

PROJECT : OASIS GRAND STAND PHASE-II (Tower-1,2&6)
DESIGN OF SEWER LINE

Population For Phase-2

Total No. of Apartments		=	150 Nos.
Total Permanent Population	@ 4.5/Unit	=	675 Persons
Visitors (10%)		=	68 Persons
Staff (5%)		=	34 Persons

Total Water Demand

Apartments	@ 135 lpcd	=	91125 Liters
Visitors	@ 15 lpcd	=	1020 Liters
Staff	@ 45 lpcd	=	1530 Liters

Total Water Demand = **93675 Liters**

By taking Interception factor	@ 80%		
Hence Total Sewage Load		=	74940 Lit/day
		or	0.87 Lit/sec

By taking Peak Factor	@ 3		
Peak Sewage Generated (3 times of Avg. Flow)		=	2.61 Lit/sec

Sewer Pipe Design

Final Sewage Pipe Dia Selected	=	200 mm
Slope (1 in ...)	=	200

Sewer Design as per Manning Formula

$$V = \frac{3.968 \times 10^{-3} \times D^{2/3} \times 1/S^{1/2}}{n}$$

V = 0.87 m/sec

D = Dia (mm) = 200 mm
S = Slope = 200
n = Manning Coefficient = 0.011
V = Velocity (m/sec)

