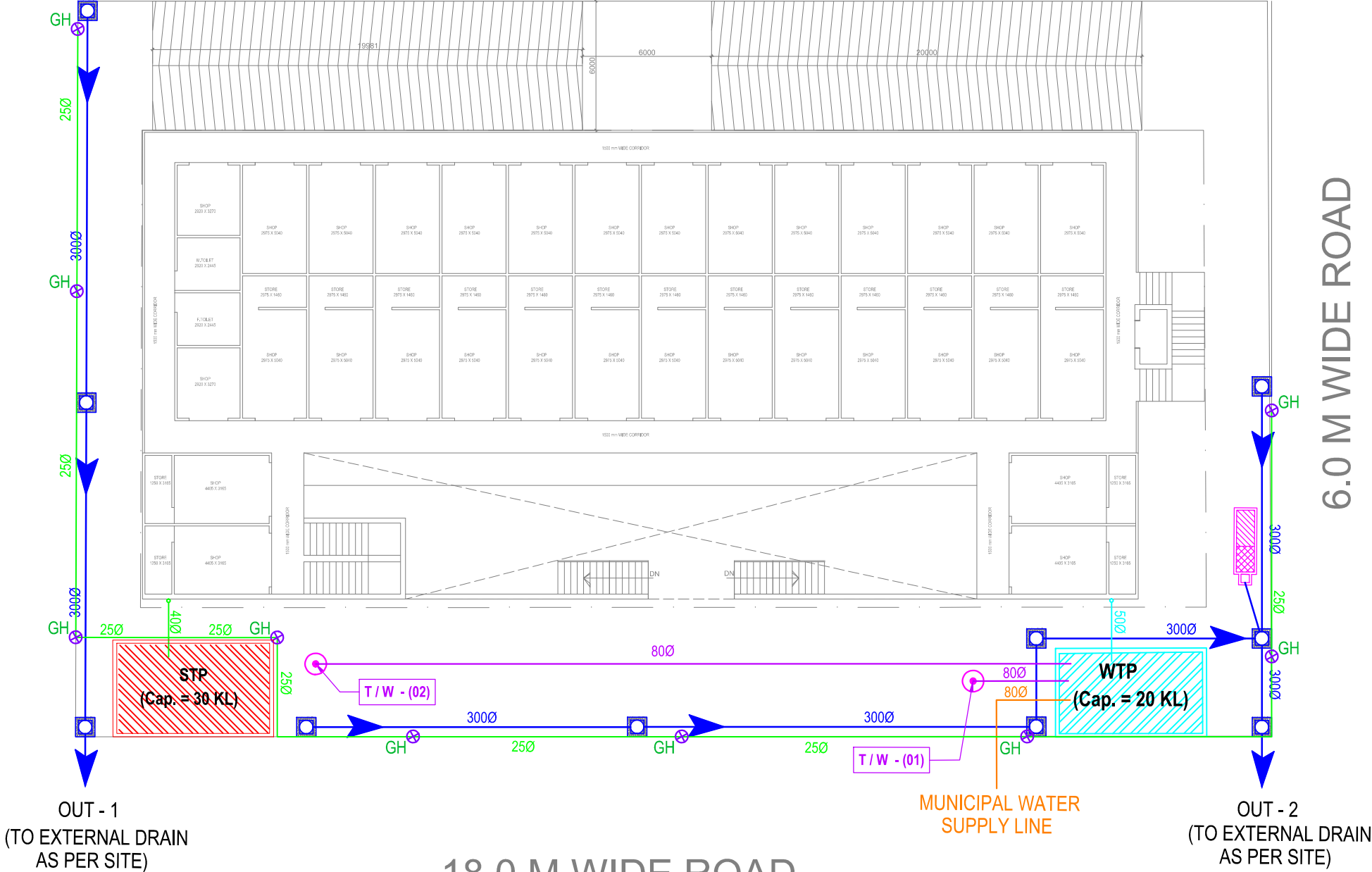


9.0 M WIDE ROAD

6.0 M WIDE ROAD

18.0 M WIDE ROAD



LEGEND : WATER SUPPLY		
S. No.	SYMBOL	DESCRIPTION
1.		COLD WATER SUPPLY LINE
2.		RECYCLE WATER SUPPLY LINE
3.		RISING MAINS FROM TUBEWELL (800)
4.		MUNICIPAL WATER SUPPLY LINE (800)
5.		GARDEN HYDRANT
6.		
7.		
8.		

