



7.1.4 Water Conservation Facilities available in the institution

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Water Conservation

To conserve the underground water and the replenish the same, various practices have been implemented in the campus since 2018-19.

Following water conservation facilities are available in the Institute-

1. Rainwater Harvesting
2. Borewell and Open well Recharge
3. Construction of Tanks and Bunds



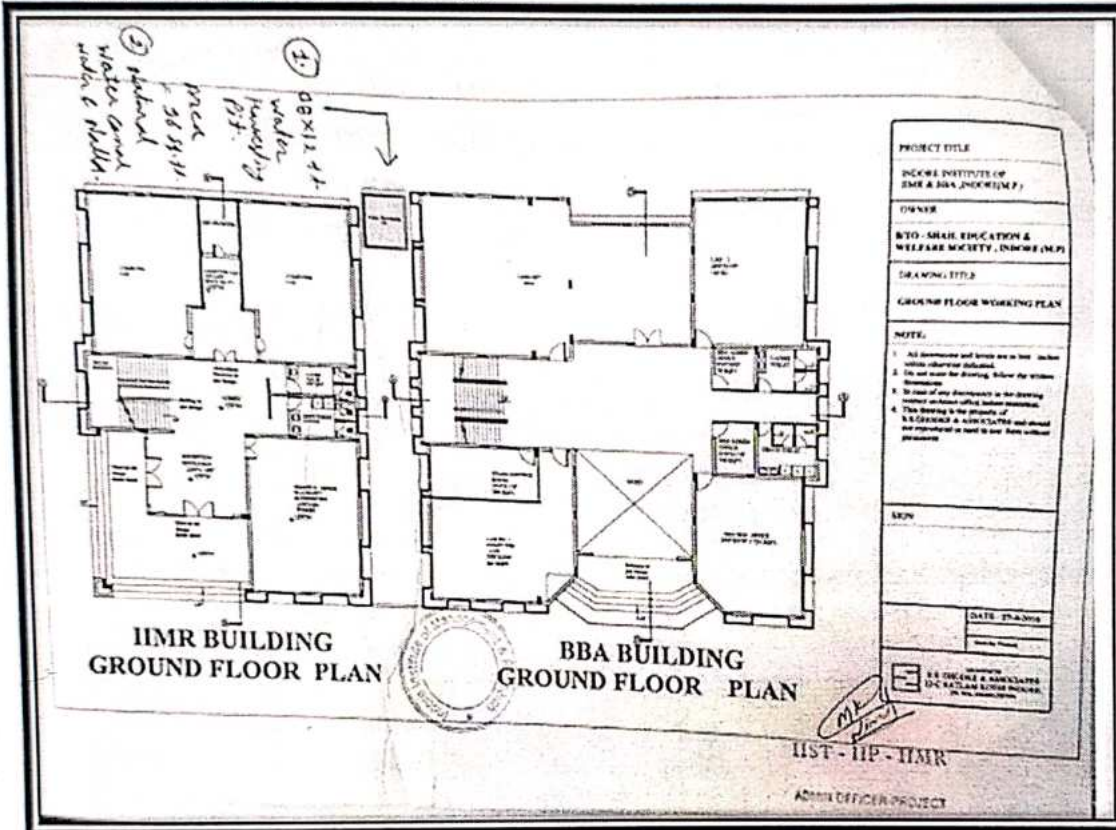


Rainwater Harvesting

Rain water harvesting

The layout of the Institute building is well-defined and special provisions are being made as rain water pit

Building layout highlighting rain water pit



Report of Rain Water harvesting

Rain Water Harvesting Project at Indore Institute of Management and Research Completion Report (2023-2024)

In the year 2018-2019 HMR started initiative for water harvesting project, that completed in two Phases-

Phase- I - Utilizing Roof water.

Phase - II - Utilizing storm water of existing Nallah.

Phase- I

Projected Collection and Utilization of Roof Water from HMR

Roof area of PG Building is 770.65 m² and UC Building is 425.43 m²

- Total Roof Area = 1196.08 m²

Formula for calculation of Average Ground Water Recharge -

$$= \{ \text{Area} \times \text{Runoff Factor} \times \text{Mean annual rainfall} \} / 1000$$

$$\begin{aligned} \text{Average Ground Water Recharge} &= (1196.08 \times 0.8 \times 941.4) / 1000 \\ &= 900.79 \text{ m}^3/\text{year (Projected)} \end{aligned}$$

Actual Collection and Utilization of Roof Water from HMR

Yearly Rainfall(in mm) trends for Indore for Year 2023

TABLE -1

YEAR	NORMAL RAINFALL (mm)	ACTUAL RAINFALL (mm)
2023	941.4	1062



Table-I showing the total rainfall occurs at Indore in corresponding years, normal rainfall occurs 941.4mm annually in the city but according to Indian Water Resources Information System actual rainfall data is differ, shown as above.

