AMENDED
INTERNAL DEVELOPMENT WORKS

DESIGN AND COST ESTIMATES

OF

GROUP HOUSING COLONY AREA MEASURING 18.744 ACRES (LICENCE NO. 01 OF 2014 DATED 03/01/2014) IN SECTOR-33, SOHNA BEING DEVELOPED BY AUM SHREE HOTELS & RESORTS PVT. LTD. IN COLLABORATION WITH GODREJ HIGHVIEW LLP

OWNER'S

AUM SHREE HOTELS & RESORTS PVT. LTD. AND

GODREJ HIGHVIEW LLP

For GODREJ HIGHVIEW LLP
Authorised Signatory

AMMENDED SERVICE ESTIMATE FOR PROVIDING INTERNAL DEVELOPMENT WORKS BASED ON REVISED BUILDING PLANS OF GROUP HOUSING COLONY AREA MEASURING 18.744 ACRES (LICENCE NO. 01 OF 2014 DATED 03/01/2014) IN SECTOR-33, SOHNA BEING DEVELOPED BY AUM SHREE HOTELS & RESORTS PVT. LTD. IN COLLABORATION WITH GODREJ HIGHVIEW LLP

REPORT

Gurgaon town of Haryana State is situated on Delhi - Jaipur national Highway No.8 at a distance of 30 kms for Delhi. Being in the national capital Region, the town has fast developing tendency and potential. Further, it has also started sharing the growing Industrial load of Delhi. In order to relieve the growing pressure of population in National Capital of Delhi, it has been decided by the Haryana Government to establish various residential sectors along with infrastructure facilities in Gurgaon. It is now proposed to develop a Group Housing Complex on 18.744 Acres site at Sector 33, Sohna Road, Gurgaon by M/s Aum Shree Hotels & Resorts Pvt. Ltd. in collaboration with Godrej High view LLP (DTCP Order No LC-2800-PA (SN)-2017/27247 dt 31.10.2017

WATER SUPPLY

Source of water supply in this area is from the proposed HUDA water main. It has been proposed to construct underground tanks of capacity as per attached details for domestic purpose. The underground tanks will be fed from the proposed HUDA riser and the water will be pumped to the O.H tanks proposed on the roof of the building. Flushing & irrigation water demand will be met from the treated effluent of sewage treatment plant.

DESIGN

The scheme has been designed 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. Power Backup will be provided separately or added to the capacity of main generator.

SEWERAGE SCHEME

This scheme is designed for sewer connecting to the sewage treatment plant proposed within the complex. Bye pass arrangement is made from the sewage treatment plant to pump out excess treated effluent to HUDA sewer and to bye pass of sewage to HUDA sewer during maintenance shutdown of sewage treatment plant.The sewerage system has been marked on the respective plans.

For GODREJ HIGHVIEW LLP
Authorised Signatory

Design Limited NEW DELHI

VIDYA AND ASSOCIATES

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 80% of the domestic water supply shall find its way into the proposed sewer. Sewer lines shall be laid to a gradient maintaining minimum 2.46 ft/sec self-cleaning velocity. Necessary provision for laying S.W 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.

STORM WATER DRAINAGE

Rainwater precipitation of the plot will be collected through a series of catch basin/ drain and will be connected to the proposed Rainwater Harvesting Systems. Surplus water will be disposed off to the proposed HUDA Storm Drain. Intensity of rainfall has been taken as ¼" per hour.

SPECIFICATIONS

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

Roads :
Cost of road has been taken in the estimate.

Street Lighting
Provision for external lighting 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. ~~1716.26~~ 1984.30 Lakhs including 3% contingencies @ 49% departmental charges, price escalation, unforeseen, Admn. Charges.

For GODREJ HIGHVIEW LLP

Authorised Signatory

Authorized Signatory

1. DESIGN CALCULATION :

Sl. No.	Description	Nos of Towers	Nos. of Multi Dwelling units per Tower	Apartments		Service persons		Total Population	Total Water Demand in LPD @ 172.5 LPCD	Domestic Water @ 65% of Total Water Demand in LPD	Treated effluent demand/ Flushing Water @ 35% of Total Water Demand in LPD	Sewage Flow	
				Total Nos of Dwelling units/ Flats	Population @ 5 Persons /Unit	Service person/ Tower	Population @ 2 Persons /S P Unit					80% of total water demand in LPD	Total Flow in KLD
1	Tower - A,B &C (S+18)	3	74	222	1110	38	228	1338	230805	150023 ~~150023.3~~	80782 ~~80781.8~~	184644	184644
2	Tower -D1 & D2 (S+23)	2	147	294	1470			1470	253575	~~164824.8~~	~~88751.3~~	202860	202860
3	Tower -E &F (S+22)	2	88	176	880			880	151800	98670.0	53130.0	121440	121440
4	Tower -G,H &J (S+22)	3	88	264	1320			1320	227700	148005.0	79695.0	182160	182160
5	Tower T3 &T4 S+24) & (S+21)	2	69	138	690	69	276	966	166635	108313 ~~108312.8~~	58322 ~~58322.3~~	133308	133308
6	Block - F (EWS)			195	975			975	~~168183.9~~	109322 ~~109321.9~~	58866 ~~58865.6~~	134550	134550
	Total (A)			~~6445~~ 1288	6445			**6949**	**1198703**	**779157**	**419546**		**958962**
													✓
		FAR	Population per Sqm	Total Population	Fixed		Floating		Total Water Demand in LPD	35%	65%	80%	80%
					No of persons @ 10% of total population	Water demand in LPD @ 45 LPCD	No of persons @ 90% of total population	Water Demand in LPD @ 15 LPCD					
7	Block - D (Shopping) Total Population @1/3sqm. for GF	356.189	3	119	12	540	107	1605	2145	750.75	1394.25	1716 ~~601~~	1716 ~~601~~
8	Block - E (Community Building) @15% of Total Population of Main Units, Water Demand @45LPCD							821	36945	12930.75	24014.25	29556 ~~10345~~	29556 ~~10345~~
9	Block - G (Primary School)							L.S.	50000	17500	32500	40000 ~~14000~~	40000 ~~14000~~
10	Block - G (Nursery School)							L.S.	10000	3500	6500	8000 ~~2800~~	8000 ~~2800~~
11	Visitor @ 10% of total Residential population, Water Demand @ 15 LPCD							547	8205	2871.75	5333.25	6564 ~~2297~~	6564 ~~2297~~

C.P. VIDYA AND ASSOCIATES

Design Limited

For GODREJ HIGHVIEW LLP

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12	Maintenance Staff, Water Demand @ 45 LPCD						100	4500	1575	2925	36w ~~1260~~	36w ~~1260~~
13	Swimming Pool Makeup						L.S.	10000	10000			
14	Filter Back wash						L.S.	25000	25000			25000
15	Soft Water Requirement for DG						L.S.	40000		40000		
16	Green Area- 21325.31 Sq. M (Water @ @ 5 Ltr./ Sq. m./Day							106626.6		106626.6		114436
	Total (B)							**293421.6**	**74128.25**	**219293.3**		~~56302.6~~
	Grand Total (A+B)							**1492124**	**853285**	**638839**		~~1015265~~ 1073398

Fire Water Tank Cap. 400 KL as per NBC 2016 along ~~with one hour capacity of Water Curtain.~~
~~Proposed Capacity of Fire Water Tank - 675 KL~~

Say 1492 KLD 854 KLD 638 KLD

Say 1100 KLD
Proposed STP.

For GODREJ HIGHVIEW LLP

Authorised Signatory

Underground Tanks

(1) Domestic water (½ day requirement) = 854 KLD/2 = 430 KLD

(2) Flushing (½ day requirement) = 638 KLD/2 = 320 KLD

(3) fire demand = 400 KLD = 400/4

1150 KLD

IV. UNDER GROUND WATER TANKS

a) Total Domestic water demand — ~~818~~ 854 KLD
Half day's requirement for (818/2) — ~~409~~ 427 KL } 430 KLD

b) Total Flushing water demand — 638 ~~492~~ KLD
Half day's requirement for (~~492~~/2) — ~~246~~ 318 KLD } 320 KLD

It is proposed to construct underground tanks of total ~~905~~ 430 KL capacity (~~treated water for domestic 500 KL & raw water for domestic 405 KL~~ domestic water demand) and one tank of ~~675~~ 90 KL for firefighting purpose as per the location shown in the plan. i.e ~~Total 1580 KL~~. Flushing water storage tank of ~~518~~ 320 KL including and soft water storage ~~tank of 46 KL~~ will be provided along with STP.

