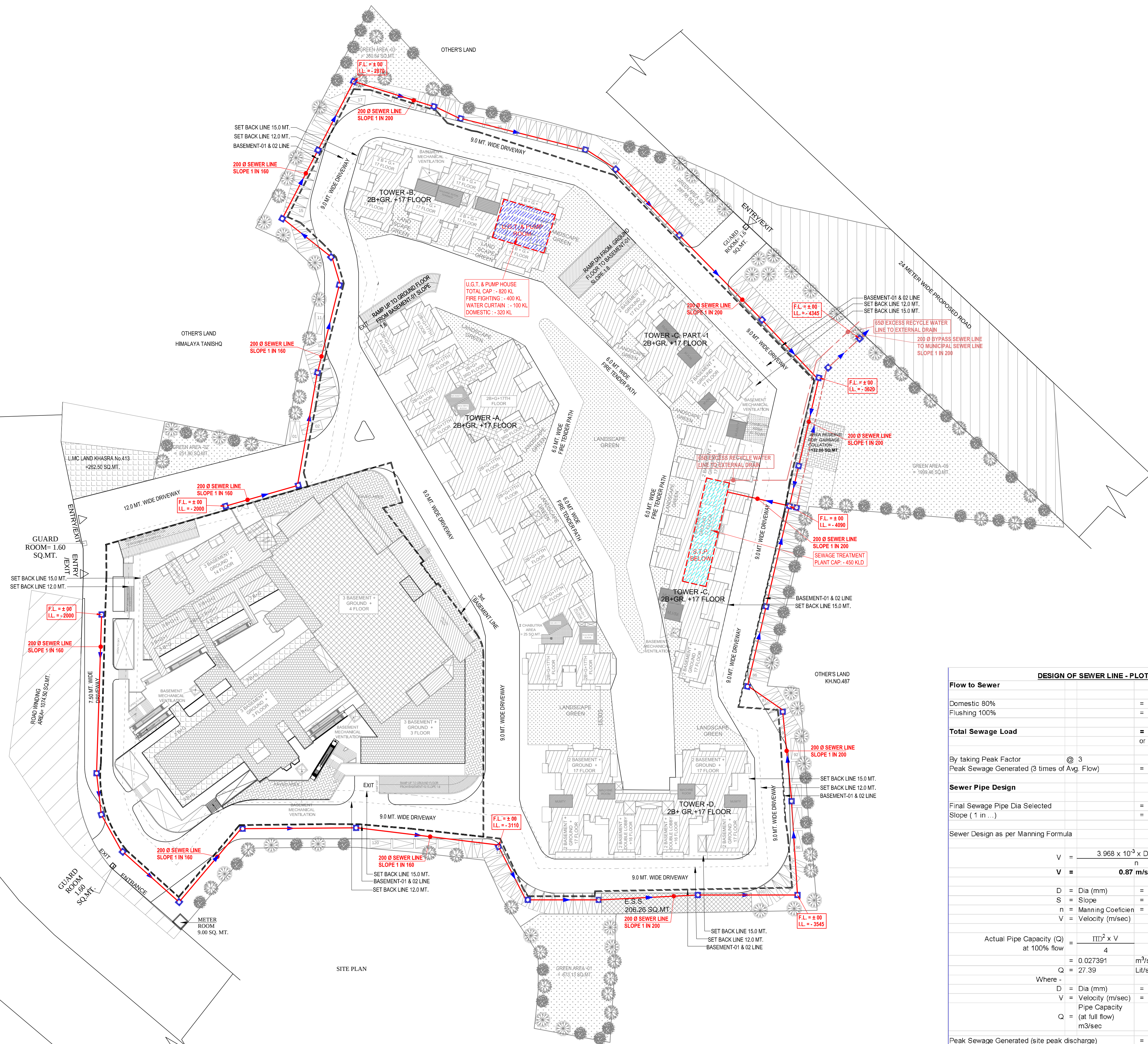
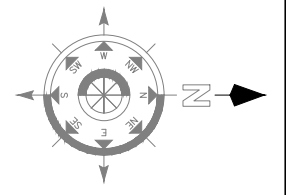


NORTH



LEGEND :

S. No.	SYMBOL	DESCRIPTION
1.	M.H.	MANHOLE
2.		SEWER LINE
3.		BASEMENT RETAINING WALL
4.	F.L.	FORMATION LEVEL
5.	I.L.	INVERT LEVEL
6.	C.L.	CONNECTION LEVEL

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

project

PMAY SCHEME
AT KHASRA No. 408,409,410, 411,423,424,425,426,427
428,429,430,431,432 (M),433(M),434,488,489,490,492,493
VILLAGE :- NOORNAGAR & 31,90,91,191
VILLAGE :- MORTA, GHAZIABAD

title

LAYOUT PLAN (PLOT - A)

subtitle

EXTERNAL SEWERAGE SYSTEM

drawing released for

☐ APPROVAL ☒ MUN. SUBMISSION
☐ ADVANCE COPY ☐ CONSTRUCTION

drg. no.

MA / 19B05 / PA / ES - 01

drawn by

Prem Saini

scale

1 : 550

designed by

Badri Vishal

date

19.06.2019

checked by

Anand Havela

architects

Space Designers International

B - 34, SECTOR-67, NOIDA
PH : +91 9711633717, 18, 19 & 20, Mob: 9811070399, 9811336231
e-mail : spacesdi@gmail.com, www.spacesdi.com

services consultant

Consummate Engineering Services (P) Ltd.

cespi Noida Office : B - 67, Sector - 67, Noida - 201 301
Uko. Office : R 006, Rohas Plumeria, Gomti Nagar, Lucknow
Tel : (0120) 2303500 (30 Lines)
e mail : mail@cespi.in, website : www.cespi.in

DESIGN OF SEWER LINE - PLOT A

Flow to Sewer

Domestic 80%	=	2,34,462	Liters
Flushing 100%	=	1,40,908	Liters

Total Sewage Load

	=	3,75,370	Lit/day
	or	4.34	Lit/sec

By taking Peak Factor

@ 3

Peak Sewage Generated (3 times of Avg. Flow) = 13.03 Lit/sec

Sewer Pipe Design

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

Sewer Design as per Manning Formula

$V = \frac{3.968 \times 10^{-3} \times D^{2/3} \times S^{1/2}}{n}$	
$V = \frac{0.87}{n}$	
D = Dia (mm)	= 200 mm
S = Slope	= 200
n = Manning Coefficient	= 0.011
V = Velocity (m/sec)	

Actual Pipe Capacity (Q) at 100% flow	=	$\frac{11D^2 \times V}{4}$
	=	0.027391 m ³ /sec
	=	27.39 Lit/sec

Where -

D = Dia (mm)	=	200 mm
V = Velocity (m/sec)	=	0.87
Pipe Capacity (at full flow)	=	
Q =	=	

Peak Sewage Generated (site peak discharge) = 13.03 Lit/sec

Actual Pipe Capacity at 100% flow = 27.39 Lit/sec

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