Total water Harvested at IIMR based on above rainfall data

Unit: - M³/Year

Particular	2023
Collecting Roof Water from IIMR Building	1016.18

Formula for calculation of Average Ground Water Recharge -

$$= \text{Area} \times \text{Runoff Factor} \times \text{Mean annual rainfall} / 1000$$

Total water Harvested in Year 2023

$$= (1195.08 \times 0.8 \times 1062) / 1000$$

$$= 1016.18 \text{ m}^3/\text{Year}$$

Total Ground Water Recharge from Roof area

$$= 1016.18 \text{ m}^3/\text{Year}$$

Phase-II

Projected Collection Runoff Water from Existing Nallah

$$= (90' \times 150') = 1254 \text{ m}^2$$

Formula for calculation of Average Ground Water Recharge -

$$= (\text{Area} \times \text{Runoff Factor} \times \text{Mean annual rainfall}) / 1000$$

$$\text{Average Ground Water Recharge} = 941.4 / 1000$$



= 472.206 m³/year

Actual Collection Runoff Water from Existing Nallah

Unit- m³/Year

Particular	2023
Collecting Runoff Water from Existing Nallah	532.69

Total water Harvested in Year 2023

$$= (1254 \times 0.4 \times 1062) / 1000$$

$$= 532.69 \text{ m}^3/\text{Year}$$

Total Water Harvested in Three years from Existing Nallah

$$= 532.69 \text{ m}^3/\text{Year}$$

Total water Harvested in year 2023 by two phases =

$$= 1016.18 + 532.69$$

$$= 1548.87 \text{ m}^3/\text{Year}$$

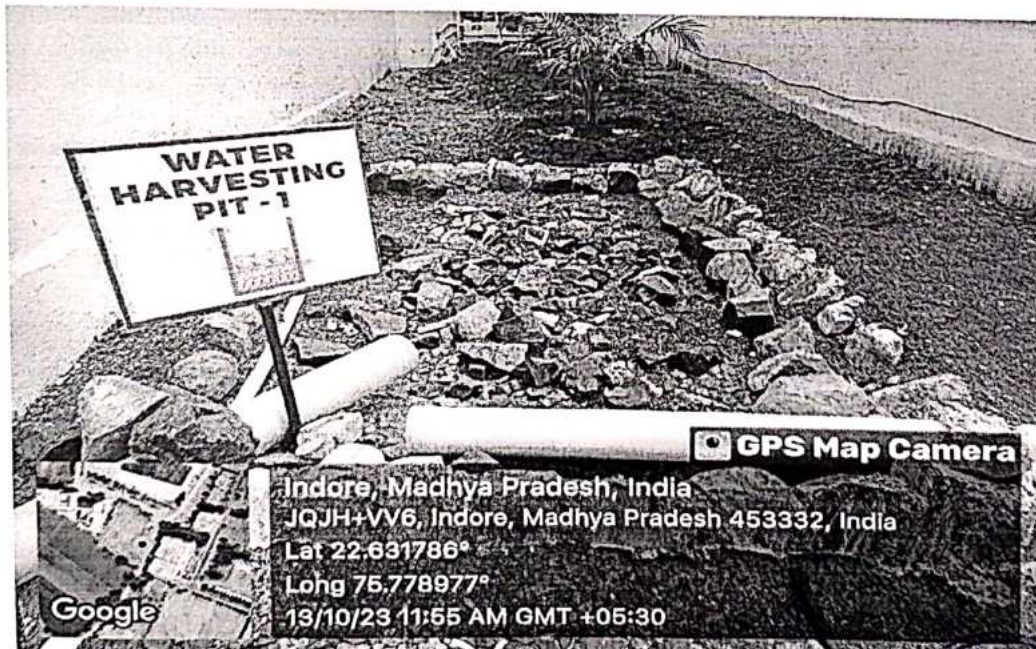


[Signature]
(Project In charge)





Geotagged Photos of Rainwater Harvesting





Borewell /Open Well Recharge

Borewell /Open well recharge

Artificial recharge techniques normally address to following issues –

1. To enhance the sustainable yield in areas where over-development has depleted the aquifer.
2. Conservation and storage of excess surface water for future requirements, since these requirements often changes within a season or a period.
3. To improve the quality of existing ground water through dilution.