V. BOOSTING MACHINERY

A. Domestic Supply System

- Daily Domestic demand	~~818~~ 854 KLD
- Pumping per hour @ 10 hr. pumping / day	~~81.8~~ 85.40 KL / hr.
- Considering Two Pumps(Working), discharge of each pump	~~40.9~~ 42.70 KL/hr.
SAY	~~41~~ 43 KL/hr.
	~~685~~ 720 LPM

Gross Working Head

- Suction lift – positive suction	0.0 Mtr.
- Frictional Loss in Mains & Specials	20.0 Mtr.
- Clear Head required (Pump Room to OHT)	94.7 Mtr.
TOTAL	**114.7**
SAY	**115 Mtr.**

Pump – HP = $\frac{\sim\sim685\sim\sim\ (720)\ \text{X}\ 115}{60\text{X}\ 75\ \text{X}\ 0.70} = 26.28$ — 25 HP Each

It is proposed to provide 3 Nos. of pumps of ~~685~~ 720 lpm (each) capacity at 115 mtr. Head, (two pumps are working and one standby) for domestic purpose.

For GODREJ HIGHVIEW LLP
Authorised Signatory

B. Flushing Supply System

- Daily Flushing water demand	~~492~~ 638 KLD
- Pumping per hour @ 10 hr. pumping / day	~~49.2~~ 63.80 KL / hr.
- Considering Two Pumps(Working)	~~24.6~~ 32.40 KL/hr.
SAY	~~25~~ 32 KL/hr.
	~~420~~ 535 LPM

Gross Working Head

- Suction lift – positive suction	0.0 Mtr.
- Frictional Loss in Mains & Specials	20.0 Mtr.
- Clear Head required	94.7.00 Mtr.
TOTAL	**114.7**
SAY	**115 Mtr.**

$$\text{Pump – HP} = \frac{\sim\!\sim 420 \sim\!\sim \text{ (535)} \times 115}{60 \times 75 \times 0.70}$$

$$= \sim\!\sim 15.5 \sim\!\sim \text{ (19.53) HP}$$

SAY ~~17.5~~ 20 HP

It is proposed to provide 3 Nos. of pumps of ~~420~~ 535 lpm (each) capacity at 115 mtr. Head, (two pumps are working and one standby) for flushing purpose.

VI. PUMPS FOR FIRE PROTECTION

S. No.	Parameters	Location	Pump Sets			
			Jockey	Main	Diesel	Water Curtain
a)	Discharge in lpm	Pump Room	180 lpm	2850 lpm	2850 lpm	3250 lpm
b)	Head in meters		~~155~~	~~155~~	~~155~~	40
c)	HP		20	130	130 BHP	50 HP
d)	Quantity in Nos.		2	2	2	1

VII. GENERATING SETS:

HP of	Sump pump	= 5 x 12	= 60
HP of	Domestic water transfer pump	= 25 x 2	= 50
HP of	Flushing water transfer Pump	= ~~17.5~~ 20 x 2	= ~~35~~ 40
HP of	Jockey pump	= 20 x 2	= 40
	TOTAL		= ~~185~~ 190 HP
			= ~~138 KW~~ 142 KW
			in KVA = 212.61
	Say		= ~~150 KW~~. 250 KVA

It is proposed to provide 250 KVA generating set separately or capacity will be added to the capacity of main generating set.

FOR GODREJ HIGHVIEW LLP

Authorised Signatory

Design Limited NEW DELHI

C.P. VIDYA AND ASSOCIATES

AMMENDED SERVICE ESTIMATE OF GROUP HOUSING COLONY AREA MEASURING 18.744 ACRES (LICENCE NO. 01 OF 2014 DATED 03/01/2014) IN SECTOR-33, SOHNA BEING DEVELOPED BY AUM SHREE HOTELS & RESORTS PVT. LTD. IN COLLABORATION WITH GODREJ HIGHVIEW LLP

FINAL ABSTRACT OF COST

Amount in Rs. Lakhs

SUB WORK NO. I	WATER SUPPLY SCHEME	373.75 ~~384.79~~
SUB WORK NO. II	SEWERAGE SCHEME	310.28 ~~231.64~~
SUB WORK NO.III	STORM WATER DRINAGE SCHEME	120.78 ~~90.76~~
SUB WORK NO.IV	ROADS WORK	459.50 ~~459.49~~
SUB WORK NO.V	STREET LIGHTING	71.92 ~~71.91~~
SUB WORK NO. VI	HORTICULTURE	14.11 ~~14.1~~
SUB WORK NO. VI	MAINTENANCE COST AND RESURFACING OF ROAD FOR 10 YEARS (As per norms.)	~~463.57~~ 633.95
	TOTAL	~~1716.26~~ 1984.29

Checked subject to comments in forwarding letter No. 37150 Dt. 01/03/2021 and notes attached with the estimate

Superintending Engineer (HQ) for Chief Engineer 1 HSVP Panchkula 1.3.2021

Say Rs 1984.30 Lakh

Cost/Acre = 1984.30/18.744 = Rs 105.86 Lakh.

Executive Engineer
HUDA, Division No. VI
Gurgaon

For

For GODREJ HIGHVIEW LLP
Authorised Signatory

AUTHORISED SIGNATORY

Director
Town & Country Planning
Haryana, Chandigarh

Superintending Engineer,
HSVP, Circle-II, Gurugram

GROUP HOUSING COLONY AREA MEASURING 18.744 ACRES (LICENCE NO. 01 OF 2014 DATED 03/01/2014) IN SECTOR-33, SOHNA BEING DEVELOPED BY AUM SHREE HOTELS & RESORTS PVT. LTD. IN COLLABORATION WITH GODREJ HIGHVIEW LLP

SUB WORK No. 1 — Water Supply

1.	Sub Head No. 01	Head Works	~~1,05,04000.00~~ 8175000/-
2.	Sub Head No. 02	Pumping Machinery	~~75,70,000.00~~ 81,70,000/-
3.	Sub Head No. 03	Rising Main	~~695,250.00~~ 586000/-
4.	Sub Head No. 04	Distribution System (Domestic & Recycled Water)	~~18,47,850.00~~ 2589000/-
5.	Sub Head No. 05	Fire Fighting Main	~~33,69,400.00~~ 33,70,000/-
6.	Sub Head No. 06	Irrigation System	~~10,86,250.00~~ 14,63000/-
		TOTAL	~~**25,072,750.00**~~ 24353000/-
		Add 3% contingencies & PH Charges	~~752,182.50~~ 730590/-
		TOTAL	~~**25,824,932.50**~~ 25083590/-
		Add 49% Departmental charges, unforeseen , Admn. charges	~~126,542,16.93~~ 12290958/-
		TOTAL	~~**38,479,149.43**~~ 37374548/-

373,75

Say ~~384.79~~ Lakhs.

For GODREJ HIGHVIEW LLP
Authorised Signatory

Sub Work No. 1
Sub Head No. 01

Water Supply
Head Works
Amount in Rs.

1.	Providing Booster Pumps (Domestic Water Transfer Pump): Capacity ~~685~~ 720 lpm at 115 M head , 3 Nos. (2W+1S) 25 HP Each @ Rs. 3,50,000/-each	Rs. 10,50,000.00
2.	Providing Booster Pumps (Flushing Water Transfer Pump) : Capacity ~~420~~ 535 lpm at 115 M head , 3 Nos. (2W+1S) 17.5 HP Each @ Rs. 2,50,000/-each	Rs. 7, 50,000.00
3.	Construction of U.G. tanks ~~2144~~ 1150 KL Rs. ~~3500~~ 4500/KL ~~(905 KL Domestic, 675 KL Fire and 564 KL for Flushing & Soft Water)~~ Dom. 430 KL, Fire = 400 KL, Flushing & Soft water = 320 KL	Rs. ~~75,04,000~~ 51,75,000/-
4.	Provision for unforeseen items / carriage of materials	Rs. 2,00000.00
5.	Provision for Pump Room of suitable size (L.s)	Rs. 10,00000.00
	TOTAL	Rs. ~~1,05,04000.00~~
	(Total C/F to Summery of Sub Work 1)	81,75,000/-

For GODREJ HIGHVIEW LLP
Authorised Signatory

Say Rs 81.75 Lakh.

