

ESTIMATE FOR

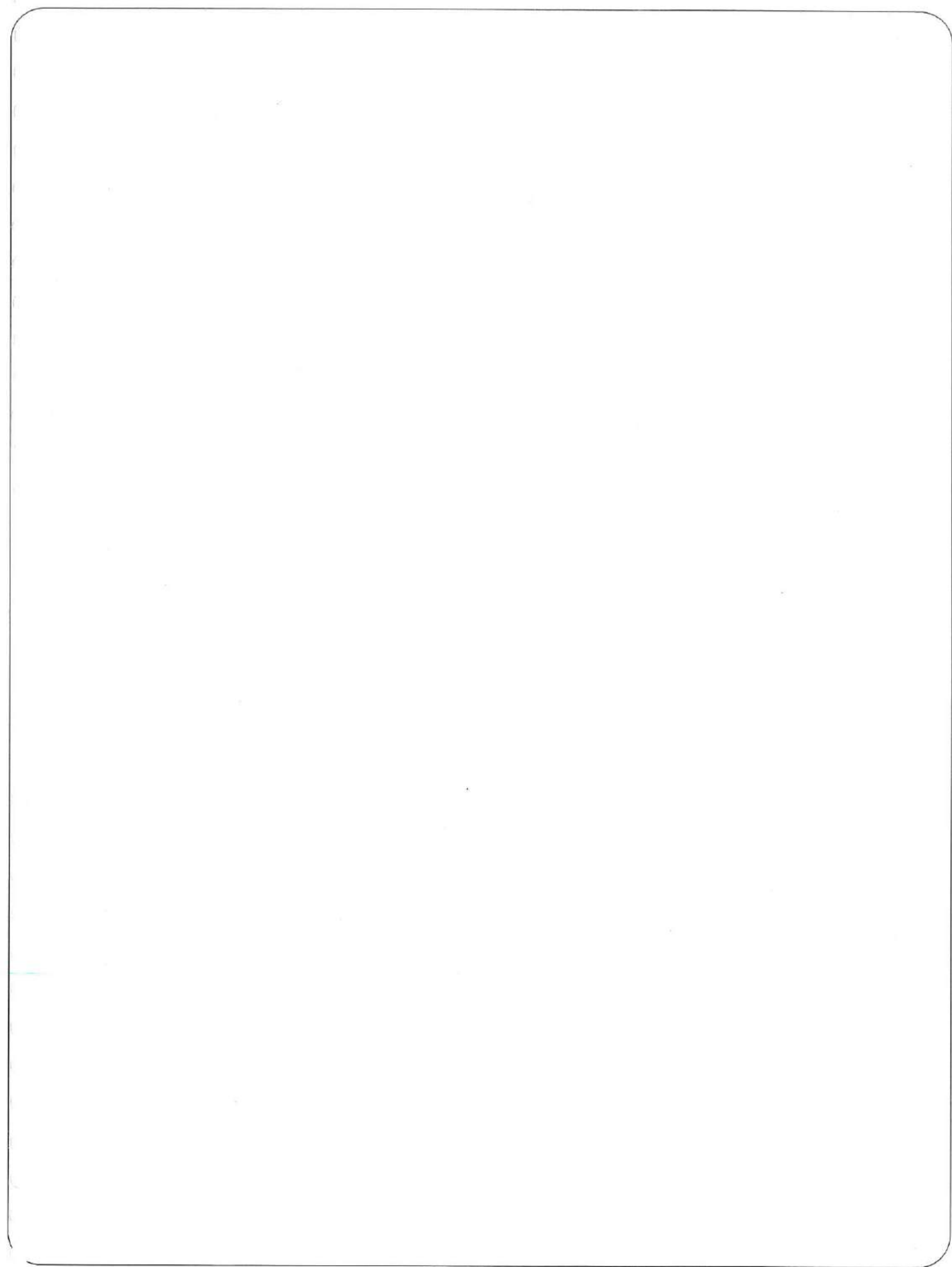
2.681 ACRES COMMERCIAL COLONY,
SEC-MID GURGAON,
PARADISE SYSTEM PVT. LTD.



***ESTIMATE FOR PROVIDING WATER SUPPLY, SEWERAGE, STORM WATER DRAINAGE, ROADS,
STREET LIGHTING AND HORTICULTURE IN RESPECT OF 2.681 ACRES COMMERCIAL COLONY,
SEC-MID GURGAON, PARADISE SYSTEM PVT. LTD.***

INDEX

Sr. No.	CONTENTS
1.	REPORT
2.	DESIGN CALCULATIONS
3.	FINAL ABSTRACT OF COST
4.	WATER SUPPLY
5.	SEWERAGE
6.	STORM WATER DRAINAGE
7.	ROADS
8.	STREET LIGHTING
9.	HORTICULTURE
10.	MAINTENANCE CHARGES AND RESURFACING OF ROADS
11.	DESIGN DATA OF ROADS
12.	DESIGN DATA OF WATER SUPPLY
13.	DESIGN DATA OF SEWERAGE
14.	DESIGN DATA OF STORM WATER DRAINAGE
15.	LAYOUT DRAWINGS



ESTIMATE FOR PROVIDING WATER SUPPLY, SEWERAGE, STORM WATER DRAINAGE, ROADS, STREET LIGHTING AND HORTICULTURE IN RESPECT OF COMMERCIAL COLONY 2.681 ACRES FALLING IN SEC-MID GURGAON MANESAR BEING DEVELOPED BY M/S PARADISE SYSTEM PVT LTD.

REPORT

The Haryana Government has prepared a master plan for development of Residential/Industrial / Commercial urban estate MID GURGAON MANESAR. M/S PARADISE SYSTEM PVT. LTD. NEW DELHI has decided to develop a part of the area in this master plan and has named this part as 2.681 Acres Commercial colony SEC MID GURGAON MANESAR. License has already been granted under by DTP wide License No. 59 OF 2009 Dated 26.10.2009. The brief details of the scheme are as under:-

WATER SUPPLY

1 Source

The source of water supply in this area is tubewells at present as the underground water is potable and fit for human consumption. Moreover water is available at reasonable depth. The average yield of tubewell with 40-45 ft strainers will be about 20000litre per hour. The recharging of underground 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 and the tubewells will be bored in tune with growth of demand to avoid absolence of the tubewells. The ultimate requirement of tubewells includes provisions of 10% stand by. Ultimately, water shall be supplied to the Project by HARYANA URBAN DEVELOPMENT AUTHORITY, MANESAR.

