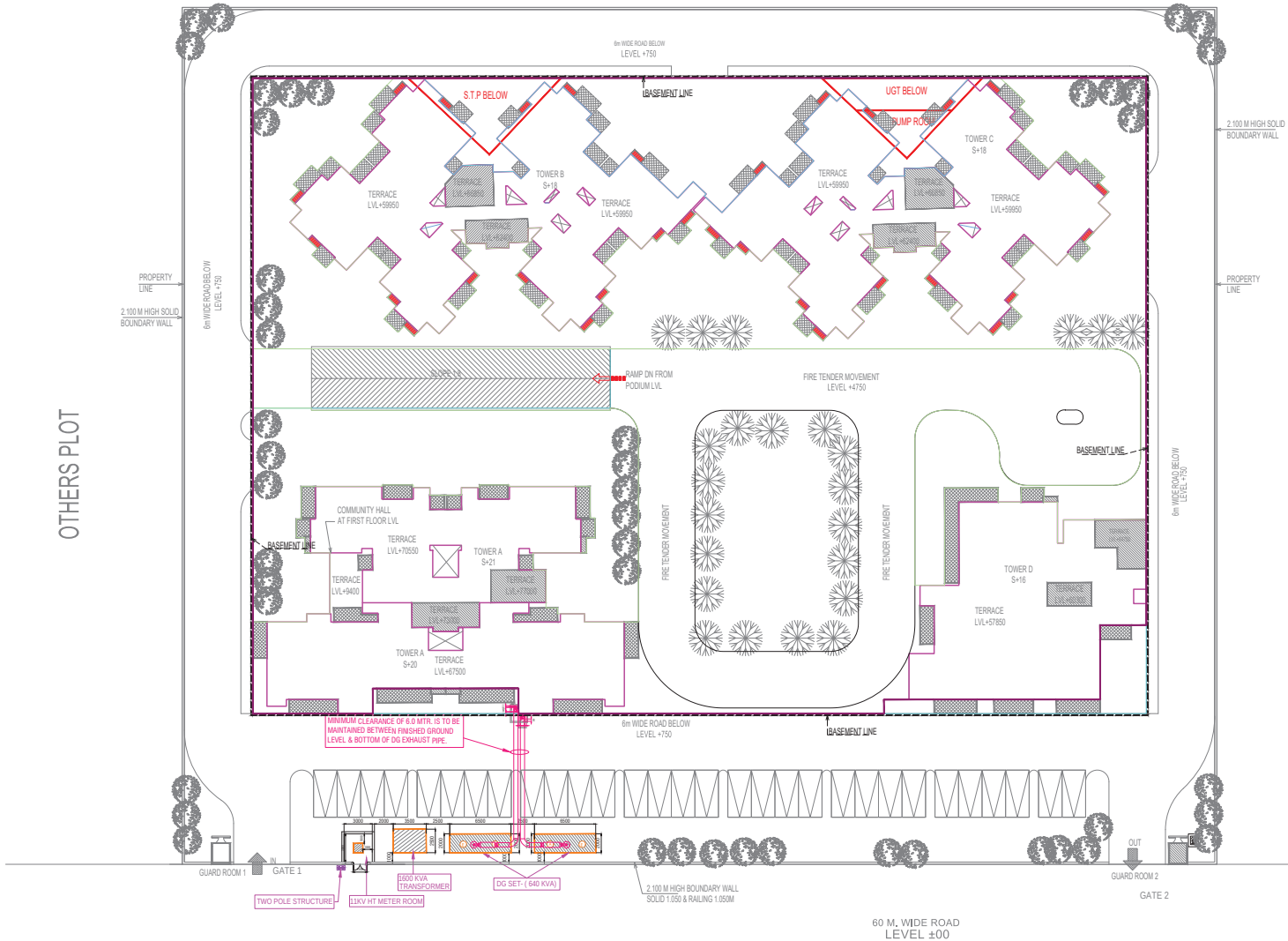
OTHERS PLOT



OTHERS PLOT

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rev. no.	date	revision
..	..	..

