GROUP HOUSING SCHEME NAMED PLATINUM TOWERS FOR AN AREA MEASURING 5.56875 ACRES (LICENSE NO. 32, 33 OF 2009, 3.625 ACRES & LICENSE NO. 21 & 22 OF 2016, 1.94375 ACRES) AT SECTOR-28, GURGAON, HARYANA

Additional & Revised

ESTIMATE

FOR

PROVIDING WATER SUPPLY, SEWERAGE, STORM WATER DRAINAGE, ROADS, HORTICULTURE, STREET LIGHTING & FIRE SERVICE

IN

GROUP HOUSING SCHEME BEING DEVELOPED

BY

ESSEL HOUSING PROJECTS (P) LTD. IN COLLABORATION WITH OTHERS

MARCH 2020

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Additional & Revised

ESTIMATE FOR PROVIDING EXTERNAL DEVELOPMENT WORK IN GROUP HOUSING SCHEME IN SECTOR – 28, GURGAON, HARYANA- AREA MEASURING 5.56875 ACRES (LICENSE NO. 32, 33 OF 2009, 3.625 ACRES & LICENSE NO. 21 & 22 OF 2016, 1.94375 ACRES)

1. INTRODUCTION

Gurgaon Town is an important town of Haryana State situated on Delhi – Jaipur Highway at a distance of approximately 30 Kms. from 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 and Faridabad. In order to relieve the growing pressure of population in Delhi, it has been decided by the Haryana Govt. to establish various sectors in Gurgaon. Keeping in view, the above facts, a group housing was planned and developed during 2002-05 in Sector-28, Gurgaon.

Group Housing Colony over an area measuring 5.56875 acres falls under License no. 32 of 2009 dated 11.07.2009 (2 acres), License no. 33 of 2009 dated 11.07.2009 (1.625 acres), License no. 21 of 2016 dated 17.11.2016 (0.19375 acres) & License no. 22 of 2016 dated 17.11.2016 (1.75 acres) with respect to Tower no. Q1, Q2, R1, R2, R3, R4, S1 (Platinum A, F, B, C, D, E & S1 EWS) in Sector-28, Gurugram Manesar Urban Complex being developed by Essel Housing Projects Pvt. Ltd.

2. WATER SUPPLY

At present the sources of water supply in the existing group housing are tubewells and HUDA supply. For the additional development, the tubewells and HUDA supply connections in the operational surrounding development would act as water source. It has been proposed to construct 1 no. underground tank of capacity 150 KL, for domestic purposes and 500 KL as static storage for fire fighting purposes. The underground tanks will be filled up from the existing tubewell and the water will be pumped into the tanks proposed on the terrace of each building.

3. DESIGN

The scheme has been designed for approximately 1416 persons considering 5 persons for each apartment, 2 persons for each servant room and 2 persons for each EWS. The rate of water supply has been taken as 172.50 litres per capita per day (lpcd). Besides the above, necessary provisions for water requirement for Community Buildings like Community Centre, Grassy Lawns and Road side plantations, Road washing etc. have also been taken into consideration.

4. PUMPING EQUIPMENT

It has been proposed to install a pumping station next to underground tank. At pumping station, there would be two pumping systems each comprising two pumps, one working and one standby. The provision for Diesel Generating set as a stand-by source of power in case of any electricity failure has also been made. Provision is also made for chlorination of water before distribution.

5. SEWERAGE SCHEME

The sewerage network of the Group Housing Complex shall be connected to the proposed Sewage Treatment plant (STP). The treated effluent will be used for landscape irrigation. Surplus effluent will be discharged into the sewerage system being planned by HUDA on the Sector Road.

The sewerage system has been designed for 3 times of average DWF. It has been assumed that 75% of domestic water supply shall find its way into the proposed sewer. All the sewer upto 400 mm dia. have been designed to run half-full. Necessary design statement for the entire sewerage system has been prepared and attached. Sewer lines have been designed for a minimum self cleansing velocity of 0.75 M/sec. S.W. pipes will be used for sewer lines. All the manholes and related appurtenances shall be constructed as per standard design.

6. STORM WATER DRAINAGE

The design rainfall intensity has been considered as ¼" per hour for the proposed development. The average co-efficient of run-off has been considered as 0.5 for the proposed development. Pipe drains formed of minimum 400 mm dia. R.C.C. NP3 pipe has been proposed for the storm water drainage. Road Gully Chambers will collect the storm water from the surface and discharge into the manholes through 300 mm dia. R.C.C. NP3 pipes. The internal storm water drains shall be connected to the proposed storm water drainage system of the surrounding plotted development, which ultimately gets connected to peripheral departmental storm water drainage system on sector road. The velocity of water in the pipe has been considered as a minimum of 0.60 M/sec. all the pipes are considered as running full. Necessary design statement for the entire storm water drainage system has been prepared and attached.

7. SPECIFICATIONS

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

8. RATE

The estimate has been based on the present market rates with escalation.

9. COST

The total cost of the scheme, including cost of all services works out of **Rs. ~~564.69~~ 773.66 Lacs** including 3% contingencies and 49% Departmental Charges., price escalation, unforseen, admn.

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REPORT ON DESIGN CALCULATION FOR GROUP HOUSING IN SECTOR-28, GURGAON, HARYANA- AREA MEASURING 5.56875 ACRES (LICENSE NO. 32, 33 OF 2009, 3.625 ACRES & LICENSE NO. 21 & 22 OF 2016, 1.94375 ACRES)

A. DAILY REQUIREMNT OF WATER

I. a) APARTMENT BUILDINGS

Total No. of dwelling units = 264

Population @ 5 person per dwelling unit,
Total population = 264 x 5
= **1320 persons**

Total water requirement @ 172.5 lpcd = 1320 x 172.5
= 2,27,700 litres/day
= **228 KL/Day**

b) SERVICE PERSONALS

Total No. of Servant Room = 36

Population @ 2 person per Servant Room,
Total population = 36 x 2
= **72 persons**

Total water requirement @ 172.5 lpcd = 72 x 172.5
= 12,420 litres/day
= **12 KL/Day**

c) EWS HOUSING

Total No. of dwelling units = 12

Population @ ~~2~~ 5 person per dwelling unit,
Total population = 12 x ~~2~~ 5
= ~~24~~ 60 **persons**

Total water requirement @ 172.5 lpcd = ~~24~~ 60 x 172.5
= ~~4,140~~ litres/day 10350
= ~~4~~ **KL/Day** 10.0

TOTAL = **228 + 12 + ~~4~~ 10**
= ~~**244**~~ **KL/Day**
250

II. COMMUNITY CENTER-1 NO. @ ~~50~~ 10 KLD

10
= ~~**50**~~ **KL/Day**

TOTAL DOMESTIC WATER REQUIREMENT = ~~**244** + **50**~~ 250 + 10
= ~~**294**~~ **KL/Day**
260

III. HORTICULTURE REQUIREMENT

Total area of site = 5.56875 Acres
Total soft area (approx.) = 0.841 Acres
Total water requirement for horticulture
Work @ 25 KL/Acre / Day = 0.841 x 25
= **21.02 KL/Day, 21 KL/Day**

IV. ROAD WASHING

Total Road area (approx.)	=	1.36 ~~0.914~~ Acres
Water requirement for road washing @ 5 KL/Acre	=	1.36 ~~0.914~~ x 5 7.0
	=	~~4.57~~ 6.80 **KL/Day, Say ~~5~~ KL/Day**
Hence, total daily requirement	=	I + II + III + IV
	=	~~244 + 50 + 21 + 5~~
	=	**~~320~~ KL/Day** 250+10+21+7 = 288 KL