2 Design

The scheme has been designed for visitorsto the commercial colony. The rate of water supply per head per day for various structures has been taken as per HUDA and N.B.C. norms. In addition to above necessary provision of water for miscellaneous purposes have been taken into account for calculating the maximum quantity of water requirement.

3 Pump chambers and Pumping Machinery

Provisions has been made for pump chambers and pumping machinery for tubewells as the water supply is to be arranged by taking water from tubewells.

4 Under Ground Storage

Provision has been made for water which caters for the domestic as well as for firefighting requirement.

5 Boosting Station

The boosting station is being planned near underground storage tank and near S.T.P. catering to the above requirement

6 Distribution System

The distribution system for this development has been designed as per HUDA norms @ 3 times the average rate of flow on Hazen William formula. Necessary provision for laying CI/DI pipes conforming to relevant IS standards along with valves and specials has been made in the project. The minimum terminal head at any point will be more than 32.00 meters so that it can serve ALL THE FLOORS construction envisaged in the plan. Minimum pipe dia for distribution is kept as 65 mm dia.

7 Rising mains

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

8 Sewerage

The sewer lines have been designed for 3 times average DWF in relation to the water supply demand assuming that 75% of the domestic water supply shall find its way into the proposed sewer. SW pipe sewers have been proposed and designed to run half full. The sewers have been designed on 0.77 M per second minimum velocity i.e. self cleansing velocity. Necessary provision for laying SW pipes manholes etc. has been made in this estimate. Provision has also been made for construction of S.T.P. of capacity of 0.15 MLD. The water connection for needs of flushing water will be made with the effluent of the sewage treatment plant.

9 Storm water Drainage

The storm water drainage is being designed as per HUDA norms to carry 6.25mm rainfall per hour for intramural and 3.125mm rainfall intensity for extramural sewers. Also suitable provisions are contemplated in our scheme to ensure better recharging of underground water table in the area. R.C.C. Hume pipes drain with minimum 400mm dia is proposed in this area. The storm water collected will be discharged into the main HUDA sewer lying near the commercial colony by pumping of storm water or by gravity.

10 Roads

The roads in the colony have been planned as per requirement of HUDA. The following specifications have been adopted which are reproduced below.

The specifications of roads

- (i) GSB-300 mm in one layer
- (ii) WBM-250 mm in two layers
- (iii) BM-50 mm thick
- (iv) SBC/MSS-20 mm thick

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

11 Street lighting

The provision has been made on lump sum basis.

12 Horticulture

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

13 Specifications

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

14 Rates

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

15 Cost

The total cost of development in this project including various P.H. and B & R services works out to Rs.437.00 Lac including 3% contingencies, P.F. charges, 49% departmental, price escalation, unforeseen administrative charges, maintenance charges and resurfacing of roads.

The cost per gross acre for the proposal works out to be Rs.163.06 Lacs which covers the provision of services like water supply, sewerage, storm water drainage, roads, street lighting and plantation including maintenance thereof as well as future expansion whatsoever indicated.

2.681 Acres COMMERCIAL COLONY,
M/S PARADISE SYSTEM PVT. LTD. GURGAON
DESIGN CALCULATIONS

Daily Requirement of Water Supply

DOMESTIC REQUIREMENT(On Area Basis)

- (a) Covered area on lower ground floor = 4162.491 Sq.mts
Population @ 10 Sqm per person
= 4162.491 / 10 = 416.25 = 416 Persons
Water requirement @ 45 ltr / head / day = 416 x 45 = 18720.00 Litre
= 18.72 KL
- (b) Covered area on upper ground floor = 3539.248 Sq.mts
Population @ 10 Sqm per person
= 3539.248 / 10 = 353.92 = 354 Persons
Water requirement @ 45 ltr/ head/ day = 354 x 45 = 15930.00 Litre
= 15.93 KL
- (c) Covered area on first floor = 3175.861 Sq.mts
Population @ 10 Sqm per person
= 3175.861 / 10 = 317.59 = 318 Persons
Water requirement @ 45 ltr/head/day = 318 x 45 = 14310.00 Litre
= 14.31 KL
- (d) Covered area on 2nd floor(lower auditorium area) = 2123.114 Sq.mts
Population @ 10 Sqm per person
= 2123.114 / 10 = 212.31 = 212 Persons
Water requirement @ 45 ltr/head/day = 212 x 45 = 9540.00 Litre
= 9.54 KL

(e)	Covered area on third floor	= 1133.769 Sq.mts
	Population @ 10 Sqm per person	= 113 Persons
	= 1133.769 / 10 = 113.35	
	Water requirement @ 45 ltr/head/day = 113 x 45	= 5085.00 litre
		= 5.09 KL
(f)	Covered area on Fourth floor area/projection room	= 1762.06Sq.mts
	Population @ 10 Sqm per person	
	= 1762.06 / 10 = 176.21	= 176 Persons
	Water requirement @ 45 ltr/head/day = 176 x 45	= 7920.00Litre
		= 7.92 KL
(g)	Covered area on Fifth floor	= 323.828Sq.mts
	Population @ 10 Sqm per person	
	= 323.828 / 10 = 32.38	= 33 Persons
	Water requirement @ 45 ltr/head/day = 33 x 45	= 1485.00Litre
		= 1.48 KL
	Add Miscellaneous	= 7.01 KL
	TOTAL	= 80.00 KL

DOMESTIC REQUIREMENT (On Usage Basis)

