

**EXTERNAL DEVELOPMENT WORKS
DESIGN AND COST ESTIMATES
FOR PHASE-I**

**PROPOSED ASHIANA ANMOL GROUP
HOUSING FOR UNIVERSE HEIGHTS (INDIA)
PVT. LTD. IN SECTOR - 33, (ON 7.69 ACRES
OUT OF 13.3375 ACRES) AT VILLAGE
DHUNEJA, SOHNA ROAD, SOHNA,
GURGAON (HARYANA)**



**DEVELOPED BY:
M/s UNIVERSE HEIGHTS (INDIA) PVT. LTD.**

PROPOSED ASHIANA ANMOL GROUP HOUSING FOR UNIVERSE HEIGHTS (INDIA) PVT LTD. IN SECTOR - 33, (ON 7.69 ACRES OUT OF 13.3375 ACRES) AT VILLAGE DHUNEJA, SOHNA ROAD, SOHNA, GURGAON (HARYANA)

REPORT

ESTIMATE FOR PROVIDING WATER SUPPLY, SEWERAGE, STORM WATER DRAINAGE, ROADS, STREET LIGHTING AND HORTICULTURE IN RESPECT OF 7.69 ACRES OUT OF 13.3375 ACRES GROUP HOUSING SCHEME IN SECTOR 33, PHASE-I, AT VILLAGE DHUNEJA, SOHNA ROAD, DISTT. GURGAON (HARYANA)

Dhuneja (Gurgaon) Village, Sohna road of Harayana State situated on near Jaipur Highway at a distance of 50 Kms from Delhi. Being the National Capital Region, the town has fast developing tendency and potential. Further, it has also started sharing the growing residential/ 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 Govt. to establish various residential, industrial and other infrastructure sectors in Dhuneja Village, (Gurgaon). M/s Universe Height (India) Pvt. Ltd. has been developing Group Housing at Sector 33, Dhuneja Village, (Gurgaon). This report and estimate is for Group Housing at Dhuneja Village, (Gurgaon) - measuring = 7.69 Acres Out Of 13.3375 Acres.

WATER SUPPLY

At present the source of water supply in this area is borewell. As the underground water is potable, provision for 2 number of tubewell has been made in this estimate. It has been proposed to construct the under ground tanks of capacity as per attached details, and at location for domestic purpose and for fire protection. The underground tanks will be fed from the borewell and HUDA supply, which will feed overhead tanks on the roof of the buildings. The water supply system has been designed as per Hazen Williams formula.

DESIGN

The scheme has been designed for population of approx. 1836 persons for Housing. The rate of water supply per head / day has been taken as 172.50 liters as per HUDA norms in addition to above necessary provision of water for club and parks etc. have been taken into account for calculating the maximum quantity of water requirement.

PUMPING REQUIREMENTS

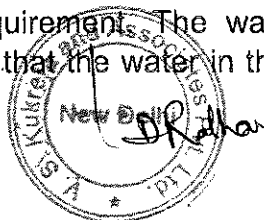
It has been proposed to install pumping set as described with standby of equal capacity. The provision for standby generating set has also been provided in case of any electricity failure.

PUMPING CHAMBER AND PUMPING EQUIPMENTS

It has been proposed to quip each tubewell with an electrically driven set ejecto type or submersible pump capable of driven 18000 liters per hour. The provision for standby generating set has also been provided in case of any electricity failure. Generator will be provided separately or added to the capacity of main generator.

UNDERGROUND STORATE TANK

Underground storage tank provision has been made in two compartments, which cater for the domestic as well as for fire fighting requirement. The water for fire water compartment shall overflow to the domestic compartment so that the water in the fire compartment also remain full & fresh and will not contaminate.



BOOSTING STATION

The boosting station is being planned near underground storage tank catering to above requirement.

DISTRIBUTION SYSTEM

The distribution system for this development has been designed to supply @ 172.50 liter per head per day @ 3 times the average rate of flow on Hazen William formula. Necessary provision for laying CI/DI pipes confirming to relevant IS standard along with valves and special has been made in the project. The minimum terminal head at any point will be more than 70 so that it can be serve the G + 14 floors construction envisaged in the plan. Minimum pipe dia. for distribution is kept as 100 mm dia.

RISING MAIN

Raising main from HUDA water main or sector road to water work have also been proposed as provision has been made in this estimate.

SEWERAGE SCHEME

This scheme has been designed for sewer connecting to STP & over flow of STP connected to HUDA sewer main. The sewerage system has been marked on 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 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./R.C.C. pipe sewer line, construction of required number of manholes etc. has been made in the estimate.

Necessary design statement for entire sewerage system has been prepared and attached with estimate. Manning's formula has been used for the design of sewerage system.

STORM WATER DRAINAGE

Since the Master Scheme has been proposed with pipe drain, we proposed to lay pipe drains with required number of catch basins for disposal of storm water. The intensity of rain fall has been taken as 40 mm per hour. A minimum size of 400 mm dia pipe storm water pipe will be provided and designed as per Manning's formula.

FIRE

As per N.B.C. (National Building Code), fire tanks & required capacity pumps have been provided the plan as shown on the plan. Similarly irrigation pumps of required capacity provided as shown on the plan.



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SPECIFICATIONS

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

ROADS

The roads in the colony have been planned as minimum 6 M wide. The following specification have been adopted which are reproduced below:

The specification of 6M wide roads:

1. GSB-300 mm in one layer.
2. WBM-250 mm in Two layer.
3. BM-50 mm thick.
4. ~~MSS-200~~ 20 mm thick. P.C

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

STREET LIGHTING

Provision of lighting on surrounding area has been made.

HORTICULTURE

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

RATES

The estimate has been prepared based on the present market rates.

COST

The total cost of the scheme, including cost of all services works out to Rs. ^{927.35} ~~845.27~~ Lacs Including 3% contingencies and 49% departmental charges, price escalation & other unforeseen charges.

Cost of per Acres Rs. ^{120.59} ~~100.93~~ Lacs.

M/s UNIVERSE HEIGHTS (INDIA) PVT. LTD.

For ASHIANA HOUSING LIMITED

Authorised Signatory

(AUTHORIZED SIGNATORY)



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PVT. LTD. IN SECTOR - 33, (ON 7.69 ACRES OUT OF 13.3375 ACRES) AT VILLAGE
DHUNEJA, SOHNA ROAD, SOHNA, GURGAON (HARYANA)
TOTAL WATER REQUIREMENT**

(I) DAILY WATER REQUIREMENT - PHASE - I

A Residential blocks

a) Tower A-C - (G+14)	=	60 Units
b) Tower B-C - (G+14)	=	60 Units
c) Tower C-C - (G+14)	=	60 Units
d) Tower C-C - (G+14)	=	60 Units
e) Tower C-C - (G+14)	=	60 Units
Total	=	300 Units
@5 Persons/Unit	=	1500 Persons

B EWS

@ 2 Persons/Unit	=	138 Units
	=	276 Persons 690

C Service Personnal

@ 2 Persons/Unit	=	30 Units
	=	60 Persons

Total population (A+B+C)

@172.50 LPCD (1)	=	2250 1236 Persons
	=	316740 Liters/ Day 388125

D Commercial

a) Commercial - 176.363 Sqmt @ 3 sqmt / person @ 15 LPCD	=	885 Liters/day
b) Schools-I - 809 (0.2 Acre) Sqmt @ 3 sqmt / student @ 45 LPCD	=	12150 Liters/day
c) Maintenance Staff (Such as Gardener, ESS Staff, Security Guards etc.) @45 LPCD	=	25 Persons 1125 Liters/day
d) Back Wash Filters - L.S.	=	10000 Liters/day
e) Floating Population 10% of Population @ 15 LPCD	=	484 Persons 2760 Liters/day
Total Commercial	=	26320 Liters/day 24160

E Horticulture & Road Work

a) Area under park ^{5188.16} 7671.204 sqmt. @ 5 Liters / sqmt.	=	^{25KL/Acre} 38356 Liters/day
b) Area under road of 7.69 acres @ 25 KL/Acre	=	⁹⁵⁰⁰ 19225 Liters/day
Total ^{1.90} 5	=	⁴²⁰⁰⁰ 57531 Liters/day
Or Say	=	⁴²⁰⁰⁰ 57531 Liters/day

The demand of Horticulture & Road work will met from recirculated water after treament at S.T.P.