LEGEND : SEWER & DRAIN		
S. No.	SYMBOL	DESCRIPTION
1.		DRAINAGE LINE
2.		RAIN WATER HARVESTING PIT
3.		
4.		
5.		
6.		



Rev. No.	Date	Revision
..	..	..

Project :  
**PROPOSED COMMERCIAL  
AT GHAZIABAD**

Title :  
**SUBMISSION DRAWING**

Subtitle :  
**EXTERNAL DRAINAGE & WATER SUPPLY**

Drawing Released For :  
☐ APPROVAL ☒ SUBMISSION  
☐ ADVANCE COPY ☐ CONSTRUCTION

Drg. No :  
MP / EX - 02

Scale :  
1:180

Drawn By :  
Rakesh Kumar

Date :  
May 2023

Design By :  
Devesh Agarwal

Ckd By :  
Devesh Agarwal

CLIENT :  
**HAPPY MART-HIRNOT GROUP**

Architect :  
**KGN ARCHITECTS**  
Second Floor, Opp. DPS School, Delhi Meerut Road, Ghaziabad  
MB.: +91-7052867168  
Email: kngarchitects@gmail.com

Services Consultant :  
**VISION TO SERVICES CONSULTANTS**  
  
Office : 3 Vijayeepr, Behind Amar Shaheed Path  
Vibhuti Khand, Gomti Nagar, Lucknow - 226010  
email : vision2services@gmail.com  
MB : +91-7355437439

**PROJECT - PROPOSED COMMERCIAL COMPLEX AT GHAZIABAD**

**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 40 mm / hr

Peak Rainfall in 15 minutes, R = 40 / 4 mm

= 10 mm

say = 10 mm

Peak Rainfall in 15 minutes, R = 0.01 m.

Total Area, A = 1895 sq.m.

Run off coefficient, C = 0.58

Hence total combined capacity of desilting tank and recharge pit required, =  $A \times R \times C$

= 11

Providing Desilting tank of size = 2.5 x 1.75 x 2 m. effective depth

Capacity of desilting tank of given size (Cu.m.), a = 8.75

Providing Recharge pit of size = 3.5 x 1.75 x 2 m. effective depth

Capacity of recharge pit of given size (Cu.m.), b = 12.25

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 =  $(A \times R \times C) / (a+b)$

= 0.53 nos.

Say, = 1 no.

