

OFFICE OF THE ADDITIONAL CHIEF ENGINEER, HSVP, GURUGRAM

To

The Chief Engineer-I,
HSVP, Panchkula.

Memo No. 68887

Dated: 11-04-2019

Sub.: - Approval of Service Plan Estimate of Affordable Group Housing Colony area measuring 5.025 acres (License No. 85 of 2018 dated 10.12.2018) at Sector – 85, Gurugram Manesar Urban Complex being developed by Pyramid Infratech Pvt. Ltd.

The Superintending Engineer, HSVP, Circle-I, Gurugram has intimated vide his letter No.68531 dated 11.04.2019 that the firm Pyramid Infratech Pvt. Ltd. vide letter dated 03.04.2019 submitted the service plan estimate for Affordable Group Housing Colony area measuring 5.025 Acres (License No. 85 of 2018 dated 10.12.2018) at Sector – 85, Gurugram. The service estimate as received has been checked and corrected wherever necessary submitted herewith for execution and as well as for Bank Guarantee purpose, subject to the following comments: -

1. **EXTERNAL DEVELOPMENT CHARGES:** -

The colonizer will have to pay the proportionate cost of the external development charges for Affordable Group Housing Colony for the service like water supply, sewerage, storm water drainage, roads, bridges, community building, street lighting, Horticulture and maintenance thereof etc. on gross acreage basis as and when determined by HSVP. These charges will be modifiable as and when approved by the Authority/ State Govt. and will be binding upon the colonizer.

*S.F.) ✓
✓
S.C.B (A)
✓ ✓*

2. **DENSITY AREA POPULATION:** -

The scheme has designed considering 05 persons per each unit for main units. The total population of the Affordable Group Housing Colony works out to 3690 persons. This may be checked and confirmed by this office that overall density as taken is correct and overall density of sector should be maintained according to the Final Development Plan of Gurugram Town. The category wise area as shown on the plans and proposed density of population thereof has been treated to be correct for estimation/ services.

3. All technical notes and comments incorporated in this estimate in two sheets will also apply. A copy of these are also appended as Annexure-A.

4. The title and name of the license may be examined by this office.

5. **STREET LIGHTING:** -

The wiring system of street lighting will be under ground and the specifications of the street lighting fixture etc. will be as per relevant standard of HVPNL, CFL lamps shall be provided to meet with the requirement of HVPNL and as well Environment.

6. The layout plan for setting up of Affordable Group Housing Colony in an area of 5.025 acres supplied by DTCP, HR., Chandigarh have been considered to be correct for the purpose of estimation/ services only.

7. The External Master services for the new area is being planned and yet to be provided, however, the internal services of the Affordable Group Housing Colony is proposed to be connected with the master services yet to be planned/ laid by HSVP sector dividing road Gurugram. The details of services proposed to be connected are as under:-

- S.FI
JL
Rester
JL*
- i) **Water Supply:** - The source of water supply in this area is through HSVP water supply mains. 100mm dia water supply line has been proposed to be connected with the proposed water supply line of HSVP Laid/ to be laid on existing/proposed road between Sector- 85/86 Gurugram.
 - ii) **Sewerage:** - For disposal of sewage firm has proposed sewage treatment plant of 570KLD in their premises. Treated water has been proposed to be utilize to irrigation the landscape area by recycling. Overflow from the STP shall be disposed off into proposed master sewer line laid/to be laid on existing/proposed road between Sector- 85/86 Gurugram.
 - iii) **SWD:** - For disposal of storm water firm has proposed 400mm I/d RCC pipe for Internal storm water drainage scheme and also made provision of Rain Water Harvesting pits as per requirement in their premises and 400mm I/d RCC pipe line for overflow has been proposed which is to be connected with HSVP master storm water drain line laid/to be laid on sector dividing road between Sector- 85/86 Gurugram.
8. It may kindly be clarified to the colonizer that recycled water is proposed to be utilize for irrigation purpose only. No tap or out let of any kind will be provided for irrigation line except in the lawn/ park with suitable arrangement so as to prevent the public to use the recycled water. Caution board shall be installed by providing warring sign/ recycled water not fit for drinking/ human consumption. No cross connection between recycled water system and potable water system shall be made.
 9. It may be made clear to the colonizer that he will be fully responsible to make the arrangement of disposal of sewerage and storm water drainage till such time these are made available by HSVP & all link connected with the external system will be done by the colonizer/ firm at his own cost. The colonizer will have to ensure that the sewer and storm water drainage to be laid by them will be connected by gravity with the master services laid/ to be laid by HSVP/ State Govt. in this area as per their scheme.
 10. The correctness of the levels of the colony will be sole responsibility of the colonizer for integrating the internal sewer/ storm water drainage of the colony by gravity with the master services.
 11. It may be made clear to the colonizer that roof top rain harvesting system shall be provided by them as per Central Ground Water Authority norms/ Haryana Govt. Notification and the same will be kept operational/ maintained all the time. Arrangement for segregation of first rain not to be enter into the system shall also be made by the firm/ colonizer.
 12. The service estimate has been checked in this office with the consideration that layout plans appended in the services estimate has been checked approved by competent authority.
 13. The estimate do not includes the provision of electrification of the colony. However, it may be clear to colonizer that the supervision charges and O&M charges shall be paid by them directly to the HVPNL.
 14. The colonizer will be sole responsible for the construction of various structures such as RCC underground tank etc. according to the standard specifications good quality and its workmanship. The structural stability responsibility will entirely rest upon the colonizer.
 15. In case some additional structures are required to be constructed and decided by HSVP at a later stage, the same will be binding upon the colonizer.
 16. It may be made clear to the colonizer that he will not make the connection with the master services i.e. water supply, sewerage, storm water drainage, without prior approval of the competent authority.
 17. The estimate doesn't includes the services to be provided by the firm in the Commercial Area.

18. Colonizer will have to obtain the permission for crossing the services in Revenue rasta from concerned department at his own level.
19. It may also be made clear to the colonizer that he shall also comply with the orders passed by National Green Tribunal:-
- i. The direction given National Green Tribunal dated 26.11.2014, 04.12.2014 and 19.01.2015 in original Application No. 21 of 2014 in the matter of Vardhman Kaushik V/s Union of India and Others shall be implemented by colonizer.
- ii. Implementation of instruction issued by Hon'ble NGT during hearing held on OA No. 21 of 2014 and OA No. 95 of 2014 in the matter of Vardhman Kaushik V/s Union of India and Others shall be complied with by colonizer.
- iii. NGT orders in Application No. 45 of 2015 & M.A No. 126 of 15 titled as Haryana Welfare Association V/s State of Haryana Gurugram.
20. The estimated cost of various services to be provided by the colonizer for the development of internal services has been checked and corrected for purpose of Bank Guarantee and works out as under:-

Sr. No.	Description	Total Cost (Rs. in Lacs)
1.	Water supply	Rs.163.20
2.	Sewerage	Rs.84.76
3.	Storm Water Drainage	Rs.35.20
4.	Roads and Footpath	Rs.167.40
5.	Street lighting	Rs.6.95
6.	Horticulture	Rs.5.57
7.	Mtc. Charges & resurfacing of roads	Rs.92.90
	Total	Rs.555.98

Additional Dev. Cost per acre $\frac{555.98}{5.025}$ = Rs.110.64Lacs per gross acre

Say Rs.110.65 Lacs per acre

Three copies of the estimate along with Plans and proposal as received are submitted herewith duly corrected and signed for further necessary action.

DA/- Estimate in triplicate
Along with Plans

[Signature]
Additional Chief Engineer,
HSVP, Gurugram

Endst. No.

Dated:

A copy of above is forwarded to the Superintending Engineer, HSVP, Circle-II, Gurugram w.r.t. his office memo No. 68531 dated 11.04.2019 for information.

[Signature]
Additional Chief Engineer,
HSVP, Gurugram



To

Date:-03.04.2019

The Executive Engineer,
HSVP, Division No. 5
Gurugram

Subject:- Approval of the Service Plan Estimate of the Affordable Group Housing Colony on the land measuring 5.025 Acres in Sector-85, Village: Badha, Gurugram being developed by Pyramid Infratech Pvt. Ltd.

Dear Sir,

With reference to the above mentioned subject, we hereby submitting Six sets of the service plan estimate for your consideration please.

Kindly do the needful and oblige.