- (a) Lower Ground floor
No. of shops = 145 Nos.
No. of attendants @ 3 attendants per shop
= 145 x 3 = 435 Nos.
Water requirement @ 70 ltr / head / day = 70 x 435 = 30450.00 Litres
= 30.45 KL
- (b) Upper ground floor
No. of shops / kiosks = 138 Nos.
No. of attendants @ 3 attendants per shop
= 138 x 3 = 414 Nos.
Water requirement @ 70 ltr / head / day = 70 x 414 = 28980.00 Litres
= 28.98 KL
- (c) First floor
No. of shops / kiosks = 142 Nos.
No. of attendants @ 3 attendants per shop
= 142 x 3 = 426 Nos.
Water requirement @ 70 ltr / head / day = 70 x 426 = 29820.00 Litres
= 29.82 KL
- (d) Second floor
No. of shops/ kiosks = 18 Nos.
No. of attendants @ 3 attendants per shop
= 18 x 3 = 54 Nos.
Water requirement @ 70 ltr / head / day = 70 x 54 = 3780.00 Litres
= 3.78 KL
- (e) No of FCO'S = 45 nos.
No. of attendants @ 3 attendants per shop
= 45 x 3 = 135 Nos.
Water requirement @ 70 ltr / head / day = 135 x 70 = 945.00 litres
= 9.45 KL

- (f) Fourth floor = 7 nos.
 No. of audi
 Total no of seats = $226+265+136+72+120+112+136$ = 1067 nos.
 Water requirement @ 15 ltr / seat / day = 1067×15 = 16005.00 ltr.
 =16.00 KL
- (g) Food court 44.28×15.20 , 3nos. @ 32000ltr/acre = 16024.11 sq.mtr.
 = 16.02 KL

Third floor = 1133.769 sq.mtr.
 Covered area on third floor
 Water requirement @ 32000ltr/acre = 8997.59 ltr.
 = $1133.769 \times 2.48 \times 3.2$ = 9.00 KL

- (h) Projection room = 323.828 sq.mtr.
 Covered area
 Water requirement @ 32000ltr/acre = 2569.83 ltr.
 $323.828 \times 2.48 \times 3.2$ = 2.57 KL

TOTAL = 146.07 KL

Add unforeseen demand = 3.93 KL
 TOTAL = 150.00 KL

Requirement on the basis of Thumb Rule of HUDA
 @ 32000 litre / acre / day = 2.681×32000 = 85792.00Litres

= 85.79 KL
 SAY = 86.00 KL
 Hence assume total requirement of colony = 150.00 KL

2. Assume requirement for horticulture = 20000.00Litres
 = 20.00 KL

3. Area under roads = 1.60 Acres
 Therefore daily water requirement for washing of roads = 1.30×5000
 $= 6500 \text{ Litres}$
 $= 6.50 \text{ KL}$
SAY $= 8.00 \text{ KL}$
4. Total daily requirement
 - a. For domestic use (1) $= 150.00 \text{ KL}$
 - b. Under parks & roads (2 + 3) $= 20.00 + 8.00$ $= 28.00 \text{ KL}$
5. Total quantity of sewage produced per day $= 0.75 \times 150$ $= 112.50 \text{ KL}$
6. Assuming domestic requirement of water for flushing as 40 % of total domestic requirement. Then, daily requirement of water supply for flushing $= 0.40 \times 150$ $= 60.00 \text{ KL}$
7. Daily requirement of potable domestic water $= 150.00 - 60.00$ $= 90.00 \text{ KL}$
SAY 100.00 KL

2.681 Acres COMMERCIAL COLONY, M/S PARADISE SYSTEM PVT. LTD. GURGAON

TUBEWELLS

Assuming working hours of tube well		= 16
Assuming discharge/hour of each tube well		= 20000Litre/Hour
Total domestic demand		= 100.00KLD
No of tube wells Required for domestic demands	$= \frac{150.00}{16 \times 20.00}$	= 0.47
Add 10% as stand by	$= 0.44+0.05$	= 0.52
Say		= 1 No.

Hence it is proposed to provide 1No.tubewell.

PUMPING MACHINERY FOR TUBE WELLS

Gross working load		= 45.00 m
Average fall in is S.L.		= 3.00 m
Depression head		= 9.00 m
Friction Loss		= 3.00m
Total		= 60.00m
B.H.P. =	$\frac{20,000 \times 60}{60 \times 60 \times 75 \times 0.6}$	= 7.40
Say		= 7.50 B.H.P.

SEWAGE TREATMENT PLANT

Capacity of S.T.P. required		= 0.75 x 150
		= 105.00 KLD
		= 0.105 MLD
Say		= 0.15 MLD

UNDERGROUND STORAGE TANK
(POTABLE DOMESTIC WATER SUPPLY)

Total daily requirement for domestic use = 150.00 KL

Capacity of underground tank reqd. = $150.00 / 2$ = 75.00 KL

However it is proposed to construct underground storage tank of capacity 90.00 KL for domestic use.

UNDERGROUND STORAGE TANK
(FLUSHING AND IRRIGATION WATER)

Total daily requirement for flushing = 60.00 KL

Add for irrigation and sweeping of roads = 28.00 KL

TOTAL = 88.00 KL

Capacity of underground tank reqd. = $88.00 / 2$ = 44.00 KL
SAY 50.00 KL

Hence, it is proposed to provide underground R.C.C. tank of capacity 90.00 KL for domestic needs, 50.00 KL for flushing cum irrigation & 200.00 KL for firefighting purpose.

BOOSTING MACHINERY (A) POTABLE WATER SUPPLY

Daily requirement for domestic use (Potable)		= 100.00 KL
Assuming 8 hours running 2 pumps (with one stand by)		
Discharge/hour	$= \frac{100.00}{8}$	= 12.50 KL/hr = 208.33 lpm
Head of Pump	SAY	210 lpm
i) Suction lift	= 4.00 M	
ii) Friction Loss in main & specials	= 4.00 M	
iii) Free head required	= 39.00 M	
TOTAL	= 47.00 M	
SAY	= 50.00 M	
B.H.P. of Motor	$= \frac{210 \times 50}{60 \times 75 \times 0.6}$	= 3.89
	SAY	= 4.00 B.H.P.