Total Water demand (A TO D)

^{4122.85} ~~34320~~ Liters/day

388125 + 24160



Total Water demand (KLD)

418.28
343.63 KLD

Or Say

345.00 KLD
480.00

Domestic water demand 65% of AV/WD of (A+B+C) =
+ 35% of [D (a+b+c+e) + 100% of D(d)]

267237.25
221783.50 Liters/day

Domestic water demand (KLD)

= 267.24
= 221.78 KLD

Or Say

= 230.00 KLD

Flushing water demand 35% of AV/WD of (A+B+C) +
65% of [D(a+b+c+e)]

121847 Liters/day
155047.75

Flushing water demand (KLD)

= 121.85 KLD 155.05

Or Say

= 130.00 KLD
155

Sewage Treatment Plant Capacity

Average Sewerage Contribution Considering 80% of
AV domestic water demand & 90% of AV/Flushing
demand

372.00
304000 Liter / Day

Sewage Treatment Plant Capacity (KLD)

= 372.00
= 304.00 KLD

Or Say

= 305.00 KLD

372.00 say 380 KLD

Sewage scheme

Peak discharge @3 times of sewage discharge plus
sub soil infiltration @ 10% of total water demand

1157228
949500 Liters

= 254896
= 211000 GPD

= 0.391 Cusces

0.47 say 0.50 Cusces

Hence 250 mm dia pipe having design capacity 0.659 cusces is sufficient to carry the
above discharge



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(I) BOREWELLS - Phase - I

Approx. discharge of borewells @ 18 KL/hour and working 16 hours/day

(a) Total domestic water demand = KLD

= $\frac{270 \times 16}{24}$
= 230.00

(b) Number of borewells $\frac{230}{(18 \times 16)}$

= 0.93
= 0.80

Add 10% extra

= 0.88

Total

= 0.93
= 0.88

Say

= 1 No

So, it is proposed to provide ^{one} 2 Nos. of tube well (One working & one standby).
Moreover, the water demand for horticulture purposes is to met from recirculated
water after treatment at STP and ultimate water supply is to provided by HUDA.



PROPOSED ASHIANA ANMOL GROUP HOUSING FOR UNIVERSE HEIGHTS (INDIA) PVT. LTD. IN SECTOR - 33, (ON 7.69 ACRES OUT OF 13.3375 ACRES) AT VILLAGE DHUNEJA,

Phase - I

(II) Pumping Machinery for Borewell

Gross working Head (G+14) = 10+14x4	=	66.0 Meters
Average Fall in S.L.	=	5.0 Meters
Depression Head	=	5.0 Meters
Friction loss in main + Postive head	=	10.0 Meters
Total	=	86.0 Meters
Or Say	=	<u>90.0 Meters</u>

$$\text{Pump HP} = \frac{18000 \times 90 \times 100}{60 \times 60 \times 75 \times 80} = 8.57 \text{ H.P.}$$

Or Say. 10.00 H.P.

(III) Under Ground Water Tanks

a) Total Domestic Water Demand	=	267237.25
Day Storage (Equal to one day)	=	221784 Liters/day
Or Say	=	221.78 KLD 267.24
	=	<u>230.00 KLD</u>
	=	270.0

Fire Tank provided as per N.B.C. = 200.00 KLD

But it is proposed to construct an underground tank of 230 KLD having 135 KLD for treated water, 135 KLD as raw water, and 200 KLD for fire fighting purpose as per location shown on plan i.e. Total 470 K.L.D.

(IV) Boosting Machinery

a) For Under Ground Tank	=	270.0
Total water demand (Domestic)	=	230.00 KLD
Pumping 4 hour pumping	=	958.33 LPM 1125
Or Say	=	<u>960.00 LPM</u>
	=	1150/2 = 575 lpm
Gross Working Head (2 working + 1 S.b.y)	=	
- Suction lift	=	3.00 Meters
- Delivery head	=	5.00 Meters
- Frictional loss in Mains & Specials+ Positive head	=	7.00 Meters
- Clear head required (G+14) = 10+14x4	=	66.00 Meters
Total	=	81.0 Meters
Or Say	=	<u>85.0 Meters</u>

$$\text{Pump HP} = \frac{960 \times 85 \times 100}{60 \times 75 \times 80} = 25.90 \text{ H.P.}$$

Or Say 28.00 H.P.

It is proposed to provide 3 nos. of motors of 20.0 HP sets of 575 LPM discharge at 85 M head (Two pump are working and one as standby for domestic supply & generator set of same capacity in case of electric failure) for domestice purpose.



Phase - I

- It is proposed to provide 2 nos. of motors 15 HP sets of 650 LPM discharge at 85 m head (One pump working & one pump stand by & generator set of same capacity in case of electric failure.

a) Plot Area	=	13.3375 Acres
	=	53976.86 Sqmt
Water Demand of Horticulture + Road Area	=	42000 57581.02 LPD
4 Hours Pumping	=	239.92 LPM
Say	=	240 LPM
Head	=	35 Mtr.
Pump HP = $\frac{240 \times 35 \times 100}{60 \times 75 \times 60}$	=	2.67 H.P.
		2.59
Or Say	=	3.00 H.P.

It is proposed to provide 2 nos. of motors of 3.00 HP sets of 240 LPM discharge at 35 M head (One pump are working and one as standby & generator set of same capacity in case of electric failure.)



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(VI) PUMPS FOR FIRE PROTECTION

S. No.	Parameters	Location	Pump sets		
	Phase - I		Jockey	Main	Diesel
1	Discharge in lpm	Pump Room	280 lpm	2850 lpm	2850 lpm
2	Head in metre		110	110	110
3	HP		15	120	120
4	Quantity in nos.		2	2	1

(VII) GENERATING SETS

S. No	Equipment	QTY	HP	Total HP	
1	Borewell	1	10.00	10.0	
2	Fire Jockey pumps	1	15.00	15.0	
3	Booster Pump (for domestic) + Flushing+ irrigation pump	2 + 1 + 1	12.5 + 15 20 + 3	63.0	
	Total			68.0	
			65.64	50.73	KW
	Disversity 0.8 & Power factor 0.8			79.26	KVA
	Or Say	65.64 X 1.50 = 98.46		82.50	KVA

It is proposed to add 82.50 KVA capacity for above said machinery to the main DG set.



FINAL ABSTRACT OF COST

Sub Work	Description	Amount (Rs.) in Lacs
Phase - 1		
I	Water Supply Scheme	Rs. 226.16 267.07
II	Sewerage Scheme	Rs. 100.17 83.68
III	Storm Water Drainage	Rs. 84.98 47.21
IV	Road	Rs. 208.93 225.62
V	Street Lighting	Rs. 29.90 14.80
VI	Horticulture	Rs. 7.38 44.33
VII	Maintenance Charges for 10 Years including Resurfacing of Roads after 1st 5 year & 1nd 5 years of mtc	269.80 195.66
	Total (in Lacs)	Rs. 927.32 845.37
	Cost of Per Acre (in Lacs)	109.93

M/s UNIVERSE HEIGHTS (INDIA) PVT. LTD.

Rs. 927.35 lacs

7.69 Acres = 130.59 lacs

Say 927.35 lacs

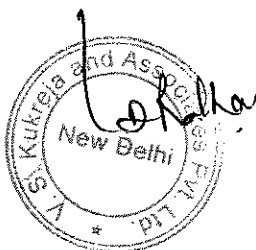
(AUTHORIZED SIGNATORY)

Superintending Engineer
HUDA Circle-II, Gurgaon

Executive Engineer
HUDA Division No. VI
Gurugram

Director
Town & Country Planning
Haryana, Chandigarh

Addl. Chief Engineer
HUDA Gurgaon



Checked subject to comments
in forwarding letter No. 1.1.1.120
Dt. 22/8/12 and notes
attached with the estimate

Superintending Engineer (HQ)
for Chief Engineer HUDA
Panchkula

21/8/12

**PROPOSED ASHIANA ANMOL GROUP HOUSING FOR UNIVERSE HEIGHTS (INDIA) PVT. LTD. IN PLOT NO. 23
(ON 7.89 ACRES OUT OF 13.3375 ACRES) AT VILLAGE DHUNEJA, SOHNA ROAD, SOHNA, GURGAON
(HARYANA)**

Sub Work No.1		Water Supply
Sub Head	Description	Amount (Rs.) In lacs

Phase - I

1	Head Works	Rs. 72.04 lacs	68.62
2	Pumping Machinery	Rs. 62.16 lacs	76.43
3	Rising Main	Rs. 13.82 lacs	44.47
4	Distribution System (Dim. and Flushing)	Rs. 46.74 lacs	47.53
5	Fire Fighting	Rs. 38.29 lacs	39.62
6	Irrigation	Rs. 3.11 lacs	20.40
	Say (In Lacs)		267.07
		Rs. 226.16 lacs	



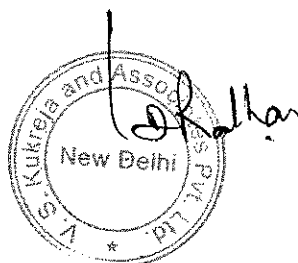
**PROPOSED ASHIANA ANMOL GROUP HOUSING FOR UNIVERSE HEIGHTS (INDIA) PVT. LTD. IN SECTOR - 33,
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(HARYANA)**