project
SPRING HOMES
SC-1, GH-08, SPORTS CITY, TECHZONE, GREATERNOIDA

title
SITE PLAN

subtitle
EXTERNAL ELECTRICAL LAYOUT PLAN

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drg. no. AGH/ EX / EL- 01
drawn by Satyam Sharma
scale 1 : 250
designed by M.Mansoor
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checked by Anand Havelia

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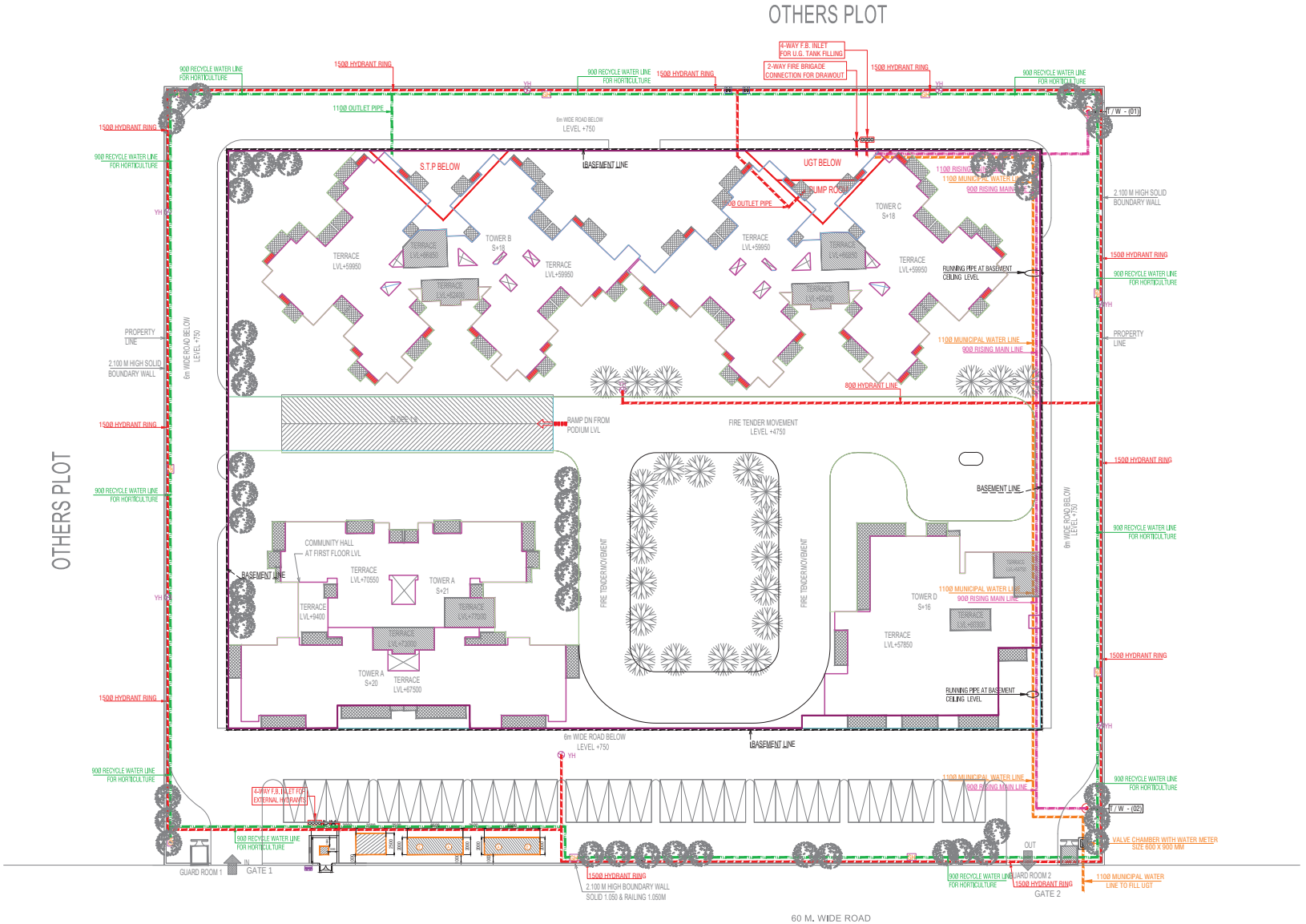