It is proposed to provide 2 Nos. of pumping sets of 210 lpm discharge with a total head of 50 m (one working and one stand by).

BOOSTING MACHINERY (B) WATER SUPPLY FLUSHING AND IRRIGATION

Daily requirement of water supply		= 88.00 KL
Assuming 8 hours running 2 pumps (with one stand by)		
Discharge/hour	$= \frac{88.00}{8}$	= 11.00 KL/hr = 183.33 lpm
	Say	= 150.00 lpm
Head of Pump		
i) Suction lift	= 4.00 M	
ii) Friction Loss in main & specials	= 4.00 M	
iii) Free head	= 39.00 M	
TOTAL	= 47.00 M	
SAY	= 50.00 M	

$$\text{B.H.P. of Motor} = \frac{185 \times 50}{60 \times 75 \times 0.6} = 2.74$$

$$\text{Say} = 3.00 \text{ H.P.}$$

However for keeping similarity, it is proposed to provide 2 Nos. (1 Working & 1 Standby) pumping sets of 210 lpm with total head of 50.00 M as for boosting machinery of domestic water supply.

PUMPS FOR FIRE PROTECTION

S.No.	PARAMETERS	LOCATION	PUMP SETS		
			Jockey	Main	Diesel
a.	Discharge in lpm	Pump Room	180 lpm	2280 lpm	2280 lpm
b.	Head in meters		120	120	120
c.	HP		7.5	125	125
d.	Quantity in nos.		1	1	1

RATING OF GEN SET

Tubewell 1 no.	= 10.00 H.P.
Pumps for boosting 2 Nos. @ 4H.P. each	= 8.00 H.P.
Lighting etc.	= 2.00 H.P.
	<hr/>
	= 20.00 H.P.
Rating of Gen set	= $20.00 \times 0.746 \times 1.5$
	= 22.38 KVA
Add 10% extra	= 2.23 KVA
Total	= 24.61 KVA
Say	= 25.00 KVA

2.681 Acres COMMERCIAL COLONY,
M/S PARADISE SYSTEM PVT. LTD. GURGAON

FINAL ABSTRACT OF COST

		Amount (Rs. In Lacs)
Sub Work No. I	Water Supply	155.90
Sub Work No. II	Sewerage	55.40
Sub Work No. III	Storm Water Drainage	29.90
Sub Work No. IV	Road Work	91.00
Sub Work No. V	Street Lighting	5.20
Sub Work No. VI	Horticulture Work	6.70
Sub Work No. VII	Maintenance Charges for 10 years i/c resurfacing of roads after 1 st 5 years and 2 nd 5 years	92.70
TOTAL		436.80
SAY		437.00

2.681 Acres COMMERCIAL COLONY,
M/S PARADISE SYSTEM PVT. LTD. GURGAON

ABSTRACT OF COST (WATER SUPPLY)

	Amount (Rs. In Lacs)
Sub Work No. 1 Head Works	43.10
Sub Work No. 2 Pumping Machinery	59.10
Sub Work No. 3 Distribution System	13.90
Sub Work No. 4 Fire Ring Main	25.90
Sub Work No. 5 Flushing & Irrigation	13.90
TOTAL	155.90

2.681 Acres COMMERCIAL COLONY,
M/S PARADISE SYSTEM PVT. LTD. GURGAON

Sub HeadNo.I	Water Supply Head Works Amount (Rs. in Lacs)
1. Boring and installing 200 i/d tubewell with reserve/direct rotary rig complete with pipe strainer to a depth of about 150 m complete. 1 Nos. @ 8,00,000/-each	8.00
2. Constructing pump chambers as per standard design of PWD PH/HUDA of size 1.5M x 1.55 M x 1.5M 1 Nos. @ 1,00,000/- L.S.	1.00
3. Construction of boosting chambers of suitable size along with underground tanks, pumping machinery and generating set etc. complete in all respect.	
Details of boosting Station	
i) Construction of boosting chamber (2 Nos.)	5.00
ii) U.G. tank 290 KL capacity for domestic water supply incl.200 KL for firefightingand 50 KL capacity at S.T.P. for flushing 340 KL @ Rs. 4.00 per ltr.	
	13.60
4. Add for carriage of materials (L.S.)	0.50
	<hr/> 28.10
Add 3% Contingencies & P.E. Charges	0.84
	<hr/> 28.94
Add 49% departmental charges price escalation, unforeseen charges	14.18
GRAND TOTAL	43.12
SAY	43.10

2.681 Acres COMMERCIAL COLONY, **M/S PARADISE SYSTEM PVT. LTD. GURGAON**

Sub Work I

Sub Head No. II

Water Supply
Pumping Machinery
Amount (Rs. in Lacs)

- | | |
|---|------|
| 1. Providing and installing electricity driven electro or submersible sets capable of delivering about 20.00 KL water per hour against a total head of 60 M complete with motor and other accessories. | 2.00 |
| 1 Nos. @ 2,00,000/-each | |
| 2. Provision for diesel engine Genset stand by arrangement for tubewell | |
| 1 No. 10 KVA @ 2,00,000/- each | 2.00 |
| 3. Provision for cheap pressure type chlorination plant complete. | |
| 1 No. @ 1,00,000/- | 1.00 |
| 4. Provision for making foundations wherever necessary and erection of pumping machinery | |
| 1 Nos. (L.S) | 0.50 |
| 5. Provision for pipes, valves, and specials inside the pump chamber (L.S) | 0.50 |
| 6. Provisions for electric services connection, transformer including electric fittings for tubewells chambers complete. (L.S)& transformer | 2.00 |
| 7. Providing and installing centrifugal boosting pumping 2 sets, capable of delivering 210lpm water at 50 M head complete in all respects (4.00 H.P.) each& 2 sets capable of delivering 210lpm of water at 40 m head complete in all respect (4.00H.P.) each at S.T.P. | |
| (a) 4 Nos. @ 50,000/-each(L.S) | 2.00 |

