

Case Study of Dewats Plants at 6 Sites

- Economics of wastewater treatment,
- Costs in treating the wastewater,
- Capital cost, O&M costs , Recurring costs,
- Cost benefit analysis / water costs etc.
- Examples of different sizes of plants



The Vigyan Vijay Foundation

**Appropriate technology
for sustainable development**



ECONOMICS OF RECYCLED-WATER

DETAILS OF SIX SITES FOR ASSESSMENT/ ANALYSIS:

| <u>Site</u> | <u>Capacity of plant</u> | <u>Cost of plant</u> | <u>Cost per Kilo-</u> <u>Litre</u> |
|----------------|------------------------------|----------------------|---------------------------------------|
| <u>House</u> | <u>300 Litres per Day</u> | <u>15,000/-</u> | <u>50,000/-</u> |
| <u>CSE</u> | <u>8,000 Litres per day</u> | <u>2,50,000/-</u> | <u>30,000/-</u> |
| <u>IIT-D</u> | <u>10,000 Litres per day</u> | <u>3,50,000/-</u> | <u>35,000/-</u> |
| <u>V Vihar</u> | <u>40,000 Litres per day</u> | <u>8,00,000/-</u> | <u>20,000/-</u> |
| <u>Ashram</u> | <u>30,000 Litres per day</u> | <u>7,50,000/-</u> | <u>25,000/-</u> |
| <u>Sc Schl</u> | <u>15,000 Litres per day</u> | <u>3,50,000/-</u> | <u>22,000/-</u> |

Data deduced:

Average costs of making Dewats Plant is around Rs.25,000/- per KL flow per day.

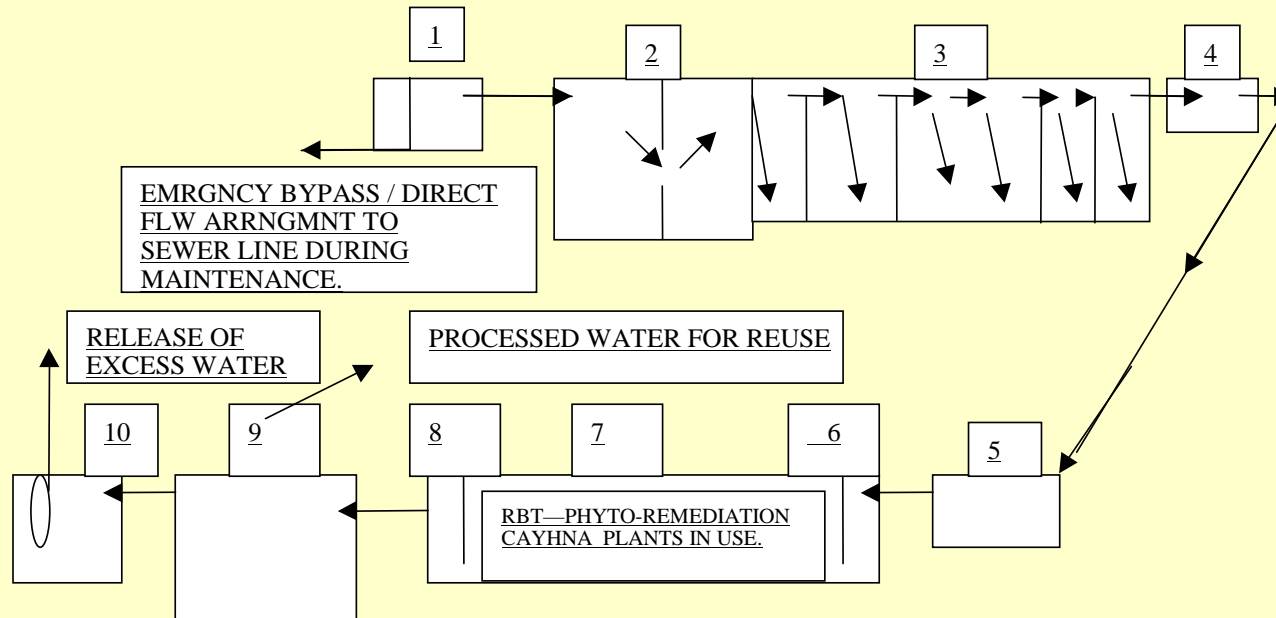
Cost of 1000 KL per day plant is Rs.1,25,00,000/- i.e Rs. 12,500/- per KL per day.