Sub Work No-1						Water Supply	
Sub Work No-01						Head Works	
Phase - 1							
SI No	DESCRIPTION		Qty		Rate		AMOUNT (In Lacs.)
1	Boring and installing 200 mm i/d tubewell with reverse rotary rig complete with pipe and strainer to depth of about 80 m in all respect 3 Nos. @ Rs. 7,00,000/- each		3	x	700000	Rs.	14.00
2	Provision for Rising Main connecting Bore well with water main and by-pass arrangement						
2.1	80 mm dia. G.I. Pipe		30	x	1000	Rs.	0.30
2.2	100 mm dia. G.I. Pipe		45	x	1250	Rs.	0.563
3	Providing Boosting arrangement by pumps (10 HP) (capacity 300 lpm at 90 M head, 2 nos. @ Rs. 1,50,000/- each (for Tube Well)		2	x	150000	Rs.	3.00
3	Providing Boosting arrangement by pumps (12.5 HP, capacity 480 LPM at 85 M head, 3 nos. each & @ Rs. 1,50,000/- each (For UGT) complete with panel, foundation etc. (Dom.)		3	x	150000	Rs.	4.50
4	Provision for carriage of materials and other unforeseen items					Rs.	1.00
6	Construction of U.G. tanks of total cap. 430 KL @ Rs. 4500/KL incl. 200 KL for Fire Fighting		430	x	3500	Rs.	15.05
7	Provision for borewell chamber of size 1.5 x 1.5 x 1.5 m For Housing borewell 3 Nos. @ Rs. 1,00,000/- each		3	x	100000	Rs.	3.00
8	Rs. 1,00,000/- each for boosting chamber						7.50
TOTAL as per P.H. requirement (L.S.)						Rs.	46.95
Add 3% contingencies & P.F. charges						Rs.	1.40
TOTAL						Rs.	48.35
Add 49% Department charges, Price Escalation & other unforeseen Charges.						Rs.	23.69
TOTAL COST						Rs.	72.04

4) Flashing water Pump 650 Lpm, 85 m Head
20-0 HP (G.R. No. Working + 1 S.B.) 2 Nos @ Rs. 2.00 lacs each Rs. 4.00 lacs

Material statement of Borewell Rising Mains

S. No.	Name of line	Length of 80 mm dia. pipe	Length of 100 mm dia pipe
1	Borewell no. 1 to Borewell no. A	15	35
2	Borewell no. 2 to Borewell no. A	15	-
3	Borewell no. A to UGT	-	45
	Total	30	45



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(HARYANA)**

Sub Work No-1						Water Supply	
Sub Work No-02						Pumping Machinery	
Phase - 1							
SI No	DESCRIPTION		Qty		Rate		AMOUNT (In Lacs.)
1	Providing and installing electricity driven Submersible pumping set capable of delivery about 18 KL / Hr. of water against a total Head of 90 M complete with motor and other accessories, 2 No @ 2,00,000/-		2	x	200000	Rs.	4.00
2	Provision for diesel engine genset each for standby arrangements for T.W., booster pumps complete with gear head arrangement. - 1 No. 82.50 KVA 100 KVA		1	(L.S.) x	850000	Rs.	8.50 10.00
3	Providing and installing pumping set of following capacities for Fire protections :-						
(i)	280 lpm at 110 M head 2 Nos. Jockey Pump @ Rs. 2,50,000/-		2	x	250000	Rs.	5.00
(ii)	2850 lpm at 110 M head 2 No. Main Fire Pump @ Rs. 7,50,000/-		2	x	750000	Rs.	15.00
(iii)	2850 lpm at 110 M head 1 No. Diesel Pump @ Rs. 9,00,000/-		1	x	900000	Rs.	9.00
4	Providing for chlorination plant complete. 1 set @ 80,000/-		1	x	80000	Rs.	0.80
5	Provision for making foundations and erection of Pumping machinery 2 Nos. x Rs. 100000/- for each		2	x	100000	Rs.	2.00
6	Provision for pipes, valves and specials inside boosting chamber - 2 Set (L.S.) Rs. 100000/- for each		2	(L.S.)	100000	Rs.	2.00
7	Provision for electric services connection including electric fitting for tube wells & boosting chamber & cost of transformer etc. Rs. 250000/- for each (L.S.)		1	(L.S.)	250000	Rs.	2.50
8	Provision for carriage of material and unforeseen item. L.S. Rs. 100000/-			(L.S.)		Rs.	1.00
TOTAL						Rs.	40.80 49.80
Add 3% contingencies & PE Charges						Rs.	1.22 1.49
TOTAL						Rs.	42.02 51.29
Add 49% Department charges, Price Escalation & other unforeseen Charges.						Rs.	20.44 25.13
TOTAL COST						Rs.	62.46 76.43



**PROPOSED ASHIANA ANMOL GROUP HOUSING FOR UNIVERSE HEIGHTS (INDIA) PVT. LTD. IN SECTOR - 03,
(ON 7.69 ACRES OUT OF 13.3375 ACRES) AT VILLAGE DHUNEJA, SOHNA ROAD, SOHNA, GURGAON
(HARYANA)**

Sub Work No-1						Water Supply	
Sub Work No-03						Rising Main from	
Phase - 1						HUDA	
SI No	DESCRIPTION		Qty		Rate		AMOUNT (In Lacs)
1	Providing, laying, jointing & testing 80 mm dia. C.I. pipe lines including cost of excavation complete in all respects.		550	@	1100 1250	Rs.	6.05 6.88
2	Providing and fixing 80 mm dia. sluice valves including cost of surface boxes and masonry chambers etc., complete in all respects.		1	@	12000	Rs.	0.12
3	Providing and Fixing indicating plates for sluice valves, air valves and fire hydrants.		1	@	1000	Rs.	0.01
4	Provision for carriage of material & other foreseen items etc., L.S.					Rs.	0.50
5	Provision for making connection with HUDA main (L.S.) 1 job complete in all respect					Rs.	1.75
6	Provision for cutting road and making good the same (L.S.) 1 job					Rs.	0.50 4.00
TOTAL						Rs.	9.01 9.43
Add 3% contingencies & PE Charges						Rs.	0.27 0.28
TOTAL						Rs.	9.28 9.71
Add 49% Department charges, Price Escalation & other unforeseen Charges.						Rs.	4.54 4.76
TOTAL COST						Rs.	13.82 14.47

Material Statement and design statement of HUDA Rising Mains

S. No.	Name of line				Dia. in mm	Length in m from municipal to U.G.T.
1	Municipal Main To UGT				80	550 m



**PROPOSED ASHIANA ANMOL GROUP HOUSING FOR UNIVERSE HEIGHTS (INDIA) PVT. LTD. IN SECTOR - 33,
(ON 7.05 ACRES OUT OF 13.3375 ACRES) AT VILLAGE DHUNEJA, SOHNA ROAD, SOHNA, GURGAON
(HARYANA)**

Sub Work No-1						Water Supply	
Sub Head No-04						Distribution system	
Phase - 1						(Dom. & Flushing)	
SI No	DESCRIPTION		Qty		Rate		AMOUNT (In Lacs)
1	Providing, laying, jointing & testing D.I. pipes including cost of excavation complete as per ISI marked.				1250/-		
	100 mm I/D		1920	@	1200	Rs.	24.60 23.04
	150 mm I/D		160	@	1575/1450	Rs.	2.52 2.32
	200 mm I/D		0	@	1700	Rs.	0.00
2	Providing, laying, jointing & testing G.I. pipes including cost of excavation complete as per ISI marked.						
	50 mm I/D		90	@	750	Rs.	0.68
	65 mm I/D		90	@	850	Rs.	0.77
3	Providing and Fixing sluice valves including cost of brick masonry chamber complete in all respect.						
	100 mm I/D		16	@	12000	Rs.	1.92 1.28
	150 mm I/D		1	@	10000	Rs.	0.10
	200 mm I/D		0	@	15000	Rs.	0.00
	65 mm I/D		9	@	4500	Rs.	0.41
	50 mm I/D		9	@	4000	Rs.	0.36
3	Providing and Fixing air valves and scour valves including cost of brick masonry chamber complete.		2	@	7500	Rs.	0.15
4	Providing and Fixing indicating plates for sluice valves		35	@	2500	Rs.	0.88
5	Provision for carriage of material & other foreseen items etc., (L.S). 1 Job including cutting of road and making the same.					Rs.	1.50 1.00
	TOTAL					Rs.	30.46 30.97
	Add 3% contingencies <i>eg PE charges</i>					Rs.	0.91 0.93
	TOTAL					Rs.	31.37 31.90
	Add 49% Department charges, Price Escalation & other unforeseen Charges.					Rs.	15.37 15.63
	TOTAL COST					Rs.	46.74 47.55