Capacity of underground tank
Domestic requirement = 260

$$= \frac{\text{~~294 x 12~~}}{24}$$

= ~~147~~ 130 **KL**

Say = 150 KL

V. STATIC STORAGE FOR FIRE FIGHTING SYSTEM:

Static storage as per revised norms of National Building code- 2016

The height of the proposed building is above 60 M in height. Hence, as per National Building Code it falls under category I-c) 5) – Apartment houses above 60 m in height. The required underground static storage of fire reservoir is as follows:

No. of Fire Pump Sets	– 1 Set of Multistage Pumps Diesel engine standby, Hydrant pump, Sprinkler Pump, Jockey Pumps for Hydrant and Sprinkler with one no. additional Diesel Engine Pump as nos. of Hydrants above 100 nos.
Required Storage	= 200 KL x 2
	= 400 KL
Add for Water Curtains in Basement	= 100 KL
Total proposed Static Storage for Fire	= 500 KL

B. TUBEWELL

Assumed discharge of each tubewell	=	18 KL/Hour
Total No. of tubewell required considering 16 hours of pumping every day	=	~~294~~ 260 / (18 x 16)
	=	~~1.02~~ 0.90
~~Add 10% standby~~	=	~~0.10~~
Total	=	~~1.12 i.e~~, 1 No.

Provide 1 nos. of tubewell with a discharge Capacity of 18 KL/Hour.

However, as it is expected that the water supply would be made available by HUDA, it is proposed to install only 1 no. tubewell as standby/ makeup source of water.

Expected yield of tubewell	:	18 KL
Total yield per day	:	18 x 1 x 16 = 288 KL

Pumping Machinery	:		
Av Spring level	:	35 M	
Av fall in S.L.	:	3 M	
Depression head	:	6 M	
Friction loss in mains	:	12 M	
	Total	**56** M	

BHP $= \frac{18000 \times 56}{60 \times 60 \times 75 \times 0.60} = 6.22$ BHP

The nearest higher size of motor available is 7.5 BHP

C. UNDERGROUND TANK

Total daily domestic water requirement	=	~~294~~ 260 KL	Dom. @ 67%, 1/2 day.
Water Requirement for Fire Fighting	=	500 KL	Fire @ 33% -do-

Considering half day storage for daily requirement and full storage for fire fighting requirement, the total storage requirement works out to be

For daily requirement	=	~~147~~ KL 87 KL say 100 KL
For Fire Fighting requirement	=	500 KL
Total	**=**	**647 KL**

It is proposed to provide underground storage tanks at a strategic location with following capacities.

	DOMESTIC STORAGE	STATIC STORAGE FOR FIRE FIGHTING
UGT	~~150~~ 100 KL	500 KL and 50 KL separately for flushing near STP

100 + 50 + 500 = 650 KL

D. Design of Rising Mains for UG Tanks from Colony Supply Main:

Daily requirement	=	~~294~~ 260 KL
Requirement @ 1.2 times assuming the reservoir will be filled in 16 hrs.	=	~~353~~ 312 KL
Loss of head per 1000 M for ~~353~~ 312 KL in 100 MM i/d pipe	=	12.692 M
Length of rising main (From HUDA rising main to UGR)	=	116 M
Add equivalent length for fittings	=	23 M
Total head loss in 139 M	=	1.76 M

E. PUMPING MACHINERY FOR BOOSTING WATER TO OVERHEAD TANK

It is proposed a ring main on the periphery of the Apartment buildings. The details of pumping machinery for buildings is given as below:

I) FOR FRESH WATER SUPPLY:

Pumping Machinery for Apartment Buildings Q1, Q2, R1, R2, R3, R4, S1 (Platinum- A, B, C, D, E, F & S1 EWS)

Daily demand for Apartment Buildings = 294,000 litres

Fresh water demand for Apartment Buildings = 2/3rd of total domestic water demand
= 196000 litres

i) Pumping rate assuming 8 hours of pumping per day

$$= \frac{196000}{8 \times 60 \times 60}$$

= **6.81 litres per second.**

ii) Pumping head

a) Suction head	=	0.0 M (positive suction)
b) Static head upto OHT	=	89.0 M
c) Residual head	=	5.0 M
d) Frictional head loss	=	16.0 M
Total	=	**110.0 M**

Hence, provide three pumps (2W+1S) with a discharge of 3.41 litres per second at 110.0 M head of each pump

BHP of Motor

$$= \frac{110 \times 3.41}{0.6 \times 0.9 \times 76.04}$$

= **9.14**

Say = **10 B.H.P**

II) FOR RECYCLED WATER SUPPLY FOR FLUSHING:

Pumping Machinery for Apartment Buildings Q1, Q2, R1, R2, R3, R4, S1 (Platinum- A, B, C, D, E, F & S1 EWS)

Daily demand for Apartment Buildings = 294,000 litres

Fresh water demand for Apartment Buildings = 1/3rd of total domestic water demand
= 98,000 litres

iii) Pumping rate assuming 8 hours of pumping per day

$$= \frac{98,000}{8 \times 60 \times 60}$$

= **3.41 litres per second.**

iv) Pumping head

a) Suction head	=	0.0 M (positive suction)
b) Static head upto OHT	=	89.0M
c) Residual head	=	5.0 M
d) Frictional head loss	=	16.0 M
Total	=	**110.0 M**

Hence, provide two pumps (1W+1S) with a discharge of 3.41 litres per second at 110.0 M head of each pump

$$\text{BHP of Motor} = \frac{110.0 \times 3.41}{0.6 \times 0.9 \times 76.04}$$

$$= \text{~~9.14~~ } 8.03$$

Say = 10.00 B.H.P

F. PUMPING MACHINERY FOR FIRE FIGHTING SYSTEM

i) Pumping Machinery — As per National Building Code 2016, the pumping capacity given below:

a)	Electric Fire Hydrant Pump	-	Discharge 2850 LPM with 3.5 Kg/cm^2 pressure available at the terrace of the building - 1 No.
b)	Electric Fire Sprinkler Pump	-	Discharge 2850 LPM with minimum 0.35 Kg/cm^2 pressure available at the farthest point in the uppermost floor - 1 No.
c)	Electric Jockey Pump	-	Discharge 180 LPM with 3.5 Kg/cm^2 pressure available at the terrace of the building - 1 No.
d)	Electric Jockey Pump	-	Discharge 180 LPM with minimum 0.35 Kg/cm^2 pressure available at the farthest point in the uppermost floor - 1 No.
e)	Diesel Standby pump	-	Discharge 2850 LPM with 3.5 Kg/cm^2 pressure available at the terrace of the building - 2 No.
f)	Fire Curtain pump	-	Discharge 1620 LPM with minimum 1.4 Kg/cm^2 pressure available at the farthest point in Basement. - 1 No.

Fire pumps are provided in the pumproom beside the underground reservoir (but away from the blocks) so that always flooded suction is available for the pumps. The pumps are designed to cater for the flow and pressure requirement at any point of the fire fighting system.

ii) Pumping head

a) Height of building (Maximum height of block)	=	80.30 M
b) Depth upto pump room	=	8.00 M
c) Required Minimum Pressure at terrace. (As per NBC)	=	35.00 M
d) Frictional head loss	=	20.00 M
Total	=	**143.30 M** **Say 150 M**

Hence, provide one main pump with a discharge of 47.5 litres per second and one jockey pump with a discharge of 3 litres per second at 150.0 M head.

BHP of Motor (for main pump) = $\frac{150.0 \times 47.5}{0.6 \times 0.9 \times 76.04}$

= **173.52**

Say = 180 B.H.P.