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Sub Work No. 1
Sub Head No. 02

Water Supply
Pumping Machinery
Amount in Rs.

1.	Provision for diesel engine gen set for standby arrangements For Booster Pump complete with gear head arrangements of following capacities.	
	- 1 No. 250 KVA ~~(L.S)~~ @ Rs 10,000/- Per KVA	Rs.~~20,00,000.00~~ 25,00,000/-
2.	Providing and installing pumping set of following capacities for Fire protection:	
	- 180 lpm at 145 M head 2 Nos. @ Rs.~~2,50,000~~/- 1,50,000/-	Rs. ~~5,00,000.00~~ 3,00,000/-
	- 2850 lpm at 145 M head 2 Nos. @ Rs. ~~7,50,000~~/- 10,00,000/-	Rs. ~~15,00,000.00~~ 20,00,000/-
	- 3250 lpm at 40 M head 1 No. @ Rs.420000/-	Rs 4,20,000.00
	(Water Curtain Pump)	
	- 2850 lpm at 145 M head 2 No. DG pump @ Rs.9,00,000/-	Rs. 18,00,000.00
3.	Provision for pressure type chlorination plant complete - 1 No. @ Rs. 100000/-	Rs. 100,000.00
4.	Provision for making foundations and erection of Pumping Machinery:	
	(L.S)	Rs. ~~4,00,000~~.00 2,00,000/-
5.	Provision for pipes, valves and specials inside boosting chamber.	
	(L.S)	Rs. 4,00,000.00
6.	Provision for carriage of material and other unforeseen Items etc. L/S	Rs. 2,00,000.00
7.	Provision for electric service connection including electrical fittings for boosting chamber and cost of transformer (L.S)	Rs. 2,50,000.00
	TOTAL	**Rs. ~~75,70,000.00~~**
	(Total C/F to Summery of Sub Work 1)	81,70,000/-

Say Rs 81.70 Lakh

For GODREJ HIGHVIEW LLP

Authorised Signatory

Sub-Work No. 1
Sub Head No. 03

Water Supply
Rising Main from HUDA
Amount in Rs.

1.	Providing , laying , jointing and testing ~~HDPE~~ D.I. pipe lines Including Cost of excavation etc. complete in all respects. - 100mm OD pipe 350 m @ Rs. ~~1575~~/- 1250/-	Rs.5,~~51,250~~.00 437500/-
2.	Providing and fixing valve including cost of surface box and masonary chamber etc. complete in all respects. - 100 mm i/d 1 No. @ Rs. ~~8000~~/- 12000/-	Rs. ~~8,000~~.00 12000/-
3.	Providing and fixing indicating plates for valve and air Valves. - 1 No. @ Rs. 1000/- each	Rs.1,000.00
4.	Providing and fixing air release valve and scour valve 1 No. @ Rs. 10000/- each	Rs.10,000.00
5.	Provision for carriage for materials and other unforeseen items(L/S)	Rs.25,000.00
6.	Provision for cutting of roads and making good to its original Conditions. (L/S)	Rs.100,000.00
	Total	Rs. ~~695250.00~~

(Total C/F to Summery of Sub Work 1) 585500/-

Say Rs 5.86 Lakh

Friction Loss calculation for HUDA Rising main:

S.No.	Line	Daily Demand (KL)	1 ½ Times Daily Demand (KL)	Length (Mtr.)	Pipe Dia (MM)	Friction Loss in line in Mtr.	Total Friction Loss in line in Mtr.	Velocity ft./sec.
1	HUDA – UG Tank	853 KLD	1279.5	350	100	0.064	22.42	2.26

For GODREJ HIGHVIEW LLP
Authorised Signatory

C P VIDYA AND ASSOCIATES GURGAON

Sub Work No. 1 Water supply
Sub-Head No. 04 Distribution System

Amount in Rs.

1. Providing , Laying , jointing and testing G.I pipe line including Fittings, cost of excavation etc. complete in all respect.
   Domestic Water Supply–

G.I Pipe 100 mm, ~~307~~ @ Rs. ~~1200/-~~	Rs. ~~368,400.00~~
G.I Pipe 80 mm, ~~80~~ M @ Rs. ~~950/-~~	Rs. ~~76,000.00~~
~~G.I Pipe 65 mm, 438 M @ Rs. 700/-~~	~~Rs 306,600.00~~
~~G.I Pipe 50 mm , 48 M @ Rs. 450/-~~	~~Rs. 21,600.00~~
~~G.I Pipe 32 mm , 16 M @ Rs. 350/-~~	~~Rs. 5,600.00~~
~~G.I Pipe 25 mm , 45 M @ Rs. 250/-~~	~~Rs. 11,250.00~~

2. Providing , Laying , jointing and testing G.I pipe line including Fittings, cost of excavation etc. complete in all respect.
   Flushing Water Supply –

G.I Pipe 100 mm, ~~8~~ @ Rs. ~~1200~~/-	Rs. ~~9600.00~~
G.I Pipe 80 mm , ~~311~~ M @ Rs. ~~950~~/-	Rs. ~~295,450~~.00
~~G.I Pipe 65 mm , 111 M @ Rs. 700/-~~	~~Rs. 77,700.00~~
~~G.I Pipe 50 mm , 488 M @ Rs. 450/-~~	~~Rs. 219,600.00~~
~~G.I Pipe 40 mm , 76 M @ Rs. 400/-~~	~~Rs. 30,400.00~~
~~G.I Pipe 32 mm , 8 M @ Rs. 350/-~~	~~Rs. 2,800.00~~
~~G.I Pipe 25 mm , 41 M @ Rs. 250/-~~	~~Rs. 10,250.00~~

3. Provision for fixing air valve, scour valve inclusive of cost of brick Masonry 10 Nos @ ~~15000~~/- each — Rs. ~~1,50000.0~~

4. Provision for carriage of materials and other unforeseen items — Rs. 1,~~00,000.00~~

4. Providing and fixing valve

- 65 mm dia ~~13~~ No. @ Rs. 4500/ - each	Rs. ~~58,500.00~~
~~- 50 mm dia 13 No. @ Rs. 3500/ - each~~	~~Rs. 45,500.00~~
~~- 32 mm dia 2 No. @ Rs. 2500/ - each~~	~~Rs. 5,000.00~~
~~- 25 mm dia 2 No. @ Rs. 1800/ - each~~	~~Rs. 3,600.00~~

5. Provision for indicating plates for sluice valve and air valve etc (L.S) — Rs. 50,000.00

6 Provision for cutting of roads & making good the same. — Rs 50,000/-

Total — **Rs. ~~18,47,850.00~~**

(Total C/F to Summery of Sub Work 1)

Say Rs 25.85 Lakh

For GODREJ HIGHVIEW LLP

Authorised Signatory

Domestic Water Supply - Material Statement

S.NO.	LINE NAME	LENGTH OF PIPE IN METRE								VALVE				
		150 Dia.	100 Dia.	80 Dia.	65 Dia.	50 Dia.	40 Dia	32 Dia	25 Dia	65 Dia.	50 Dia.	40 Dia	32 Dia	25 Dia
1	D26-D24		—	68	68					1				
2	D25-D24		—	76	76					1				
3	D24-D22		48	48										
4	D23-D22		—	59	59					1				
5	D22-D20		32	32										
6	D20-D20a			24	24					1				
7	D20-D18		23	—										
8	D19-D18		—	14	14					1				
9	D18-D16		41	—										
10	D17-D16		—	14	14					1				
11	D16-D14		46	—										
12	D14-D13		—	14	14					1				
13	D14-D12		28	—										
14	D12C-D12A		—	45					45					1
15	D12B-D12A		—	16				16					1	
16	D12A-D12		—	48		48								
17	D12-D8		48	—										
18	D11-D9		—	58	58					1				
19	D10-D9		—	7	7					1				
20	D9-D8		—	17	17									
21	D8-D6		18	—										
22	D7-D6		—	17	17					1				
23	D6-D4		24	—										
24	D5-D4		—	78	78					1				
25	D4-D1		44	—										
26	D3-D1		—	22	22					1				
27	D2-D1		—	30	30					1				
28	D1-UGT		35	—										
	TOTAL	0	~~307~~	~~80~~	498	48	0	16	~~46~~	~~45~~	0	0	1	1