8.	Providing and fixing pumping sets of following capacity for fire protection	
i)	180 LPM at 120 M Head 1 No. 7.5 H.P.	2.50
ii)	2280 LPM at 120 M Head 1 No. 125 H.P.	7.50
iii)	2280 LPM at 120 M Head 1 No. Diesel Pump 125 H.P.	10.00
iv)	180 LPM at 120 M Head 1 No. Diesel Pump 7.5 H.P.	2.50
9.	Provision for Gen set 25.00 KVA (L.S.)	5.00
10.	Provision for carriage for materials and other unforeseen items L.S.	1.00
		<hr/>
		38.50
	Add 3% contingencies & P.E. charges	1.15
		<hr/>
	TOTAL	39.65
	Add 49% departmental, escalation & unforeseen charges.	19.43
		<hr/>
	GRAND TOTAL	59.08
	SAY	59.10

2.681 Acres COMMERCIAL COLONY,

M/S PARADISE SYSTEM PVT. LTD. GURGAON

Sub Work No. I	Water Supply
Sub Head No. III	Distribution System/Rising Main Amount (Rs. in Lacs)
1. Providing, laying, jointing and testing D.I.class K7 pipes including cost of excavation complete as per specifications. 100 mm dia i/d 450mtrs @ Rs. 1250/- mtr	5.62
2. Providing and fixing sluice valve or central valves including cost of brick masonry chambers complete in all respect. 100 mm dia i/d 6 Nos. @ Rs. 15000/- Each	0.90
3. Providing and fixing air valves and scour valves including cost of brick masonry chamber. 2 Nos. @ Rs. 12,500/- Each	0.25
4. Providing and fixing indicator plates for sluice valve, air valve etc. 8 Nos. @ Rs. 1000/-Each	0.08
5. Provision for rising main tubewells to U.G. tank i) 100mm i/d 70mtrs @ Rs. 1250/-m HUDA	0.87
6. Provision for rising main from main HUDA water line to U.G. tank. (L.S.) 100mm i/d 65Mtrs @ Rs. 1250/-Mtr.	0.82
7. Providing for carriage of material L.S.	0.50
	9.04
Add 3% P.E.& Contingencies	0.27
TOTAL	9.31
Add 49% Escalation, departmental,adm. and unforeseen charges.	4.57
	13.88
SAY	13.90

2.681 Acres COMMERCIAL COLONY,
M/S PARADISE SYSTEM PVT. LTD. GURGAON

Sub Work No. 1

Sub Head No. IV

Fire Ring Main
Amount (Rs. In Laes)

1	Providing, laying, jointing and testing M.S./D.I. pipe for fire rising main including cost of fittings, valves, connection etc. complete in all respect.	
	i) 150mm C.I/D.I Pipe line 525 m @ Rs. 1550/- M	11.78
	ii) 80mm C.I/D.I Pipe line 55 m @ Rs. 1000/- M	0.65
2	Providing and fixing sluice valves including cost of surface boxes and masonry chambers etc. complete in all respects.	
	150mm dia 3 Nos. @ 20,000/-Each	0.60
3	Providing and fixing air valves and scour valves including cost of brick chambers complete in all respect	0.40
	2 Nos. @ Rs. 20,000/- each	
4	Providing and fixing fire hydrant with accessories	2.60
	26 Nos. @ Rs. 10,000/-	
5	Providing and fixing indicating plates	
	31 Nos. @ Rs. 1000/- Each	0.31
6	Providing for carriage of material (L.S.)	0.50
	TOTAL	16.84
	Add 3% contingencies & P.E. charges	0.51
	TOTAL	17.35
	Add 49% departmental, escalation, adm. and unforeseen charges.	8.50
	GRAND TOTAL	25.83
	SAY	25.90

2.681 Acres COMMERCIAL COLONY, M/S PARADISE SYSTEM PVT. LTD. GURGAON

Sub Work No. 1

Sub Head No. V

Water Supply Flushing & Irrigation

	Amount (Rs. in Lacs)
1. Providing, laying, jointing and testing D.I. K ₉ pipe line including cost of excavation etc. complete in all respect as per specification a) 100 mmdia 540M @ Rs. 1250/- M	6.75
2. Providing and fixing sluice valves including cost of surface boxes and masonry chambers etc. complete in all respects. 100 mmdia 5 Nos. @ Rs. 15000 each	0.75
3. Providing and fixing air valves and scour valves including cost of brick masonry chambers 2 Nos. @ Rs. 15000/- each	0.30
4. Providing & fixing 25 mmdia irrigation hydrant valve complete in all respect 22 Nos. @ Rs. 2000/- each	0.44
5. Providing and fixing indicating plates 29 Nos. @ Rs. 1000/- each	0.29
6. Provision for carriage of materials and other unforeseen items.	0.50
TOTAL	9.03
Add 3% contingencies & P.E. charges	0.27
	9.30
Add 49% departmental, escalation, adm. and unforeseen charges.	4.56
GRAND TOTAL	13.86
Say	13.90

2.681 Acres COMMERCIAL COLONY, **M/S PARADISE SYSTEM PVT. LTD. GURGAON**

SUB HEAD II **SEWERAGE SCHEME**

Amount
(Rs. in Lacs)

1.	Providing, lowering, cutting, salt glazed stoneware pipes and specials into trenches including cost of excavation, bed concrete, cost of manholes complete in all respect.	
i)	250 mm i/d Av. Depth upto 4.0 M-6.0M -120 M @ Rs. 1800/- Per M	8.00
2.	Provision for S.T.P. of capacity 0.15 MLD & allied structures	20.00
3.	Provision for over flow pipe from S.T.P. to HUDA MAIN sewer D.N. 110MM 250M @ Rs. 1250/mtr.	3.12
4.	Provision for road cutting and making good the same in original condition (L.S.)	0.50
5.	Provision of temporary timbering etc. (L.S.)	1.00
6.	Provision for making connection with HUDA master sewer line L.S.	1.00
7.	Provision for vent shaft at suitable location	1.50
8.	Provision for carriage of material etc. and other unforeseen charges. (L.S.)	1.00
TOTAL		36.12
Add 3% contingency & P.E Charges.		1.08
		37.20
Add 49% departmental escalation unforeseen charges.		18.23
GRAND TOTAL		55.43
SAY		55.40