LEGEND :

S. No.	SYMBOL	DESCRIPTION
1.		RECYCLED WATER SUPPLY PIPE LINE.
2.		RISING MAIN WATER PIPE LINE.
3.		MUNICIPAL WATER SUPPLY PIPE LINE.
4.	110 Ø R	INDICATES RECYCLED WATER SUPPLY PIPE LINE DIA
5.	90 Ø RM	INDICATES RISING MAINS DIA
6.	110 Ø M	INDICATES MUNICIPAL WATER SUPPLY PIPE LINE DIA
7.		ISOLATING VALVE
8.		PROPOSED TUBE WELL
9.		BASEMENT LINE
10.	GH	GARDEN HYDRANT

LEGEND : FIRE SYSTEM

S. No.	SYMBOL	DESCRIPTION
1.		FIRE LINE
2.	YH	YARD HYDRANT 63 M.M. DIA. SINGLE HEADED HYDRANT VALVE WITH 2 NOS. 15 M. LONG, 63 M.M. DIA. FIRE HOSE PIPE & 1 NO. BRANCH PIPE WITH NOZZLE
3.		FIRE BRIGADE CONNECTION
4.		BUTTERFLY VALVE
5.		NONRETURN VALVE (CHECK VALVE)
6.		ISOLATING VALVE WITH MASONARY CHAMBER