387 607
MM MM

IN mm = 387 MM

For mm = 607 MM

65mm dia valve = 15 Nos

For GODREJ HIGHVIEW LLP

Authorised Signatory

Hydraulic Calculation for Domestic Water Supply

Sl. No.	Node	Nos. of Units		Population		Total Population	Dom. Water Demand @65% of 172.5 LPCD	Other Building			Domestic Water Demand in LPD	Progressive Water Demand in LPD	Total Dom. Water Demand in LPD	Discharge of pump @ 10 Hrs.	Water Pumping in LPM	Length of Pipe in Mtr.	Size of Riser in MM	Head Loss in Mtr./ Mtr.	Head Loss from Node to Node Mtr./ Mtr.	Cumulative Head Loss in Mtrs.	Head of pump	Head at start	Residual Head	Velocity in Mtr./Sec.
		Main Unit	Service Persons\EWS	Main Unit @ 5 Persons /Unit	Service Person/EWS @ 2 Persons /Unit			Type of Building	Total Water Demand in LPD	Dom. Water Demand @35% of Total Water Demand in LPD														
1	UGT-D1										0	818284.9	818284.88	81828	1363.81	35	100	0.09	3.10	3.10	115.00	115.00	111.90	2.24
2	D1-D2	88		440	0	440	51126				51126.06	0	51126.058	5112.6	85.2101	30	65	0.00	0.14	3.24	115.00	111.90	111.76	0.35
3	D1-D3	88		440	0	440	51126				51126.06	0	51126.058	5112.6	85.2101	22	65	0.00	0.10	3.20	115.00	111.90	111.80	0.35
4	D1-D4			0	0	0	0				0	716032.8	716032.76	71603	1193.39	44	100	0.07	3.06	6.16	115.00	111.90	108.84	1.97
5	D4-D5	88		440	0	440	51126	Club	36945	12930.75	64056.81	0	64056.808	6405.7	106.761	78	65	0.01	0.55	6.71	115.00	108.84	108.29	0.43
6	D4-D6			0	0	0	0				0	651976	651975.95	65198	1086.63	24	100	0.06	1.41	7.57	115.00	108.84	107.43	1.80
7	D6-D7	88		440	0	440	51126				51126.06	0	51126.058	5112.6	85.2101	17	65	0.00	0.08	7.65	115.00	107.43	107.35	0.35
8	D6-D8			0	0	0	0				0	600849.9	600849.89	60085	1001.42	18	100	0.05	0.91	8.48	115.00	107.43	106.52	1.66
9	D8-D9			0	0	0	0				0	162239	162238.99	16224	270.398	17	100	0.00	0.08	8.56	115.00	106.52	106.44	0.46
10	D9-D10	88		440	0	440	51126				51126.06	0	51126.058	5112.6	85.2101	7	65	0.00	0.03	8.59	115.00	106.44	106.41	0.35
11	D9-D11		195	0	975	975	111113				111112.9	0	111112.93	11111	185.188	58	65	0.02	1.10	9.66	115.00	106.41	105.31	0.74
12	D8-D12			0	0	0	0				0	438610.9	438610.9	43861	731.018	48	100	0.03	1.38	9.86	115.00	106.52	105.14	1.22
13	D12-D12A			0	0	0	0				0	21000	21000	2100	35	48	50	0.00	0.16	10.01	115.00	105.14	104.99	0.24
14	D12A-D12B			0	0	0	0	P.Sch	50000	17500	17500	0	17500	1750	29.1667	16	32	0.02	0.32	10.34	115.00	104.99	104.66	0.49
15	D12A-D12C			0	0	0	0	N.Sch	10000	3500	3500	0	3500	350	5.83333	45	25	0.00	0.16	10.17	115.00	104.99	104.83	0.17
16	D12-D14			0	0	0	0				0	417610.9	417610.9	41761	696.018	25	100	0.03	0.66	10.51	115.00	105.14	104.49	1.16
17	D14-D13	147		735	0	735	84203				84202.93	0	84202.933	8420.3	140.338	14	65	0.01	0.16	10.67	115.00	104.49	104.33	0.57
18	D14-D16			0	0	0	0				0	333408	333407.97	33341	555.68	46	100	0.02	0.80	11.31	115.00	104.49	103.69	0.93
19	D16-D17	147		735	0	735	84203				84202.93	0	84202.933	8420.3	140.338	14	65	0.01	0.16	11.47	115.00	103.69	103.53	0.57
20	D16-D18			0	0	0	0				0	249205	249205.04	24921	415.342	41	100	0.01	0.42	11.74	115.00	103.69	103.26	0.70
21	D18-D19	74	38	370	76	446	51799				51798.81	0	51798.808	5179.9	86.3313	14	65	0.00	0.07	11.80	115.00	103.26	103.20	0.35
22	D18-D20			0	0	0	0				0	197406.2	197406.23	19741	329.01	23	100	0.01	0.16	11.89	115.00	103.26	103.11	0.56
23	D20-D20a	74	38	370	76	446	51799				51798.81		51798.808	5179.9	86.3313	24	65	0.00	0.11	12.00	115.00	103.11	103.00	0.35
24	D20-D22			0	0	0	0				0	145607.4	145607.42	14561	242.679	32	80	0.01	0.36	12.25	115.00	103.11	102.75	0.64
25	D22-D23	74	38	370	76	446	51799				51798.81	0	51798.808	5179.9	86.3313	69	65	0.00	0.33	12.58	115.00	102.75	102.42	0.35
26	D22-D24			0	0	0	0				0	93808.62	93808.615	9380.9	156.348	48	80	0.01	0.25	12.50	115.00	102.75	102.50	0.42
27	D24-D25	69	27	345	54	399	46529				46528.93	0	46528.933	4652.9	77.5482	76	65	0.00	0.30	12.80	115.00	102.50	102.20	0.32
28	D24-D26	69	27	345	54	399	46529	Shopping	2145	750.75	47279.68	0	47279.683	4728	78.7995	68	65	0.00	0.27	12.78	115.00	102.50	102.22	0.32

For GODREJ HIGHVIEW LLP

Authorised Signatory

Flushing Water Supply - Material Statement

S.NO.	LINE NAME	LENGTH OF PIPE IN METRE								VALVE				
		150 Dia.	100 Dia.	80 Dia.	65 Dia.	50 Dia.	40 Dia	32 Dia	25 Dia	65 Dia.	50 Dia.	40 dia	32 Dia	25 Dia
1	F7-F5		—	44		44					1			
2	F6-F5		—	11		11					1			
3	F5-F4		—	44	44									
4	F12-F10		—	35		35					1			
5	F11-F10		—	72		72					1			
6	F10-F8		—	29	29									
7	F9-F8		—	15		15					1			
8	F8-F4		10	~~10~~										
9	F4-F2		39	~~39~~										
10	F3-F2		—	24		24					1			
11	F2-F1		67	~~67~~										
			—	—										
12	STP-F1		8	—										
13	F1-F13		34	~~34~~										
14	F13-F15		—	69		69					1			
15	F13-F14		—	78		78					1			
16	F13-F16		49	~~49~~										
17	F16-F17		—	76		76					1			
18	F16-F18		32	~~32~~										
19	F18-F19		—	31		31					1			
20	F18-F20		15	~~15~~										
21	F20-F21		—	11		11					1			
22	F20-F22		65	~~65~~										
23	F22-F23		—	11		11					1			
24	F22-F24		—	38	38									
25	F24-F25		—	11		11					1			
26	F24-F26		—	76			76							
27	F26-F27		—	8				8					1	
	F26-F28		—	41					41					1
	TOTAL	0	~~8~~ 319	~~311~~ 724 MM	111	488	76	8	41	0	13	0	1	1

65 mm dia valve = 15 Nos (2.5)