BHP of Motor (for jockey Pump) = $\frac{150.0 \times 3}{0.6 \times 0.9 \times 76.04}$

= 10.96

Say = **12.50 B.H.P.**

And

BHP of Motor (for Fire Curtain Pump) = $\frac{40.0 \times 27.0}{0.6 \times 0.9 \times 76.04}$

= 26.30

Say = **30 B.H.P.**

Additional and Revised

GROUP HOUSING FOR AREA MEASURING 5.56875 ACRES (LICENSE NO. 32, 33 OF 2009, 3.625 ACRES & LICENSE NO. 21 & 22 OF 2016, 1.94375 ACRES) IN SECTOR-28, GURGAON, HARYANA

FINAL ABSTRACT OF COST

SUB WORK NO. I	WATER SUPPLY	Rs. ~~181.06~~ 185.37	LACS
SUB WORK NO. II	SEWERAGE	Rs. ~~172.34~~ 218.35	LACS
SUB WORK NO. III	STORM WATER DRAIN	Rs. ~~28.06~~ 36.33	LACS
~~SUB WORK NO. IV~~	~~PUMPING MACHINERY FOR BASEMENT DRAINAGE~~	Rs. ~~4.60~~	~~LACS~~
SUB WORK NO. (IV)	ROAD & FOOTPATHS	Rs. ~~68.35~~ 128.83	LACS
SUB WORK NO. (V)	STREET LIGHTING	Rs. ~~8.55~~ 21.36	LACS
SUB WORK NO. (VI)	HORTICULTURE	Rs. ~~2.21~~ 3.52	LACS
SUB WORK NO. (VII)	MAINTENANCE CHARGES for 10 years including resurfacing of roads after 1st 5 years & 2nd 5 years m/c. (as per HUDA norms)	Rs. ~~99.52~~ 179.90	LACS
		Rs. ~~564.69~~ 773.66	**LACS**

Say ~~564.69~~ 773.66 Lacs

Dev cost = ~~564.69~~ 773.66 Lacs / 5.56875 Acres

= Rs. ~~101.40~~ 138.92 Lacs per gross acre

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Checked subject to comments in forwarding letter No. 7.3.336 Dt. 2.9.2022 and notes attached with the estimate

Superintending Engineer (HQ) for Chief Engineer 1 HSVP Panchkula

29/11/2022

Superintending Engineer, HSVP Circle-II, Gurugram

Executive Engineer HSVP Division No. I, Gurugram

Addl. Chief Engineer HSVP, Gurugram

C/S

Director
Town & Country Planning
Haryana, Chandigarh

Additional & Revised

GROUP HOUSING FOR AREA MEASURING 5.56875 ACRES (LICENSE NO. 32, 33 OF 2009, 3.625 ACRES & LICENSE NO. 21 & 22 OF 2016, 1.94375 ACRES) IN SECTOR-28, GURGAON, HARYANA

ABSTRACT OF COST OF SUB-WORK NO. I (WATER SUPPLY)

SUB HEAD NO. I	HEAD WORKS	Rs.	~~41.50~~ 44.95 Lacs
SUB HEAD NO. II	PUMPING MACHINERY	Rs.	~~50~~.00 Lacs
SUB HEAD NO. III	DISTRIBUTION SYSTEM FOR FRESH WATER SUPPLY AND FLUSHING	Rs.	~~10.72~~ 9.79 Lacs
SUB HEAD NO. IV	RISING MAIN	Rs.	~~2.50~~ 2.18 Lacs
SUB HEAD NO. V	FIRE RING	Rs.	~~8.38~~ 7.79 Lacs
SUB HEAD NO. VI	RECYCLED DISTRIBUTION SYSTEM FOR IRRIGATION	Rs.	4.~~8~~8 Lacs
		Rs.	~~117.98~~ 120.79 Lacs
ADD: 3% Contingencies & P.E. Charges		Rs.	~~3.54~~ 3.62 Lacs
		Rs.	~~121.52~~ 124.41 Lacs
ADD: 49% Departmental Charges, Price escalation, unforeseen, Administration Charges		Rs.	~~59.54~~ 60.96 Lacs
		Rs.	**~~181.06~~ 185.37 Lacs**

(TOTAL C.O TO SUMMARY)

GROUP HOUSING FOR AREA MEASURING 5.56875 ACRES (LICENSE NO. 32, 33 OF 2009, 3.625 ACRES & LICENSE NO. 21 & 22 OF 2016, 1.94375 ACRES) IN SECTOR-28, GURGAON, HARYANA

SUB WORK NO. I — **WATER SUPPLY**

SUB HEAD NO. I — **HEAD WORKS**

AMOUNT (RS.)

S.No.	Description	Qty.	Unit	Rate	Amount
1	Boring and installing 510 mm i/d tubewells with reverse rotary rig complete with pipe and strainer to depth of about 65 m complete in all respect	1	No.	16,00,000	16,00,000/-
2	Construction of boundary wall, gate around the tubewells site and water works etc.	1	No.	1,50,000	1,50,000/-
3	Provision of footpath hedges and lawns at Water Works / Tubewells site	L.S.			1,00,000/-
4	Construction of Chowkidar Quarters, completed with P.H. services and electricity fittings etc.	L.S			1,00,000/-
5	Provision for rising mains, connecting tubewells with water main and Bye-Pass arrangements	100 & L.S. 96 m @ 1250/- m			1.20 lacs 1,00,000/-
6	Construction of 1 No. Boosting arrangement and underground tank of total 650 KL capacity incl. 500 KL for Fire & 50 KL for flushing meanstp	650	KL	3000/	22.75 lacs 19,50,000/-
7	Boosting Chamber	L.S.			5,00,000/-
8	Boosting Machinery for **Fresh Water Supply**				
	i) 3 Nos. 3.41 LPS at 110 mtrs head– 10 BHP	(2+1) 3	No.	1,50,000	3.00 lacs 4,50,000/-
9	Boosting Machinery for Flushing Water Supply **(Recycled Water Supply)**				
	i) 2 Nos. 3.41 LPS at 110 mtrs head– 10 BHP	(1+1) 2	No.	1,50,000	3,00,000/-
10	Provision for Carriage for material and other unforeseen items	LS			1,00,000/-
				Rs.	41,50,000/- 44.95 lacs
				Say	41.50 Lacs

(C.O. TO ABSTRACT OF COST SUB WORK NO. I)

GROUP HOUSING FOR AREA MEASURING 5.56875 ACRES (LICENSE NO. 32, 33 OF 2009, 3.625 ACRES & LICENSE NO. 21 & 22 OF 2016, 1.94375 ACRES) IN SECTOR-28, GURGAON, HARYANA

SUB WORK NO. I — **WATER SUPPLY**
SUB HEAD NO. II — **PUMPING MACHINERY**

S.No.	Description	Qty.	Unit	Rate	Amount
1.	Providing and installing electrical driven submersible pumping set capable of delivering about 18 KL water per hour against a total head of 56 mtrs. Complete with motor and other accessories complete in all respects **NOTE:** The power supply to the submersible tubewell pumps and the booster pumps is to be provided from two sources one from the electric substation and another from the standby diesel generators being provided in the Colony for the essential services.	1	No.	2,00,000	2,00,000/-
2.	FIRE Pump Provision and installing pumping set 2850 LPM cap. of 150 mtrs head for fire protection and 180 LPM cap at 150m head as per NBC				
	Electrical driven 2850 LPM at 150M head–180HP	2	No	7,50,000	15,00,000/-
	Diesel driven 2850 LPM at 150M head – 180HP	2	No	10,00,000	20,00,000/-
	Electrical driven 180 LPM at 150 M head–12.5HP	2	No	1,50,000	3,00,000/-
	Electrical driven 1620 LPM at 40 M head–30 HP	1	No	3,00,000	3,00,000/-
3.	Providing for chlorination plant complete in all respect	L.S.			1,00,000/-
4.	Provision for making foundations and erection of pumping machinery.	L.S			1,00,000/-
5.	Provision for pipes valves and specials inside the pump chamber and boosting chambers	L.S			1,00,000/-
6.	Provision for electric services connection including electric fittings for tubewells chambers and boosting chamber etc.	L.S.			3,00,000/-
7.	Provision for carriage of materials and other unforseen items.	L.S.			1,00,000/-
				Rs.	**50,00,000/-**