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SPRING HOMES
SC-1, GH-08, SPORTS CITY, TECHZONE, GREATERNOIDA

title
SITE PLAN

subtitle
EXTERNAL WATER SUPPLY SYSTEM

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drg. no.	drawn by
S F / EX / S-04	Kulwant
scale	designed by
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date	checked by
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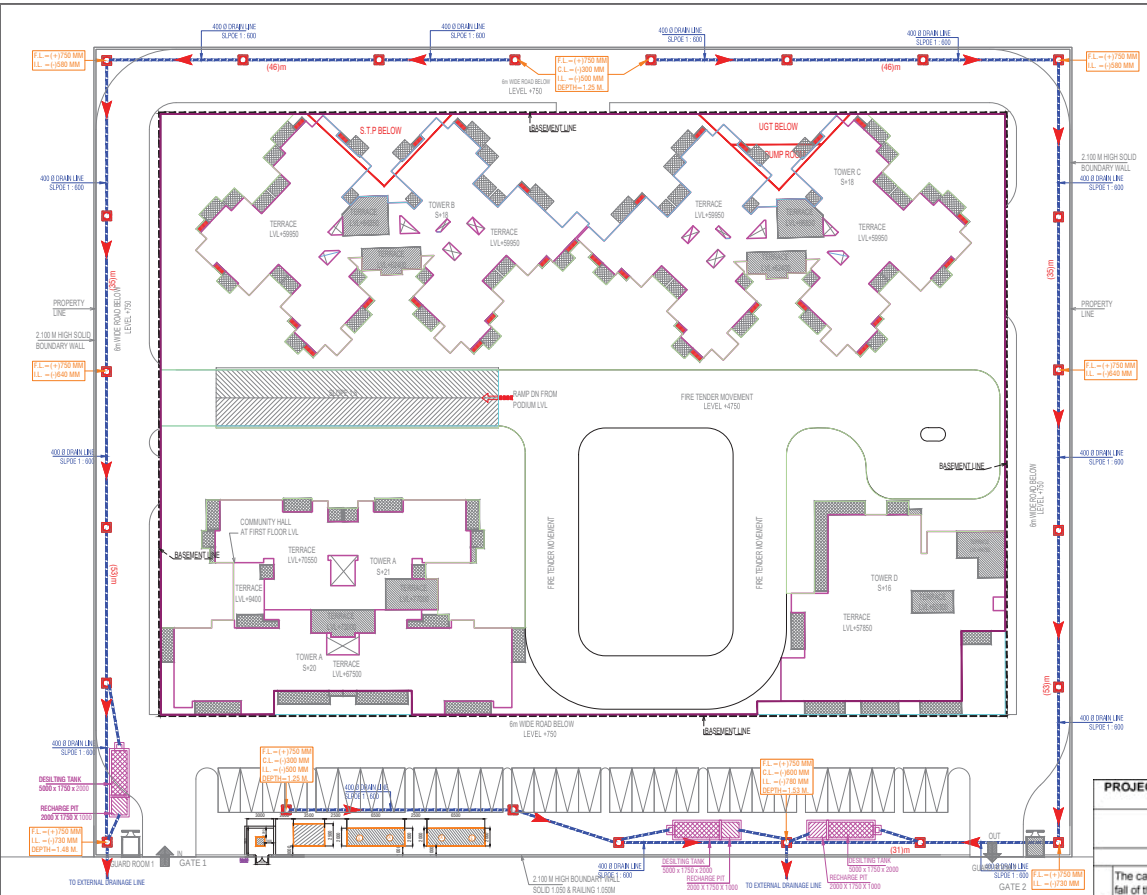
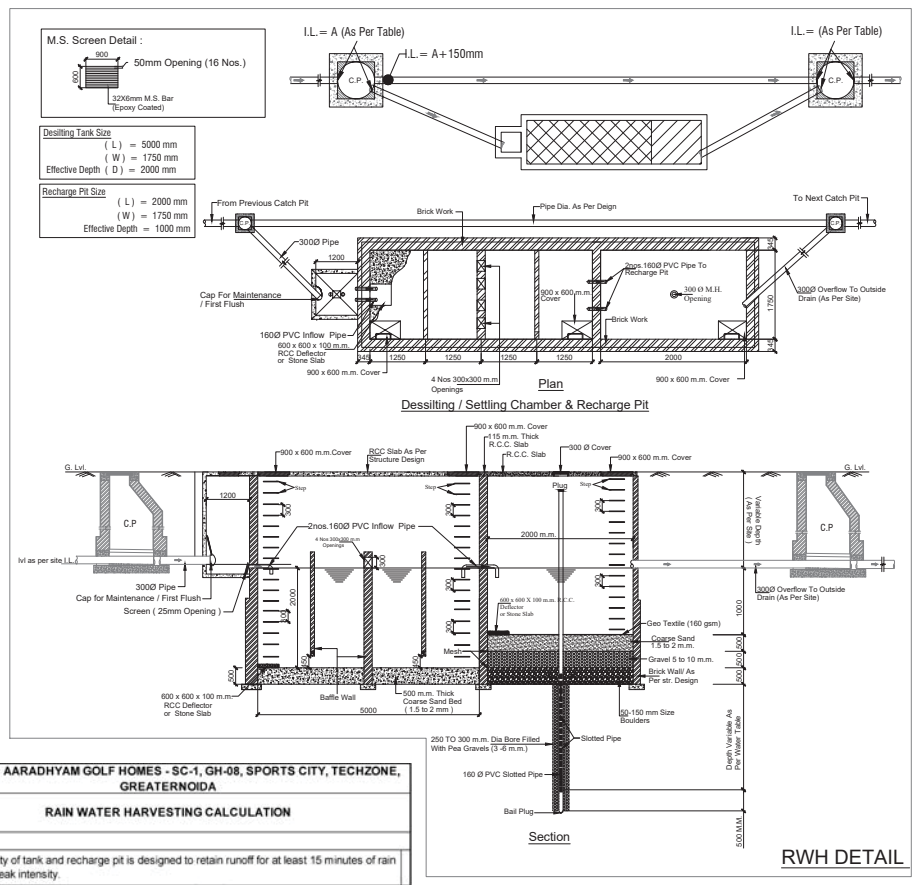
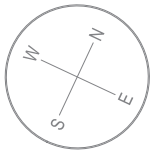