For GODREJ HIGHVIEW LLP

Authorised Signatory

100 mm = 319 MM

80 mm = 724 MM

Hydraulic Calculation for Flushing Water Supply

Sl. No.	Node	Nos. of Units		Population		Total Population	Flu. Water Demand @35% of 172.5 LPCD	Other Building		Flu. Water Demand @65% of Total Water Demand in LPD	Flushing Water Demand in LPD	Progressive Water Demand in LPD	Total Flu. Water Demand in LPD	Discharge of pump @ 10 Hrs.	Water Pumping in LPM	Length of Pipe in Mtr.	Size of Riser in MM	Head Loss in Mtr./ Mtr.	Head Loss from Node to Node Mtr./ Mtr.	Cumulative Head Loss in Mtrs.	Head of pump	Head at start	Residual Head	Velocity in Mtr./Sec.
		Main Unit	Service Persons\EWS	Main Unit @ 5 Persons /Unit	Service Person/EWS @ 2 Persons /Unit			Type of Building	Total Water Demand in LPD															
1	STP-F1																							
2	F1-F2										0	492212.4	492212.4	49221.24	820.354	8	100	0.055	0.44	0.44	115.00	115.00	114.56	1.74
3	F2-F3	88		440	0	440	27980.46	Club	36945	24014.25	0	224197.7	224197.7	22419.77	373.6628	67	80	0.038	2.56	3.00	115.00	114.56	112.00	1.24
4	F2-F4			0	0	0	0				51994.71	0	51994.71	5199.471	86.65786	24	50	0.025	0.60	3.60	115.00	112.00	111.40	0.74
5	F4-F5			0	0	0	0				0	172202.9	172202.9	17220.29	287.0049	39	80	0.023	0.91	3.91	115.00	112.00	111.09	0.95
6	F5-F6	88		440	0	440	27980.46				0	172202.9	172202.9	17220.29	287.0049	44	65	0.064	2.83	6.75	115.00	111.09	108.25	1.44
7	F5-F7	88		440	0	440	27980.46				27980.46	0	27980.46	2798.046	46.63411	11	50	0.008	0.09	6.84	115.00	108.25	108.16	0.40
8	F4-F8			0	0	0	0				27980.46	0	27980.46	2798.046	46.63411	44	50	0.008	0.35	7.10	115.00	108.25	107.90	0.40
9	F8-F9	88		440	0	440	27980.46				0	116242	116242	11624.2	193.7367	10	80	0.011	0.11	4.03	115.00	111.09	110.97	0.64
10	F8-F10			0	0	0	0				27980.46	0	27980.46	2798.046	46.63411	15	50	0.008	0.12	4.15	115.00	110.97	110.85	0.40
11	F10-F11		195	0	975	975	60281.09				0	88261.55	88261.55	8826.155	147.1026	29	65	0.019	0.54	4.58	115.00	110.97	110.43	0.74
12	F10-F12	88		440	0	440	27980.46				60281.09	0	60281.09	6028.109	100.4685	72	50	0.033	2.38	6.96	115.00	110.43	108.05	0.85
											27980.46	0	27980.46	2798.046	46.63411	35	50	0.008	0.28	4.86	115.00	110.43	110.15	0.40
13	F1-F13			0	0	0	0																	
14	F13-F15	69	27	345	54	399	25505.09	Shopping	2145	1394.25	0	268014.7	268014.7	26801.47	446.6912	34	80	0.053	1.81	2.25	115.00	114.56	112.75	1.48
15	F13-F14	69	27	345	54	399	25505.09				26899.34	0	26899.34	2689.934	44.83223	69	50	0.007	0.51	2.76	115.00	112.75	112.24	0.38
16	F13-F16			0	0	0	0				25505.09	0	25505.09	2550.509	42.50848	78	50	0.007	0.52	2.77	115.00	112.75	112.23	0.36
17	F16-F17	74	38	370	76	446	28342.71				0	215610.3	215610.3	21561.03	359.3505	49	80	0.036	1.74	3.99	115.00	112.75	111.01	1.19
18	F16-F18			0	0	0	0				28342.71	0	28342.71	2834.271	47.23786	76	50	0.008	0.62	4.61	115.00	111.01	110.39	0.40
19	F18-F19	74	38	370	76	446	28342.71				0	187267.6	187267.6	18726.76	312.1127	32	80	0.027	0.88	4.87	115.00	111.01	110.13	1.03
20	F18-F20			0	0	0	0				28342.71	0	28342.71	2834.271	47.23786	31	50	0.008	0.25	5.12	115.00	110.13	109.88	0.40
21	F20-F21	74	38	370	76	446	28342.71				0	158924.9	158924.9	15892.49	264.8748	14	80	0.020	0.28	5.15	115.00	109.88	109.60	0.88
22	F20-F22			0	0	0	0				28342.71	0	28342.71	2834.271	47.23786	14	50	0.008	0.11	5.26	115.00	109.60	109.48	0.40
23	F22-F23	147		735	0	735	45791.09				0	130582.2	130582.2	13058.22	217.637	65	80	0.014	0.91	6.06	115.00	109.60	108.69	0.72
24	F22-F24			0	0	0	0				45791.09	0	45791.09	4579.109	76.31848	11	50	0.020	0.22	6.28	115.00	108.69	108.47	0.65
25	F24-F25	147		735	0	735	45791.09				0	84791.09	84791.09	8479.109	141.3185	38	50	0.062	2.37	2.37	115.00	108.47	106.10	1.20
26	F24-F26			0	0	0	0				45791.09	0	45791.09	4579.109	76.31848	11	50	0.020	0.22	2.58	115.00	106.10	105.88	0.65
27	F26-F27			0	0	0	0				0	39000	39000	3900	65	76	40	0.044	3.33	5.69	115.00	106.10	102.77	0.86
28	F26-F28			0	0	0	0	P.Sch	50000	32500	32500	0	32500	3250	54.16667	8	32	0.093	0.74	6.43	115.00	102.77	102.03	1.12
								N.Sch	10000	6500	6500	0	6500	650	10.83333	41	25	0.016	0.64	6.34	115.00	102.77	102.13	0.37

C.P. VIDYA AND ASSOCIATES

For GODREJ HIGHVIEW LLP

Authorised Signatory

Sub Work No. 1
Sub-Head No. 05

Fire Raising Main

Amount in Rs.

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 .			
	(i) 150 mm MS pipe line 682 m @ Rs. 1575/- per Mtr.	=	Rs.	10,74,150.00
	(ii) 100mm i/d 309 m @ Rs. 1250/ m	=	Rs.	3,86,250.00
	(ii) 80mm i/d 874 m @ Rs. 1000/ m	=	Rs.	8,74,000.00
4.	Providing & fixing valve			
	(i) 150 mm dia 1 Nos. @ Rs. 15000/- each	=	Rs.	15,000.00
	(ii) 80 mm dia 46 Nos. @ Rs. 10000/- each	=	Rs.	4,60,000.00
5.	Providing and fixing fire Hydrant 46 Nos. @ Rs. 10000/-	=	Rs.	4,60,000.00
4.	Providing for carriage of material and other unforeseen items (L.S.)	=	Rs.	100,000.00
Total			**Rs.**	**33,69,400.00**

(Total C/F to Summery of Sub Work 1)

Say Rs 33.70 Lakh

For GODREJ HIGHVIEW LLP

Authorised Signatory

Material Statement - Fire Hydrant

S.NO.	LINE NAME	LENGTH OF PIPE IN METRE			VALVE		FIRE HYDRANT
		150 Dia.	100 Dia.	80 Dia.	80 DIA	150 DIA	
1	UGT-F77	10				1	
2	F78-F77			22	1		1
3	F77-F74	26					
4	F76-F74			44	1		1
5	F75-F74			23	1		1
6	F74-F72	11					
7	F73-F72			2	1		1
8	F72-F71	12					
9	F68-F69			29	1		1
10	F70-F69			4	1		1
11	F69-F71		30				
12	F71-F64	40					
13	F65-F66			32	1		1
14	F67-F66			3	1		1
15	F66-F64		7				
16	F64-F51	36					
17	F52-F53			36	2		2
18	F53-F54		41		1		1
19	F54-F55	5					
20	F58-F59			48	1		1
21	F60-F59			3	1		1
22	F59-F57		23				
23	F57-F61	18					
24	F62-F61			5	1		1
25	F61-F63	23			1		1
26	F63-F51	7					
27	F51-F42	25					
28	F46-F47			27	1		1
29	F48-F47			10	1		1
30	F47-F49		29				
31	F50-F49			26	1		1
32	F49-F42	72			1		1
33	F43-F44			33	1		1
34	F45-F44			2	1		1
35	F44-F42		8				
36	F42-F38	36					
37	F39-F40			35	1		1
38	F41-F40			3	1		1
39	F41-F38		8				