Thanking you,

Yours truly,

For Pyramid Infratech Pvt. Ltd.

For Pyramid Infratech Pvt. Ltd.

Authorised Signatory
Authorized Signatory

Cc-Director, Town & Country Planning, Haryana, Chandigarh

*Reed Infratech
AU D 4/19 cheet
Bspatchar
O/o Executive Engineer,
HUDA, Division No. 5
Gurgoan*

PYRAMID INFRATECH PVT. LTD.

Registered Office: H-38, Ground Floor, M2K White House, Sector-57, Gurugram, 122002 (Haryana)

Corporate Office : 217A-217B, 2nd Floor, Sun City Business Tower, Sector-54, Golf Course Road, Gurugram-122002 (Haryana)

CIN : U45400HR2008PTC038509 PAN :AAECP8801B

Ph. No.: 0124 - 4274045, +91-99 1197 1197 customercare@pyramidinfratech.com * www.pyramidinfratech.com

**SERVICE ESTIMATE, DESIGN REPORT AND
CALCULATION OF
INTERNAL DEVELOPMENT WORKS**

FOR

**PROPOSED "AFFORDABLE GROUP HOUSING COLONY AREA
MEASURING 5.025 ACRES (LICENSE NO. 85 OF 2018 DATED
10.12.2018) IN SECTOR – 85, GURUGRAM – MANESAR
URBAN COMPLEX BEING DEVELOPED BY SMT. RAJ BALA
W/O KRISHAN YADAV AND OTHERS IN COLLABORATION
WITH M/S PYRAMID INFRATECH PVT. LTD.**

For Pyramid Infratech Pvt. Ltd.



Authorised Signatory

SERVICE ESTIMATE, DESIGN REPORT AND CALCULATIONS OF INTERNAL DEVELOPMENT WORKS FOR PROPOSED "AFFORDABLE GROUP HOUSING COLONY" AREA MEASURING 5.025 ACRES (LICENSE No. 85 of 2018 Dated 10.12.2018) IN SECTOR – 85, GURUGRAM – MANESAR URBAN COMPLEX BEING DEVELOPED BY SMT. RAJ BALA W/O KRISHAN YADAV AND OTHERS IN COLLABORATION WITH M/S PYRAMID INFRATECH PVT. LTD.

Gurugram town of Haryana State situated on N.H. -8 road at a distance of 35 Km from Delhi. Being in the national capital region, the town has fast developing tendency and potential. Further, it has also started sharing the growing residential, commercial and Industrial load of Delhi. In order to review the growing pressure of population in National Capital of Delhi. It has been decided by the Haryana Government to develop various infrastructure facilities in Gurugram Manesar Urban Complex. This report is for a part of service estimate for proposed "Affordable Group Housing Colony" measuring 5.025 acres (License No. 85 of 2018 dated 10.12.2018) in Sector – 85, Gurugram – Manesar urban complex being developed by Smt. Raj Bala W/o Krishan Yadav and others in collaboration with M/s Pyramid Infratech Pvt. Ltd. has been prepared with the following provisions which are as under :-

1. WATER SUPPLY

The source of water supply in this area is by HSVP Mains. It has been proposed to construct underground tanks of capacity as per attached details and to location for domestic purpose and for fire protection. The underground tanks will be fed from the HSVP based supply, which will feed O.H. tanks on the roof of the Building and has been designed as per the Hazen Williams formula. Presently there is proposed / under execution HSVP W/S in this area. However the provision of tube well have been taken due to non availability of water but after getting the approval from the competent authority through tube wells / tankers / any other approved source till HSVP W/S will made available. The proposed tube wells shall be 510mm bore drilled with reverse rotary rig and installed with 80mm i/d housing pipe and 50mm i/d slotted tube as strainer, hence the provision of One No. Tube Wells have been taken in this estimate.

DESIGN

The scheme has been designed for population of 3690 persons considering @ 5 persons / units for Affordable Group Housing and other provision etc. The combined quantum of water supply (domestic + flushing) per head / day has been taken as 172.50 Liters per head per day as per design calculation.

PUMPING EQUIPMENTS

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 time electricity failure. Generator will be provided separately or added to the capacity of main generator.

2. SEWERAGE

The scheme is designed for sewer connecting to the STP and bypass connection to HSVP sewer scheme. The sewer lines have designed for three times average D.W.F in relation to water supply demand. It has assumed that about 80% of the domestic and flushing water supply shall find its way into the proposed

sewer. Sewer lines shall be running by gravity and discharge to STP proposed. Treated water will be used for Irrigation & Flushing purpose (through recycling) under the pipe line system.

3. STORM WATER DRAINAGE

It has been proposed to lay R.C.C pipes with required number of manholes for disposal of storm water, which will be connected to the HSVP drain. The intensity of rain fall has been taken as 6.00mm per hour. A minimum size of 400mm i/d R.C.C pipe for storm water drain will be provided and designed as per manning's formula. Necessary provision of rainwater harvesting arrangement has also been taken in this estimate.

4. ROADS

Road, Parking and Pavement have been provided to above areas and estimate is prepared as revised specifications adopted by HSVP.

5. STREET LIGHTING AND ELECTRIFICATION :-

Provision for external lighting and electrification of proposed area has been made.

6. HORTICULTURE :-

Estimate and details of plantation, landscaping, signage etc. have been included.

7. FIRE FIGHTING :-

Provision of Fire Fighting system has been made.

8. Provision for Electric Panel or ESS provision has also been made in this estimate.

9. SPECIFICATIONS

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

10. RATES

The estimate has been based on the present market rates.

11. COST

The total cost of the scheme including cost of all services works out to Rs. 332.11 Lacs (Rupees Three Crores Thirty Two Lacs Eleven Thousand only) including 3% contingencies and 49% departmental charges + Price escalation and cost per acre comes out to Rs. 66.09 Lacs.

(Authorized Signatory)
For Pyramid Infratech Pvt. Ltd.


Authorised Signatory

1. DESIGN CALCULATION :-

Total Area of plot (commercial)	= 5.025 Acres or 20335.421 Sqm
Permissible Ground Coverage 50%	= 10167.711 Sqm
Proposed Ground Floor	= 10167.711 Sqm
Permissible F.A.R. @ 2.25% (Resi.)	= 43924.510 Sqm
Proposed F.A.R Achieved (Resi)	= 43899.240 Sqm
Proposed area of commercial	= 1418.280 Sqm
Community Building	= 207.226 Sqm
Anganwari	= 203.226 Sqm

2. Detail of Units

No. of Units	No. of Floors	No. of Block	Unit / Block	Total Unit	Density
Tower -1	G + 14	1	118	118	590
Tower -2	G + 14	1	118	118	590
Tower -3	G + 14	1	118	118	590
Tower -4	G + 14	1	118	118	590
Tower -5	G + 14	1	118	118	590
Tower -6	G + 14	1	118	118	590
On commercial	2 nd , 3 rd and 4 th	1	30	30	150
Total Density				738	3690

3. Water Requirement :-

Total Population	= 3690 Persons
@ 172.50 LPCD	= 636525.00 LPD

Commercial & Community Buildings :-

• Commercial	= 1418.280 Sqm
@ 3 Sqm / person = 473 Persons @ 45 LPCD	= 21285.00 LPD
• Community Building (Area 207.226 Sqm) L.S	= 5000.00 LPD
• Anganwari (Area 203.226 Sqm) L.S	= 5000.00 LPD
Total	= 667810.00 LPD Or 668 KLD
	Say 670 KLD

II. FIRE DEMAND

(i) Population	= 3690 Persons
(p) $\frac{1}{2} \times 100/1000 = (3.69) \frac{1}{2} \times 100$	= 192.09 KLD Say 200 KLD

III. Garden Irrigation Requirement (For Total Area)**= 60.00 KLD****IV. Total Water Requirement for UGT**

(Excluding Fire Demand)

Hence Domestic Water Requirement (67%)

 $= 670 \times 67\% = 449.00 \text{ KLD}$

Hence Flushing Water Requirement (33%)

 $= 670 \times 33\% = 221.00 \text{ KLD}$

Half Day Requirement

 $= 225 \text{ K.L. for Domestic}$ $= 115 \text{ K.L. for Flushing}$

But it is proposed to construct an underground tank i.e. 225 K.L. in two compartment for domestic use and 115 K.L. for non potable water in two compartment (at STP) and 200 K.L. for fire fighting purposes for UGT in two compartment in each UGT as shown location in the plan.