2.681 Acres COMMERCIAL COLONY,
M/S PARADISE SYSTEM PVT. LTD. GURGAON

SUB HEAD III

STORM WATER DRAINAGE

	Amount (Rs. in Lacs)
1. Providing, laying RCC pipes drain class NP-3 with cement joint, manholes, excavation etc. complete in all respect.	
i) 400 mm i/d	8.97
Av. Depth upto 490 M @ Rs. 1830/- Per M	
2. Provision for road gullies with 300 mmdia pipe connection L.S.	3.00
3. Provision of Lighting, watching and temporary diversions of traffic	0.50
4. Provision of cutting of roads and carriage of materials etc. and other unforeseen items L.S.	0.50
5. Provision for recharge pitsand collecting sump	5.00
6. Provision for connection with main HUDA storm line	1.00
7. Provision for timbering & shoring	0.50
TOTAL	19.47
Add 3% contingencies & P.E. charges.	0.58
TOTAL	20.05
Add 49% departmental, escalation and unforeseen charges.	9.82
GRAND TOTAL	29.87
SAY	29.90

2.681 Acres COMMERCIAL COLONY,
M/S PARADISE SYSTEM PVT. LTD. GURGAON

SUB WORK NO. IV

ROADWORK

Item No.	Description of Item	Unit	Qty.	Rate (Rs.)	Amount (Rs. in Lacs)
1	Site Clearance				
1.1	Clearing and grubbing road land including uprooting rank, vegetation, grass, bushes, shrubs, saplings and trees girth upto 300 mm, removal of stumps of trees cut earlier and disposal of unserviceable materials and stacking of serviceable materials to be used or auctioned, upto a lead of 1000mm including removal and disposal of top soil not exceeding 150 mm thickness by manual means in areas of light jungle as per drawings and Clause 201 of Morth Specifications.	Hectare	0.50	40,000	0.20
2	Earth Works				
2.1	Provision for leveling + earth filling as per site condition approximate	Acre	2.681	1,25,000	3.35
3	Provision for				
i.	300mm GSB				
ii.	250mm thick stone aggregate				
iii.	50mm thick B.M.				
iv.	20mm thick MSS				
		Sqm	4700	1000	47.00
4	Miscellaneous Items				
4.1	Construction of cement concrete Kerb and Channels as per specifications	Meter	960	600	5.76
4.2	Provision for foot paths on two side of 18.00m wide road = $140 \times 2 \times 1.5 = 420.00$ sq.mtr.				

[[Pick the date]]

4.3	Providing and fixing guide maps at selected locations (L.S.)				0.50
4.4	Provision for plot indicators (L.S.)				0.50
4.5	Provision for demarcating burgies (L.S.)				0.50
4.6	Provision for traffic arrangement				0.50
4.7	Provision for carriage of material (L.S.)				1.00
	TOTAL				59.31
	Add 3 % contingencies and P.E charges				1.78
					61.09
	Add 49% departmental charges, price escalation , unforeseen and Adm charges				29.93
	GRAND TOTAL				91.02
	SAY				91.00

2.681 Acres COMMERCIAL COLONY,
M/S PARADISE SYSTEM PVT. LTD. GURGAON

SUB WORK NO. V

	Amount (Rs. In Lacs)
Providing street lighting on internal roads as per standard specification in 4.431 Acres area @ Rs. 100,000/- Per Acre 2.681 x 100000	2.68
Add 3% contingency charge & P.E charges.	0.80
TOTAL	<hr/> 3.48
Add 49% departmental charges, escalation, unforeseen, admin. Charges.	1.70
GRAND TOTAL	<hr/> 5.18
SAY	5.20

C/O to Final Abstract of Cost

2.681 Acres COMMERCIAL COLONY,
M/S PARADISE SYSTEM PVT. LTD. GURGAON

SUB WORK NO. VI

COST ESTIMATE

HORTICULTURE

	Amounts (Rs. In Lacs)
1 Development of Lawn Area	
a) Trenching the ordinary soil up to depth of 60cm. including removal and packing of serviceable material and disposing at a lead of 50m/ and making up the trenched area to proper level by filling with earth mixed with manure including cost of improved earth and manure.	
b) Rough dressing of trenched area.	
c) Grassing with "doob grass" including watering and maintenance of lawns free from weeds and fit for moving rows 7.50cm in either direction including for hedges and grill and barbed wire fencing around park and green belts (as per HUDA norms) Area Complex area 2.681 Acres@ Rs. 1,25, 000 /- per acre	3.35
2 Planting of trees with tree guards road at specified locations @ 12 m intervals (L.S.)	1.00
	4.35
Add 3% contingencies and P.E. charges	0.13
TOTAL	4.48
Add 49% departmental, escalation, adm. and unforeseen charges	2.19
GRAND TOTAL	6.67
SAY	6.70

2.681 Acres COMMERCIAL COLONY,
M/S PARADISE SYSTEM PVT. LTD. GURGAON

SUB WORK NO. VII

MAINTENANCE CHARGES AND RESURFACING OF ROADS

2nd Phase after 5 years of 1st Phase

Amounts (Rs. In Lacs)

1.	Provision for maintenance charges for water supply, sewerage, storm water drainage, roads, streetlights, horticulture etc. complete including operation and establishment charges as per HUDA norm after completion and resurfacing of roads after 10 years.	
	2.681Acres @ Rs. 5.00 Lacs	13.40
2.	Provision for resurfacing of roads after 1 st 5 years of maintenance i.e. 100mm thick B.M. & 25mm thick premix carpet with seal coat with mechanical paver.	
	4700Sqm @ Rs. 600/- P. Sqm	28.20
3.	Resurfacing of road after 10 years of maintenance by providing 25mm thick premix carpet with seal coat with mechanical paver.	
	4700Sqm @ Rs. 400/- per sqm total	18.80
	TOTAL	60.40
	Add 3% P.E. and contingency charges	1.81
	TOTAL	62.21
	Add 49% departmental charges, price, escalation unforeseen and administrator charges.	30.48
	GRAND TOTAL	92.69
	SAY	92.70