For GODREJ HIGHVIEW LLP

Authorised Signatory

S.NO.	LINE NAME	LENGTH OF PIPE IN MTR.			VALVE		FIRE
		150 Dia.	100 Dia.	80 Dia.	80 DIA	150DIA	HYDRANT
40	F38-F37	51					
41	F32-F33			22	1		1
42	F34-F33			15	1		1
43	F33-F35		33				
44	F36-F35			7	1		1
45	F35-F37			8			
46	F37-F30	34					
47	F31-F30			8	1		1
48	F30-F24	18			1		1
49	F27-F28			30	1		1
50	F29-F28			4	1		1
51	F28-F24		23				
52	F27-F26		25		1		1
53	F26a-F26			7	1		1
54	F25-F26			40	1		1
55	F26-F24	49					
56	F24-F23	45					
57	F21-F20			44	1		1
58	F19-F20			49	1		1
59	F22-F20			16	1		1
60	F20-F23	28					
61	F23-F12	14					
62	F13-F14			40	1		1
63	F15-F14			9	1		1
64	F14-F16		44				
65	F18-F16			27	1		1
66	F17-F16			9	1		1
67	F16-F12	40					
68	F12-F8	29					
69	F3-F2			8	1		1
70	F1-F2			36	1		1
71	F2-F4		16				
72	F5-F4			11	1		1
73	F4-F6	20					
74	F7-F6			46	1		1
75	F6-F8	33					
76	F8-F10		22				
77	F11-F10			6	1		1
78	F10-F9			45	1		1
SAY		682	309	874	46	1	46

For GODREJ HIGHVIEW LLP

Authorised Signatory

Sub Work No. 1
Sub-Head No. 06

Water supply
Irrigation

1. Providing , Laying, Jointing and testing uPVC pipe Confirming to IS 4985 including cost of excavation etc. complete in all respect.

a) 75 mm OD 1151 metre @ Rs. ~~550/-~~ 800 M	= Rs.	6,~~33,050.00~~	920800/-
b) 63 mm OD 43 metre @ Rs. ~~450/-~~ M 675/-	= Rs.	~~19,350.00~~	29025/-
c) 50 mm OD 124 metre @ Rs. ~~350/~~ M 500/-	= Rs.	~~43,400.00~~	62000/-
d) 40 mm OD 10 metre @ Rs. ~~300/~~ M 400/-	= Rs.	3,000.00	4000/-
e) 32 mm OD 189 metre @ Rs. ~~250~~/ M 350/-	= Rs.	~~47,250.00~~	66150/-
f) 25 mm OD 401 metre @ Rs. ~~200~~/ M 300/-	= Rs.	~~80,200.00~~	120300/-

2. Providing and fixing 20 mm dia. irrigation hydrant Valve complete in all respect.
60 Nos. @ Rs.3500/ each = Rs. 210,000.00

3. Provision for carriage of Material and other as foreseen Items. = Rs. 50,000.00

TOTAL = Rs. ~~10, 86, 250.00~~ 1462275/-

(Total C/F to Summery of Sub Work 1)

Say Rs 14,63 Lakh.

For GODREJ HIGHVIEW LLP
Authorised Signatory

Material Statement – Irrigation system

S.NO.	LINE NAME		LENGTH OF PIPE IN MM				
		75 MM OD	63 MM OD	50 MM OD	40 MM OD	32MM OD	25MM OD
1	STP - G1	10					
2	G39-G38						15
3	G40-G38						31
4	G38-G36					15	
5	G37-G36						20
6	G36-G32				4		
7	G34-G33						13
8	G35-G33						12
9	G33-G32					30	
10	G32-G31			8			
11	G31-G29		27				
12	G30-G29						9
13	G29-G1		16				
14	G1-G2	60					
15	G2-G3	45					
16	G6-G4						37
17	G5-G4						13
18	G4-G3					27	
19	G3-G7	47					
20	G8-G7						24
21	G7-G9	161					
22	G14-G11						42
23	G13-G11						26
24	G12-G11						6
25	G11-G9					71	
26	G9-G15	133					
27	G16-G15						41
28	G15-G17	233					
29	G19-G18						33
30	G21-G20						13
31	G22-G20						17
32	G20-G18					16	
33	G18-G17			56			
34	G17-G23	214					
35	G28-G27						30
36	G27-G26					30	
37	G26-G24				6		
38	G25-G24						19
39	G24-G23			60			
40	G23-G2	248					
	Total	**1151**	**43**	**124**	**10**	**189**	**401**

Irrigation Hydrant – 60 Nos

For GODREJ HIGHVIEW LLP

Authorised Signatory

Sub-Work No. II

Sewerage Scheme

Amount in Rs.

1.	Providing , jointing , cutting and testing SW pipe grade- 'A' and lowering into trenches including cost of Excavation, bed concrete, cost of manholes etc. Complete (2 Mtr to 4 Mtr Depth).	
	a) SW pipe 200 mm 66 M @ Rs. 1250/M	Rs. ~~8,25,00.00~~ 82500/-
	b) SW pipe 250 mm 442 M @ Rs. ~~1700~~/M 1800/-	Rs. ~~7,51,400.00~~ 795600/-
	c) SW pipe 300 mm 228 M @ Rs. 2200/M	Rs. 5,01,600.00
2.	Providing , jointing , cutting and testing SW pipe class-SP1/ pipe and lowering into trenches including cost of Excavation, bed concrete, cost of manholes etc. Complete (Above 4 Mtr Depth).	
	a) SW pipe 350 mm 105 M @ Rs. 2300/M	Rs. 2,41,500.00
	b) SW pipe 400 mm 90 M @ Rs. 2700/M	Rs. 2,43,000.00
3.	a) UPVC pipe ~~110~~ 160 mm OD. 103 mt @ ~~1200~~/m 1000/- (STP By Pass)	Rs. ~~1,23,600.00~~ 103000/-
4.	Construction of Sewage Treatment Plant up to tertiary Level 1100 KLD Capacity @ Rs 16000/KLD ~~(L.S)~~	Rs. ~~125,00,000.00~~ 176,00,000/-
5.	Provision for cartage of material other unforeseen items Cutting of roads and making good to its original (L.S)	Rs. 3,50,000.00
6.	Provision for lighting and watching	Rs. 200,000.00
7.	Provision for making connection with HSVP line in master Road (L.S)	Rs. 100,000.00
	TOTAL Rs 20217200/-	~~Rs. 15093600.00~~
	Add 3% contingencies & PH charges 606516/-	~~Rs. 452808.00~~
	20823716/- TOTAL	~~Rs. 155,46,408.00~~
	Add 49% Departmental charges, price escalation; Unforeseen, admn charges 10203621/-	~~Rs. 7,61,7740.00~~
	31027337/-	
	Total	**Rs ~~2,31,641,48.00~~**
	(Total C/F to final abstract of cost)	**SAY Rs. ~~231.64~~ 310.28 Lakhs**

For GODREJ HIGHVIEW LLP

Authorised Signatory

SEWERAGE SCHEME – MATERIAL STATEMENT

LINE NO		Velocity	Slope		2 Mtr. To 4 Mtr. depth					Above 4 Mtr. depth				
					Pipe dia	Pipe dia	Pipe dia	Pipe dia	Pipe dia	Pipe dia	Pipe dia	Pipe dia	Pipe dia	Pipe dia
					200 mm	250 mm	300 mm	350 mm	500 mm	200 mm	250 mm	300 mm	350 mm	400mm
		meter/ sec			Lenth in MTR.	Lenth in MTR.	Lenth in MTR.	Lenth in MTR.	Lenth in MTR.	Lenth in MTR.	Lenth in MTR.	Lenth in MTR.	Lenth in MTR.	Lenth in MTR.
S1	S2	0.76	190		66									
S2	S3	0.75	260			100								
S3	S4	0.75	260			122								
S4	S5	0.76	320				96							
S6	S7	0.76	190	95										
S7	S8	0.75	260			118								
S8	S9	0.75	260			102								
S9	S10	0.76	320				132							
S10	S5	0.76	400										105	
S5	S11	0.74	500											45
S11	S12	0.74	500											33
S12	STP	0.74	500											12
Total					**66**	**442**	**228**	**0**	**0**	**0**	**0**	**0**	**105**	**90**
STP Over Flow to HUDA					110 OD UPVC Pipe				103 Mtr.					