For Pyramid Infratech Pvt. Ltd.



Authorised Signatory

Total Capacity of UGT	= 225 + 200	= 425.00 KLD
Total Requirement for Flushing and Irrigation at STP	= 115+60	= 175.00 KLD

VI. Tube Well For UGT

a) Yield	= 15 K.L. / Hr.
b) Working Hour per day	= 16 Hr. / Per Day
c) Total water demand	= 449 M3/Day
d) Number of tube well required (Water Demand / Discharge / Hr. working Per day)	= 1.87 Nos
e) Add 5% extra	= 0.09
Total	= 1.96 Nos
Say	= 2 Nos

(Water to the proposed development is to be supplied by HSVP. However consider 50% T.W.'s it is proposed to install only one no tube wells for augmentation / standby purposes and provision has also been taken in the estimates due to non availability of water but after getting the approval from the competent authority.

I) Pumping Machinery for Tube wells

a) Gross Working Head	= 80 Mtr
b) Average fall in S.L.	= 2 Mtr
c) Depression Head	= 6 Mtr
d) Friction loss in main	= 10 Mtr
Total	= 98 Mtr
e) Discharge	= 15000 LPH (Or 4.17 LPS Say 4.50 LPS)
f) Horse Power	= 9.80 H.P.

$$\text{HP} = (4.50 \times 98) / (75 \times 0.60) \quad \text{Say} \quad = 10.00 \text{ H.P.}$$

It is proposed to provide 1 No. pumping set of 4.50 LPS discharge at 98 Mtr head (1W)

II) Boosting Machinery for domestic water For UGT

Total Water Requirement	= 449.00 KLD
Pumping per hour @ 8 hr. pumping / day	= 449 / 8 KL / hr.
	= 56.12 KL / hr.
	= 935.41 lpm = 15.59 lps
	Say 2 No. 8.00 lps each

Gross working head	For UGT
- Suction lift	= 5.00 mts.
- Frictional loss in mains & specials	= 5.00 mts.
- Clear Head required	= 65.00 mts.
Total	= 75.00 mts.
Say	= 75.00 mts.
Pump HP	= $(8.00 \times 75) / (75 \times 0.60)$
	= 13.33 H.P.
	Say = 15.00 HP

It is proposed to provide 3 No. of pumping set of 8.00 lps discharge at 75 mts Head each (2W + 1S) for UGT

For Pyramid Infratech Pvt. Ltd.


 Authorised Signatory

III) Boosting Machinery for flushing water at STP

Total Water Requirement	= 221 K.L.D
Pumping per hour @ 8 hr. pumping / day	= 221 / 8 KL / hr.
	= 27.625 KL / hr.
	= 460.42 lpm = 7.38 lps,
	Say 2 No. 4.00 lps each
Gross working head	
- Suction lift	= 5.00 mts.
- Frictional loss in mains & specials	= 5.00 mts.
- Clear Head required	= 65.00 mts.
Total	= 75.00 mts.
Say	= 75.00 mts.
Pump HP	= $(4.00 \times 75) / (75 \times 0.60)$
	= 6.66 HP
	Say = 7.50 HP

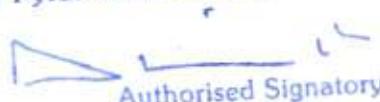
It is proposed to provide 3 Nos of pumping set of 4.00 lps discharge at 75 mts Head each (2W + 1S)

IV) Boosting Machinery for Irrigation water

Total Water Requirement	= 60 KLD
Pumping per hour @ 5 hr. pumping / day	= 60 / 5 KL / hr.
	= 12.00 KL / hr.
	= 200.00 lpm = 3.33 lps
	Say = 4.00 LPS
Gross working head	
- Suction lift	= 3.00 mts.
- Frictional loss in mains & specials	= 3.00 mts.
- Clear Head required	= 15.00 mts.
Total	= 21.00 mts.
Say	= 21.00 mts.
Pump HP	= $(4.00 \times 21) / (75 \times 0.60)$
	= 1.86 HP
	Say = 2.00 HP

It is proposed to provide 2 No. of pumping set of 4.00 lps discharge at 21 mts Head each (1W + 1S)

For Pyramid Infratech Pvt. Ltd.



Authorised Signatory

V) Boosting Machinery for Fire water**Total Water Requirement**

Hydrant pump as per CFO Directive	= 2280 LPM, 95M Head and 80 H.P = 1 Nos
Jockey pump (Hydrant) as per NBC table No. 23	= 180 LPM, 95 M Head and 7.50 H.P = 1 Nos
Diesel pump as per CFO Directive	= 2280 LPM, 95 M Head and 80 H.P = 1 Nos
Gross working head	
- Suction lift	= 5.00 mts.
- Frictional loss in mains & specials	= 5.00 mts.
- Clear Head required	= 85.00 mts.
Total	= 95.00 mts.
Jockey Pump HP (Fire)	= $(3 \times 95) / (75 \times 0.60)$
	= 6.33 HP
	Say = 7.50 HP (1W + 1SB)

VI) DG Set for plumbing**DG Set Requirement**

Submersible Pump (1 x 10)	= 10 HP
Domestic Pump (2 x 15)	= 30 HP
Flushing Pump (2 x 7.50)	= 15 HP
Street Light and other etc.	= 10 HP
Fire Jockey pump	= <u>7.5 HP</u>
Total pump load	= 72.50 HP
	= $72.50 \times 0.746 \times 1.50$
	= 81.13 K.W
Total DG capacity	= 1 No. 100 KVA

Hence it is proposed to provide 1 No. D.G. Set of 100 KVA capacity

FLOW TO SEWAGE TREATMENT PLANT

Total Water Requirement = 449 KLD for domestic & 221 KLD for flushing

i) 80% of total Domestic Water Demand = 80% of 449 KLD	= 359.20 KLD
ii) 80% of total Flushing Water Demand = 80% of 221 KLD	= <u>176.80 KLD</u>
	Total = 536.00 KLD
Considering 5% marginal factor	= <u>26.80 KLD</u>
	G. Total = 562.80 KLD

Say 570 KLD

Proposed STP Capacity = 570 KLD Or 0.57 MLD

For Pyramid Infratech Pvt. Ltd.


Authorised Signatory
(Authorized Signatory)

FINAL ABSTRACT OF COST

SR. NO.	SUB WORK	DESCRIPTION	AMOUNT (Rs. In Lacs)
1	SUB WORK NO.I	WATER SUPPLY SCHEME	111.73
2	SUB WORK NO. II	SEWERAGE SCHEME	84.76
3	SUB WORK NO. III	STORM WATER DRAINAGE	35.20
4	SUB WORK NO. IV	ROAD AND FOOTPATH	43.73
5	SUB WORK NO. V	STREET LIGHTING	6.95
6	SUB WORK NO. VI	HORTICULTURE (PLANTATION & ROAD SIDE TREES)	5.57
7	SUB WORK NO. VII	MTC. OF SERVICES & RESURFACING OF ROADS (After 1st 5 years of 1st Phase & Next 5 years in 2nd Phase)	44.17
			TOTAL 332.11
TOTAL : (Rupees Three Crore Thirty Two Lacs Eleven Thousand only)			

Cost Per Acre = Rs.332.11 Lacs / 5.025 = 66.09 Lacs Per Acre

For Pyramid Infratech Pvt. Ltd.

AUTHORISED SIGNATORY

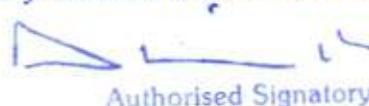
SUB WORK NO. 1 (Abstract of cost)

WATER SUPPLY SCHEME

SR. NO.	SUB WORK	DESCRIPTION	AMOUNT (Rs. In Lacs)
1	Sub Head No. 01	Head Works	23.78
2	Sub Head No. 02	Pumping Machinery	19.05
3	Sub Head No. 03	Water Supply Distribution & Rising main pipe	14.91
4	Sub Head No. 04	External Fire Hydrants	12.50
6	Sub Head No. 05	Irrigation	2.56
		TOTAL	72.80
		Add 3% contingency & P.H. Services	2.18
		Total	74.98
		Add 49% Department charges + Price Escalation	36.74
		G. Total	111.73
		Say in Lacs	111.73

(C.O. to Final Abstract Of Cost)

For Pyramid Infratech Pvt. Ltd.