$$\text{Actual Pipe Capacity (Q) at 100\% flow} = \frac{\pi D^2 \times V}{4}$$

= 0.027318 m³/sec
Q = 27.32 Lit/sec

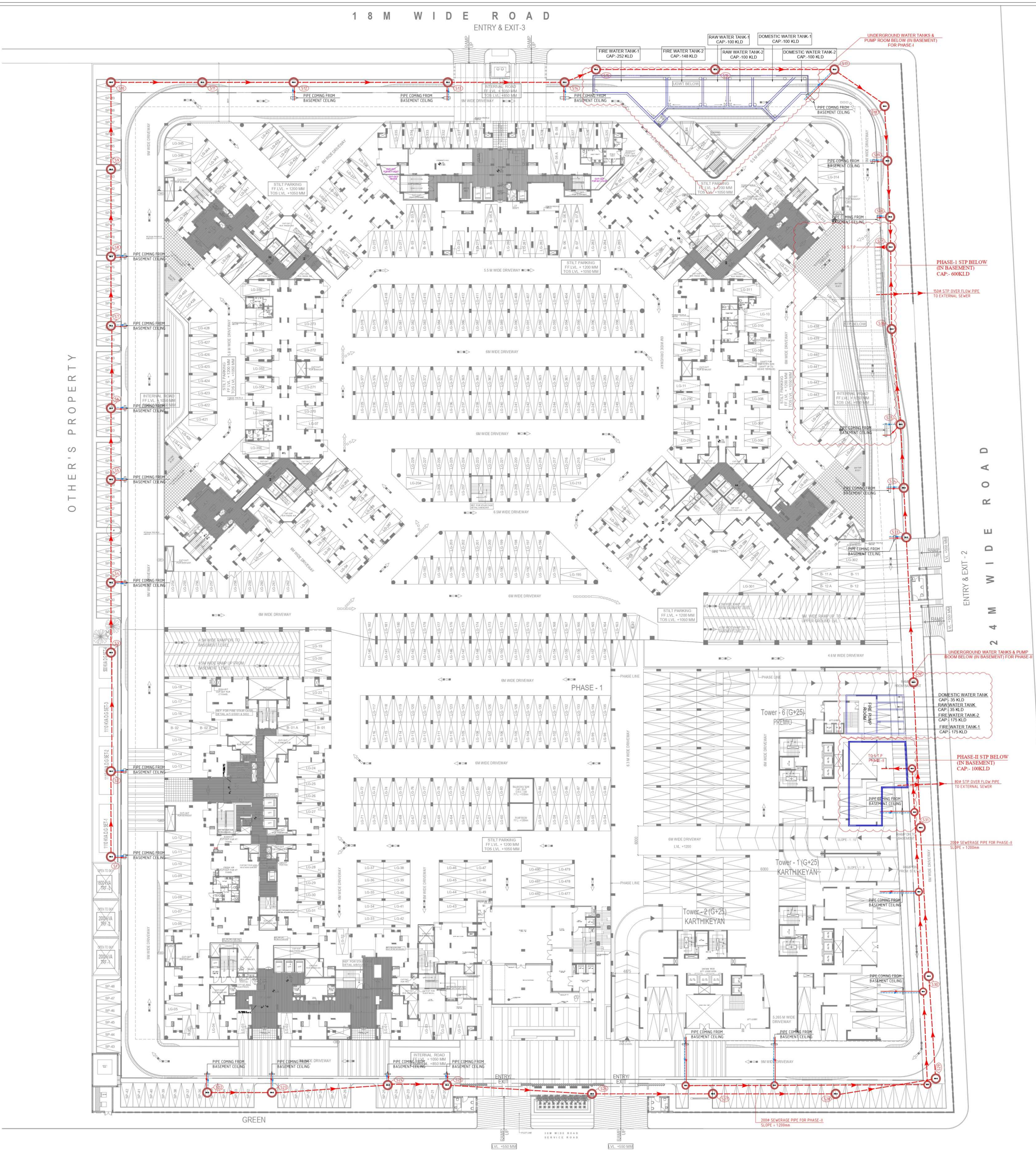
Where -

D = Dia (mm) = 200 mm
V = Velocity (m/sec) = 0.87

Q = Pipe Capacity
(atfull flow)
m3/sec

Peak Sewage Generated (site peak discharge)	=	2.61 Lit/sec
Actual Pipe Capacity at 100% flow	=	27.32 Lit/sec

Site peak discharge is less then 50% of pipe capacity, hence 200 mm Pipe Dia is OK



DESIGN CHART SHOWING OF SEWERAGE SYSTEM

S.NO.	LINE	LENGTH	PIPE SIZE(M)	SLOPE (1 IN 100)	GROUND LEVEL(M)	INVERT LEVEL(M)	DEPTH(M)
1	S1	10.0	200	200	1050	-0.300	1.300
2	S2	3.0	200	200	1050	-0.300	1.300
3	S3	5.0	200	200	1050	-0.300	1.300
4	S4	5.0	200	200	1050	-0.300	1.300
5	S5	5.0	200	200	1050	-0.300	1.300
6	S6	5.0	200	200	1050	-0.300	1.300
7	S7	5.0	200	200	1050	-0.300	1.300
8	S8	5.0	200	200	1050	-0.300	1.300
9	S9	5.0	200	200	1050	-0.300	1.300
10	S10	5.0	200	200	1050	-0.300	1.300
11	S11	5.0	200	200	1050	-0.300	1.300
12	S12	5.0	200	200	1050	-0.300	1.300
13	S13	5.0	200	200	1050	-0.300	1.300
14	S14	5.0	200	200	1050	-0.300	1.300
15	S15	5.0	200	200	1050	-0.300	1.300
16	S16	5.0	200	200	1050	-0.300	1.300
17	S17	5.0	200	200	1050	-0.300	1.300
18	S18	5.0	200	200	1050	-0.300	1.300
19	S19	5.0	200	200	1050	-0.300	1.300
20	S20	5.0	200	200	1050	-0.300	1.300
21	S21	5.0	200	200	1050	-0.300	1.300
22	S22	5.0	200	200	1050	-0.300	1.300
23	S23	5.0	200	200	1050	-0.300	1.300
24	S24	5.0	200	200	1050	-0.300	1.300
25	S25	5.0	200	200	1050	-0.300	1.300
26	S26	5.0	200	200	1050	-0.300	1.300
27	S27	5.0	200	200	1050	-0.300	1.300
28	S28	5.0	200	200	1050	-0.300	1.300
29	S29	5.0	200	200	1050	-0.300	1.300
30	S30	5.0	200	200	1050	-0.300	1.300
31	S31	5.0	200	200	1050	-0.300	1.300
32	S32	5.0	200	200	1050	-0.300	1.300
33	S33	5.0	200	200	1050	-0.300	1.300
34	S34	5.0	200	200	1050	-0.300	1.300
35	S35	5.0	200	200	1050	-0.300	1.300
36	S36	5.0	200	200	1050	-0.300	1.300