Say 50.00 Lacs

(C.O. TO ABSTRACT OF COST SUB WORK NO. I)

GROUP HOUSING FOR AREA MEASURING 5.56875 ACRES (LICENSE NO. 32, 33 OF 2009, 3.625 ACRES & LICENSE NO. 21 & 22 OF 2016, 1.94375 ACRES) IN SECTOR-28, GURGAON, HARYANA

SUB WORK NO. I — **WATER SUPPLY**

SUB WORK NO. III — **DISTRIBUTION SYSTEM FOR FRESH WATER SYPPLY AND FLUSHING**

S.No.	Description	Qty.	Unit	Rate	Amount
1.	Providing, laying, jointing and testing C.I./ D.I. pipelines including cost of excavation, specials etc. complete in all respect				
	C.I. PIPE				
	100 mm i/d	~~385~~ 289	M	~~1200~~ 1250	~~4,62,000/-~~ 3.61 lacs
	150 mm i/d	221	M	1575	3,48,075/-
2.	Providing and fixing sluice including cost of surface boxes & masonary chambers etc. complete				
	100 mm i/d	4	No.	10,000	~~40,000/-~~ 0.48
	150 mm i/d	3	No.	15,000	45,000/-
3.	Providing and fixing scour valves and including cost of bricks masonary chamber	7	No.	10,000	70,000/-
4.	Providing and fixing indicating plates for sluice valves and air valves	7	No.	1,000	7,000/-
5.	Provision for carriage of material	L.S.			50,000/-
6.	Provision for cutting of roads & making good to its original conditions	L.S.			50,000/-
				Rs.	~~**10,72,075/-**~~ 9.79 lacs

Say ~~10.72~~ Lacs 9.79 lacs

(C.O. TO ABSTRACT OF COST SUB WORK NO. I)

GROUP HOUSING FOR AREA MEASURING 5.56875 ACRES (LICENSE NO. 32, 33 OF 2009, 3.625 ACRES & LICENSE NO. 21 & 22 OF 2016, 1.94375 ACRES) IN SECTOR-28, GURGAON, HARYANA

SUB WORK NO. I — **WATER SUPPLY**

SUB HEAD NO. IV — **RISING MAIN FROM HUDA**

S.No.	Description	Qty.	Unit	Rate	Amount
1.	Providing, laying, jointing and testing CI. Pipes including cost of excavation complete				
	100 mm i/d	116	M	~~1200~~ 1250/	~~1,39,200/-~~ 1.45 lacs
2.	Providing and fixing sluice valves including cost of surface boxes and masonary chambers, indication plates etc. complete				
	100 mm i/d	1	No.	~~10~~,000	~~10~~,000/-
3.	Providing and fixing indicating plates with sluice valves	1	No.	1,000	1,000/-
4.	Provision for carriage of materials.	L.S.			~~50,000/-~~ 0.10
5.	Provision for cutting of roads and making good of its original conditions	L.S.			50,000/-
				Rs.	**~~2,50,200/-~~ 2.18 lacs**

Say Rs. ~~2.50~~ Lacs 2.18

(C.O. TO ABSTRACT OF COST SUB WORK NO. I)

GROUP HOUSING FOR AREA MEASURING 5.56875 ACRES (LICENSE NO. 32, 33 OF 2009, 3.625 ACRES & LICENSE NO. 21 & 22 OF 2016, 1.94375 ACRES) IN SECTOR-28, GURGAON, HARYANA

SUB WORK NO. I — **FIRE RING MAIN**

SUB HEAD NO. V

S.No.	Description	Qty.	Unit	Rate	Amount
1.	Providing, laying, jointing and testing M.S. Pipes including cost of excavation complete				
	150 mm i/d	263	M	1575 ~~1800~~	4.14 lacs ~~4,73,400/-~~
2.	Providing and fixing fire hydrants with chambers and indication plate	16	No.	15,000	2,40,000/-
3.	Provision for carriage of materials.	L.S.			25,000/-
4.	Provision for fixing sluice valve i.e cost of surface box and masonry chamber complete with indicating plates	L.S.			50,000/-
5.	Provision for cutting of roads and maintaining good to the original cost.	L.S			50,000/-
					7.79 lacs
				Rs.	~~8,38,400/-~~
				Say Rs.	~~8.38~~ Lacs

(C.O. TO ABSTRACT OF COST SUB WORK NO. I)

7.79

GROUP HOUSING FOR AREA MEASURING 5.56875 ACRES (LICENSE NO. 32, 33 OF 2009, 3.625 ACRES & LICENSE NO. 21 & 22 OF 2016, 1.94375 ACRES) IN SECTOR-28, GURGAON, HARYANA

SUB WORK NO. I — **RECYCLED WATER SUPPLY**

SUB WORK NO. VI — **DISTRIBUTION SYSTEM FOR IRRIGATION**

S.No.	Description	Qty.	Unit	Rate	Amount
1.	Providing, laying, jointing and testing HDPE lines including cost of excavation, specials etc. complete in all respect				
	HDPE PIPE				
	75 mm (OD)	404	M	750	3,03,000/-
2.	Providing and fixing sluice including cost of surface boxes & masonary chambers etc. complete				
	65 mm i/d	3	No.	6,000	18,000/-
3.	Providing and fixing QRCV (Quick Release Coupling Valves) with chambers	17	No.	2,000	34,000/-
4.	Providing and fixing scour valves and including cost of bricks masonary chamber	3	No.	10,000	30,000/-
5.	Providing and fixing indicating plates for sluice valves and air valves	3	No.	1,000	3,000/-
6.	Provision for carriage of material	L.S.			50,000/-
7.	Provision for cutting of roads & making good to its original conditions	L.S.			50,000/-
				Rs.	**4,88,000/-**

Say 4.88 Lacs
4.08 lacs

(C.O. TO ABSTRACT OF COST SUB WORK NO. I)

GROUP HOUSING FOR AREA MEASURING 5.56875 ACRES (LICENSE NO. 32, 33 OF 2009, 3.625 ACRES & LICENSE NO. 21 & 22 OF 2016, 1.94375 ACRES) IN SECTOR-28, GURGAON, HARYANA

SUB WORK NO. II

SEWERAGE
(INTERNAL SEWER)

S.No.	Description	Qty.	Unit	Rate	Amount
1.	Providing, lowering, jointing & cutting salt glazed stone ware pipe and spls. Into trenches including cost of excavation, bed concrete, cost of manholes, etc. complete in all respect.				
	i) 200 mm dia i/d S.W. pipes Av. Depth upto 2 M	380	M	1250/-	4,75,000/-
	ii) 200 mm dia i/d S.W. pipes Av. Depth upto 3.0 M	213	M	1500/-	3,19,500/-
	iii) 200 mm dia i/d S.W. pipes Av. Depth upto 4.5 M	144	M	1700/-	2,44,800/-
2.	Provision for providing oblique junction etc.	L.S.			40,000/-
3.	Provision for temporary timbering etc.	L.S.			50,000/-
4.	Provision for lighting watching etc.	L.S.			50,000/-
5.	Provision for cutting the road and carriage of materials etc. and other unforeseen charges	L.S.			50,000/-
6.	Provision for 1050 KLD STP (upto tertiary level) (including landscape irrigation pump etc.)	L.S.			~~1~~30,00,000/-
				Rs.	~~112,29,300/-~~ 142.29 lacs
	Add 3% Contingencies & P.E. Charges			Rs.	~~3,36,879/-~~ 4.26 lacs
				Rs.	~~115,66,179/-~~ 146.55 lacs
	Add 49% Departmental Charges, Price escalation unforeseen, administration charge			Rs.	~~56,67,428/-~~ 71.80 lacs
				Rs.	**~~172,33,607/--~~ 218.35 lacs**