**PROPOSED ASHIANA ANMOL GROUP HOUSING FOR UNIVERSE HEIGHTS (INDIA) PVT. LTD. IN SECTOR 33,
(ON 7.69 ACRES OUT OF 13.3375 ACRES) AT VILLAGE DHUNEJA, SOHNA ROAD, SOHNA, GURGAON
(HARYANA)**

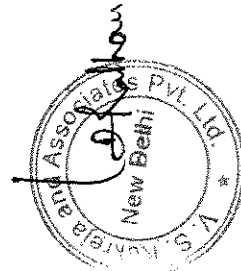
Phase - 1							
S. No.	Description	200 mm	150 mm	100 mm	80 mm	65 mm	50 mm
(A)	Domestic						
1	UGT- W1	-	110	-	-	-	-
2	W1-W2	-	-	375	-	-	-
3	W2-W3	-	-	210	-	-	-
4	W1-W5	-	-	60	-	-	-
5	W5-W4	-	-	165	-	-	-
6	W4-W3	-	-	60	-	-	-
13	To fill O.H.T. riser to building shafts					9 Nos. x 10 Mtr. = 90	
	TOTAL	0	110	870	0	90	0
(A)	Flushing						
1	STP- FWS1	-	50	-	-	-	-
2	FWS1 -FWS2	-	-	180	-	-	-
3	FWS2 -FWS3	-	-	165	-	-	-
4	FWS3 -FWS4	-	-	60	-	-	-
5	FWS4 -FWS5	-	-	210	-	-	-
6	FWS5 -FWS6	-	-	60	-	-	-
7	FWS6 -FWS5	-	-	375	-	-	-
13	Risers to building shafts (AV) & fill O.H.T.	-	-	-	-	-	9 Nos. x 10 Mtr. = 90
	TOTAL	0	50	1050	0	0	90
	GRAND TOTAL	0	160	1920	0	90	90



PROPOSED ASHIANA ANMOL GROUP HOUSING FOR UNIVERSE HEIGHTS (INDIA) PVT. LTD. IN SECTOR - 33, (ON 7.69 ACRES OUT OF 13.3375 ACRES) AT VILLAGE DHUNEJA, SOHNA ROAD, SOHNA, GURGAON (HARYANA)

DOMESTIC WATER SUPPLY - HYDRAULIC DESIGN

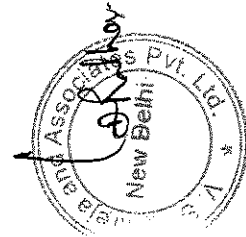
DOMESTIC WATER SUPPLY - HYDRAULIC DESIGN																			
S. No	Ref of line	Length in mts	Self			Commercial Centre, School-I, Backwash, Staff (LPD)	Dwelling unit @ 5 persons/ DU + EWS @ 2 + S.P. @ 2 person/ DU (LPD) @ 172.5 LPCD	Floating Population @ 10% of Population (LPD) @ 15 LPCD	Commercial Centre, School-I, Backwash, Staff (LPD)	AVWD KLD	Domestic Water demand @ 65% of AVWD Apts +35% commercial	Peak Demand @ 3 time of AVWD	Dia of Pipe (mm)	Velocity mt/sec	Lose of Head in 1000 M (mts)	Loss of head in the line (mts)	Level in start		
			Dwelling unit @ 5 persons/ DU + EWS @ 2 + S.P. @ 2 person/ DU (LPD) @ 172.5 LPCD	Floating Population @ 10% of Population (LPD) @ 15 LPCD	Commercial Centre, School-I, Backwash, Staff (LPD)												HL (Mts)	GL (Mts)	TH (Mts)
1	A1 UGT	-	-	-	-	1836 Persons = 316710 L.P.D.	184 Persons = 2760 L.P.D.	885 +12150 +10000 +1125 24160	343.63	221.78	665.35	-	-	-	-	288.10	210.10	78.00	
2	UGT-W1	110	-	-	-	1836 Persons = 316710 L.P.D.	184 Persons = 2760 L.P.D.	885 +12150 +10000 +1125 24160	343.63	221.78	665.35	150	0.75	1.50	0.23	287.87	210.10	77.77	
3	W1-W2	375	-	-	-	138 EWS = 276 Persons = 47610 L.P.D.	28 Persons = 420 L.P.D.	885 +12150 +10000 +1125 24160	72.19	46.18	138.53	100	0.75	0.46	0.17	287.70	210.10	77.60	
4	W2-W3	210	138 EWS = 276 Persons = 47610 L.P.D.	28 Persons = 420 L.P.D.	885 +12150 +10000 +1125 24160	-	-	-	72.19	46.18	138.53	100	0.75	0.46	0.10	287.60	210.10	77.50	
5	W1-W5	60	-	-	-	300 D.U. + 30 S.P. = 1560 Persons = 269100 L.P.D.	1560 Persons = 2340 L.P.D.	-	271.44	176.44	529.31	100	0.75	6.20	0.37	287.50	210.10	77.40	
6	W5-W4-W3	225	300 D.U. + 30 S.P. = 1560 Persons = 269100 L.P.D.	1560 Persons = 2340 L.P.D.	-	-	-	-	271.44	176.44	529.31	100	0.75	6.20	1.40	286.10	210.10	76.00	



PROPOSED ASHIANA ANMOL GROUP HOUSING FOR UNIVERSE HEIGHTS (INDIA) PVT. LTD. IN SECTOR - 33, (ON 7.69 ACRES OUT OF 13.3375 ACRES) AT VILLAGE DHUNEJA, SOHNA ROAD, SOHNA, GURGAON (HARYANA)

FLUSHING WATER SUPPLY - HYDRAULIC DESIGN

FLUSHING WATER SUPPLY - HYDRAULIC DESIGN																		Remarks	
S. No	Ref of line	Length in mts	Self				Additional			Flushing Water		Dia of Pipe	Velocity	Loss of Head in 1000 M (mts)	Loss of head in the line (mts)	Level in start			
			Dwelling unit @ 5 persons/ D.U + EWS @ 2 + S.P. @ 2 person/ DU (LPD) @ 172.5 LPCD	Floating Population @ 10% of Population (LPD) @ 15 LPCD	Commercial Centre, School-I, Backwash, Staff (LPD)	Dwelling unit @ 5 persons/ D.U + EWS @ 2 + S.P. @ 2 person/ DU (LPD) @ 172.5 LPCD	Floating Population @ 10% of Population (LPD) @ 15 LPCD	Commercial Centre, School-I, Backwash, Staff (LPD)	AV/WD KLD	35% of AV/WD Apts +65% of commercial	Demand @ 3 times of AV/WD								HL
1	AI STP	-	-	-	-	1836 Persons = 316710 L.P.D.	184 Persons = 2760 L.P.D.	885 +12150 +10000 +1125 24160	343.63	121.85	365.55	-	-	-	-	287.98	210.10	77.88	Ground level = 210.10 STP Bed level= 210.10 Add Building head G+14 = 10 + 14x4 = 66 mts Add suction head = 7 mts Add Delivery head = 5 mts Add positive head = 3 mts Add friction losses = 4 mts Head level = 288.10 mts
2	STP- FWS5	255	-	-	-	1836 Persons = 316710 L.P.D.	184 Persons = 2760 L.P.D.	885 +12150 +10000 +1125 24160	343.63	121.85	365.55	150	0.75	0.46	0.12	287.86	210.10	77.87	
3	FWS5- FWS1	60	-	-	-	138 EWS = 276 Persons = 47610 L.P.D.	28 Persons = 420 L.P.D.	Commercial +Backwash + Nursery + Staff = 24160 L.P.D.	72.19	26.01	78.03	100	0.75	0.20	0.01	287.79	210.10	77.79	
4	FWS1- FWS2	375	-	-	-	138 EWS = 276 Persons = 47610 L.P.D.	28 Persons = 420 L.P.D.	Commercial +Backwash + Nursery + Staff = 24160 L.P.D.	72.19	26.01	78.03	100	0.75	0.20	0.08	287.75	210.10	77.75	
5	FWS2- FWS3	210	138 EWS	28 Persons = 420 L.P.D.	Commercial +Backwash + Nursery + Staff = 24160 L.P.D.	-	-	-	72.19	26.01	78.03	100	0.75	0.20	0.04	287.59	210.10	77.43	
6	FWS5- FWS4- FWS-3	225	300 D.U. + 30 S.P. = 1560 Persons = 269100 L.P.D.	156 Persons = 2340 L.P.D.	-	-	-	-	271.49	95.00	265.00	100	0.75	2.00	0.45	287.41	210.10	77.22	