HYDRAULIC STATEMENT WATER SUPPLY								
Providing Water Supply Scheme 2.681 Acres COMMERCIAL COLONY, M/S PARADISE SYSTEM PVT. LTD. GURGAON								
Sr. No.	Name of Pipe Line	No. of Dwelling Units			Population of residential units	Water requirement for non residential plots in KLPD	Gross water requirement in KLPD	Gross requirement of water in gallons per day
		General	E.W.S.	Service Personnel				
1	RA	-	-	-	-	-	-	-
2	AB	-	-	-	Shops, food court, auditorium	40.00	40.00	8800.00
3	BC	-	-	-	Shops and food court	20.00	20.00	4400.00
4	CD	-	-	-	Shops , food court and restaurant	10.00	10.00	2200.00
5	DE	-	-	-	Shops , food court and restaurant	10.00	10.00	2200.00
6	EF	-	-	-	Shops	50.00	50.00	11000.00
7	AA'				Shops	20.00	20.00	4400.00

DESIGN STATEMENT FOR WATER SUPPLY

Providing Water Supply Scheme 2.681 Acres COMMERCIAL COLONY,
M/S PARADISE SYSTEM PVT. LTD. GURGAON

Sr. No.	Name of Line	Water load in gallons per day			3 Times Water Load in Gallons per day	Designed Water load in gallons per day with	Size in MM	Length in M	Head loss per 1000 Mtr in M	Head Loss in pipe in Mtr	Hydraulic Level in M		Road Level at L/E in Mtr	Terminal Head at L/E in Mtr
		Self	Branch	Total							U/E	L/E		
1	RA	-	33000	33000	99000	120000	100	10.00	12.20	0.12	256.37	256.25	214.37	41.88
2	AB	8800	19800	28600	85800	120000	100	70.00	12.20	0.85	256.25	255.40	214.37	41.03
3	BC	4400	15400	19800	59400	72000	100	125.00	4.72	0.58	255.40	254.82	214.37	40.43
4	CD	2200	13200	15400	46200	60000	100	40.00	3.32	0.13	254.82	254.69	214.37	40.32
5	DE	2200	11000	13200	39600	60000	100	40.00	3.32	0.13	254.69	254.56	214.37	40.19
6	EF	11000	-	11000	33000	42000	100	110.00	1.74	0.18	254.58	254.38	214.37	40.11
7	AA'	4400	-	4400	13200	24000	100	45.00	0.62	0.03	256.25	256.22	214.37	41.85

Schedule Quantities of D.I. Pipes & S.V.S.								
Providing Water Supply Scheme 2.681 Acres COMMERCIAL COLONY, M/S PARADISE SYSTEM PVT. LTD. GURGAON								
Sr. No.	Name of Line	Diameter of Pipe in MM / Length in M			Diameter of S.V. in MM / Quantity in No.			
		100	150	200	100	150	200	
1	RA	10.00	-	-	1	-	-	
2	AB	70.00	-	-	1	-	-	
3	BC	125.00	-	-	1	-	-	
4	CD	40.00	-	-	1	-	-	
5	DE	40.00	-	-	1	-	-	
6	EF	110.00	-	-	1	-	-	
7	AA'	45.00	-	-	-	-	-	
TOTAL		440.00			6			
SAY		450.00			6			

STATEMENT FOR CALCULATION OF SEWAGE LOAD				
Providing Sewerage Scheme 2.681 Acres COMMERCIAL COLONY, M/S PARADISE SYSTEM PVT. LTD. GURGAON				
Sr. No.	Name of Line	No. of Beds/Area/Persons	Water Requirement in KLPD	Quantity of Sewage @ 75% of Water Requirement in cusecs
1	AB	Shops , food court and Auditorium	60.00	0.018
2	BC	Shops , food court and Auditorium	20.00	0.006
3	CD	Shops, Showrooms	10.00	0.003
4	EF	Shops , food court and restaurant	40.00	0.012
5	FG	Shops and Auditorium	15.00	0.005
6	GH	Shops, Showrooms	5.00	0.002
7	HI	-	-	-
8	ID	-	-	-
9	D-STP		-	-

DESIGN STATEMENT														
Providing Sewerage Scheme 2.681 Acres COMMERCIAL COLONY, M/S PARADISE SYSTEM PVT. LTD. GURGAON														
S.NO.	Name of Line	Sewerage Load in Cusecs			3 Times Sewerage Load in Cusecs	Designed Discharge in Cusecs	Size in MM	Length in M	Slope 1 in	Velocity in M/Sec.	Fall in M	Road Formation Level in M		Avg. Depth in M
		Self	Branch	Total								U/E	L/E	
1	AB	0.018	-	0.018	0.054	0.64	250	105.00	300	0.76	0.35	210.37	210.37	1.38
2	BC	0.006	0.018	0.024	0.072	0.64	250	70.00	300	0.76	0.23	210.37	213.37	1.67
3	CD	0.003	0.024	0.027	0.081	0.64	250	45.00	300	0.76	0.15	213.37	214.57	3.95
4	EF	0.012	-	0.012	0.036	0.64	250	55.00	300	0.76	0.18	214.57	214.57	5.49
5	FG	0.005	0.012	0.017	0.051	0.64	250	50.00	300	0.76	0.17	214.57	214.57	5.67
6	GH	0.002	0.017	0.019	0.057	0.64	250	25.00	300	0.76	0.09	214.57	214.57	5.79
7	HI	-	0.019	0.019	0.0570	0.64	250	10.00	300	0.76	0.03	214.57	214.57	5.86
8	ID	-	0.019	0.019	0.0570	0.64	250	12.00	300	0.76	0.04	214.57	214.57	5.89
9	D-STP	-	0.046	0.046	0.1380	0.64	250	10.00	300	0.76	0.03	214.57	214.57	6.15