PROJECT : AARADHYAM GOLF HOMES -SC-1, GH-08, SPORTS CITY, TECHZONE, GREATERNOIDA					
DESIGN OF DRAIN LINE PHASE-2					
Rainfall intensity (I)			=	25	mm/hour
Coefficient of Runoff (C)			=	0.50	
Area of Drainage district			=	0.50	Hectare
Total Site Discharge	=	10*C*I*A	=	63	Cu M / Hour
			or	17.36	Lit/sec
Drain Pipe Design					
Final Drain Pipe Dia Selected			=	400	mm
Slope (1 in ....)			=	600	
Drain Design as per Manning Formula					
V	=	$\frac{3.968 \times 10^{-3} \times D^{2/3} \times S^{1/2}}{n}$			
V	=	0.80 m/sec			
D	=	Dia (mm)	=	400	mm
S	=	Slope	=	600	
n	=	Manning Coefficient	=	0.011	
V	=	Velocity (m/sec)			
Actual Pipe Capacity (Q) at 100% flow	=	$\frac{\Pi D^2 \times V}{4}$			
	=	0.100415	m^3/sec		
Q	=	100.42	Lit/sec		
Where -					
D	=	Dia (mm)	=	400	mm
V	=	Velocity (m/sec)	=	0.80	
Q	=	Pipe Capacity (at full flow) m3/sec			
Total Site Discharge			=	17.36	Lit/sec
Actual Pipe Capacity at 100% flow			=	100.42	Lit/sec
Total Site discharge is less the pipe capacity, hence 400 mm Pipe Dia is OK					

PROJECT : AARADHYAM GOLF HOMES -SC-1, GH-08, SPORTS CITY, TECHZONE, GREATERNOIDA					
DESIGN OF DRAIN LINE PHASE-1					
Rainfall intensity (I)			=	25	mm/hour
Coefficient of Runoff (C)			=	0.50	
Area of Drainage district			=	0.50	Hectare
Total Site Discharge	=	10*C*I*A	=	63	Cu M / Hour
			or	17.36	Lit/sec
Drain Pipe Design					
Final Drain Pipe Dia Selected			=	400	mm
Slope (1 in 600)			=	600	
Drain Design as per Manning Formula					
V	=	$\frac{3.968 \times 10^{-3} \times D^{2/3} \times S^{1/2}}{n}$			
V	=	0.80 m/sec			
D	=	Dia (mm)	=	400	mm
S	=	Slope	=	600	
n	=	Manning Coeficien	=	0.011	
V	=	Velocity (m/sec)			
Actual Pipe Capacity (Q) at 100% flow	=	$\frac{\Pi D^2 \times V}{4}$			
	=	0.100415	m^3/sec		
Q	=	100.42	Lit/sec		
Where -					
D	=	Dia (mm)	=	400	mm
V	=	Velocity (m/sec)	=	0.80	
Q	=	Pipe Capacity (at full flow) m3/sec			
Total Site Discharge			=	17.36	Lit/sec
Actual Pipe Capacity at 100% flow			=	100.42	Lit/sec
Total Site discharge is less the pipe capacity, hence 400 mm Pipe Dia is OK					