**PROPOSED ASHIANA ANMOL GROUP HOUSING FOR UNIVERSE HEIGHTS (INDIA) PVT. LTD. IN
SECTOR - 33, (ON 7.69 ACRES OUT OF 13.3375 ACRES) AT VILLAGE DHUNEJA, SOHNA ROAD, SOHNA,
GURGAON (HARYANA)**

Sub Work No-1					Water Supply	
Sub Work No-05					Fire fighting	
Phase - I						
SI No	DESCRIPTION	Qty		Rate	AMOUNT (In Lacs.)	
1	Providing, laying jointing & testing M.S. pipe lines for rising main including cost of fitting, valves, connection etc., complete in all respects.					1.08
	200 mm I/D for UGT- Ring Main	50	@	2150/1800.00	Rs.	0.90
	150 mm I/D for Ring Main	1105	@	1575/1500.00	Rs.	16.58
	100 mm I/D for Tanker Inlet	50	@	1250/1400.00	Rs.	0.70
	80 mm I/D for Yard hydrant fire Brigade connection	120	@	1000/1350.00	Rs.	1.62
2	Providing & fixing valve including cost of surface boxes and masonry chambers etc. complete in all respects					
	- 200 mm dia.	1	@	20000.00		0.20
	- 150 mm dia.	10	@	14000.00		1.40
	- 100 mm dia.	1	@	10000.00		0.10
	- 80 mm dia.	20	@	5000.00		1.00
3	Providing and fixing fire Hydrant with accessories	20	@	10000.00	Rs.	2.00
4	Providing for carriage of material (L.S.) 1 jobs	1	@	100000.00	Rs.	1.00
5	Providing and fixing Indicating plate	32	@	1000.00	Rs.	0.32
	TOTAL				Rs.	25.82
	Add 3% contingencies & PE Charges				Rs.	0.77
	TOTAL				Rs.	26.59
	Add 49% Department charges, Price Escalation & other unforeseen Charges.				Rs.	13.03
	TOTAL COST				Rs.	39.62

38.29

Material Statement of Fire ring – MS – 150mm dia

S. No.	Location	200 mm dia pipe	150 mm dia pipe	100 mm dia pipe	80 mm dia pipe	Fire Hydrant
1	Pump room to F1	50	-	-	-	-
2	Pump room to F1 - F2	-	60	-	-	-
3	Ring around the building - Phase - I	-	995	-	-	-
4	Tanker inlet connection	-	-	50	-	-
5	Fire Brigade 4 way	-	50	-	-	-
6	Yard Hydrants = 20 Nos. x 6 Meters	-	-	-	120	20
	Total	50	1105	50	120	20

mm mm mm

Fire Hydrant System

- Valves 200mm dia
- Valves 150mm dia
- Valves 100mm dia
- Valves 80mm dia
- Fire Hydrants
- Fire Brigade Connections

- 1 No.
- 10 Nos.
- 1 No.
- 20 Nos.
- 20 Nos.
- 1 No.



**PROPOSED ASHIANA ANMOL GROUP HOUSING FOR UNIVERSE HEIGHTS (INDIA) PVT. LTD. IN
SECTOR - 33, (ON 7.69 ACRES OUT OF 13.3375 ACRES) AT VILLAGE DHUNEJA, SOHNA ROAD, SOHNA,
GURGAON (HARYANA)**

Sub Work No-1					Water Supply
Sub Work No-06					Irrigation
SI No	DESCRIPTION	Qty		Rate	AMOUNT (In Lacs)
1	Providing, laying, jointing and testing uPVC pipe line conforming to I.S 4985 including cost of excavation etc., complete in all respects.				
	20 mm O/D for Garden Hydrants	52	(L.S.) @	200	Rs. 0.10
	75 mm O/D for Ring Main	1175	@	800	Rs. 9.40
	410 mm O/D from STP to Ring Main <i>connect to flushing line</i>	50	@	937.50	Rs. 0.47
2	Providing and fixing Irrigation hydrant valve complete in all respect.	26	@	3500	Rs. 0.91
3	Provision for carriage of material & other foreseen items etc., (L.S.) 1 jobs				Rs. 0.50
4	Providing & fixing ball valve 20 mm	26	@	450	Rs. 0.12
5	Providing & fixing sluice valve complete with chamber.				
	- 65 mm dia.	46	@	4500	Rs. 0.72
	- 100 mm dia.	1	@	7500	Rs. 0.08
6	Providing and fixing Irrigation pump 2 nos. 3 HP/240 LPM @ 35 Mtr. Head complete with foundation & control panel etc.	2	@	50000	Rs. 1.00
	TOTAL				Rs. 13.29
	Add 3% contingencies on P&E charges				Rs. 0.40
	TOTAL				Rs. 13.69
	Add 49% Department charges, Price Escalation & other unforeseen Charges.				Rs. 6.71
	TOTAL COST				Rs. 20.40

Material statement of Irrigation System

S. No.	Line Name	110 mm	75 mm OD	20 mm OD	Irrigation Hydrants
1	Pump Room to G	50	-	-	-
2	Pump Room to G - G1 (Ring Main)	-	180	-	-
3	Garden hydrant ring main around the building, Phase - I	-	995	-	-
4	Garden hydrant 26 x 2 mts (AV)	-	-	52	-
5	Garden hydrant	-	-	-	26
	Total	50	1175	52	26



**PROPOSED ASHIANA ANMOL GROUP HOUSING FOR UNIVERSE HEIGHTS (INDIA) PVT. LTD. IN
SECTOR - 33, (ON 7.69 ACRES OUT OF 13.3375 ACRES) AT VILLAGE DHUNEJA, SOHNA ROAD, SOHNA,
GURGAON (HARYANA)**

Sub Work No-II					Sewerage Scheme	
SI No	DESCRIPTION	Qty		Rate		AMOUNT (In Lacs)
1	Providing, jointing, cutting and testing S.W pipe class 'A' / S.W.R. PVC and lowering into trenches including cost of excavation, bed concrete, cost of manhole etc., complete in all respects.					
	200 mm I/D Avg. depth upto 0 - 4.00 M (S.W. Pipe)	0	@	1250.00	Rs.	0.00
	250 mm I/D Avg. depth upto 0 - 4.00 M (S.W. Pipe)	610	@	1700.00	Rs.	10.37 9.15
	300 mm I/D Avg. depth upto 0 - 4.00 M (S.W. Pipe)	50	@	1750.00 (1800/-)	Rs.	0.90 0.88
2	Provision for lighting and watching L.S				Rs.	0.50 1.00
3	Provision for timbering and shuttering L.S.				Rs.	0.50
4	Provision of 150 mm dial line form STP to HUDA main by pumping	350	@	1500.00 (1575/-)	Rs.	5.25 5.51
5	Providing boosting arrangement by 2 nos. pump for flushing water supply 15.0 HP capacity 550 L.P.M., 85 Meter Head	2	@	150000.00	Rs.	3.00
6	Provision for making STP (MLD) with toroidal tank	0.38 0.305	@	10000000.00 (L.S)	Rs.	45.00 30.50
7	Provision for making RCC grease trap 1000 x 1800mm complete				Rs.	0.50
8	Provision for carriage of material (L.S.)				Rs.	1.00
9	Provision of cutting road & making it good as same in original condition - 1 job				Rs.	0.50 4.00
10	Provide sewerage connection with HUDA on master road (L.S)				Rs.	1.00
	TOTAL				Rs.	54.53
	Add 3% contingencies				Rs.	1.54
	TOTAL				Rs.	56.13
	Add 49% Department charges, price escalation, other for unforeseen charges.				Rs.	27.52
	TOTAL COST				Rs.	83.68

65.28

1.95

67.23

32.94

100.17

Material statement of Sewerage System – As per drawing sheet

S. No.	Name of Pipe Line	Length of Pipe in M		
		300 mm	250 mm	200 mm
1	S1-S2	-	160	-
2	S2-S3	-	60	-
3	S3-S4	-	185	-
4	S4-S5	-	130	-
5	S5-S6	-	75	-
6	S6-STP	50	-	-
	Total	50	610	0

mm

mm



PROPOSED ASHIANA ANMOL GROUP HOUSING FOR UNIVERSE HEIGHTS (INDIA)
PVT. LTD. IN SECTOR - 33, (ON 7.69 ACRES OUT OF 13.3375 ACRES) AT VILLAGE
DHUNEJA, SOHNA ROAD, SOHNA, GURGAON (HARYANA)
TOTAL WATER REQUIREMENT