For GODREJ HIGHVIEW LLP

Authorised Signatory

Subject :- Sewerage Hydraulic Design Chart

S.No	LINE NO		NO OF MAIN FLATS	NO OF EWS FLATS	Population @ 5 person per main flats	Population @ 2 person per servant flat	TOTAL POPULATION	Total Water Requirement in LPD@ 172.5 LPCD (X1)	OTHER BUILDINGS		Total Water Demand in LPD (X=X1 + X2)	Sewerage Generation @80% of Total Water Demand (LPD)	Peak Flow in LPS	Peak Flow in (cum/s)			Size of Pipe	Velocity	Design Discharge (Q_h)	Length of Line	Slope	FALL	Ground Level at Start	Ground Level at End	Invert Level Start	Invert Level End	Depth at Start	Depth at End	Average Depth	Remark
									TYPE OF BUILDING	Total Water Demand LPD (X2)		A	B = (A x 3) / (24x3600)	Self	previous	Total (q a)	mm	meter/ sec	(in m^3/s)	Meter			MTR	MTR	MTR	MTR	MTR	MTR	MTR	MTR	
1	S1	S2	88		440	0	440	75900			75900	60720.0	2.1083	0.002	0.000	0.002	200	0.757	0.012	66	190.0	0.347	0.30	0.450	-1.80	-2.147	2.100	2.597	2.349	
2	S2	S3		195	975		975	168188	P. School & N. School	60000	228188	182550.0	6.3385	0.006	0.002	0.008	250	0.75	0.0184	100	260.0	0.385	0.450	0.425	-2.197	-2.580	2.647	3.005	2.826	S2 DMH
3	S3	S4	88		440		440	75900			75900	60720.0	2.1083	0.002	0.008	0.011	250	0.75	0.0184	122	260.0	0.469	0.425	0.425	-2.580	-3.049	3.005	3.474	3.240	
4	S4	S5	176		880		880	151800			151800	121440.0	4.2167	0.004	0.011	0.015	300	0.76	0.0270	96	320.0	0.300	0.425	0.425	-3.100	-3.410	3.525	3.835	3.680	S4 DMH
5	S6	S7	294		1470	0	1470	253575			253575	202860.0	7.0438	0.007	0.000	0.007	200	0.76	0.0119	95	190.0	0.500	0.400	0.400	-1.800	-2.300	2.200	2.700	2.450	
6	S7	S8	148		740	152	892	153870			153870	123096.0	4.2742	0.004	0.007	0.011	250	0.75	0.0184	118	260.0	0.454	0.400	0.400	-2.35	-2.80	2.750	3.204	2.977	S7 DMH
7	S8	S9	74		370	76	446	76935	Con. Shopping	2145	79080	63264.0	2.1967	0.002	0.011	0.014	250	0.75	0.0184	102	260.0	0.392	0.400	0.450	-2.80	-3.2	3.204	3.646	3.425	
8	S9	S10	69		345	0	345	59513			59513	47610.0	1.6531	0.002	0.014	0.015	300	0.76	0.0270	132	320.0	0.413	0.450	0.450	-3.25	-3.66	3.696	4.109	3.902	S9 DMH
8	S10	S5	69		345	0	345	59513			59513	47610.0	1.6531	0.002	0.030	0.032	350	0.76	0.0364	105	400.0	0.263	0.450	0.425	-3.71	-3.97	4.159	4.396	4.277	S10 DMH
1	S5	S11	88		440	0	440	75900			75900	60720.0	2.1083	0.002	0.000	0.002	400	0.74	0.047	45	500.0	0.090	0.425	0.400	-4.05	-4.136	4.471	4.536	4.504	S5 DMH
8	S11	S12			0	0	0	0	CLUB	3600	3600	2880.0	0.1000	0.000	0.002	0.002	400	0.74	0.0465	32	500.0	0.064	0.400	0.400	-4.14	-4.20	4.536	4.600	4.568	
8	S12	STP			0	0	0	0			0.0	0.0000	0.000	0.002	0.002	400	0.74	0.0465	12	500.0	0.024	0.450	0.450	-4.20	-4.25	4.650	4.700	4.675	

C.P. VIDYA AND ASSOCIATES

For GODREJ HIGHVIEW LLP

Authorised Signatory

Sub-Work No. III

Storm Water Scheme

Amount in Rs.

1.	Providing and laying R.C.C. pipe drain class NP-3 With required number of manholes, road gullies, Excavation, etc complete	
a.	400 mm dia. 1008m @ Rs. ~~1750~~ 2500/m	Rs. ~~17,64,000~~.00 25,20,000/-
2.	Provision for Road gully & pipe connection L.S	Rs. 2,50,000.00
3.	Provision for lightning, watching and temporary diversion (L.S)	Rs. 200,000.00
4.	Provision for rain water harvesting arrangement complete in all respect ~~(LS)~~ 1 Nos RWHS Per Acre 18 Nos @ Rs 2.50 Lakh each.	Rs, ~~30,00,000.00~~ 45,00,000/-
6.	Provision for making connection with HSVP line on master Road	Rs, 100,000.00
6.	Provision for unforeseen items, carriage of materials.	Rs, ~~500,000.00~~ 2,00,000/-
7.	Provision for cutting of roads and making good to its original	Rs, 100,000.00
	Total	Rs. ~~59,14,000~~.00 78,70,000
	Add 3% for contingencies and PH charges	Rs. ~~177,420~~.00 2,36,100/-
	TOTAL	Rs. ~~6,091,420~~.00 8106100/-
	Add 49% Departmental charges, price escalation, unforeseen Admn. Charges	Rs. ~~2,984,796~~.00 3971989/-
	TOTAL	**Rs. ~~9,076,216~~.00** 12078089/-
	(Total C/F to final abstract of cost)	**Say Rs. ~~90.76~~ Lakhs** 120.78

For GODREJ HIGHVIEW LLP

Authorised Signatory

STORM WATER DRAINAGE SYSTEM

Material statement of pipe

SL NO	LINE NO.		LENGTH	Pipe Dia	SLOPE	GROUND LEVEL AT START	GROUND LEVEL AT END	INVERT LEVEL AT START	INVERT LEVEL AT END
	FROM	TO	MTR	400MM	1 IN	MTR	MTR	MTR.	MTR
1	D1	D2	58.00	400	600	0.400	0.400	-0.600	-0.697
2	D2	D3	62.00	400	600	0.400	0.450	-0.697	-0.800
3	D3	D4	66.00	400	600	0.450	0.450	-0.800	-0.910
4	D4	D5	75.00	400	600	0.450	0.450	-0.910	-1.035
5	D5	D6	42.00	400	600	0.450	0.450	-1.035	-1.105
6	D6	D7	72.00	400	600	0.450	0.450	-1.105	-1.225
7	D7A	D7	94.00	400	600	0.450	0.450	-0.600	-0.757
8	D7	Outfall	20.00	400	600	0.450		-1.225	-1.258
9	D8	D9	99.00	400	600	0.400	0.425	-0.600	-0.765
10	D9	D10	80.00	400	600	0.425	0.450	-0.765	-0.900
11	D10	D11	60.00	400	600	0.450	0.400	-0.900	-1.00
12	D11	D12	86.00	400	600	0.400	0.400	-1.00	-1.14
13	D12	D13	121.00	400	600	0.400	0.450	-1.144	-1.345
14	D13a	D13	53.00	400	600	0.425	0.450	-0.600	-0.700
15	D13	Outfall to HUDA	20.00	400	600	0.450		-1.345	-1.379