Authorised Signatory

SUB WORK NO. I

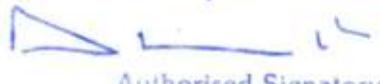
Sub Head No. 01

WATER SUPPLY

Head Works

Sr. NO.	Description	Amount in Rs.
1	Construction of U.G. tanks and Fire TanK Including pipes, valve & Specials. 425 KLD @ Rs. 3500/- per K.L.D	1487500
2	Provision for construction of Boosting Station 1 Nos @ Rs. 250000/- each	250000.00
3	Boring and installing tube well reverse rotary rig complete with pipes and strainer to a depth of about 120 Mtr complete in all respect. 1 Nos @ Rs. 500000/- each	500000.00
4	Provision for construction of tube well chamber size 1.50m x 1.50m complete in all respect. 1 Nos @ Rs. 80000/- each	80000.00
5	Provision for carriage of material and unforeseen items L.S.	30000.00
6	Provision of specials for tube well & rising main to UGT L.S.	30000.00
	Total	2377500.00
	Say in Lacs	23.78

(C.O. to Abstract of cost of Sub Work No. I Pyramid Infratech Pvt. Ltd.)



Authorised Signatory

SUB WORK NO. 1
Sub Head No. 02

WATER SUPPLY
Pumping Machinery

Sr. NO.	Description	Amount in Rs.
1	Providing and installing Hydro pneumatic pumping set of following capacities for domestic water Supply with specials 8.00 lps at 75 mts head - 3 No. (2W+1SB) - @ Rs. 80,000/- each Set (15.00HP)	240000.00
2	Providing and installing Hydro Pneumatic pumping set of following capacities for Flushing water supply 4.00 lps at 75 mts head - 3 No. (2W+1SB) @ Rs. 70,000/- 1 Set (10 HP each)	210000.00
3	Providing and installing Submersible pump for tube wells with specials 4.50 lps at 98 mts head - 1 Nos (1W) @ Rs. 80,000/- 1 Set (10HP each)	80000.00
4	Provision for ESS (Electric Panel Foundation) L.S.	25000.00
5	Providing and installing pumping sets of following capacities for Fire Protection etc. with foundation complete - 180 lpm at 95 M head 1 No. @ Rs. 60,000/- (7.50 HP each) - 2280 lpm at 95 M head 1 No. @ Rs. 2,50,000/- (80 HP each) (Hydrant) - 2280 lpm at 95 M head 1 No. @ Rs. 3,50,000/- (80 HP) (Diesel Engine)	60000.00 250000.00 350000.00
6	Provision for D.G. Set for stand by arrangement for all machinery = 1 No. 100 KVA @ Rs. 4,00,000/- each	400000.00
7	Provision for making foundations & erection of pumping machinery	40000.00
8	Provision for pipes, valve & specials inside boosting chamber	100000.00
9	Provision for electric services connection including electric fittings for boosting chambers and pump chamber etc.	100000.00
10	Provision for carriage of materials and other unforeseen items L.S.	50000.00
	Total	1905000.00
	Say in Lacs	19.05

(C.O. to Abstract of cost of Sub Work No. I)

For Pyramid Infratech Pvt. Ltd.

Authorised Signatory

SUB WORK NO. 1
Sub Head No. 03

WATER SUPPLY
Water Supply Distribution & Rising Main Pipe

Sr. NO.	Description	Amount in Rs.
1	Providing, laying, jointing & testing pipe lines including cost of excavation etc. complete in all respects	
i)	100mm dia D.I. Pipe 840 Mtr @ Rs. 500/- Per Mtr	420000.00
ii)	150mm i/d D.I. Pipes - 806 Mtr @ Rs. 800/- Per Mtr	644800.00
iii)	200mm i/d D.I. Pipes 12 Mtr @ Rs. 1100/- per mtr	13200.00
2	Providing and fixing sluice valve including cost of surface box and masonry chamber etc. complete in all respect	
a)	100mm i/d 12 No. @ Rs. 7500/- each	90000.00
b)	150mm i/d 9 No. @ Rs. 10000/- each	90000.00
c)	200mm i/d 2 No. @ Rs. 15000/- each	30000.00
3	Providing and fixing indicating plates for sluice valve 23 No. @ Rs. 1000/-	23000.00
4	Provision for carriage of materials and other unforeseen items	30000.00
5	Provision for making connection with HUDA Pipe & T.W's etc.	100000.00
6	Provision for cutting the road and making good the same	50000.00
	Total	1491000.00
	Say in Lacs	14.91

(C.O. to Abstract of cost of Sub Work No.1) *For Pyramid Infratech Pvt. Ltd.*



Authorised Signatory

SUB WORK NO. 01

WATER SUPPLY

SUB HEAD NO. 04

EXTERNAL FIRE HYDRANTS

Sr. NO.	Description	Amount in Rs.
1	Providing, Laying, jointing and testing Heavy Class M.S. Pipes for fire rising main including cost of fittings, valves, connection etc. complete in all respect	
a)	100mm dia - 272 M @ Rs. 500/- Per Mtr	136000.00
b)	150mm dia - 1186 M @ Rs. 700/- Per Mtr	830200.00
2	Providing and fixing fire Hydrant with accessories 34 No. @ Rs. 6000/- each	204000
3	Provision for Security Services for Fire Arrangement L.S.	20000.00
4	Providing and fixing indicating plate -34 No. @ Rs. 1000/- each	34000.00
6	Provision for carriage of material L.S.	25000.00
	Total	1249200
	Say In Lacs	12.50

(C.O. to Abstract of cost of Sub Work No. I)

For Pyramid Infratech Pvt. Ltd.



Authorised Signatory

SUB WORK NO. 01

WATER SUPPLY

SUB HEAD NO. 05

IRRIGATION

Sr. NO.	Description	Amount in Rs.
1	Providing, Laying, jointing and testing UPVC pipe lines suitable for 6 kg pressure including cost of fittings, valves, connection etc. complete in all respect	
a)	25mm dia - 320 M @ Rs. 300/- Per Mtr	96000.00
2	Providing and fixing 25mm dia, Irrigation hydrant valve complete in all respect 40 Nos @ Rs. 2000/- each	80000.00
3	Provision for carriage of materials and other unforeseen items L.S.	20000.00
4	Provision for indicating plate with safety box etc. complet in all respect 40 Nos @ Rs. 1000/- each	40000.00
6	Provision for road cutting and making it condition as original L.S.	20000.00
	Total	256000.00
	Say in Lacs	2.56

(C.O. to Abstract of cost of Sub Work No. I)

For Pyramid Infratech Pvt. Ltd.

Authorised Signatory

SUB WORK NO. II

SEWERAGE SCHEME

Sr. NO.	Description	Amount in Rs.
1	Providing, jointing, cutting and testing stoneware pipe grade A and lowering into trenches including cost of excavation, bed concrete, cost of manholes etc. complete	
a)	SW Pipe 200mm i/d avg. depths 0 - 2.00M 165 M @ Rs. 1180/- per Mtr	194700.00
b)	SW Pipe 250mm i/d avg depth 2.00 M 308 M @ Rs. 1300/- per Mtr	400400.00
c)	SW Pipe 300mm i/d avg depth 2.75 M 143 M @ Rs. 1500/- per Mtr	214500.00
d)	SW Pipe 400mm i/d avg depth 3.00 M 10 M @ Rs. 1800/- per Mtr	180000.00
2	Providing, laying, jointing & testing pipe lines including cost of excavation etc. complete in all respect - 200mm dia Heavy Class DI pipes (overflow for STP)	
a)	200MM i/d D.I. Pipe - 320 M @ Rs. 1100/- Per Mtr	320000.00
3	Provision of lighting and watching etc.	30000.00
4	Provision for cartage of material	20000.00
5	Provision for making connection with HSVP	50000.00
1	Provision for construction of Sewerage Treatment Plant (STP) including the cost of tertiary treatment level with recycling storage tank and machinery with all arrangement etc. complete in all respect. KLD or (0.57 MLD) Capacity L.S.	4275000.00 570 5522600.00
	Add 3% contingency & P.H. Services	165678
	Total	5688278
	Add 49% Department charges + Price Escalation	2787256
	G. Total	8475534
	Say in Lacs	84.76

(C.O. to Final Abstract of Cost)

For Pyramid Infratech Pvt. Ltd.