(I) DAILY WATER REQUIREMENT - PHASE - I

A Residential blocks

a) Tower A-C - (G+14)	=	60 Units
b) Tower B-C - (G+14)	=	60 Units
c) Tower C-C - (G+14)	=	60 Units
d) Tower C-C - (G+14)	=	60 Units
e) Tower C-C - (G+14)	=	60 Units
Total	=	300 Units
@5 Persons/Unit	=	1500 Persons

B EWS

@ 2 Persons/Unit	=	138 Units
	=	276 Persons

C Service Personnel

@ 2 Persons/Unit	=	30 Units
	=	60 Persons

Total population (A+B+C)

@172.50 LPCD (1)

	=	1836 Persons
	=	316710 Liters/ Day

D Commercial

a) Commercial - 176.363 Sqmt @ 3 sqmt / person @ 15 LPCD	=	885 Liters/day
b) Schools-I - 809 (0.2 Acre) Sqmt @ 3 sqmt / student @ 45 LPCD	=	12150 Liters/day
c) Maintenance Staff (Such as Gardener, ESS Staff, Security Guards etc.) @45 LPCD	=	25 Persons
	=	1125 Liters/day
d) Back Wash Filters - L.S.	=	10000 Liters/day
e) Floating Population 10% of Population @ 15 LPCD	=	184 Persons
	=	2760 Liters/day
Total Commercial	=	26920 Liters/day

E Horticulture & Road Work

a) Area under park 7671.204 sqmt. @ 5 Liters / sqmt.	=	38356 Liters/day
b) Area under road of 7.69 acres @ 25 KL/Acre	=	19225 Liters/day
Total	=	57581 Liters/day

Or Say

= 58000 Liters/day

The demand of Horticulture & Road work will met from recirculated water after treament at S.T.P.

Total Water demand (A TO D)

Total Water demand (KLD)

343630 Liters/day

343.63 KLD



Or Say

345.00 KLD

Domestic water demand 65% of AV/WD of (A+B+C) = 221783.50 Liters/day
+ 35% of [D (a+b+c+e) + 100% of D(d)]

Domestic water demand (KLD) = 221.78 KLD

Or Say = 230.00 KLD

Flushing water demand 35% of AV/WD of (A+B+C) + = 121847 Liters/day
65% of [D(a+b+c+e)]

Flushing water demand (KLD) = 121.85 KLD

Or Say = 130.00 KLD

Sewage Treatment Plant Capacity

Average Sewerage Contribution Considering 80% of = 301000 Liter / Day
AV domestic water demand & 90% of AV/Flushing
demand

Sewage Treatment Plant Capacity (KLD) = 301.00 KLD

Or Say = 305.00 KLD

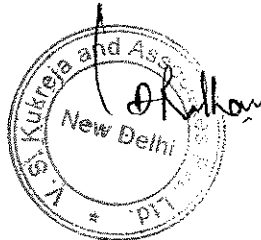
Sewage scheme

Peak discharge @3 times of sewage discharge plus = 949500 Liters
sub soil infiltration @ 10% of total water demand

= 211000 GPD

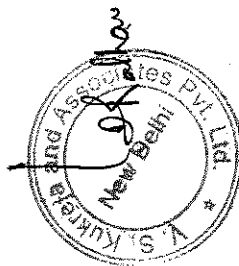
= 0.391 Cusces

Hence 250 mm dia pipe having design capacity 0.659 cusces is sufficient to carry the
above discharge



PROPOSED ASHIANA ANNOL GROUP HOUSING FOR UNIVERSE HEIGHTS (INDIA) PVT. LTD. IN SECTOR - 33, (ON 7.69 ACRES OUT OF 13.375 ACRES) AT VILLAGE DHUNEJA, SOHNA ROAD, SOHNA, GURGAON (HARYANA)
(Hydraulic Design Sewerage Scheme)

PROPOSED ASHIANA ANMOL GROUP HOUSING FOR UNIVERSE HEIGHTS (INDIA) PVT. LTD. IN SECTOR - 35, DDA COLONY - 17, PHASE - II, NEW DELHI - 110028																								
(Hydraulic Design Sewerage Scheme)																								
Sl. No.	Name of Line	Length in Meter	Self				Additional				Staff @ 45 LPCD / Person	Average Daily Water Demand	Average Discharge 80% of Domestic + 90% of flushing	Sub Soil Infiltration @ 10% of AV/ W.D	Peak Discharge @ 3 Times of AV Discharge Including Sub Soil Infiltration	Design of Pipe	Drop	Level at Start G.L.	Level at End G.L.					
			Dwelling unit @ 5 persons/ D.U @ 172.50 LPCD	S.P. & EWS @ 2 person/ DU @ 172.50 LPCD	Floating population 10% of Population @ 15 LPCD	Commercial Centre, School, Backwash, Staff (LPD)	Staff @ 45 LPCD / Person	Floating population 10% of Population @ 15 LPCD	Commercial Centre, School, Backwash, Staff (LPD)	Staff @ 45 LPCD / Person														
1	S1-S2	160	-	138 EWS = 276 Person = 47610 LPD	28 Persons = 420 LPD	Commercial Centre, School - I, Backwash, +10000 = 23035 Litre	25 Persons = 1125 LPD	-	-	-	72.19	61.33	7.22	0.079	250	0.659	2.5	1:190	0.84	210.10	209.26			
2	S2-S3	60	-	-	-	-	-	-	-	138 EWS = 276 Person = 47610 LPD	28 Persons = 420 LPD	Commercial Centre, School - I, Backwash, +10000 = 23035 Litre	25 Persons = 1125 LPD	72.19	61.33	7.22	0.079	250	0.659	2.5	1:190	0.32	210.10	209.78
3	S3-S4	185	300 D.U. = 1500 Person = 258750 LPD	30 S.P. = 60 Person = 10350 LPD	155 Persons = 2340 LPD	-	-	-	-	138 EWS = 276 Person = 47610 LPD	28 Persons = 420 LPD	Commercial Centre, School - I, Backwash, +10000 = 23035 Litre	25 Persons = 1125 LPD	343.63	301.00	34.36	0.386	250	0.659	2.5	1:190	0.97	210.10	209.04
4	S4-S5	130	-	-	-	-	-	-	-	138 EWS = 30 S.P. = 336 Person = 57960 LPD	184 Persons = 2760 LPD	Commercial Centre, School - I, Backwash, +10000 = 23035 Litre	25 Persons = 1125 LPD	343.63	301.00	34.36	0.386	250	0.659	2.5	1:190	0.68	210.10	209.36
5	S5-S6	75	-	-	-	-	-	-	-	300 D.U. = 1500 Person = 258750 LPD	30 S.P. = 60 Person = 10350 LPD	Commercial Centre, School - I, Backwash, +10000 = 23035 Litre	25 Persons = 1125 LPD	343.63	301.00	34.36	0.386	250	0.659	2.5	1:190	0.39	210.10	209.79
6	S6-STP	50	-	-	-	-	-	-	-	300 D.U. = 1500 Person = 258750 LPD	30 S.P. = 60 Person = 10350 LPD	Commercial Centre, School - I, Backwash, +10000 = 23035 Litre	25 Persons = 1125 LPD	343.63	301.00	34.36	0.386	300	0.945	2.5	1:245	0.20	210.10	209.90
Note:-																								
1	The Man hole shall be constructed as per HUDA/ N.B.C Norms																							
2	All the level have been taken with Reference to road level																							
3	For future expansion pipe size increased from 250 mm dia. to 300 mm dia.																							

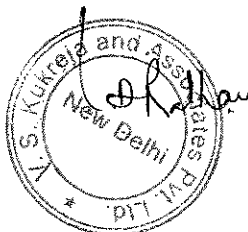


PROPOSED ASHIANA ANMOL GROUP HOUSING FOR UNIVERSE HEIGHTS (INDIA) PVT. LTD. IN SECTOR - 33, (ON 7.69 ACRES OUT OF 13.3375 ACRES) AT VILLAGE DHUNEJA, SOHNA ROAD, SOHNA, GURGAON (HARYANA)

Sub Work No-III

Storm water drain

S. No.	DESCRIPTION	Qty		Rate		AMOUNT (In Lacs)
1	Providing, lowering, laying and jointing R.C.C NP-2 pipes and specials into trenches including manholes, chambers etc., excavation, back filling and disposal of surplus earth complete in all respects.					
	400 mm I/D Avg. depth upto 2.0 M.	815	@	2500/1750	Rs.	20.38 44.26
2	Provision for Road Gullies L.S. with 300 mm dia pipe chamber	LS			Rs.	1.50
3	Provision for lighting and watching				Rs.	0.50
4	Provision for timbering and shoring L.S.				Rs.	0.50
5	Provision for carriage of material & other foreseen items etc., L.S.				Rs.	1.00
6	Provision for Rain water harvesting arrangements for 8 Nos. R.W.H. @ 1.50 Lac / R.W.H.	8	@	150000	Rs.	20.00 12.00
7	Provision for temporary connection with HUDA on master lead				Rs.	1.00
8	TOTAL Price for temporary disposal arrangement till HUDA services are provided and PR charges				Rs.	30.76 58.38
	Add 3% contingencies				Rs.	0.92 1.66
	TOTAL				Rs.	31.69 57.04
	Add 49% Department charges, price escalation, other for unforeseen				Rs.	15.53 27.94
	TOTAL				Rs.	47.21 84.98