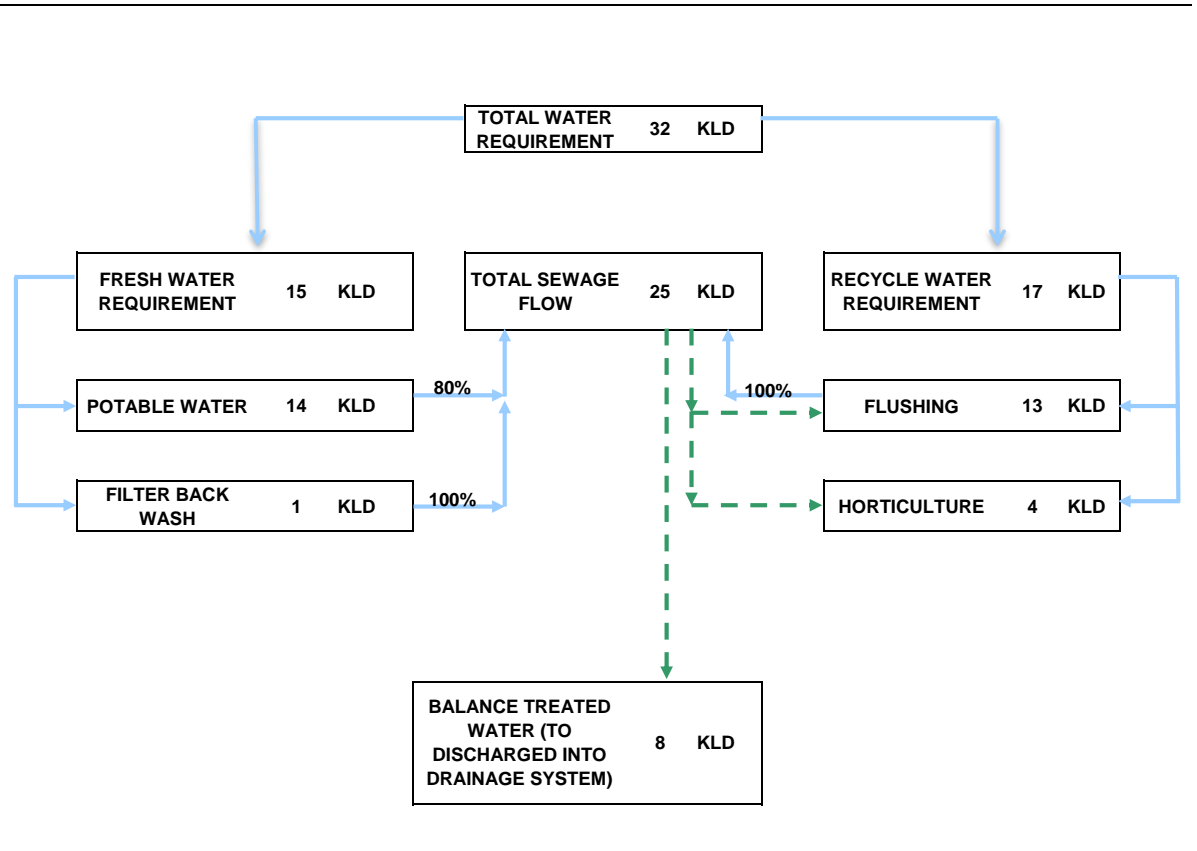
**Hence, 1 no. set of recharge pit and desilting tank is required of following size :**

**Desilting tank = 2.5 x 1.75 x 2 m. effective depth**

**Recharge pit = 3.5 x 1.75 x 2 m. effective depth**

PROJECT - PROPOSED COMMERCIAL COMPLEX AT GHAZIABAD

WATER BALANCE CHART



PROJECT - PROPOSED COMMERCIAL COMPLEX AT GHAZIABAD														
WATER REQUIREMENT CALCULATIONS														
S.No.	Description	Built up Area	Hortic ulture Water Requir ment	No. of Units / Seats	Unit Population	Total Popul ation	Domestic Fresh Water Requirement (A)		Recycle Water Requirement (B)		Total Water Requireme nt (A+B)	Flow to Sewer		
			(Sq.M)				LPCD	LPD	LPCD	LPD		Domestic 80%	Flushing 100%	LPD
1	Population (Sales Basement & Street Floors) (Shopping)	1737			3 SqM/person	580								
2	Population (Upper Sales Floors) (Shopping)	832			6 SqM/person	140								
3	Permanent Population (Shopping)				@ 10% of total population of Shopping	70	25	1750	20	1400	3150	1400	1400	2800
4	Transient Polulation (Shopping)				@ 90% of total population of Shopping	650	5	3250	10	6500	9750	2600	6500	9100
5	Rooms			51	2	102	90	9180	45	4590	13770	7344	4590	11934
6	Floating Population					10	5	51	10	102	153	41	102	143
7	Maintenance Staff					10	25	250	20	200	450	200	200	400
8	Filter Backwash							1000			1000		1000	1000
9	Horticulture	600	7							4200	4200			
	<b>Total</b>							<b>15,481</b>		<b>16,992</b>	<b>32,473</b>	<b>11,585</b>	<b>13,792</b>	<b>25,377</b>

SUMMARY OF WATER REQUIREMENT / UGT & STP CAPACITY CALCULATION		
S.No.	Description	Water Requirement (KLD)
1	Domestic Fresh Water Requirement	15
2	Recycle Water Requirement	17
3	Flow to Sewer	25
	<b>STP Capacity required</b>	<b>25</b>
	<b>STP Capacity provided (by adding 20% as per MOEF)</b>	<b>30</b>
	<b>STP Capacity rounded off</b>	<b>30</b>
4	Net water balance (to discharge into drainage system)	8
	<b>UGT Capacity</b>	
	For Domestic Use (24 hrs storage)	20 KL
	<b>Total UGT Capacity</b>	<b>20 KL</b>