As the capacity increases, upto some level Dewats is effective,
for larger needs it is needed to be made in multi- units,
of smaller manageable sizes limited to 100kld



ECONOMICS OF RECYCLED-WATER

DETAILS OF DEWATS COMPONENTS : CSE 10 KL/D



1 DIRECTIONAL CHAMBER

2. SETTLR CHAMBR WITH 2 SECTIONS

3 BFFLD RCTR 9 CHAMBERS

4. OUTLET CHAMBER TO PLANTS

5 CONVEYANCE CHAMBER

6. INFLW CHMBR TO PLNTD GRVL FLTR

7 PHTO RMDTN CAYHNA PLNTS

8. OUTFLOW CHMBR W LEVEL CONTROL

9 STRGE SUMP FOR PRCSSD WTR & PUMP TO DRAW WATER FOR RE-USE

10. OVERFLOW EXCESS WATER / RELEASE TO MAIN SEWER LINE

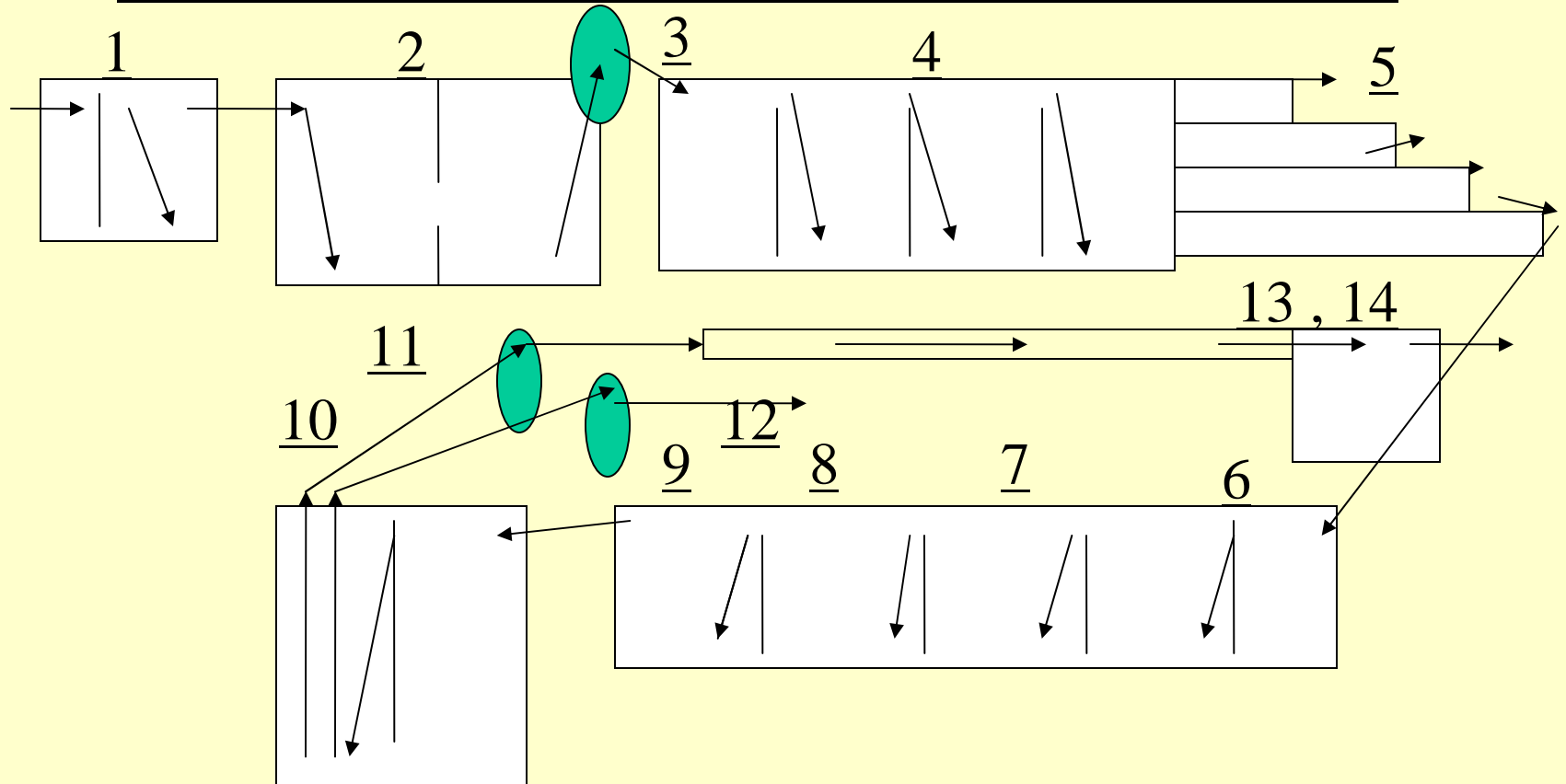


PICS & DATA ON CSE & IIT PLANT



ECONOMICS OF RECYCLED-WATER

DETAILS OF DEWATS COMPONENTS: SITE- VASANT VIHAR 40KL/D



1 DIRECTIONAL CHAMBER

2.BIO- SETTLER CHAMBER

3. PUMP

4 BAFFLED REACTOR 4 CHAMBERS

5.CASCADE FLOW AERATION

6. GRAVEL & PLANTS

7 HORIZONTAL PLANTED FILTER