**PROPOSED ASHIANA ANMOL GROUP HOUSING FOR UNIVERSE HEIGHTS (INDIA) PVT. LTD. IN SECTOR - 33, (ON 7.69 ACRES OUT OF 13.3375 ACRES) AT VILLAGE DHUNEJA, SOHNA ROAD, SOHNA, GURGAON (HARYANA)
STORM WATER DRAIN**

S. No	Name of Drain	400mm dia RCC pipe
Phase - I		
Rain Water Harvesting - 1		
1	D1-D2	55
2	D2-RWH-1	10
3	Overflow pipe	5
Rain Water Harvesting - 2		
3	D3-D4	45
4	D4-RWH-2	5
5	Overflow pipe	5
Rain Water Harvesting - 3		
6	D5-D6	55
7	D6-D7	15
8	D7- RWH-3	15
9	Overflow pipe	5
Rain Water Harvesting - 4		
10	D8-D9	20
11	D9-D10	145
12	D10- RWH-4	10
13	Overflow pipe	20
Rain Water Harvesting - 5		
14	D11-D12	20
15	D12-D13	40
16	D13- RWH-5	5
17	Overflow pipe to Municipal flow drain	5
Rain Water Harvesting - 6		
18	D14-D15	65
19	D15-RWH-6	5
20	Overflow pipe	5
Rain Water Harvesting - 7		
21	D16-D17	65
22	D17-RWH-7	10
23	Overflow pipe	5
Rain Water Harvesting - 8		
24	D18-D19	150
25	D19-RWH-8	10
26	Overflow pipe	20
	Total	815 m

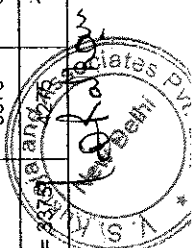


**PROPOSED ASHIANA ANMOL GROUP HOUSING FOR UNIVERSE HEIGHTS (INDIA) PVT. LTD. IN SECTOR - 33, (ON 7.69 ACRES OUT OF 13.3375 ACRES)
AT VILLAGE DHUNEJA, SOHNA ROAD, SOHNA, GURGAON (HARYANA)
Hydraulic Design Chart**

Storm Water Drain

Calculations are based on Manning Formula $V = (1.486/n) \times m^{2/3} \times s^{1/2}$ in F.P.S System

Sl. No.	Name of Line	Length in Meter	Catchment Area in sqmt		Total Area (Sqmt)	Discharge in Cusec (1 Acre = 1 Cusec)	Proposed dia of pipe (mm)	Velocity (m/sec)	Design Capacity of Drain (Cusecs)	Gradient	Drop (Mtr.)	Level at Start			Level at End		
			Self	Additional								G.L. (Mtr.)	I.L. (Mtr.)	Depth (Mtr.)	G.L. (Mtr.)	I.L. (Mtr.)	Depth (Mtr.)
PHASE-I																	
Rain Water Harvesting - 1																	
1	D1-D2	55	75 x 50 = 3750	-	3750	0.927	400	0.75	3.48	1:500	0.11	210.10	209.20	0.900	210.10	209.09	1.010
2	D2-RWH-1	10	50 x 15 = 750	Line D1-D5 = 3750	4500	1.112	400	0.75	3.48	1:500	0.02	210.10	209.09	1.010	210.10	209.07	1.030
Rain Water Harvesting - 2																	
3	D3-D4	45	50 x 50 = 2500	-	2500	0.618	400	0.75	3.48	1:500	0.09	210.10	209.20	0.900	210.10	209.11	0.990
4	D4-RWH-2	5	50 x 20 = 1000	Line D3-D4 = 2500	3500	0.865	400	0.75	3.48	1:500	0.01	210.10	209.11	0.990	210.10	209.10	1.000
Rain Water Harvesting - 3																	
5	D5-D6	55	60 x 50 = 3000	-	3000	0.741	400	0.75	3.48	1:500	0.11	210.10	209.20	0.900	210.10	209.09	1.010
6	D6-D7	15	30 x 20 = 600	Line D5-D6 = 3000	3600	0.890	400	0.75	3.48	1:500	0.03	210.10	209.09	1.010	210.10	209.06	1.040
7	D7- RWH-3	15	20 x 20 = 400	Line D6-D7 = 3600	4000	0.988	400	0.75	3.48	1:500	0.03	210.10	209.06	1.040	210.10	209.03	1.070
Rain Water Harvesting - 4																	
8	D8-D9	20	30 x 20 = 600	-	600	0.148	400	0.75	3.48	1:500	0.04	210.10	209.20	0.900	210.10	209.16	0.940
9	D9-D10	145	150 x 20 = 3000	Line D8-D9 = 600	3600	0.890	400	0.75	3.48	1:500	0.29	210.10	209.16	0.940	210.10	208.87	1.230
10	D10- RWH-4	10	20 x 15 = 300	Line D9-D10 = 3600	3900	0.964	400	0.75	3.48	1:500	0.02	210.10	208.87	1.230	210.10	208.85	1.250
Rain Water Harvesting - 5																	
12	D11-D12	20	45 x 20 = 900	-	900	0.222	400	0.75	3.48	1:500	0.04	210.10	209.20	0.900	210.10	209.16	0.940
13	D12-D13	40	45 x 30 = 1350	Line D11-D12 = 900	2250	0.556	400	0.75	3.48	1:500	0.08	210.10	209.16	0.940	210.10	209.08	1.020
14	D13- RWH-5	5	30 x 20 = 600	Line D12-D13 = 2250	2850	0.704	400	0.75	3.48	1:500	0.01	210.10	209.08	1.020	210.10	209.07	1.030
Rain Water Harvesting - 6																	
15	D14-D15	65	75 x 45 = 3375	-	3375	0.834	400	0.75	3.48	1:500	0.13	210.10	209.20	0.900	210.10	209.07	1.030
16	D15-RWH-6	5	45 x 20 = 900	Line D14-D15 = 3375	3750	1.056	400	0.75	3.48	1:500	0.01	210.10	209.07	1.030	210.10	209.06	1.040



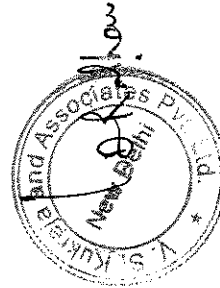
 V.S. K. Associates Pvt. Ltd.
 15, Kirti Vihar, Phase-I, Connaught Place, New Delhi-110021

PROPOSED ASHIANA ANMOL GROUP HOUSING FOR UNIVERSE HEIGHTS (INDIA) PVT. LTD. IN SECTOR - 33, (ON 7.69 ACRES OUT OF 13.3375 ACRES)
AT VILLAGE DHUNEJA, SOHNA ROAD, SOHNA, GURGAON (HARYANA)
Hydraulic Design Chart

Storm Water Drain

Calculations are based on Manning Formula $V = (1.486/n) \times m^{2/3} \times s^{1/2}$ in F.P.S System

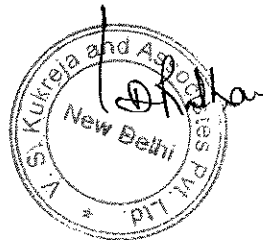
Rain Water Harvesting - 7																	
17	D16-D17	65	70 x 45 = 3150	-	3150	0.778	400	0.75	3.48	1:500	0.13	210.10	209.20	0.900	210.10	209.07	1.030
20	D17-RWH-7	10	30 x 20 = 600	Line D16-D17 = 3150	3750	0.927	400	0.75	3.48	1:500	0.02	210.10	209.07	1.030	210.10	209.05	1.030
Rain Water Harvesting - 8																	
21	D18-D19	150	160 x 25 = 4000	-	4000	0.988	400	0.75	3.48	1:500	0.30	210.10	209.20	0.900	210.10	208.90	1.200
23	D19-RWH-8	10	20 x 20 = 400	Line D18-D19 = 4000	4400	1.087	400	0.75	3.48	1:500	0.02	210.10	208.90	1.200	210.10	208.88	1.220



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IN SECTOR - 33, (ON 7.69 ACRES OUT OF 13.3375 ACRES) AT VILLAGE DHUNEJA, SOHNA
ROAD; SOHNA, GURGAON (HARYANA)

