) in lpd.	Previous Dis. in kld.	Progressive Dis. in kld.	Peak Flow in kld	Design Discharge in kld	Final Discharge in lps	Length of line in mtr.	Dia of Pipe (mm)	Slope 1 IN	Fall in Line (mtr)	Velocity in m/sec.	cap. of Pipe in lps.	Ground Lvl. at Start	Invert Lvl at Start	Ground lvl at end	Invert lvi at end	Depth of pipe at upper end	Depth of pipe at lower end
1-2	70	350	50.375																	
	40	80	10.800																	
2-4			71.175		71.18	213.53	213.53	2.47	30	200	190	0.16	0.76	11.90	214.18	212.18	214.18	212.02	2.00	2.16
3-4	70	350	80.375		71.18	213.53	213.53	2.47	80	200	190	0.42	0.76	11.90	214.18	212.02	214.18	211.80	2.16	2.56
	40	80	10.800																	
4-8			71.175		71.18	213.53	213.53	2.47	24	200	190	0.13	0.76	11.90	214.18	212.18	214.18	212.05	2.00	2.13
				142.360	142.35	427.05	427.05	4.84	72	200	190	0.38	0.78	11.90	214.18	211.60	214.18	211.22	2.58	2.96
6-8	70	350	80.375																	
	40	80	10.800																	
8-8			71.175		71.18	213.53	213.53	2.47	20	200	190	0.11	0.76	11.90	214.18	212.18	214.18	212.07	2.00	2.11
				213.525	213.53	646.58	646.58	7.41	60	250	250	0.24	0.77	18.81	214.18	211.22	214.18	210.98	2.98	3.20
7-8	club	11	0.495																	
		96	1.440																	
			1.935		1.94	5.81	5.81	0.07	12	200	190	0.06	0.76	11.90	214.18	212.18	214.18	212.11	2.00	2.06
8-8				215.46	215.46	646.38	646.38	7.48	12	250	250	0.05	0.77	18.81	214.18	210.98	214.18	210.93	3.20	3.25
9-10				215.46	215.46	646.38	646.38	7.48	52	250	250	0.21	0.77	18.81	214.18	210.83	214.18	210.72	3.25	3.45
11-12	mt	41	1.845																	
	sch	5	0.075																	
			1.820		1.92	5.76	5.76	0.07	8	200	190	0.04	0.76	11.90	214.18	212.18	214.18	212.13	2.00	2.04
12-14				1.920	1.92	5.76	5.76	0.07	36	200	180	0.19	0.78	11.90	214.18	212.13	214.18	211.94	2.04	2.23
13-14	con	3	0.135																	
	shop	22	0.330</																	