~~Say 172.34 Lacs~~

(C.O. TO FINAL ABSTRACT OF COST)

GROUP HOUSING FOR AREA MEASURING 5.56875 ACRES (LICENSE NO. 32, 33 OF 2009, 3.625 ACRES & LICENSE NO. 21 & 22 OF 2016, 1.94375 ACRES) IN SECTOR-28, GURGAON, HARYANA

STORM WATER R.C.C. PIPE DRAIN

SUB WORK NO. III

STORM WATER DRAIN
RCC PIPE DRAIN

S.No.	Description	Qty.	Unit	Rate	Amount
1.	Providing lowering, cutting and jointing RCC NP3 pipes and specials into trenches, including cost of excavation, bed concrete, cost of manholes etc. complete in all respects				
	a) 400 mm dia i/e R.C.C. Pipe AV. Depth Upto 2 M	305	M	~~1750~~ 2500/	~~5,33,750/-~~ 7.63 lacs
	b) 400 mm dia. i/e R.C.C. Pipe AV. Depth Upto 3 M	194	M	2000	~~3,88,000/-~~ 3.04 lacs
2.	Provision for road gullies with 300 mm dia. pipe connection	L.S.			1,00,000/-
3.	Rain Water Harvesting Pit for ~~5.56875 acres @ Rs. 1.00 lac per acre~~ 3 Nos. (L.S)				~~5,56,875/-~~ 1.50 lacs
4.	Provision for lighting, watching and temporary diversion	L.S.			~~1,00,000/-~~ 0.50 lacs
5.	Provision for cutting of roads and carriage of materials etc. and other unforeseen items	L.S.			1,00,000/-
6.	Provision for making connection with existing system	LS.			~~50,000/-~~ 1.00 lacs
	Add 3% contingencies & P.E. Charges,			Rs.	~~18,28,625/-~~ 23.67 lacs
				Rs.	~~54,859/-~~ 0.71 lacs
	Add 49% Departmental Charges, Price Escalation Unforeseen, Administration Charges			Rs.	~~18,83,484/-~~ 24.38 lacs
				Rs.	~~9,22,907/-~~ 11.95 lacs
				Rs.	~~28,06,391/-~~ 36.33 lacs

Say Rs. ~~28.06~~ Lacs
36.33

(C.O. TO FINAL ABSTRACT OF COST)

GROUP HOUSING FOR AREA MEASURING 5.56875 ACRES (LICENSE NO. 32, 33 OF 2009, 3.625 ACRES & LICENSE NO. 21 & 22 OF 2016, 1.94375 ACRES) IN SECTOR-28, GURGAON, HARYANA

PUMPING MACHINERY FOR BASEMENT DRAINAGE

SUB WORK NO. IV — **PUMPING MACHINERY FOR BASEMENT DRAINAGE**

S.No.	Description	Qty.	Unit	Rate	Amount
1.	Providing and installing electrical driven submersible pumping set capable of delivering about 21 KL water per hour against a total head of 18 mtrs. complete with motor and other accessories complete in all respects **NOTE:** The power supply to the submersible pumps is to be provided from two sources one from the electric substation and another from the standby diesel generators being provided in the Colony for the essential services.	1	No.	1,00,000	1,00,000/-
2.	Provision for pipes valves and specials inside the pump chamber	L.S		50,000	50,000/-
3.	Provision for electric services connection including electric fittings for pump chambers etc.	L.S.			1,00,000/-
4.	Provision for carriage of materials and other unforeseen items.	L.S.			50,000/-
				Rs.	3,00,000/-
	Add 3% contingencies & P.E. Charges			Rs.	9,000/-
				Rs.	3,09,000/-
	Add 49% Departmental Charges			Rs.	1,51,410/-
				Rs.	**4,60,410/-**

Say Rs. 4.60 Lacs

(C.O. TO FINAL ABSTRACT OF COST)

GROUP HOUSING FOR AREA MEASURING 5.56875 ACRES (LICENSE NO. 32, 33 OF 2009, 3.625 ACRES & LICENSE NO. 21 & 22 OF 2016, 1.94375 ACRES) IN SECTOR-28, GURGAON, HARYANA

SUB WORK NO. V

				ROADS
				AMOUNT (RS.)
1.	Provision for leveling and earth filling as per site conditions			
	5.56875 Acres @ 100000/- per acre	L.S.	Rs.	8.35 ~~5,56,875/-~~
2.	GSB = 300 MM stone aggregate 250 mm 50 mm thick... ~~BM~~ DBM 20 mm thick ~~M.S.S.~~ BC ~~3700~~ 5590 sq. m. @ Rs. ~~850~~/- 1200/- per sq. m.		Rs.	67.08 ~~31,45,000/-~~
3.	Providing for Kerbs & Channels of C. Conc. 1 : 2 ½ : 5 with base concrete and pointing etc.			
	920 @ Rs. 600/- mtr		Rs.	5,52,000/-
4.	Provision for cement concrete payment 1:2:4 with base concrete 1:8:16 complete in all respects	L.S.	Rs.	50,000/-
5.	Provision for Indicator Board, Guide Map.	(L.S.)	Rs.	50,000/-
6.	Provision for demarcation burji, carriage of material & unforeseen items	(L.S)	Rs.	1,00,000/-
7.	Provision for Traffic Light Control	(L.S)	Rs.	1.00 Lacs
	ADD: 3% Contingencies & P.E. Charges		Rs.	~~44,53,875/-~~ 83.95
			Rs.	~~1,33,616/-~~ 2.52
	ADD: 49% Departmental Charges, Price escalation Unforeseen, Administration Charges.		Rs.	~~45,87,491/-~~ 86.47
			Rs.	~~22,47,871/-~~ 42.36
			Rs.	**~~68,35,362/-~~ 128.83**

Say Rs. ~~68.35~~ Lacs

128.83

(C.O. TO FINAL ABSTRACT OF COST)

GROUP HOUSING FOR AREA MEASURING 5.56875 ACRES (LICENSE NO. 32, 33 OF 2009, 3.625 ACRES & LICENSE NO. 21 & 22 OF 2016, 1.94375 ACRES) IN SECTOR-28, GURGAON, HARYANA

SUB WORK NO. VI

		STREET LIGHTING
		AMOUNT (RS.)
Providing street lighting with underground on roads as per standard H.S.E.B. Specifications		
Total Area: 5.56875 Acres		
5.56875 acres @ Rs. 2,50,000/- per acre	Rs.	~~5,56,875/-~~ 13.92 lacs
ADD: 3% contingencies & P.E. Charges	Rs.	~~16,706/-~~ 0.42
ADD: 49% Departmental Charges, Price escalation	Rs.	~~5,73,581/-~~ 14.34 lacs
Unforeseen, Administration Charges	Rs.	~~2,81,055/-~~ 7.02 lacs
	Rs.	**~~8,54,636/-~~ 21.36 lacs**
	Say	**Rs. ~~8.55~~ Lacs** 21.36

(C. O. TO FINAL ABSTRACT OF COST)

GROUP HOUSING FOR AREA MEASURING 5.56875 ACRES (LICENSE NO. 32, 33 OF 2009, 3.625 ACRES & LICENSE NO. 21 & 22 OF 2016, 1.94375 ACRES) IN SECTOR-28, GURGAON, HARYANA

Sub work No VII

Plantation and road side trees

Amount (Rs)

1) development of lawn areas

a) trenching of ordinary soil up to a depth of 60cms i/c removal and stacking of serviceable material and disposing by spreading and leveling 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 turf 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 moving in row 7.5cm part in either direction.