Schedule Quantities of S.W. Pipes Providing Sewerage Scheme 2.681 Acres COMMERCIAL COLONY, M/S PARADISE SYSTEM PVT. LTD. GURGAON				
Sr. No.	Name of Line	Length in M		
		200	250	300
1	AB	-	105.00	-
2	BC	-	70.00	-
3	CD	-	45.00	-
4	EF	-	55.00	-
5	FG	-	50.00	-
6	GH	-	25.00	-
7	HI	-	10.00	-
8	ID	-	12.00	-
9	D-STP	-	10.00	-
TOTAL		-	382.00	-
SAY		-	400.00	-

DESIGN STATEMENT

Providing Storm Water Drainage 2.681 Acres COMMERCIAL COLONY,
M/S PARADISE SYSTEM PVT. LTD. GURGAON

Sr. No.	Name of Line	Area in Acres			Discharge @1/4" in Rain Fall in causes	Designed Discharge in Cusecs	Size in MM	Length in M	Slope 1 in	Velocity in M/Sec.	Fall in M	Formation Level in M		Invert Levels in M		Depth in M		Avg. Depth in M
		Self	Branch	Total								U/E	L/E	U/E	L/E	U/E	L/E	
1	AB	0.13	-	0.13	0.03	4.17	400	22.00	400	0.91	0.06	210.37	210.37	209.17	209.11	1.20	1.26	1.23
2	BC	0.36	0.13	0.49	0.12	4.17	400	60.00	400	0.91	0.15	210.37	213.37	209.11	208.96	1.26	4.41	2.83
3	CD	0.06	0.49	0.55	0.14	4.17	400	10.00	400	0.91	0.03	213.37	213.37	208.96	208.93	4.41	4.44	4.42
4	DE	0.33	0.55	0.88	0.22	4.17	400	55.00	400	0.91	0.14	213.37	214.57	208.93	208.79	4.44	5.78	5.11
5	EF	0.06	0.88	0.94	0.24	4.17	400	10.00	400	0.91	0.03	214.57	214.57	208.79	208.76	5.78	5.81	5.8
6	FG	0.15	0.94	1.09	0.27	4.17	400	25.00	400	0.91	0.06	214.57	214.57	208.76	208.70	5.81	5.87	5.84
7	GH	0.25	1.09	1.34	0.33	4.17	400	40.00	400	0.91	0.10	214.57	214.57	208.70	208.60	5.87	5.97	5.92
8	HI	0.45	1.34	1.79	0.450	4.17	400	75.00	400	0.91	0.19	214.57	214.57	208.60	208.41	5.97	6.16	6.07
9	IJ	0.36	1.79	2.15	0.54	4.17	400	60.00	400	0.91	0.15	214.57	216.67	208.41	208.26	6.16	8.41	7.34

DESIGN STATEMENT														
Providing Storm Water Drainage 2.681 Acres COMMERCIAL COLONY, M/S PARADISE SYSTEM PVT. LTD. GURGAON														
Sr. No.	Name of Line	Area in Acres			Discharge @1/4" in Rain Fall in causes	Designed Discharge in Cusecs	Size in MM	Length in M	Slope I in	Velocity in M/Sec.	Fall in M	Formation Level in M		Avg. Depth in M
		Self	Branch	Total								U/E	L/E	
10	JK	0.31	2.15	2.46	0.62	4.17	400	35.00	400	0.91	0.09	216.67	216.67	8.45
11	KL	0.06	2.46	2.52	0.63	4.17	400	10.00	400	0.91	0.03	216.67	216.67	8.52
12	L3L2	0.18	-	0.18	0.05	4.17	400	30.00	400	0.91	0.08	217.72	216.67	8.12
13	L2L1	0.08	0.18	0.26	0.07	4.17	400	12.00	400	0.91	0.03	216.67	216.67	7.63
14	L1L	0.10	0.26	0.36	0.09	4.17	400	15.00	400	0.91	0.04	216.67	216.37	8.41
15	L-HUDA STORM	0.05	2.88	2.93	0.73	4.17	400	20.00	400	0.91	0.08	210.37	217.72	4.92

Schedule of Quantities of R.C.C Pipes									
Providing Storm Water Drainage 2.681 Acres COMMERCIAL COLONY, M/S PARADISE SYSTEM PVT. LTD. GURGAON									
Sr. No.	Name of Line	Length in M			Sr. No.	Name of Line	Length in M		
		300	400	500			300	400	500
1	AB	-	22.00	-	10	JK	-	35.00	-
2	BC	-	60.00	-	11	KL	-	10.00	-
3	CD	-	10.00	-	12	L3L2	-	30.00	-
4	DE	-	55.00	-	13	L2L1	-	12.00	-
5	EF	-	10.00	-	14	L1L	-	15.00	-
6	FG	-	25.00	-	15	L- HUDA STORM	-	20.00	-
7	GH	-	40.00	-					
8	HI	-	75.00	-					
9	IJ	-	60.00	-					
						TOTAL	-	490.00	-
						SAY	-	500.00	-

DESIGN DATA OF ROADS

**2.681 Acres COMMERCIAL COLONY,
M/S PARADISE SYSTEM PVT. LTD. GURGAON**

6.0 M WIDE ROAD

S.NO	Name of Road	Length in M	
1	R1	6.00	
2	R2	20.00	
3	R3	36.00	
4	R4	70.00	
5	R5	42.00	
6	R6	26.00	
7	R7	8.00	
8	R8	60.00	
9	R9	55.00	
10	R10	100.00	
11	R11	8.00	
	TOTAL	431.00	
	Total length of 6.0 M wide roads	431.00	
	Add 10 % at curves	43.10	
	TOTAL	474.10	
	SAY	480.00	
	Paved Area of Roads= 480.00 M x 6.00 M	2880.00	SQ.M
	Add for extra area at entry& exitramps and other widening	320.00	SQ.M
	Add for surface parking = 49.20	1425.00	SQ.M
	Total paved area = 2880.00 + 320.00 + 1425.00	4625.00	SQ.M
	SAY	4700.00	SQ.M
	Total length of roads	480.00	SQ.M
	Length of C.C. Kerbs Road= 2 x 480.00	960.00	M