Authorised Signatory

Anil Baraya *Ans*
Council Registration No. CA/86/10310



Line No.	No. of DUs served	Population	Av. Dis (Self) in kld.	Previous Dis. in kld.	Progressive Dis. in kld.	Peak Flow in kld.	Design Discharge in kld.	Final Discharge in kld.	Length of line in mtr.	Dia of Pipe (mm)	Slope 1 IN	Fall in Line (mtr)	Velocity in m/sec.	Cap. of Pipe in lps.	Ground Lvl. at Start	Invert Lvl. at Start	Ground Lvl. at end	Invert Lvl. at end	Depth of pipe at upper end	Depth of pipe at lower end
14-16				2365	239	716	716	0.08	20	200	180	0.11	0.76	1190	214.18	211.84	214.18	211.84	2.33	2.34
15-18	109	545	94.013		94.01	282.04	282.04	3.26	24	200	180	0.13	0.76	1190	214.18	212.05	214.18	212.05	2.00	2.13
16-18				8640	8640	289.19	289.19	3.35	84	200	180	0.44	0.76	1190	214.18	211.84	214.18	211.40	2.34	2.76
17-18	109	545	94.013		94.01	282.04	282.04	3.26	24	200	180	0.13	0.76	1190	214.18	212.18	214.18	212.05	2.00	2.13
18-20				18041	18041	571.23	571.23	5.81	92	250	250	0.37	0.77	1881	214.18	211.40	214.18	211.03	2.78	3.15
19-20	109	545	94.013		94.01	282.04	282.04	3.26	24	200	180	0.13	0.76	1190	214.18	212.18	214.18	212.05	2.00	2.13
20-21				28442	28442	853.27	853.27	9.88	18	250	250	0.06	0.77	1881	214.18	211.03	214.18	210.86	3.15	3.21
21-10				28442	28442	853.27	853.27	9.88	72	250	250	0.29	0.77	1881	214.18	210.86	214.18	210.68	3.21	3.50
19-STP				48988	48988	1499.65	1499.65	17.36	20	300	325	0.08	0.76	2683	214.18	210.68	214.18	210.61	3.50	3.56
26-26	144	720	124.200		124.20	372.60	372.60	4.31	52	200	180	0.17	0.76	1190	214.18	212.18	214.18	212.01	2.00	2.17
26-23				12420	12420	372.60	372.60	4.31	23	250	250	0.09	0.77	1881	214.18	212.01	214.18	211.81	2.17	2.28
24-23	108	540	93.150		93.15	279.45	279.45	3.23	56	200	180	0.29	0.78	1190	214.18	212.18	214.18	211.86	2.00	2.28
23-27				21735	21735	652.05	652.05	7.55	36	250	250	0.14	0.77	1881	214.18	211.86	214.18	211.74	2.29	2.44
27-41																				
23-42	prim	136	6.120																	
	ech	15	0.225																	
34-35	144	720	124.200		124.20	372.60	372.60	4.31	80	200	180	0.32	0.78	1190	214.18	212.18	214.18	211.86	2.00	2.32
40-38	41	1845																		
	ech	5	0.075																	
39-38	208	1040	179.400		179.40	538.20	538.20	6.23	20	200	180	0.11	0.78	1190	214.18	212.18	214.18	212.07	2.00	2.11
38-38				18132	18132	543.96	543.96	6.30	26	200	180	0.15	0.76	1190	214.18	211.90	214.18	211.75	2.27	2.42

For Magic Info Solutions Pvt. Ltd

 Authorised Signatory

Anil Baraya
 Council Registration No. CA/16/1037



SUB: - Approval of service plan /estimate of Group Housing Colony with (License No. 102 of 2011 dated 07.12.2011) on the land 22.123 acres at Sector-104, being developed by M/S. Magic Info Solutions Pvt. Ltd. & others.

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 HUDA and further shall also confirm to such directions, as issued by Chief Engineer, HUDA from time to time.
4. The work shall be carried out according to Haryana PWD specification or such specifications as are being followed by HUDA. Further it shall also confirm to such other directions, as are issued by Chief Engineer, HUDA 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/ HUDA. All link connections with the State Government/ HUDA 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.

5/12
10/12
8/17
S.P.W.

C.E. No. 9471

Dated:- 8/7/17

8. Only C.I/D.I pipes will be used in water supply and flushing system, UPVC/HDPE pipe for irrigation purposes.
9. A minimum 100 i/d C.I/D.I, 200mm i/d SW and 400mm id RCC NP-3 pipes will be used for water supply, sewerage and storm water drainage respectively.
10. Standard X-section for S.W. pipes sewer, RCC pipes sewer etc. will be followed as are being adopted in Haryana Public Health Engineering Deptt. or HUDA.
11. The X-section, width of roads, will be followed as approved by the Chief Town Planner, Haryana, Chandigarh. The kerbs and channels will also be provided as per approved X-section and specifications.
12. The specifications for various roads will be followed as per IRC/MORTH specifications.
13. The wiring system of street lighting and specifications of street lighting fixture will be as per relevant standards.
14. This shall confirm to such other conditions as are incorporated in the approved estimate and the letter of approval.

Executive Engineer (W),
For Chief Administrator, HUDA,
Panchkula