0.841 acres organized green @ 1,00,000/acre — Rs. ~~84,100/-~~ 1.26 lacs

2) providing and planting trees along boundary @ 12m interval
total road length = 920 m
no. of trees = 920/12 = 77 trees, Say 80 trees

cost details: -

excavation	= ~~30/-~~	60-00
manure	= ~~60/-~~	90-00
tree planting	= ~~60/-~~	150-00
Tree guard	= ~~600/-~~	1000-00
Total	= **~~750/-~~**	1300-00

80 trees @ ~~750~~ /tree 1300/-

Total — Rs. ~~60,000/-~~ 1.04 lacs

Add 3% contingencies and PH charges — Rs. ~~1,44,100/-~~ 2.30 lacs

Total — Rs. ~~4,323/-~~ 2.06 lacs

Add 49% departmental charges price
Escalation and other unforeseen charges — Rs. ~~1,48,423/-~~ 2.36 lacs

Grand total — Rs. ~~72,727/-~~ 1.16 lacs

Rs. ~~2,21,150/-~~ 3.52 lacs

Say Rs. ~~2.21~~ Lacs
3.52

(C.O. TO FINAL ABSTRACT OF COST)

GROUP HOUSING FOR AREA MEASURING 5.56875 ACRES (LICENSE NO. 32, 33 OF 2009, 3.625 ACRES & LICENSE NO. 21 & 22 OF 2016, 1.94375 ACRES) IN SECTOR-28, GURGAON, HARYANA

SUB WORK NO. VIII

MAINTENANCE OF SERVICES

			AMOUNT (RS.)
1.	Provision for maintenance charges for water supply, sewerage, drainage, roads, street light, horticulture etc. complete including operation and establishment charges as per HUDA norms after completion		
	5.56875 acres @ Rs. ~~5,00,000/-~~ 7.50 lacs per acre	Rs.	~~27,84,375/-~~ 41.76 lacs
2.	Provision for resurfacing of roads after five years of Ist Phase		
	~~3700~~ 5590 sq. m. @ Rs. ~~400/-~~ 600/ per sq. m.	Rs.	~~14,80,000/-~~ 33.54 lacs
3.	IInd Phase after five years of Ist Phase		
	One layer of 10mm thick 53 to 22.4 mm guage complete of 75 mm thick WBM specification and aggregate to MOT specification, Table 500-9 and Table 400-6, Grading Number 3 with 25 mm thick pre-mix carpet.		
	~~3700~~ 5590 sq. m. @ Rs. ~~600/-~~ 750/- per sq.m.	Rs.	~~22,20,000/-~~ 41.92 lacs
		Rs.	~~64,84,375/-~~ 117.22 lacs
	Add: Contingencies @ 3%	Rs.	~~1,94,531/-~~ 3.52 lacs
		Rs.	~~66,78,906/-~~ 120.74 lacs
	Add: Departmental Charges @ 49%	Rs.	~~32,72,664/-~~ 59.16 lacs
	price escalation unforseen, etc.	**Rs.**	~~**99,51,570/-**~~ 179.90 lacs

~~**Say 99.52 Lacs**~~

(C.O. TO FINAL ABSTRACT OF COST)

PROJECT : GROUP HOUSING FOR AN AREA MEASURING 5.56875 ACRES (LICENSE NO. 32, 33 OF 2009, 3.625 ACRES & LICENSE NO. 21 & 22 OF 2016, 1.94375 ACRES) IN SECTOR-28, GURGAON, HARYANA

- REVISED BUILDINGS Q1, Q2, R1, R2, R3, R4, S1 (PLATINUM-A, F, B,C,D,E & S1 EWS)

SUBHEAD : SEWERAGE SCHEME

DESIGN CALCULATION

DESIGN STATEMENT OF SEWERAGE SYSTEM

Sl. No.	Line Referances	Length (M)	POPULATION SERVED			Water Consumption @ 172.5/LPCD (KLD)	Water Consumption for Community Building (KLD)	Total Water Consumption including C.B. (KLD)	Total Water Consumption (KLD)	Average Discharge in Cusec @ 75% of Daily Demand	Peak Discharge @ 3DWF in cusec	Size Of the Pipe (mm)	Gradient	Velocity (M/Sec)	Carrying Capacity (Cusec)	Fall in Line (M)	AT START		AT END	
			Self	Branch	Total												F.G.L	I.L (-)	F.G.L	I.L (-)
1.	N1 - N2	86	434		434	74.87		74.87	74.87	0.023	0.069	200	1 / 145	0.75	0.412	0.59	235.50	234.60	235.60	234.01
2.	N2 - N3	127	484 EWS + C.B.	434	918 EWS + C.B.	158.36	50.00	208.36	208.36	0.064	0.191	200	1 / 145	0.75	0.412	0.88	235.60	234.01	235.60	233.13
3	N3 - N4	131	498	918 EWS + C.B.	1416 EWS + C.B.	244.26	50.00	294.26	294.26	0.090	0.270	200	1 / 145	0.75	0.412	0.90	235.60	233.13	235.50	232.23
4	N4 - STP	13	0	1416 EWS + C.B.	1416 EWS + C.B.	244.26	50.00	294.26	294.26	0.090	0.270	200	1 / 145	0.75	0.412	0.09	235.50	232.23	235.50	232.14

PROJECT : GROUP HOUSING FOR AN AREA MEASURING 5.56875 ACRES (LICENSE NO. 32, 33 OF 2009, 3.625 ACRES & LICENSE NO. 21 & 22 OF 2016, 1.94375 ACRES) IN SECTOR-28, GURGAON, HARYANA

- REVISED BUILDINGS Q1, Q2, R1, R2, R3, R4, S1 (PLATINUM-A, F, B,C,D,E & S1 EWS)

SUBHEAD : STORM WATER DRAINAGE SCHEME

DESIGN CALCULATION

DESIGN STATEMENT OF STORM WATER DRAINAGE SCHEME

Sl. No.	Line Referances	CATCHMENT AREA			Design Discharge with C = 0.5 and 1/4" Rainfall Intensity (Cusec)	Size Of the Pipe (mm)	Gradient	Velocity (M/Sec)	Carrying Capacity (Cusec)	Length (M)	Fall in Line (m)	F.G.L	BED LEVEL	
		Self (Acre)	Branch (Acre)	Total (Acre)									U/E(M) (-)	L/E(M) (-)
1	N1 - N2	1.020		1.020	0.129	400	1/420	0.65	3.05	142	0.34	235.60	234.60	234.26
2	N2 - N3	0.441	1.020	1.461	0.184	400	1/420	0.65	3.05	84	0.20	235.60	234.26	234.06
3	N3 - N4	0.627	1.461	2.088	0.263	400	1/420	0.65	3.05	103	0.25	235.50	234.06	233.82
4	N4 - N6	0.390	2.088	2.478	0.312	400	1/420	0.65	3.05	54	0.13	235.45	233.82	233.69
5	N5 - N6	0.698		0.698	0.088	400	1/420	0.65	3.05	79	0.19	235.50	234.50	234.31
6	N6-OUTFALL	0.100	3.176	3.276	0.413	400	1/420	0.65	3.05	37	0.09	235.45	233.69	233.60

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PROJECT : GROUP HOUSING FOR AN AREA MEASURING 5.56875 ACRES (LICENSE NO. 32, 33 OF 2009, 3.625 ACRES & LICENSE NO. 21 & 22 OF 2016, 1.94375 ACRES) IN SECTOR-28, GURGAON, HARYANA