8. PHYTO-REMEDICATION

9.COIR-PITH & HYACINTHS

10 STORAGE SUMP

11. PUMP TO E-BLOCK WITH LINES

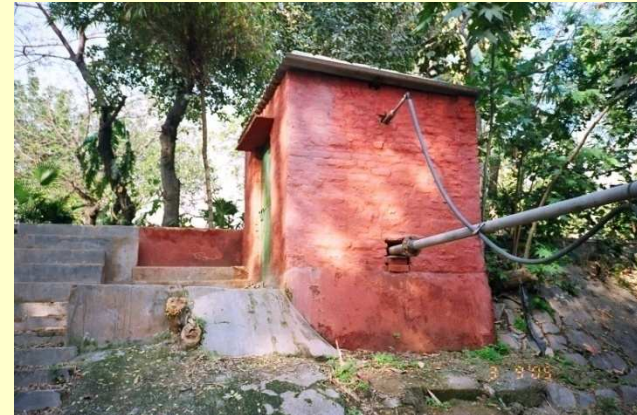
12. PUMP TO A-BLOCK

13 TANK AT E-BLOCK WITH PUMP

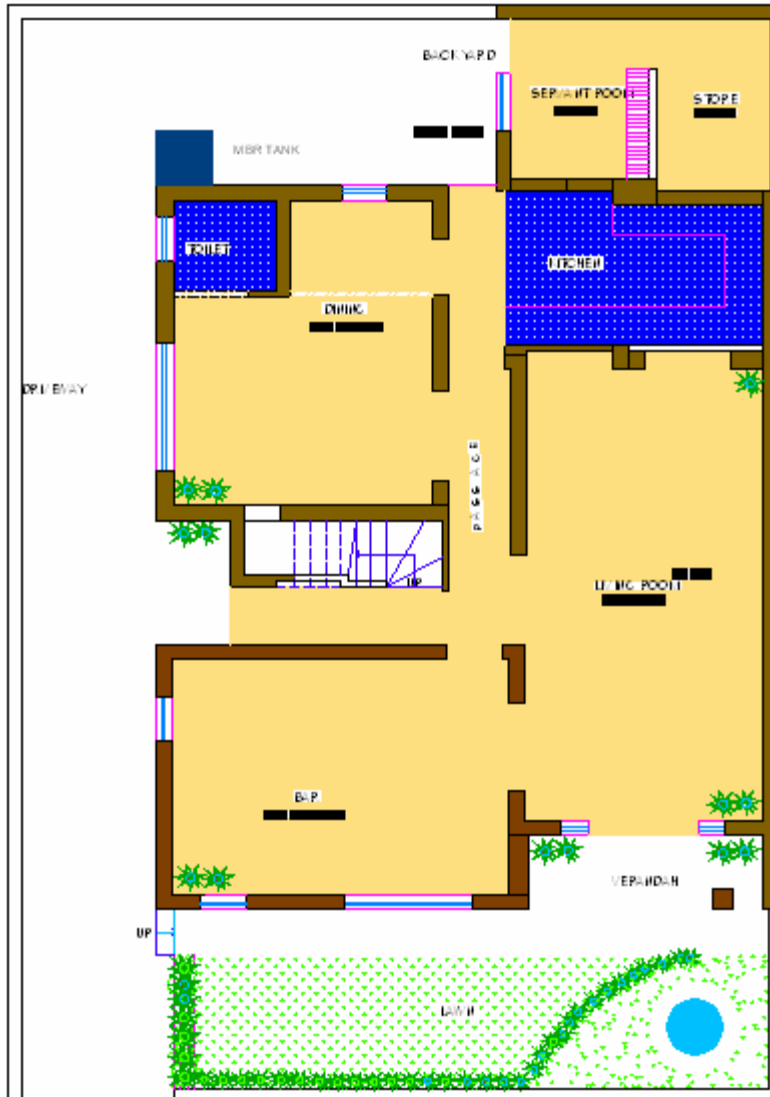
14 PIPELINES TO PARK AREAS



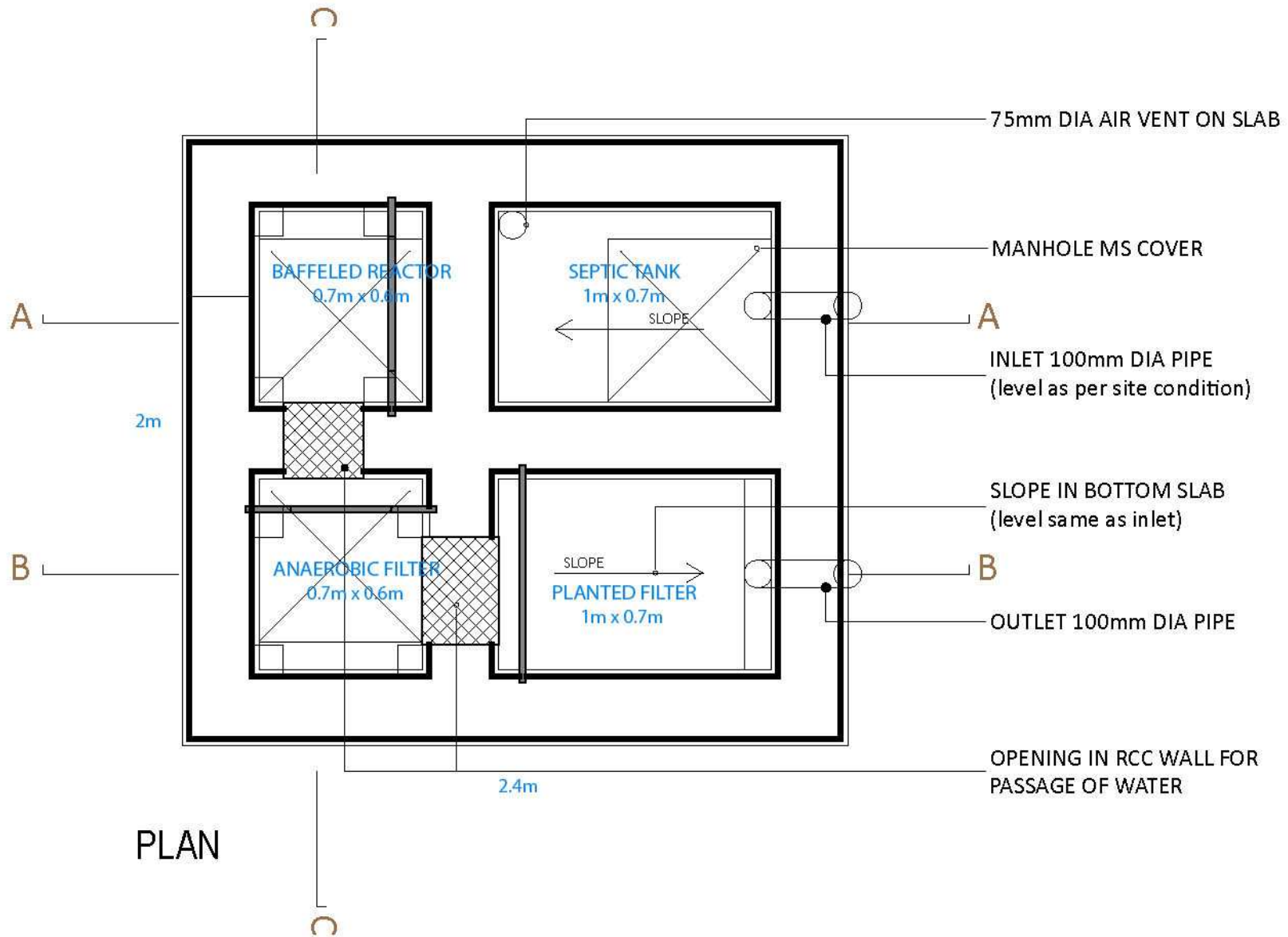
PICS & DATA ON VASANT VIHAR PLANT



PLANNING AT MICRO LEVEL :
BUNGALOW TYPE : 4 UNITS/ 20 USERS.
PLOT AREA 500 Sqm./ Wtr. 3000 Litres per day