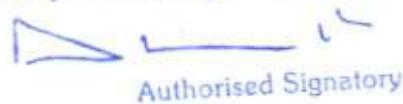
Authorised Signatory

SUB WORK NO. III

STORM WATER DRAINAGE SCHEME

Sr. NO.	Description	Amount in Rs.
1	Providing, lowering, laying, jointing RCC pipe class Np3 with cement joint, a) RCC Np3 pipe 400mm i/d = 792M @ Rs. 1500/- Per Mtr	1188000.00
2	Provision for Rain Water Harvesting arrangement including the cost of screening chamber and pit with all type of pipes and other material etc. complete in all respect as per standard drawing and bore upto requirement of site etc. 5 Nos RWH @ Rs. 1,50,000/- each	750000.00
2	Provision for road gulley & pipe with connection	200000.00
3	Provision for lighting and watching	20000.00
4	Provision for timbering and shoring	20000.00
5	Provision for cartage of material	15000.00
6	Provision for making connection with HSVP storm water drain	100000.00
	Total	2293000
	Add 3% contingency & P.H. Services	68790
	Total	2361790
	Add 49% Department charges + Price Escalation	1157277
	G. Total	3519067
	Say in Lacs	35.20

(C.O. to Final Abstract of Cost) For Pyramid Infratech Pvt. Ltd.



Authorised Signatory

Sub Work No. IV

ROAD AND FOOTPATH

S. No.	Description	Unit	Qty	Rate (In Rs.)	Amount (In Rs.)
1	Provision for leveling & earth filling as per site conditions	Per Acre	5.025	40000	201000
2	i) Providing and laying 100mm thick PCC under pavement, cement concrete of specified grade 1:4:8 and 150mm thick RMC grade M-40 ii) Providing and laying Bituminous road (250mm GSB, 300mm WMM, 50mm DBM, 40mm BC).	Sqm	7081	200	1416200
3	Provision for kerbs & channels of C.C. 1.2:4	Metre	1218	340	414120
4	Provision for arrangement of guide map and indicating board etc.	LS			20000
5	Provision for parking arrangement with 100mm thick PCC under pavement cement concrete of specified grade 1:4:8 and 150mm thick RMC Grade M-40 or Bituminous road with 250mm GSB, 300mm WMM, 50mm thick DBM & 40mm thick BC etc. as per requirement of site for surface car parking and approach to Tower / Blocke etc. complete in all respect	Sqm	5985	130	778050
5	Provision for carriage of material	LS			20000
Sub Total					2849370
Add 3% contingencies & PH Services					85481
Sub Total					2934851
Add 49% Departmental Charges + Price Escalation					1438077
Total					4372928
Say Rs. In Lacs					43.73

(C.O. to Final Abstract of cost)

For Pyramid Infratech Pvt. Ltd.



Authorised Signatory

Sub Work No. V

STREET LIGHTING

S. No.	Description	Unit	Qty	Rate (In Rs.)	Amount (In Rs.)
1	Provision for Street Lighting at surrounding area as per standard specifications of HVPN etc. complete	Acre	5.025	90000	452250
	Add 3% contingencies & PH Services				13568
	Total				465818
	Add 49% Departmental Charges + Price Escalation				228251
	Total				694068
	Say Rs. In Lacs				6.95

(C.O. to Final Abstract of cost)

For Pyramid Infratech Pvt. Ltd.



Authorised Signatory

Sub Work No. VI

HORTICULTURE

S. No.	Description	Unit	Qty	Rate (In Rs.)	Amount (In Rs.)
1	Development of Lawn Areas				
a.	Trenching of ordinary soil upto depth of 60 cm i/c removal & stacking of serviceable material & disposing by spreading and levelling within a lead of 50 M and making up the trench area for proper levels by filling with earth or earth mixed with manure before and after flooding trench with water i/c cost of imported earth and manure with all fitting and valve etc. complete				
b.	Rough dressing of turfed area				
c	Grassing with "Cynodon dactylon" 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 7.5 cm part in eighter direction				
d	organized green 4345.99 Sqm Or 1.08 Acres (As per detail given in green park area calculation)	Acre	1.08	200000	216000
2	Providing and planting trees along boundary @ 6 m interval (Length appx 1218M) = $1218/6 = 203\text{Nos}$ Say No. of trees = 203 Nos Cost details : Excavation = Rs. 73 Manure = Rs. 100 Tree Plant = Rs. 550 Total Rs. = Rs. 723				
		Each	203	723	146769
	Total				362769
	Add 3% contingencies & PH Services				10883
	Total				373652
	Add 49% Departmental Charges + Price Escalation				183090
	Total				556742
	Say Rs. In Lacs				5.57

(C.O. to Final abstract of cost)

For Pyramid Infratech Pvt. Ltd.



3 Authorised Signatory

Sub Work No. VII

Mtc. Of services & Resurfacing of Road

S. No.	Description	Unit	Qty	Rate (In Rs.)	Amount (In Rs.)
1	Mtc. Of water supply, sewer, storm water drain, roads, street light, hort. Etc. for period of 10 years including operation charges full establishment etc. complete in all respects 5.0255 acres @ Rs. 1.50 lacs per acre	Acre	5.025	150000	753750
2	Provision for resurfacing of roads after 5 years of 1st phase with provision of 50mm thiCK BM including leveling coarse and 25mm BC as per crust design whichever is safer	Sqm	7081	100	708100
3	2nd phase after next five years of 1st phase (50mm DBM & 25mm BC or as per crust design whichever is safer	Sqm	7081	200	1416200
Sub Total					2878050
Add 3% contingencies & PH Services					86342
Sub Total					2964392
Add 49% Departmental Charges					1452552
Total					4416943
Say Rs. In Lacs					44.17
					.

(C.O. to Final abstract of cost)

For Pyramid Infratech Pvt. Ltd.



Authorised Signatory

SUMMARY OF DESIGN REQUIREMENT

S. No.	Description	Qty	Unit
1	Total Population	3690	Persons
2	Total Water Requirement (Domestic)	449	KLD
3	Total Water Requirement (Flushing)	221	KLD
4	Total Water Requirement (Horticulture)	60	KLD
5	U. G Tank (Domestic - 225 KLD)	1	No.
6	U.G.T Fire Tank 200 KLD	1	No.
7	No. of Domestic WS pumps UGT	2+1	Set
8	No. of Flushing pumps	2+1	No.
9	No. of submersible pumps	1	No.
10	Main Fire Hydrant electrical pumps	1	No.
11	Diesel fire pumps	1	No.
12	Jockey fir pumps	1	No.
13	Generating sets (100 KVA)	1	100 KVA
14	STP (570 KLD)	1	No.

For Pyramid Infratech Pvt. Ltd.

Authorised Signatory

MATERIAL STATEMENT (DOMESTIC WATER SUPPLY)

S. No.	Line Designation		Size of Pipe Provided	Length of Pipe (Mtr)	Length in Mtr		
	From	To			200MM	150MM	100MM
1	UGT	A	200	12	12	-	-
2	A	B	150	65	-	65	-
3	B	C	150	37	-	37	-
4	C	D	150	45	-	45	-
5	D	E	150	110	-	110	-
6	A	F	150	45	-	45	-
7	F	G	150	42	-	42	-
8	G	E	150	40	-	40	-
9	G	C	150	115	-	115	-
10	E	E1	100	70	-	-	70
11	E1	E3	100	35	-	-	35
12	E1	E2	100	65	-	-	65
	Total			681	12	499	170

200mm i/d Pipe Length

12 Mtr

150mm i/d Pipe Length

499 Mtr

100mm i/d Pipe Length

170 Mtr

For Pyramid Infratech Pvt. Ltd.

Authorised Signatory

MATERIAL STATEMENT (FLUSHING WATER SUPPLY)

S. No.	Line Designation		Size of Pipe Provided	Length of Pipe (Mtr)	Length in Mtr	
	From	To			150MM	100MM
1	STP	a	150	10	10	-
2	a	b	150	38	38	-
3	b	c	150	37	37	-
4	c	d	100	45	-	45
5	d	e	100	110	-	110
6	b	f	150	72	72	-
7	f	g	100	42	-	42
8	g	e	100	38	-	38
9	e	e1	100	65	-	65
10	e1	e3	100	30	-	30
11	e1	e2	100	60	-	60
12	c	g	150	115	115	-
Total				662	272	390

150mm i/d Pipe Length

272 Mtr

100mm i/d Pipe Length

390 Mtr

For Pyramid Infratech Pvt. Ltd.