PROJECT : AARADHYAM GOLF HOMES - SC-1, GH-08, SPORTS CITY, TECHZONE, GREATERNOIDA			
RAIN WATER HARVESTING CALCULATION			
The capacity of tank and recharge pit is designed to retain runoff for at least 15 minutes of rain fall of the peak intensity.			
Peak Rainfall in one hour	=	about 90mm / hr	
Peak Rainfall in 15 minutes, R	=	90 / 4 mm	
	=	22.5 mm = 0225m	
Say	=	0.025 m.	
Total Roof area, A	=	2475 sq.m.	
Average run off coefficient, C	=	0.85	
Hence total combined capacity of desilting tank and recharge pit required,	=	AxRxC	
	=	53	
Providing Desilting tank of size	=	5 x 1.75 x 2 m. effective depth	
Capacity of desilting tank of given size (Cu.m.), a	=	17.5	
Providing Recharge pit of size	=	2 x 1.75 x 1 m. effective depth	
Capacity of recharge pit of given size (Cu.m.), b	=	3.5	
Hence total combined capacity of one set of desilting tank and recharge pit, (Cu M)	=	a+b	
	=	21	
Therefore no. of desilting tank and recharge pit required	=	(AxRxC) / (a+b)	
	=	2.51 nos.	
Say,	=	3	
Hence, 3 sets of rechrge pit and desilting tank are required of following size :			
Desilting tank	=	**5 x 1.75 x 2 m. effective depth**	
Recharge pit	=	**2 x 1.75 x 1 m. effective depth**	



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LEGEND :		
S. No.	SYMBOL	DESCRIPTION
1.	C.P.	CATCH PIT
2.		UNDER GROUND DRAIN
3.		DESILTING TANK
4.		RECHARGE PIT
5.		BASEMENT LINE
6.	F. L.	FORMATION LEVEL (FINISHED ROAD TOP LEVEL)
7.	I.L.	INVERT LEVEL
8.	C. L.	CONNECTION LEVEL

rev. no.	date	revision

project
SPRING HOMES
SC-1, GH-08, SPORTS CITY, TECHZONE, GREATERNOIDA

title
SITE PLAN

subtitle
EXTERNAL DRAINAGE SYSTEM

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drg. no. S F / EX / S-02
drawn by Kulwant
scale 1 : 300
designed by R.K.
date
checked by Anand Havelia

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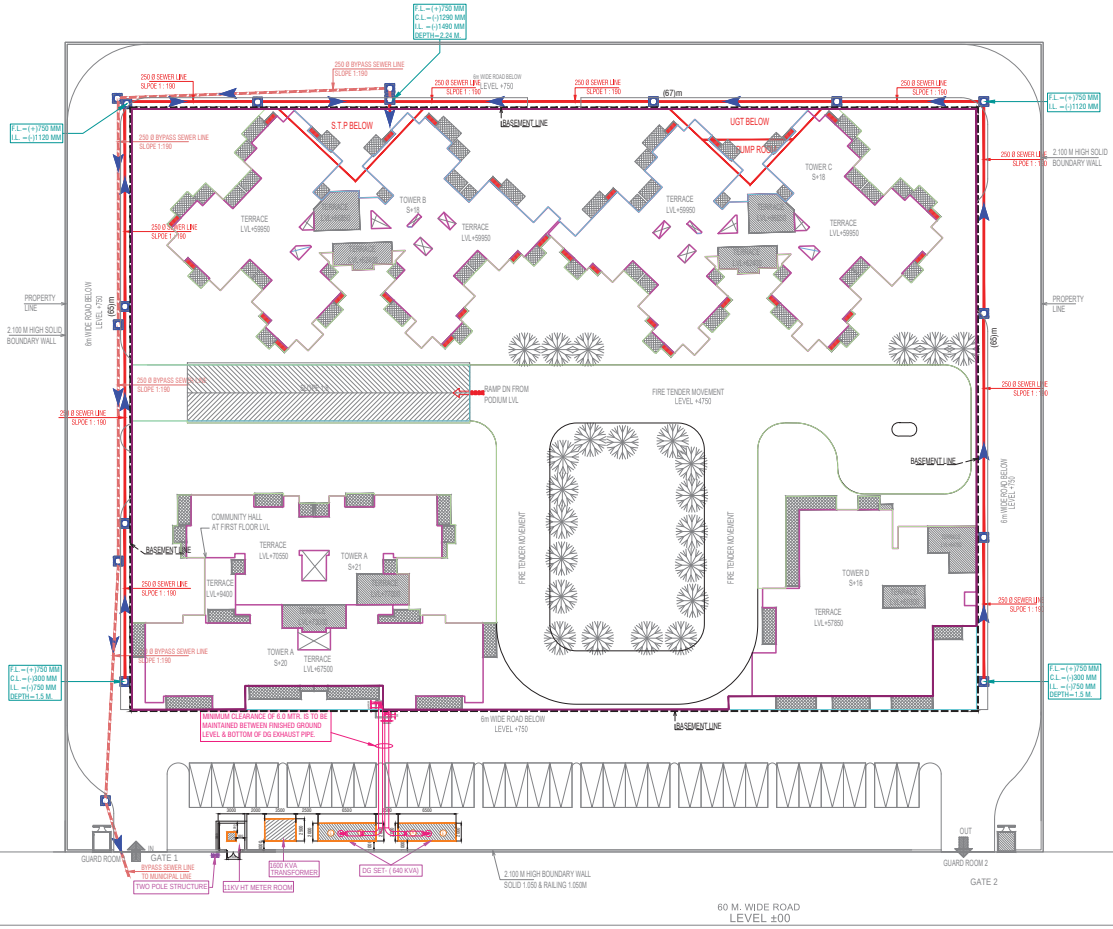