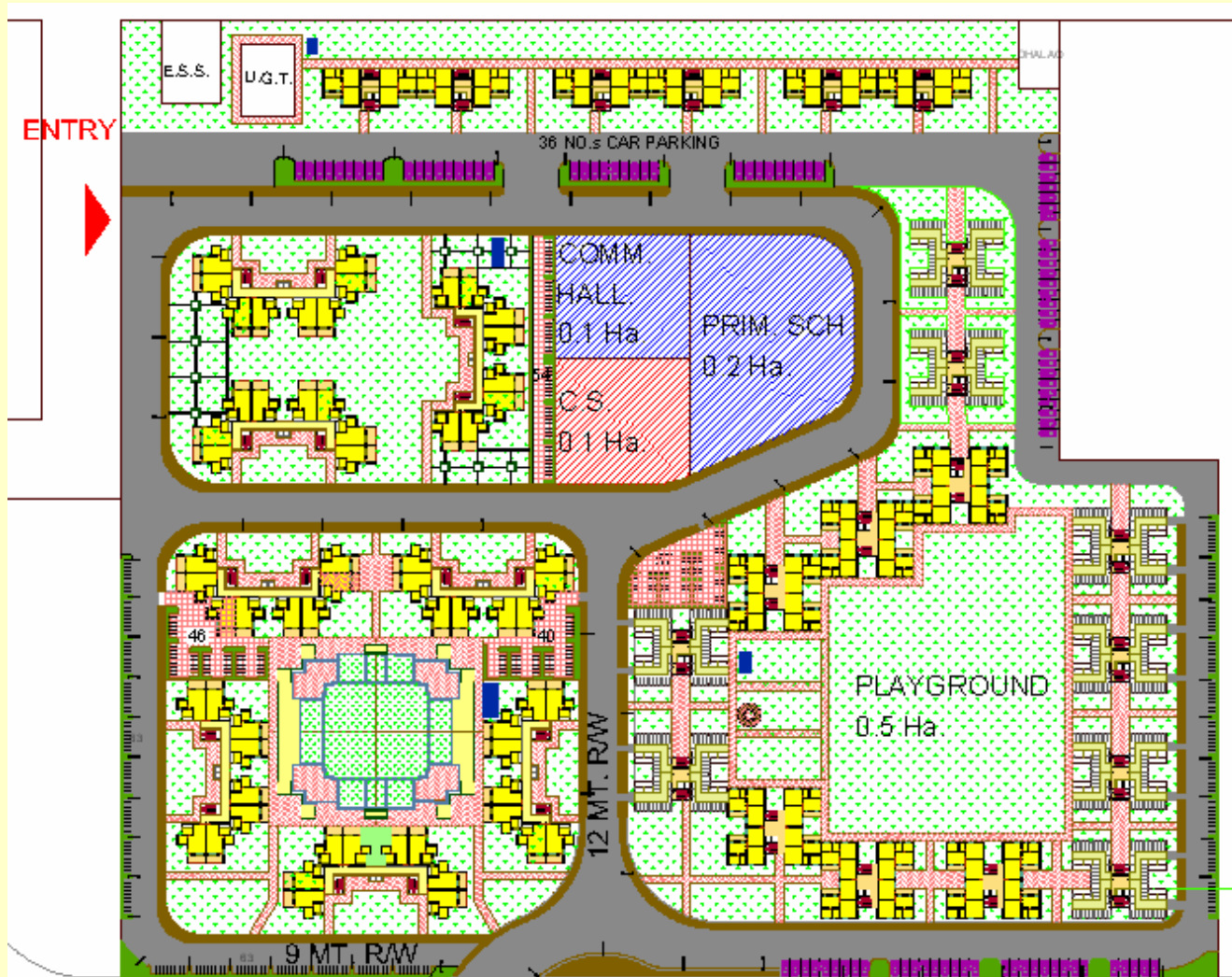
LAY-OUT OF DEWATS IN A RESIDENTIAL HOME:



PLANNING AT MACRO LEVEL :

COLONY/ INSTITUTION TYPE : 600 UNITS/ 3000 USERS.

PLOT AREA 20,000 Sqm./ Wtr. 5,00,000 Litres per day





THANK YOU TO ASPIRE TO WORK LOCALLY
AND CONTRIBUTE GLOBALLY

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