Authorised Signatory

MATERIAL STATEMENT FOR BOREWELL RISING MAINS AND HUDA MAIN

S. No.	Name of Line		Size of Pipe Provided	Length of Pipe (Mtr)	Length in Mtr	
	From	To			100mm	150mm
1	T.W.	UGT	150	35	-	35
2	Govt. Line	UGT	100	280	280	-
Total				315	280	35

For Pyramid Infratech Pvt. Ltd.



Authorised Signatory

TOTAL MATERIAL STATEMENT FOR WATER SUPPLY i.e. DOMESTIC, FLUSHING & RISING MAIN ETC.

25

S. No.	Description	Size of pipe upto valve in 80mm	Size of pipe upto valve in 100mm	Size of pipe upto valve in 150mm	Size of pipe upto valve in 200mm
1	Domestic	-	170M	499M	12M
2	Flushing	-	390M	272M	-
3	Rising Main	-	280M	35M	-
	Total	-	840M	806M	12M

For Pyramid Infratech Pvt. Ltd.



Authorised Signatory

MATERIAL STATEMENT FOR SEWERAGE SCHEME

26

S. No.	Line No.		Length (In Mtr)	Pipe Dia	Av. Depth	Length in Mtr			
	From	To				200mm i/d	250mm i/d	300mm i/d	400mm i/d
						0 to 2.00 Mtr	0 to 2.00 Mtr	0 to 2.75 Mtr	0 to 3.00 Mtr
1	A	B	65	200	1.18	65	-	-	-
2	B1	C	30	200	1.14	30	-	-	-
3	B	C	70	200	1.55	70	-	-	-
4	C	D	80	250	1.97	-	80	-	-
5	D	E	70	300	2.32	-	-	70	-
6	E4	E3	85	250	1.18	-	85	-	-
7	E3	E2	48	250	1.47	-	48	-	-
8	E5	E2	95	250	1.20	-	95	-	-
9	E2	E1	35	300	1.67	-	-	35	-
10	E1	E	38	300	1.79	-	-	38	-
11	E	STP	10	400	1.90	-	-	-	10
13	STP - HUDA / Sewer By Pumping 200mm i/d D.I. Pipe = 190 Mtr					-	-	-	-
	Total		626			165	308	143	10

200mm i/d Pipe Length 165 Mtr

250mm i/d Pipe Length 308 Mtr

300mm i/d Pipe Length 143 Mtr

400mm i/d Pipe Length 10 Mtr

200mm i/d D.I. Pipe (By Pumping) = 320 Mtr

For Pyramid Infratech Pvt. Ltd.



Authorised Signatory

MATERIAL STATEMENT OF STORM WATER DRAINAGE SCHEME

Sr. No.	Line Reference		400mm i/d RCC Np3 Pipe
	From	To	Length in Mtr
1	A	B/RWH -1	75
2	B/RWH -1	C/ RHW -2	75
3	C1	C/ RHW -2	110
4	C/ RHW -2	D/RWH -4	60
5	D2	D1/RWH-3	105
6	D1/RWH-3	D/RWH -4	115
7	D/RWH -4	E	75
8	E1	E	60
9	E	F/RWH-5	52
10	F/RWH-5	Master SWD HSVP	65
	Total Length		792

Total Length 400mm i/d RCC Np3 pipe = 792 Mtr

Total Rain Water Harvesting (RWH) = 5 Nos

For Pyramid Infratech Pvt. Ltd.



Authorised Signatory

Material Statement of Road Works

Sr. No.	Road No.	Road Width	Length	Width	Area	
1	1	6.00	105.00	6.00	630.00	Sqm
2	2	6.00	100.00	6.00	600.00	Sqm
3	3	6.00	85.00	6.00	510.00	Sqm
4	4	6.00	75.00	6.00	450.00	Sqm
5	5	6.00	95.00	6.00	570.00	Sqm
6	6	6.00	125.00	6.00	750.00	Sqm
7	7	6.00	115.00	6.00	690.00	Sqm
8	8	2 x 6.00	140.00	2 x 6.00	1680.00	Sqm
9	9	12.00	55.00	6.00	330.00	Sqm
10	10	4.27	125.00	4.27	533.75	Sqm
	G. Total				6743.75	Sqm
			Add 5% extra for curves		337.19	Sqm
			Total		7080.94	Sqm
				Say	7081	Sqm

ii) Kerbs & Channels

i)	4.27 Mtr wide road	125 Mtr
ii)	6 Mtr wide Road	700 Mtr
iii)	12 Mtr wide Road	55 Mtr
iv)	2 x 6 Mtr wide Road (2 x 140Mtr)	280 Mtr
	Total	1160 Mtr
	Add 5% for curves	58 Mtr
	G. Total	1218 Mtr

II) PARKING :-

(i) Surface Car Parking = 456 Nos
 Area = 456 Nos x 2.50 Mtr x 5.00 Mtr = 5700.00 Sqm
 Add 5% for curves = 285.00 Sqm
 Total = 5985.00 Sqm

For Pyramid Infratech Pvt. Ltd.

Authorised Signatory

MATERIAL STATEMENT (FIRE FIGHTING)

S. No.	Line Reference		Length in Mtr	Size of M.S. Pipe 150mm i/d Fire Rising	Remarks
	From	To			
1	UGT	A	10	10	
2	A	B	74	74	
3	B	C	35	35	
4	C	D	45	45	
5	D	E	30	30	
6	E	F	184	184	
7	F	G	47	47	
8	G	H	40	40	
9	A	J	12	12	
10	J	K	75	75	
11	K	L	35	35	
12	L	M	125	125	
13	M	H	94	94	
14	C	K	125	125	
15	L	D	120	120	
16	J	B	135	135	
	Total		1186	1186	

i) Length of 150mm i/d M.S. Pipe = 1186 Mtr

ii) Length of 100mm i/d F.H. = 34 X 8 = 272 Mtr

iii) Nos of F.H. = 34 Nos

For Pyramid Infratech Pvt. Ltd.

Authorised Signatory

SUBHEAD : IRRIGATION WATER SUPPLY SCHEME - DESIGN CALCULATION (HORTICULTURE)

HYDRAULIC STATEMENT OF IRRIGATION WATER SUPPLY

S. No.	Line Reference	Population	Peak Flow in LPH	Velocity (m/s)	Size of the pipe required (in mm)	Size of the Pipe Recommended (mm)	Hydraulic Radius	Total Friction Loss in m/m	Length (M)	Loss of Head in line (M)	Formation Level	Available head (M)
1	From Flushing Water Supply line	600000	-	25.00	25	-	-	-	320	-	-	-

Note :-

40 Nos connections are to be done from flushing water supply line i.e. 40 Nos x 8 Mtr/each = 320 Mtr for 25mm i/d

For Pyramid Infratech Pvt. Ltd.

Authorised Signatory

HYDRAULIC STATEMENT OF WATER SUPPLY (DOMESTIC)