PROJECT : AARADHYAM GOLF HOMES -SC-1, GH-08, SPORTS CITY, TECHZONE, GREATERNOIDA

DESIGN OF SEWER LINE

Population					
Total No. of Apartments			=	367	Nos.
Total Permanent Population	@	4.5	=	1,652	Persons
Club & Floating Population			=	250	Persons
Staff			=	80	Persons
Total Water Demand					
Apartments	@	135 lpcd	=	2,22,953	Liters
Club & Floating	@	15 lpcd	=	3,750	Liters
Staff	@	45 lpcd	=	3,600	Liters
Total Water Demand			=	**2,30,303**	**Liters**
By taking Interception factor	@	90%			
Hence Total Sewage Load			=	2,07,272	Lit/day
			or	2.40	Lit/sec
By taking Peak Factor	@	3			
Peak Sewage Generated (3 times of Avg. Flow)			=	7.20	Lit/sec
Sewer Pipe Design					
Final Sewage Pipe Dia Selected			=	250	mm
Slope (1 in190)			=	190	
Sewer Design as per Manning Formula					
$V = \frac{3.968 \times 10^{-3} \times D^{2/3} \times S^{1/2}}{n}$					
V	=	**1.04 m/sec**			
D	=	Dia (mm)	=	250 mm	
S	=	Slope	=	190	
n	=	Manning Coeficie	=	0.011	
V	=	Velocity (m/sec)			
Actual Pipe Capacity (Q) at 100% flow	=	$\frac{\Pi D^2 \times V}{4}$			
	=	0.050954	m^3/sec		
Q	=	50.95	Lit/sec		
Where -					
D	=	Dia (mm)	=	250 mm	
V	=	Velocity (m/sec)	=	1.04	
Q	=	Pipe Capacity (at full flow) m3/sec			
Peak Sewage Generated (site peak discharge)			=	7.20	Lit/sec
Actual Pipe Capacity at 100% flow			=	50.95	Lit/sec
Site peak discharge is less then 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.		BASEMENT LINE
5.	F. L.	FORMATION LEVEL (FINISHED ROAD TOP LEVEL)
6.	I. L.	INVERT LEVEL
7.	C. L.	CONNECTION LEVEL

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rev. no.	date	revision
R-00	31.07.2015	ADD SEWER INVERT LEVEL

project
SPRING HOMES
SC-1, GH-08, SPORTS CITY, TECHZONE, GREATERNOIDA

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SITE PLAN

subtitle
EXTERNAL SEWERAGE SYSTEM

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