For GODREJ HIGHVIEW LLP

Authorised Signatory

C.P. VIDYA AND ASSOCIATES

Subject :- Storm Water Hydraulic Design Chart

SL NO	LINE NO.		LENGTH	SELF AREA TO BE DRAINED IN	AREA IN HACTARES			DISCHARGE IN CUM/SEC RAIN INTENSITY =6.25mm	DISCHARGE	Pipe Dia	SLOPE	VELOCITY	DISCHARGE CAPACITY	GROUND LEVEL AT START	GROUND LEVEL AT END	FALL	INVERT LEVEL AT START	INVERT LEVEL AT END
	FROM	TO	MTR	SQM	SELF	BRANCH	TOTAL	M3/HR	IN M3/SEC	400MM	1 IN	M/SEC	IN M3/SEC	MTR	MTR	MTR	MTR.	MTR
1	D1	D2	58.00	2778	0.28		0.28	10.416	0.0029	400	600	0.677	0.08	0.400	0.400	0.097	-0.600	-0.697
2	D2	D3	62.00	4378	0.44	0.28	0.72	26.832	0.0075	400	600	0.677	0.08	0.400	0.450	0.103	-0.697	-0.800
3	D3	D4	66.00	5873	0.59	0.72	1.30	48.854	0.0136	400	600	0.677	0.08	0.450	0.450	0.110	-0.800	-0.910
4	D4	D5	75.00	4538	0.45	1.30	1.76	65.870	0.0183	400	600	0.677	0.08	0.450	0.450	0.125	-0.910	-1.035
5	D5	D6	42.00	4808	0.48	1.76	2.24	83.899	0.0233	400	600	0.677	0.08	0.450	0.450	0.070	-1.035	-1.105
6	D6	D7	72.00	4758	0.48	2.24	2.71	101.740	0.0283	400	600	0.677	0.08	0.450	0.450	0.120	-1.105	-1.225
7	D7A	D7	94.00	6078	0.61		0.61	22.791	0.0063	400	600	0.677	0.08	0.450	0.450	0.157	-0.600	-0.757
8	D7	Outfall to HUDA	20.00	3243	0.32	3.32	3.65	136.691	0.0380	400	600	0.677	0.08	0.450		0.033	-1.225	-1.258
9	D8	D9	99.00	5488	0.55		0.55	20.579	0.0057	400	600	0.677	0.08	0.400	0.425	0.165	-0.600	-0.765
10	D9	D10	80.00	4253	0.43	0.55	0.97	36.526	0.0101	400	600	0.677	0.08	0.425	0.450	0.133	-0.765	-0.900
11	D10	D11	60.00	3478	0.35	0.97	1.32	49.567	0.0138	400	600	0.677	0.08	0.450	0.400	0.100	-0.900	-1.00
12	D11	D12	86.00	9193	0.92	1.32	2.24	84.039	0.0233	400	600	0.677	0.08	0.400	0.400	0.143	-1.00	-1.14
13	D12	D13	121.00	7643	0.76	2.24	3.01	112.699	0.0313	400	600	0.677	0.08	0.400	0.450	0.202	-1.144	-1.345
14	D13a	D13	53.00	3833	0.38		0.38	14.372	0.0040	400	600	0.677	0.08	0.425	0.450	0.088	-0.600	-0.700
15	D13	Outfall to HUDA	20.00	5518	0.55	3.39	3.94	147.762	0.0410	400	600	0.677	0.08	0.450		0.033	-1.345	-1.379

For GODREJ HIGHVIEW LLP

Authorised Signatory

C.P. VIDYA AND ASSOCIATES

Sub-Work No. IV			Road Work
Width in Meter	**Length in Meter**	**Metalled Portion**	**Area in Sq.m.**
6	2101	6.00	12606.00
12	205	9.00	1845.00
		TOTAL	14451.00
		Add 10% for curves	1445.1
		TOTAL AREA	15896.1
		Car Parking	5187.5
		TOTAL	**21083.6 Sq.m**
		SAY	**20185 Sq.m**

Amount in Rs.

1. Provision for levelling & earth filling as per site conditions.
   18.744 acres @ Rs. 1,50,000/- Rs. 28,11,600.00

2. 200 mm Granular Sub Base(GSB) 250MM Stone Aggregate
   50 mm B.M , ~~25 mm thick Mixed Seal Surfacing (MSS)~~ DBM 40mm BC
   20185 Sq. M @ 1200/- per Sq. M Rs. 24,222,000.00

3. Provision for kerbs & channels of CC 1:2.5:5, 2739.5m
   @Rs. 600 / m ((2101)+2(205)) Rs. 1,506,600.00

4. Provision for making approach and pavement to building Rs. 10,00,000.00

5. *Provision for traffic light arrangement (L.S)* *Rs. 1,00,000.00*
6. *Provision for carriage of material and other unforeseen Items* *Rs. 2,00,000.00*

7. *Provision for guide map & indicator boards (L.S)* *Rs. 1,00,000.00*

TOTAL	*Rs. 29,940,200.00*
Add 3% contingency & P.E. charges	Rs. 898,206.00
	Rs. 30,838,406.00
Add 49% deptt. Charges,price escalation, unforeseen, Admn charges	Rs. 15,110,819.00
	Rs. 4,594,9225.00

(Total C/F to final abstract of cost)

Say 459.50
Rs. ~~459.49~~ Lakhs

For GODREJ HIGHVIEW LLP
Authorised Signatory

ACE Design Limited NEW DELHI

AND ASSOCIATES

Road Work

SL. NO	ROAD MARKING	6 M	12 M
1	A	249	
2	B	42.5	
3	C	42.5	
4	D	42.5	
5	D1	42.5	
6	E	37.5	
7	F	64	
8	G	69	
9	H	36	
10	I	69	
11	J	36	
12	K	78	
13	L	106	
14	M	103	
15	N	93	
16	O	114	
17	P	73	
18	Q	101	
19	R	54	
20	S	92	
21	T	89	
22	U	42.5	
23	V	42.5	
24	W	42.5	
25	X	149	
26	Y	191	
27	Z		205
TOTAL		2101	205

Surface Parking Area:

No. of Cars on surface = 415 Nos.

Area = 5 x 2.5 x 415 = 5187.5 Sq.m.

C.P. VIDYA AND ASSOCIATES GURGAON

For GODREJ HIGHVIEW LLP

Authorised Signatory

Sub Work No. V

Street Lighting

Amount in Rs.

Providing external street lighting as per standard specifications of HVPN 18.744 acres @ Rs. 2,50,000 / acres.	46,86,000.00
Add 3% contingencies & P.E. charges	140580.00
	48,26,580.00
Add 49% Departmental charges, price escalation, unforeseen, Admn charges	23,65,024.00
TOTAL	**7191604.00**

(Total C/F to final abstract of cost)

Say : 71.92 ~~71.91~~ **Lakhs**

For GODREJ HIGHVIEW LLP

Authorised Signatory

Sub Work No. VI

Plantation & Road Side trees
Amount in Rs.

1. Development of Lawn Areas:

a) Trenching of ordinary soil upto depth of 60 cm i/c removal & stacking of serviceable material & disposing by spreading and levelling within a lead of 50 M and making up the trench area for proper levels by filling with earth or earth mixed with manure before and after flooding trench with water i/c cost of imported earth and manure

b) Rough dressing of turfed area.

c) Grassing with "DOOB GRASS" i/c watering and maintenance of lawns for 30 days till the grass forms a thick lawn , free from weeds and fit for mowing in row 7.5 cm part in either direction.

21325.31 Sq. M (5.26 Acre) organised green
@ Rs. 1,50,000 / acres — Rs. 789,000.00

2. Providing and planting trees along
Two side of 12 m wide road @ 12m interval
Total Road length — 205 Mtr. (12 Mtr. Wide Road)

No. of trees (2*205/12) = 34.1 Nos.
say 100 Nos.

Cost Details:

Excavation	= 60
Manure	= 90
Tree Plant	= 150
Tree Guard	= 1000
TOTAL	Rs. 1300

100 Trees @ Rs. 1300/- each — Rs. 130,000.00
TOTAL — Rs 919,000.00

Add 3% contingencies & P.H. charges — Rs. 27,570.00

Total — Rs. 946,570.00

Add 49% departmental charges, price escalation, unforeseen, Admn charges — Rs. 463,819.13

Total — Rs. 1410389.30

(Total C/F to final abstract of cost) **Say** — **Rs. ~~14.1~~ Lakhs** 14.11

C P VIDYA AND ASSOCIATES

For GODREJ HIGHVIEW LLP

Authorised Signatory

Sub Work No. VII — Maintenance Cost and Resurfacing of Road

Amount in Rs.

1.	Provision for maintenance cost for Water supply, sewerage, storm water, Drainage, roads, street light, Hort. Etc. Complete including operation & Establishment charges as per ~~HUDA~~ HSVP Norms after completion. Area 18.744 Acre @ Rs. 7,50,000/-	140,58,000.00
2.	Provision for resurfacing of roads after First five year of maintenance. with 50mm BM & 25 mm P.C. Total Road area 20185 Sqmt.@ Rs. 600/-	12,111,000.00
3.	Provision for resurfacing of roads after 10 Years of MTC. with 50mm BM & 25mm premix carpet. Total Road area 20185 Sqmt. @ Rs. ~~200/-~~ 750/-	~~4,037,000.00~~ 15135750/=
		41307750/=
	Total	~~30,206,000.00~~
	Add 3% contingencies & P.E. charges	~~906,180.00~~ 1234233/-
		~~31,112,180.00~~ 42546983/-
	Add 49% deptt. Charges, price escalation	~~15,244,968.2~~ 20848022/-
		63395005/=
	TOTAL	~~46,357,148.2~~ 633,95
	(Total C/F to final abstract of cost)	**Say : ~~463.57~~ Lakhs**

For GODREJ HIGHVIEW LLP

Authorised Signatory