- REVISED BUILDINGS Q1, Q2, R1, R2, R3, R4, S1 (PLATINUM-A, F, B,C,D,E & S1 EWS)

SUBHEAD : WATER SUPPLY SCHEME

HYDRAULIC STATEMENT FOR FRESH WATER SUPPLY

Sl. No	Line References	Nos. Of Dwelling Unit			Total Population @ 5 Persons per Dwelling Unit & EWS and 2 persons per service personals	Daily Water Requirement @ 172.5 Ltrs. Per Person Per Day (KLD)	REQUIREMENT OF Community Building (KLD)	TOTAL WATER REQUIREMENT (KLD)	TOTAL FRESH REQUIREMENT (2/3RD OF Total Water Requirement. (KLD)	Peak Water Requirement @ 3 Times Of Daily Demand (KLD)	Size Of the Pipe (mm)	Loss Of Head in M. in 1000 M	Length (M)	Loss Of Head in Line (M)	Formation Level At Lower End	Hydraulic Level		Head At Lower End (M)
		Self (Nos.)	Branch (Nos.)	Total (Nos.)												Upper End	Lower End	
1	2 - 1	69 EWS + C.B.		69 EWS + C.B.	369	63.65	50.0	113.65	75.77	227.3	150	0.369	71	0.03	236.50	338.43	338.41	101.91
2	4 - 2	92 30 S.P.	69 EWS + C.B.	161 EWS + C.B. + 30 S.P.	889	153.35	50.0	203.35	135.57	406.7	150	1.083	48	0.05	236.60	338.48	338.43	101.83
3	3 - 1	23		23	115	19.84		19.84	13.23	39.7	150	0.015	29	0.00	236.50	338.47	338.47	101.97
4	4 - 3	80 6 S.P.	23	103 6 S.P.	527	90.91		90.91	60.61	181.8	150	0.244	66	0.02	236.50	338.48	338.47	101.97
5	UGR- 4	0	264 EWS + C.B. + 36 S.P.	264 EWS + C.B. + 36 S.P.	1416	244.26	50.0	294.26	196.17	588.5	150	2.146	7	0.02	236.50 UGR Plant Room at (-) 8.00	346.50	338.48	101.98

PROJECT : GROUP HOUSING FOR AN AREA MEASURING 5.56875 ACRES (LICENSE NO. 32, 33 OF 2009, 3.625 ACRES & LICENSE NO. 21 & 22 OF 2016, 1.94375 ACRES) IN SECTOR-28, GURGAON, HARYANA

- REVISED BUILDINGS Q1, Q2, R1, R2, R3, R4, S1 (PLATINUM-A, F, B,C,D,E & S1 EWS)

SUBHEAD : WATER SUPPLY SCHEME

HYDRAULIC STATEMENT FOR RECYCLED (FLUSHING) WATER WATER SUPPLY

Sl. No	Line Referances	Nos. Of Dwelling Unit			Total Population @ 5 Persons per Dwelling Unit & EWS and 2 persons per service personals	Daily Water Requirement @ 172.5 Ltrs. Per Person Per Day	REQUIREMENT OF Community Building	TOTAL WATER REQUIREMENT	TOTAL RECYCLED (FLUSHING) REQUIREMENT (1/3RD OF Total Water Requirement. (KLD)	Peak Water Requirement @ 3 Times Of Daily Demand	Size Of the Pipe	Loss Of Head in M. in 1000 M	Length	Loss Of Head in Line	Formation Level At Lower End	Hydraulic Level		Head At Lower End
		Self	Branch	Total												Upper End	Lower End	
		(Nos.)	(Nos.)	(Nos.)		(KLD)	(KLD)	(KLD)		(KLD)	(mm)		(M)	(M)				(M)
1	2 - 1	69 EWS + C.B.		69 EWS + C.B.	369	63.65	50.0	113.65	37.88	113.7	100	0.734	74	0.05	236.60	338.14	338.09	101.49
2	4 - 2	92 30 S.P.	69 EWS + C.B.	161 EWS + C.B. + 30 S.P.	889	153.35	50.0	203.35	67.78	203.4	100	2.158	58	0.13	236.60	338.26	338.14	101.54
3	3 - 1	23		23	115	19.84		19.84	6.61	19.8	100	0.029	45	0.00	236.50	338.24	338.24	101.74
4	4 - 3	80 6 S.P.	23	103 6 S.P.	527	90.91		90.91	30.30	90.9	100	0.486	57	0.03	236.50	338.26	338.24	101.74
5	STP - 4	0	264 EWS + C.B. + 36 S.P.	264 EWS + C.B. + 36 S.P.	1416	244.26	50.0	294.26	98.09	294.3	100	4.276	55	0.24	236.50 STP at (-) 8.00	346.50	338.26	101.76

PROJECT : GROUP HOUSING FOR AN AREA MEASURING 5.56875 ACRES (LICENSE NO. 32, 33 OF 2009, 3.625 ACRES & LICENSE NO. 21 & 22 OF 2016, 1.94375 ACRES) IN SECTOR-28, GURGAON, HARYANA

- REVISED BUILDINGS Q1, Q2, R1, R2, R3, R4, S1
(PLATINUM-A, F, B,C,D,E & S1 EWS)

SUBHEAD : SEWERAGE SCHEME

MATERIAL STATEMENT SEWERAGE

Sl. No.	Line Referances	200 mm		
		0 to 1.50 m	0 to 3.00 m	0 to 4.50 m
1.	N1 - N2		86	
2	N2 - N3		127	
3	N3 - N4			131
4	N4 - STP			13
5	STP - EXISTING MANHOLE	380		
	TOTAL	**380**	**213**	**144**
		mh	mh	mh

PROJECT : GROUP HOUSING FOR AN AREA MEASURING 5.56875 ACRES (LICENSE NO. 32, 33 OF 2009, 3.625 ACRES & LICENSE NO. 21 & 22 OF 2016, 1.94375 ACRES) IN SECTOR-28, GURGAON, HARYANA

- REVISED BUILDINGS Q1, Q2, R1, R2, R3, R4 ,S1 (PLATINUM-A, F, B,C,D,E & S1 EWS)

SUBHEAD : STORM WATER DRAINAGE SCHEME

MATERIAL STATEMENT STORM WATER DRAINAGE

Sl. No.	Line Referances	400 mm (M)	
		0 to 1.50 m	0 to 3.00 m
1	N1 - N2	142	
2	N2 - N3	84	
3	N3 - N4		103
4	N4 - N6		54
5	N5 - N6	79	
6	N6-OUTFALL		37
	TOTAL	**305**	**194**

PROJECT : GROUP HOUSING FOR AN AREA MEASURING 5.56875 ACRES (LICENSE NO. 32, 33 OF 2009, 3.625 ACRES & LICENSE NO. 21 & 22 OF 2016, 1.94375 ACRES) IN SECTOR-28, GURGAON, HARYANA

- REVISED BUILDINGS Q1, Q2, R1, R2, R3, R4 ,S1 (PLATINUM-A, F, B,C,D,E & S1 EWS)

SUBHEAD : WATER SUPPLY DISTRIBUTION FOR FRESH WATER SUPPLY

MATERIAL STATEMENT FOR DOMESTIC WATER SUPPLY PIPE (FRESH WATER SUPPLY)

Sl. No.	Line Referances	150 mm (M)	Sluice Valve (No.)	100 mm (M)	Sluice Valve (No.)
1	2 - 1	71			
2	4 - 2	48	1		
3	3 - 1	29			
4	4 - 3	66	1		
5	UGR- 4	7	1		
6	FROM TUBWELL-1			96	1
TOTAL		**221**	**3**	**96**	**1**