SUBHEAD - DOMESTIC WATER SUPPLY SCHEME - DESIGN CALCULATION

No.	Line Reference	Tower No.	Flat / Unit	Population @ 5 Person per flat	Water Requirement @ 172.50 LPCD	Other Water Requirement i.e. Commercial / Community Centre and Anganwadi	Total Water Requirement in LPO @ 67% of total water requirement	Water Requirement @ 172.50 LPCD	Water Requirement @ 67% of total water requirement	Peak Flow in lph	Velocity (m/s)	Size of the pipe in [mm]	Friction Loss in M/M	Length in (M)	Loss of Head in time [M]	Formation level at lower end [M]	Available Head at Lower end [M]	Terminal Head [M]	Remarks		
From	To	Seif	Branch	Total			In LPO														
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
1	U61	A	1 to 6. on comm.	726	738	3690	636525	31285	667810	647481	167791	0.61	200	0.003	12	0.04	229.05	304.06	75.01	Formation Level At Water Works i.e. U61 + 2.79 10 M	
2	A	B	1 to 5	118	137	235	147%	754438	1425	25560.3	171428	84287	0.62	150	0.005	65	0.32	229.10	303.74	74.64	Booster Head = 1024.10 M
3	B	C	1.2.3	177	177	355	15266.3	15266.3	15266.3	102784	38357	0.43	150	0.003	37	0.11	229.05	303.63	74.56	Hydraulic Head	
4	C	D	1.2.3	177	177	355	15266.3	15266.3	15266.3	102784	38357	0.34	150	0.002	45	0.09	229.00	303.54	74.54		
5	D	E	1.7.3	177	-	177	885	15266.3	15266.3	102784	38357	0.34	150	0.002	110	0.22	228.90	303.32	74.42		
6	A	F	1 to 6. on comm.	59	59	118	221%	74860	74860	411948	74605	103504	0.62	150	0.005	45	0.22	229.00	303.84	74.84	
7	F	G	1 to 6. on comm.	-	384	384	1920	331203	19860	351060	205210	88206	0.62	150	0.005	42	0.21	228.95	303.63	74.68	
8	G	H	on comm.	-	30	30	150	25875	19860	45735	10642	11491	0.27	150	0.003	40	0.04	228.90	303.59	74.69	
9	G	I	1 to 6. on comm.	354	-	354	1720	305325	-	305125	204968	76715	0.62	150	0.005	115	0.57	229.05	303.06	74.01	
10	I	J	1.1. on comm.	-	30	30	150	25875	19860	45735	10642	11491	0.31	100	0.002	70	0.14	228.80	303.45	74.65	
11	J	K	1.3. on comm.	30	-	30	150	25875	14340	40115	26877	10379	0.31	100	0.002	35	0.07	228.85	303.38	74.53	
12	K	L	-	-	-	-	-	-	5620	5620	3765	1012	0.23	100	0.001	65	0.07	228.75	303.38	74.63	

For Pyramid Infratech Pvt. Ltd.



Authorised Signatory

**HYDRAULIC STATEMENT OF WATER SUPPLY (FLUSHING) RECYCLING OF TREATED SEWAGE WATER
SUBHEAD : FLUSHING WATER SUPPLY SCHEME - DESIGN CALCULATION**

No	Line Reference	Tower No	Unit / Flat	Population @ 5 person per flat	Water Requirement @ 172.50 LPFD	Other Water Requirement i.e. Commercial, Community Centre / Anganwadi in LPD	Total Water Requirement in LPD	Requirement @ 33% of total water requirement	Water Velocity in m/s	Size of the pipe in [mm]	Peak Flow in LPH	Length in [M]	Fraction loss in MM/M	Total Head in Line [M]	Formation Level at Lower End [M]	Terminal Head at Lower end [M]	Remarks		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	21		
1	STP	#	1 to 200m	738	3450	6365.2%	11205	667810	220377	82661	0.62	150	0.005	10	0.05	209.05	229.10 M		
2	a	b	1 to 6	59	531	590	2950	5080.7%	1475	510300	63149	0.43	150	0.003	38	0.13	239.10	250.00 M	
3	b	c	1 to 6	-	531	531	2655	457988	151136	56675	0.43	150	0.003	57	0.13	239.05	244.10 M		
4	c	d	1,2,3	-	177	885	152663	152663	5079	18892	0.39	160	0.003	45	0.13	239.00	247.70		
5	d	e	1,2,3	-	177	885	152663	152663	5079	18892	0.39	160	0.003	110	0.33	238.90	243.37		
6	e	f	1,6, on comm	118	30	148	740	127650	29860	51978	19492	0.43	150	0.003	72	0.21	239.00	243.84	
7	f	g	on comm	-	30	30	150	238.95	14860	45735	15093	5660	0.31	100	0.002	42	0.08	238.95	243.76
8	g	h	on Lounish	-	30	30	150	238.95	18860	45735	15093	5660	0.31	100	0.002	38	0.08	238.90	243.68
9	h	i	on Lounish	-	30	30	150	238.95	19860	45735	15093	5660	0.31	100	0.002	65	0.13	238.80	243.55
+	i	j	on comm	30	-	30	150	238.95	14240	40115	11238	4964	0.31	100	0.002	30	0.06	238.85	243.49
+	j	k	-	-	-	-	-	-	5620	1855	695	0.16	100	0.001	60	0.06	238.75	243.49	
10	k	l	-	-	304	-	30325	30325	305325	100757	37784	0.38	150	0.002	115	0.23	238.75	243.60	

For Pyramid Infratech Pvt. Ltd.

Authorised Signature

Flushing Hydraulic Head at STP

For Pyramid Infratech Pvt. Ltd.

DESIGN STATEMENT OF SEWERAGE SCHEME

Sl. No	Line Reference	Tower No.	Unit / Flat			Population @ 5 Person per flat	Water requirement @ 172.50 LPCD	Other requirement i.e. room / community building / Anganwadi	Total water requirement (LPH)	Sewer Quantity after evaporation in losses @ 25% (in LPH)	Discharge peak flow (m³/sec)	Size of pipe in mm	Velocity (m/sec)	SUBHEAD : SEWERAGE SCHEME - DESIGN CALCULATION															
			From	To	Self									Start	End	Start	End	Start	End										
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28		
1	A	B	-	-	-	-	-	-	5620	4496	0.0001	200	225	0.76	0.012	65	0.28	228.25	228.10	228.80	227.75	227.45	1.00	0.38	0.69				
2	B1	C	90	100	100	100	100	100	14240	40115	32092	200	225	0.76	0.012	30	0.13	228.75	228.10	228.80	227.75	227.62	1.10	0.57	0.84				
3	B	C	90	100	100	100	100	100	19860	45335	36388	200	225	0.76	0.012	70	0.31	228.10	228.15	228.90	228.90	227.45	2.27	1.4	1.35	1.76	1.56		
4	C	D	90	100	100	100	100	100	19860	45335	36388	250	305	0.76	0.019	80	0.26	228.15	228.70	228.90	229.00	227.11	2.27	1.1	2.05				
5	D	E	90	100	100	100	100	100	19860	45335	36388	300	385	0.76	0.027	70	0.18	228.70	228.45	229.00	229.10	226.92	2.26	0.64	2.18	2.46	2.32		
6	E4	E3	12.3	12.7	12.7	12.7	12.7	12.7	885	152663	122130	0.0042	250	305	0.76	0.019	85	0.27	228.45	228.60	228.90	227.90	217.63	1.00	1.17	1.19			
7	E3	E2	12.3	12.3	12.3	12.3	12.3	12.3	885	152663	122130	0.0042	250	305	0.76	0.019	48	0.15	228.60	228.80	229.00	229.05	227.63	2.27	0.48	1.87	1.57	1.47	
8	E2	E1	12.3	12.3	12.3	12.3	12.3	12.3	885	152663	122130	0.0042	250	305	0.76	0.019	95	0.31	228.20	228.80	228.95	229.05	227.93	2.27	0.45	1.00	1.43	1.21	
9	E1	E1	12.3	12.3	12.3	12.3	12.3	12.3	885	152663	122130	0.0042	250	305	0.76	0.019	135	0.09	228.80	228.40	229.05	229.10	227.45	2.27	0.36	1.60	1.74	1.67	
10	E1	E1	12.3	12.3	12.3	12.3	12.3	12.3	885	152663	122130	0.0042	250	305	0.76	0.019	138	0.10	228.40	228.45	229.10	229.10	227.36	2.27	0.26	1.74	1.84	1.79	
11	E1	STP	12.3	12.3	12.3	12.3	12.3	12.3	738	738	3650	4067810	524248	400	570	0.76	0.049	10	0.02	228.45	228.60	229.10	229.10	226.61	2.26	0.59	2.49	2.51	2.50
12	STP	Mains Sewer HSWP	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	200	200	200	200	120	0.60	228.60	228.05	229.10	228.70	227.10	2.26	5.0	2.20	2.10		

D) Pipe (By pumping from STP)

For Pyramid Infratech Pvt. Ltd.