SUB WORK NO. - IV					Road Work	
SI No	DESCRIPTION	Qty		Rate		AMOUNT (In Lacs)
1	Provision for leveling - earth filling / cutting as per site conditions. (In Acres) (→)	13.3375 5.6475		(Future Area)		
	Area = 7.69 Acre	7.69	@	150000	Rs.	11.547.69
2	Provision for Granular sub base 300mm, 250 mm thick stone aggregate, 50 mm thick B.M., 25 mm thick pre mix carpet with seal coat	8750 42720	@	1200 850	Rs.	408.42 105.00
3	Provision of Paved path of C.C. 1:2:4	2600	@	350	Rs.	9.10
4	Provision for Kerbs & channels of CC 1:2:4	2600	@	600	Rs.	15.60
5	Provision for making approach to each block for C.C. pavements L.S.	mk		mk	Rs.	1.50
6	Provision of guide maps at selected place (L.S.)				Rs.	1.00 0.50
7	Provision for Traffic Lights arrangement - L.S.				Rs.	0.50
8	Provision for Demarcating Durgies - L.S.				Rs.	0.50
9	Provision for Plot indicator - L.S.				Rs.	1.00
10	Provision for Parking Arrangement, L.S.				Rs.	1.50
11	Provision of carriage of material and unforeseen items - L.S.				Rs.	1.00
	TOTAL				Rs.	147.01 136.14
	Add 3% contingencies & PE Charges				Rs.	4.41 4.08
	TOTAL				Rs.	151.42 140.22
	Add 49% Department charges, price escalation, other for unforeseen				Rs.	74.20 68.70
	TOTAL				Rs.	225.62

208.93



PROPOSED ASHIANA ANMOL GROUP HOUSING FOR UNIVERSE HEIGHTS (INDIA) PVT. LTD
IN SECTOR - 33, (ON 7.69 ACRES OUT OF 13.3375 ACRES) AT VILLAGE DHUNEJA, SOHNA
ROAD, SOHNA, GURGAON (HARYANA)

Road Work

S. No.	Name of Road	Length of Road (in	Metalled Width	Area in Sqm.
	A	B	C	B x C
Phase - I				
1	Road No.A	390	12.50	4680.00
2	Road No.B	165	6	990.00
3	Road No.C	145	6	870.00
4	Road No.D	165	6	990.00
5	Road No.E	60	6	360.00
6	Road No.F	185	6	1110.00
7	Road No.G	70	6	420.00
	Total	1180	68.5	9420.00
	Add 10 % for curves		6.89	942.00
	Total		75.39	10,362.00
	Add for surface plaza/ parking		11.75	2,350.00
	Total		87.14	12,712.00
	Say		87.14	12,712.00
	Total Length of road	1180		
	Add 10% curves	118		
	Total Length	1298		
	Say	1300	Mtrs.	

No. of Car Parking (open) =

94 Nos.

Area = $5.0 \times 5 \times 94 =$

2350 Sqmts.

2.50

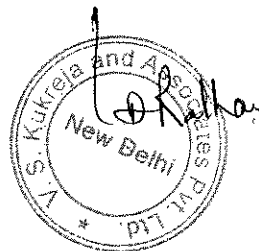
11.75

Pave Path on both side of Road =

2600 Sqmts.

Total area = $6885 + 10\% + 1175 \text{ sqm} = 8749 \text{ sqm}$

Say 8750 sqm

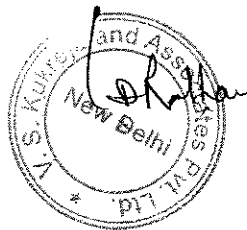


PROPOSED ASHIANA ANMOL GROUP HOUSING FOR UNIVERSE HEIGHTS (INDIA) PVT. LTD.
IN SECTOR - 33, (ON 7.69 ACRES OUT OF 13.3375 ACRES) AT VILLAGE DHUNEJA, SOHNA
ROAD, SOHNA, GURGAON (HARYANA)

Sub Work No-V					Street Lighting	
SI No	DESCRIPTION	Qty		Rate		AMOUNT (In Lacs)
1	Providing street lighting on roads as per standard specifications on HVPN with CFL (-)	13.3375 5.6475				19.225
	Area = 7.69 Acre	7.69	@	100000	Rs.	7.69
	TOTAL	ACRE		2.50 lac	Rs.	7.69
	Add 3% contingencies & PE Charges				Rs.	0.23 0.576 lacs
	TOTAL				Rs.	7.92 19.80
	Add 49% Department charges, price escalation, other for unforeseen				Rs.	3.88 9.80
	TOTAL				Rs.	11.80

29.50 lacs

Total area = 13

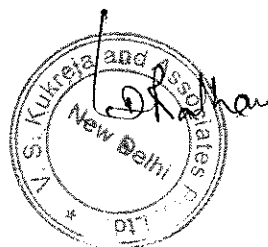


**PROPOSED ASHIANA ANMOL GROUP HOUSING FOR UNIVERSE HEIGHTS (INDIA) PVT. LTD.
IN SECTOR - 33, (ON 7.69 ACRES OUT OF 13.3375 ACRES) AT VILLAGE DHUNEJA, SOHNA
ROAD, SOHNA, GURGAON (HARYANA)**

Sub Work No-V1					Plantation & Road side trees	
SI No	DESCRIPTION	Qty		Rate		AMOUNT (In Lacs)
1	Development of Lawn Area :-					
	a) Trenching the ordinary soil upto depth of 60 cm. including 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 trench with water including cost of imported 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 in rows 7.50 cm. in either direction including for hedges and grill and barred wire fencing around park and green belts (As per HUDA norms) <i>5188.16 Spm</i>	<i>1.30</i>				<i>1.95</i>
	Area = 7.69 Acre <i>1.30 Acre appx</i>	<i>7.69</i>	@	<i>100000</i>	Rs.	<i>7.69</i>
2	Providing & Planting of trees with tree guards on roads at 6 m intervals					
	Total Road Length (M.)	1300				
	Trees @ 12 M. c/c	108				
	Say (2x 108) = 216 Or Say	220				
	Cost of One Tree :-					
	Excavation (Rs.) 30/- <i>60.00</i>					
	Manure (Rs.) 40/- <i>90.00</i>					
	Tree Plants (Rs.) 80/- <i>150.00</i>					
	Tree Guards (Rs.) 600/- <i>1000.00</i>					
	Total Cost (each) <i>1300.00</i>			<i>750</i>		<i>2.86 lacs</i>
	Cost of Total trees	220	@	<i>750</i>	Rs.	<i>4.65</i>
	TOTAL			<i>1300</i>	Rs.	<i>9.34 4.81 lacs</i>
	Add 3% contingencies & PE charges				Rs.	<i>0.28 0.14 lacs</i>
	TOTAL				Rs.	<i>9.62 4.95 lacs</i>
	Add 49% Department charges, price escalation, other for unforeseen				Rs.	<i>4.71 2.43 lacs</i>
	TOTAL				Rs.	<i>14.33</i>

7.38 lacs

C.O. to final abstract of cost



PROPOSED ASHIANA ANMOL GROUP HOUSING FOR UNIVERSE HEIGHTS (INDIA) PVT. LTD.
IN SECTOR - 33, (ON 7.69 ACRES OUT OF 13.3375 ACRES) AT VILLAGE DHUNEJA, SOHNA
ROAD, SOHNA, GURGAON (HARYANA)

SUB WORK NO. VII:

MTC. CHARGES AND
RESURFACING OF
ROADS.

SI No	DESCRIPTION	Qty		Rate		AMOUNT (In Lacs)
1	Provision for maintenance charges for water supply, sewerage, storm water, drainage, roads, street light, Hort., etc. complete including operation & establishment charges as per HUDA norms after completion. Area = 7.69 Acre .	13.3375 5.6475				57.68
		7.69	@	500000	Rs.	38.45
2	Provision for resurfacing of roads after first five years of maintenance i.e. 100mm thick B.M. with 25mm thick premix carpet with seal coat with mechanical paver. (Sqm)	8750 12720		7.50 lacs 600/-		52.50
			@	350	Rs.	44.52
3	Provision for resurfacing of roads after 10 years of Mtc. i.e. 25mm thick premix carpet with seal coat with mechanical paver. (Sqm)	8750 12720		7.50 lacs 350/-		65.63
			@	350	Rs.	44.52
	TOTAL				Rs.	127.40
	Add 3% contingencies <i>cl PE Charges</i>				Rs.	3.82
	TOTAL				Rs.	131.31
	Add 49% Department charges, price escalation, other for unforeseen				Rs.	64.34
	TOTAL				Rs.	195.65

269.80

C.O. to final abstract of cost