TYPE OF MANHOLE FOR SEWERAGE SYSTEM

S.NO.	MANHOLE	TYPE
1	S1	A
2	S2	B
3	S3	B
4	S4	B
5	S5	B
6	S6	B
7	S7	B
8	S8	B
9	S9	B
10	S10	B
11	S11	B
12	S12	B
13	S13	B
14	S14	B
15	S15	B
16	S16	B
17	S17	B
18	S18	B
19	S19	B
20	S20	B
21	S21	B
22	S22	B
23	S23	B
24	S24	B
25	S25	B
26	S26	B
27	S27	B
28	S28	B
29	S29	B
30	S30	B
31	S31	B
32	S32	B
33	S33	B
34	S34	B
35	S35	B
36	S36	B

NOTES:-

- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
- WRITTEN DIMENSIONS ARE TO BE FOLLOWED. DRAWINGS ARE NOT TO BE SCALED.
- THIS DRAWING REPRESENTS EXTERNAL SEWERAGE & DRAINAGE DETAILS ONLY. FOR ACTUAL CONSTRUCTION/PROVISION, REFER STRUCTURAL/ARCHITECTURAL DETAILS.
- PLEASE CO-ORDINATE THIS DRAWING WITH ALL OTHER RELEVANT DRAWINGS OF ALL THE SERVICES.
- SHOP DRAWINGS SHALL BE PREPARED BY THE CONTRACTOR AND SUBMITTED IN CASE OF ANY CHANGES IN LAYOUT AS PER SITE CONDITIONS.
- SEWERAGE PIPE WORK SHALL BE CARRIED OUT IN DOUBLE WALL CORRUGATED PIPE (DWELL CLASS SN-8) UNLESS NOTED OTHERWISE.
- ALL LINES SHOWN IN LAYOUT ARE CENTER LINES.

LEGEND:-

S.NO.	DESCRIPTION	SYMBOL
1	SEWERAGE MANHOLE INVERT LEVEL AS / DESIGN CHART	⊙
2	SEWERAGE PIPE LINE SIZE & SLOPE AS / DESIGN CHART	—
3	SOIL PIPE LINE FROM BASEMENT CEILING	—
4	WASTE WATER PIPE LINE FROM BASEMENT CEILING	—

S.No. SIZE OF MANHOLE WITH REFERENCE TO DEPTH

S.No.	SIZE OF MANHOLE	TAG
1	150mm DIA.	A.
2	225mm DIA.	B.
3	300mm DIA.	C.

SIZE OF MANHOLE WITH REFERENCE TO DEPTH

DEPTH	SIZE OF M.H.
0.9m TO 1.6m	150mm DIA.
1.6m TO 2.3m	225mm DIA.
2.3m TO 3.0m	300mm DIA.

SIZE OF MANHOLE SHALL BE WITH RESPECT TO DEPTH

REVISION SANCTION DRAWINGS

KEYPLAN

CLIENT

M/S OASIS REALTECH PVT LTD

PROJECT

OASIS GrandStand

PROPOSED GROUP HOUSING FOR
M/S OASIS REALTECH PVT LTD
GH-01-TS-01/B, SECTOR-22D, YEIDA,
GB NAGAR (U.P.)

DATE

09-1-2024

PROJECT INCHARGE

ANOOP SHARMA

CHECKED BY

PRASHANT

SCALE

N.T.S

DEALT BY

RANJAN

APPROVED BY

P.K.S

DRAWING TITLE

SEWERAGE SITE LAYOUT PLAN

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DRAWING NO.

OGS/SUB/SP/PL-01

REVISION

NORTH POINT

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REMARKS

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