Authorised Signatory

DESIGN CALCULATION OF STORM WATER DRAINAGE SCHEME
INTEGRITY OF RAINFALL = 0.004 MTR / HR
INFLUENCEABILITY FACTOR = 0.5

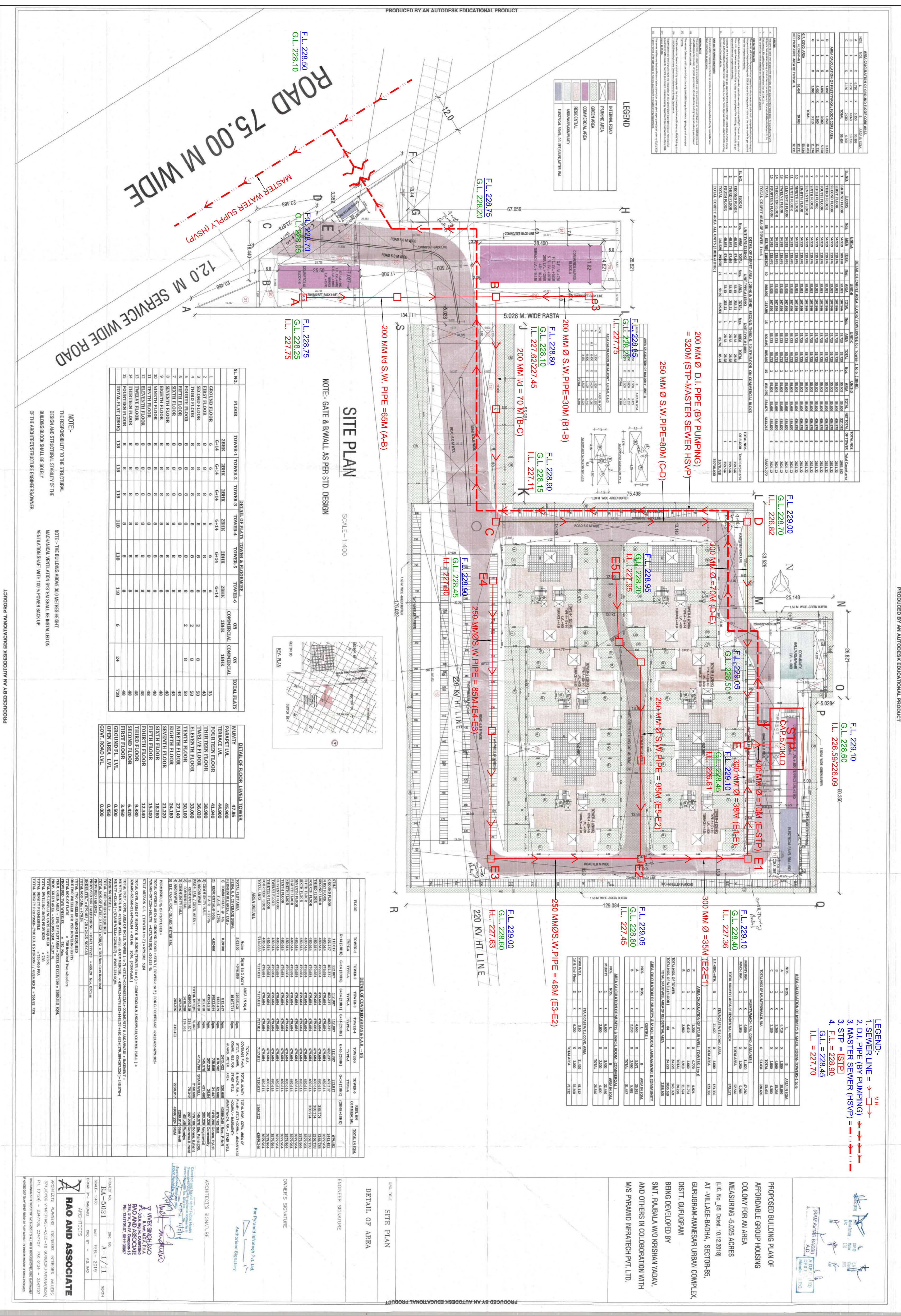
No.	Name of Node	Area (Sft)	Area (Acre)	Total Area	Rain fall	Discharge @ 17.36 UPS/Hector	Length in Mtr	Pipe dia	Slope	Velocity	Cap. Of drain	Fall + Extra Fall	Ground level	Invert level	Depth of M.H's	Average Depth	Remarks							
From	To	In Acre	In Acre	In Acres	in min	in UPS	In Mtr	In mm	In mtr	In m/sec	In UPS	In Mtr	Start	End	Start	End								
1	2	.3	.4	.5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
1	A	B/RWH-1	26.20	0.65	0	0.65	0.26	6.00	4.55	.75	400	575	0.76	98.57	0.13	228.85	228.50	229.10	229.05	227.60	227.47	1.50	1.58	1.54
2	B/RWH-1	C/RWH-2	24.20	0.60	0.65	1.25	0.51	6.00	8.77	.75	400	570	0.76	98.57	0.13	228.80	228.50	228.20	229.05	228.85	227.47	1.50	1.58	1.60
3	C1	C/RWH-2	35.46	0.88	0	0.88	0.35	6.00	6.16	110	400	570	0.76	98.57	0.19	228.80	228.80	228.20	229.05	228.95	227.36	1.50	1.59	1.54
4	C/RWH-2	D/RWH-3	18.00	0.44	2.12	2.56	1.04	6.00	18.02	60	400	570	0.76	98.57	0.10	228.80	228.45	228.80	228.95	228.90	227.34	1.62	1.66	1.62
5	D2	D1/RWH-3	74.60	0.61	0	0.61	0.25	6.00	4.27	105	400	570	0.76	98.57	0.18	228.80	228.85	229.10	229.05	227.60	227.42	1.50	1.63	1.57
6	D1/RWH-3	D/RWH-4	106.0	0.76	0.61	1.37	0.55	6.00	9.60	115	400	570	0.76	98.57	0.20	228.85	228.45	229.05	228.90	227.42	227.22	1.63	1.68	1.66
7	D/RWH-4	E	14.00	0.35	3.93	4.28	1.73	6.00	30.04	75	400	570	0.76	98.57	0.13	228.85	228.20	228.90	228.75	227.22	227.09	1.68	1.66	1.67
8	E1	E	12.50	0.31	0	0.31	0.13	6.00	2.17	60	400	570	0.76	98.57	0.10	228.25	225.20	228.85	228.75	227.25	227.35	1.50	1.50	
9	E	E/RWH-5	15.00	0.17	4.59	4.96	2.01	6.00	14.85	52	400	570	0.76	98.57	0.09	225.20	228.25	228.75	228.75	227.09	227.09	1.66	1.75	1.71
10	E/RWH-5	Master SWD	210	0.05	4.96	5.01	2.03	6.00	35.19	65	400	570	0.76	98.57	0.11	228.25	228.10	228.75	228.50	227.00	226.89	1.75	1.61	1.68

For Pyramid Infratech Pvt. Ltd.



SEWERAGE SCHEME

PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT



FIRE FIGHTING SCHEME

PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT

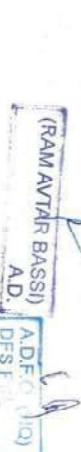
LEGEND-	
1. FIRE HYDRANT LINE =	— FH
2. FIRE HYDRANTS =	— FH
3. U.G.T. =	— UGT



(RAMAVIR BASSU) A.D. DIST. (P.C.)

PROPOSED BUILDING PLAN OF AFFORDABLE GROUP HOUSING	
COLONY FOR AN AREA	0
MEASURING - 5.025 ACRES	60.350
(LIC. No. 85 D Dated 10.12.2019)	281.22
AT - VILLAGE - BADHA, SECTOR - 85,	25.148
GURUGRAM - MANESAR URBAN COMPLEX.	33.826
DIST. GURUGRAM	150 MMØ = 10 M (U.G.T. A)
BEST DEVELOPED AREA OF RESIDENTIAL AREA	150 MMØ = 12 M (A-J)
AMRAKAHADAM & MARCH MOURA, UNGANWAR & COMMUNITY	150 MMØ = 12.5 M (B-C)
AND OTHERS IN CO-OPERATION WITH	150 MMØ = 10 M (U.G.T. B)
M.S. PYRAMID INFRA-TECH PVT. LTD.	150 MMØ = 10 M (U.G.T. C)

For Pyramid Infra-Teck Pvt. Ltd



(RAO AND ASSOCIATE) P.R.O. Reg. No. 002000
PROJECT NO. RA-5021 D.O. NO. A-1/1.L. NORTH
SCALE - 1:500 DATE - FEB - 2019
DRAWN BY - RAO AND ASSOCIATE
CHECKED BY - RAO AND ASSOCIATE
APPROVED BY - RAO AND ASSOCIATE

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

2019