1	FROM HUDA MAIN			116	1

PROJECT : GROUP HOUSING FOR AN AREA MEASURING 5.56875 ACRES (LICENSE NO. 32, 33 OF 2009, 3.625 ACRES & LICENSE NO. 21 & 22 OF 2016, 1.94375 ACRES) IN SECTOR-28, GURGAON, HARYANA

- REVISED BUILDINGS Q1, Q2, R1, R2, R3, R4 ,S1
(PLATINUM-A, F, B,C,D,E & S1 EWS)

SUBHEAD : WATER SUPPLY DISTRIBUTION FOR FLUSHING WATER SUPPLY

MATERIAL STATEMENT FOR RECYCLED WATER SUPPLY PIPE (FOR FLUSHING)

Sl. No.	Line Referances	100 mm (M)	Sluice Valve (No.)
1	2 - 1	74	
2	4 - 2	58	1
3	3 - 1	45	
4	4 - 3	57	1
5	STP - 4	55	1
TOTAL		**289** mtr	**3**

PROJECT : GROUP HOUSING FOR AN AREA MEASURING 5.56875 ACRES (LICENSE NO. 32, 33 OF 2009, 3.625 ACRES & LICENSE NO. 21 & 22 OF 2016, 1.94375 ACRES) IN SECTOR-28, GURGAON, HARYANA

- REVISED BUILDINGS Q1, Q2, R1, R2, R3, R4 ,S1
(PLATINUM-A, F, B,C,D,E & S1 EWS)

SUBHEAD : RECYCLED WATER SUPPLY DISTRIBUTION FOR IRRIGATION

MATERIAL STATEMENT FOR RECYCLED WATER SUPPLY PIPE (FOR IRRIGATION)

Sl. No.	Line Referances	75 mm (OD) (M)	Sluice Valve (No.)
1.	2 - 1	84.0	
2.	4 - 2	93.0	1.0
3.	3 - 1	66.0	
4	4 - 3	143.0	1.0
8	STP Plant - 4	18.0	1.0
TOTAL		**404.0**	**3.0**

QRCV = 17 Nos.

PROJECT : GROUP HOUSING FOR AN AREA MEASURING 5.56875 ACRES (LICENSE NO. 32, 33 OF 2009, 3.625 ACRES & LICENSE NO. 21 & 22 OF 2016, 1.94375 ACRES) IN SECTOR-28, GURGAON, HARYANA

- REVISED BUILDINGS Q1, Q2, R1, R2, R3, R4 ,S1
(PLATINUM-A, F, B,C,D,E & S1 EWS)

SUBHEAD : FIRE RING MAIN

MATERIAL STATEMENT FOR FIRE RING MAIN

Sl. No.	Line Referances	150 mm (M)
1	2 - 1	78
2.	4 - 2	55
3.	3 - 1	50
4	4 - 3	75
5	PUMP ROOM - 4	5
TOTAL		**263**

NO. OF EXTERNAL HYDRANTS = 16 NOS.

PROJECT : GROUP HOUSING FOR AN AREA MEASURING 5.56875 ACRES (LICENSE NO. 32, 33 OF 2009, 3.625 ACRES & LICENSE NO. 21 & 22 OF 2016, 1.94375 ACRES) IN SECTOR-28, GURGAON, HARYANA

- REVISED BUILDINGS Q1, Q2, R1, R2, R3, R4 ,S1 (PLATINUM-A, F, B,C,D,E & S1 EWS)

SUBHEAD : DETAILS OF LENGTH OF THE ROAD

Road No.	Length in M (6 M wide)	REMARKS
1.	202	
2.	143	
3.	104	
4.	111	
5.	93	
6.	64	
7.	52	
8	40	
9	64	
TOTAL	**873**	
Add 5% for curves	44	
TOTAL	**917**	

Road Width (M)	Length in M (6 M wide)	Mettalled width (M)	Mettalled width (Sq.m)	kerb & Channels Fixing	No. of Trees
6 m wide road	917	6	5502 ~~3666.60~~	One side 917	76
TOTAL				**917**	**76**
			~~Say 3700~~ Sq.M.	Say 920 M	Say 80 Nos.

Car on Surface = 7 Nos

Area = 5 x 2.50 x 7 = 87.50 Sqm

5502 + 87.50 = 5589.50 Sqm

Say 5590 Sqm

BHUPENDERA KUMAR
ARCHITECT
CA/2004/33978

KRIM ENGINEERING SERVICES PVT. LTD. NEW DELHI

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Panchkula

C.E.I-No. 73336
Dated: 29/05/2020

Annexure-A

SUB:- Approval of additional/revised service plan/ estimate for Tower No. Q1, Q2, R1, R2, R3, R4, S1(Platinum A, F, B, C, D, E & S1 EWS) falling Group Housing Colony measuring 5.56875 acre (License No. 21 & 22 of 2016 dated 17.11.2016, No. 32 & 33 of 2009 dated 11.7.2009) Part of Group Housing Colony area 36.51875 acres (Licence No. 48 of 1995 dated 20.12.1995, No. 61 of 2004 dated 1.6.2004, No. 32 & 33 of 2009 dated 11.7.2009 & No. 21 & 22 of 2016 dated 17.11.2016) in Secotr-28 Gurugram Manesar Urban Complex being developed by Essel Housing projects Pt. Ltd.

Technical note and comments:-

1. All detailed working drawings would have to be prepared by the colonizer for Integrating the internal services proposals with the master proposals of town.
2. The correctness of the levels will be the sole, responsibility of the colonizer for the integration of internal proposals, with the master proposals, of town and will be got confirmed before execution.
3. The material to be used shall the same specifications as are being adopted by HSVP and further shall also confirm to such directions, as issued by Chief Engineer, HSVP from time to time.
4. The work shall be carried out according to Haryana PWD specification or such specifications as are being followed by HSVP. Further it shall also confirm to such other directions, as are issued by Chief Engineer, HSVP from time to time.
5. The colonizer will be fully responsible to meet the demand of water supply and allied services till such time these are made available by State Government/ HSVP. All link connections with the State Government/ HSVP system and services will be done by the colonizer. If necessary extra tube-wells shall also be installed to meet extra demand of water beyond the provision according to EDC deposited.
6. Structural design & drawings of all the structures, such as pump chamber, boosting chamber, RCC OHSR underground tanks quarters, manholes chamber, sections of RCC pipes sewer and SW pipes, sewer, ventilating shafts for sewerage and Masonry Ventilation Chamber for Chamber for storm water drainage, temporary disposal/ arrangement etc. will be as per relevant I.S codes and PWD specifications; colonizer himself will be responsible for structural stability of all structures.

हरियाणा शहरी विकास प्राधिकरण
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Address: C-3, HSVP , HQ Sector-6
Panchkula

C.E.-I No: 73336
Dated: 29/05/2020

7. Potability of water will be checked and confirmed and the tube-wells will be put into operation after getting chemical analysis of water tested.

8. Only C.I/D.I pipes will be used in water supply and flushing system, UPVC/HDPE pipe for irrigation purposes.

9. A minimum 100 i/d C.I/D.I, 200mm i/d SW and 400mm id RCC NP-3 pipes will be used for water supply, sewerage and storm water drainage respectively.

10. Standard X-section for S.W. pipes sewer, RCC pipes sewer etc. will be followed as are being adopted in Haryana Public Health Engineering Deptt.or HSVP.

11. The X-section, width of roads, will be followed as approved by the Chief Town Planner, Haryana, Chandigarh. The kerbs and channels will also be provided as per approved X-section and specifications.

12. The specifications for various roads will be followed as per IRC/MORTH specifications.

13. The wiring system of street lighting and specifications of street lighting fixture will be as per relevant standards.

14. This shall confirm to such other conditions as are incorporated in the approved estimate and the letter of approval.

For Superintending Engineer (HQ),
Chief Engineer-I, HSVP,
Panchkula.

29/5/2020