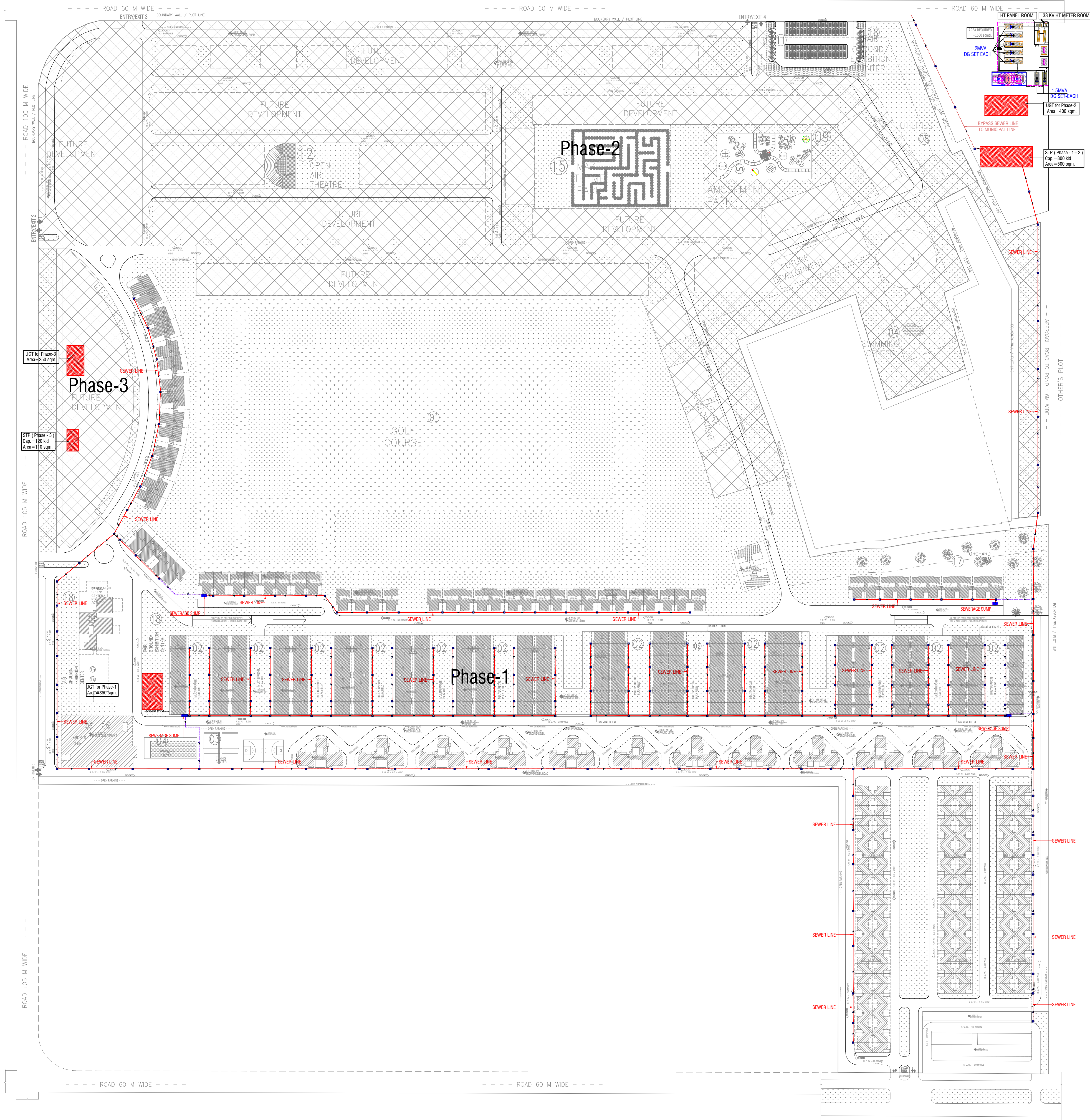




PROJECT : HEMISPHERE" AT PLOT NO - REP 2, SECTOR -27, GREATER NOIDA			
DESIGN OF SEWER LINE- RESIDENTIAL PHASE-1			
Population			
Villa A, B & C Type		=	60 Nos.
Villa A, B & C Population	@ 7.0	=	420 Persons
Villa D, E Type		=	134 Nos.
Villa D & E Population	@ 6.0	=	804 Persons
Villa F & G Type	@ 5.0	=	192 Persons
Villa F & G Population	@ 5.0	=	960 Persons
Sky Villa Tower	@ 4.5	=	441 Nos.
Tower Flat Population	@ 4.5	=	1984.5 Persons
Total Permanent Population		=	4,169 Persons
Club & Floating Population		=	600 Persons
Staff		=	200 Persons
Total Water Demand			
Apartments	@ 135 lpcd	=	5,62,748 Liters
Club & Floating	@ 15 lpcd	=	9,000 Liters
Staff	@ 45 lpcd	=	9,000 Liters
Total Water Demand			
= 5,80,748 Liters			
By taking Interception factor	@ 80%	=	4,64,598 Lit/day
Hence Total Sewage Load		=	5.38 Lit/sec
By taking Peak Factor	@ 3	=	16.13 Lit/sec
Peak Sewage Generated (3 times of Avg. Flow)		=	16.13 Lit/sec
Sewer Pipe Design			
Final Sewage Pipe Dia Selected		=	250 mm
Slope (1 in ...)		=	250
Sewer Design as per Manning Formula			
V =	$\frac{3.968 \times 10^{-3} \times D^{2/3} \times S^{1/2}}{n}$		
V =	0.91 m/sec		
D =	Dia (mm)	=	250 mm
S =	Slope	=	250
n =	Manning Coefficient	=	0.011
V =	Velocity (m/sec)	=	0.91
Actual Pipe Capacity (Q) at 100% flow	$\frac{100^3 \times V}{4}$		
	=	0.044421	m ³ /sec
Q =		44.42	Lit/sec
Where -			
D =	Dia (mm)	=	250 mm
V =	Velocity (m/sec)	=	0.91
Q =	Pipe Capacity (at full flow)	=	m ³ /sec
Peak Sewage Generated (site peak discharge)		=	16.13 Lit/sec
Actual Pipe Capacity at 100% flow		=	44.42 Lit/sec
Site peak discharge is less than 50% of pipe capacity, hence 250 mm Pipe Dia is OK			

LEGEND :		
S. No.	SYMBOL	DESCRIPTION
1.	M.H.	MANHOLE
2.		SEWER LINE
3.		BYPASS SEWER LINE
4.		SUMP RISING MAIN LINE
5.		BASEMENT LINE

Rev. No.	Date	No's Of Prints	Revision

project

title

SITE PLAN

subtitle

EXTERNAL SEWERAGE SYSTEM

drawing released for

☐ APPROVAL ☒ SUBMISSION

☐ ADVANCE COPY ☐ CONSTRUCTION

drg. no.

HEMISPHERE / EX / S-01

drawn by

Kulwant

scale

1:1500 @ A1

designed by

R.K.

date

Jan. 2018

checked by

Anand Havelia

OWNER

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