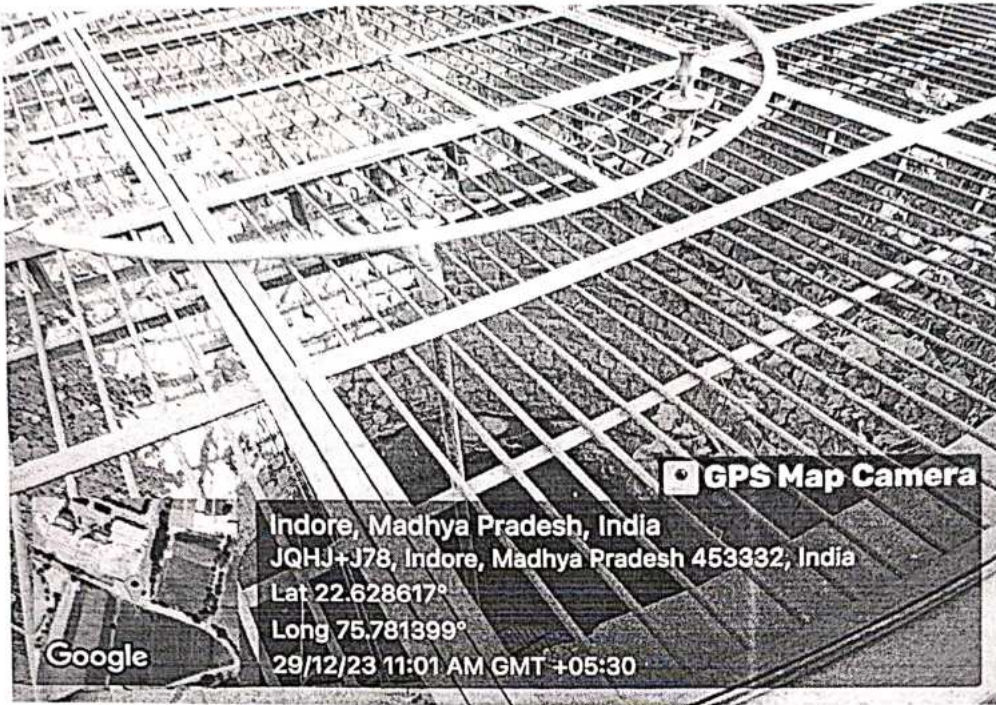
Open Well System in the Campus

An open well located in the campus is recharged by the rain water. The artificial recharge to ground water aims at augmentation of ground water reservoir by modifying the natural movement of surface water utilizing suitable civil construction techniques. To remove bacteriological and other impurities from sewage and waste water so that water is suitable for re-use. The basic purpose of artificial recharge of ground water is to restore supplies from aquifers depleted due to excessive ground water development.

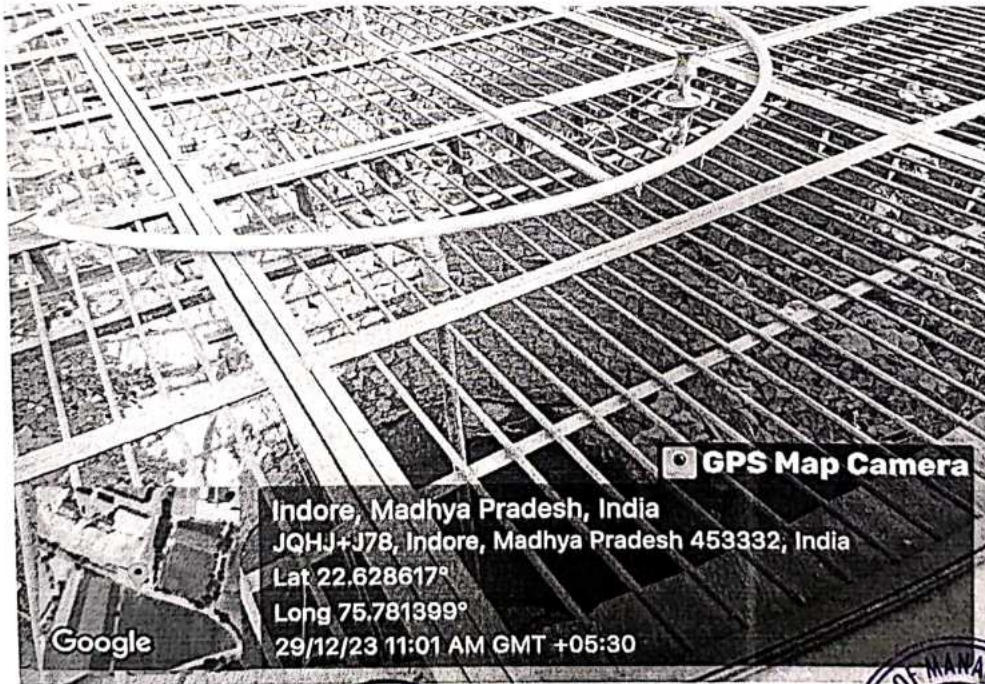
Geotagged Photo for Open well recharge

Open well at the Main Gate





Top View of Borewell



Borewell system in the campus

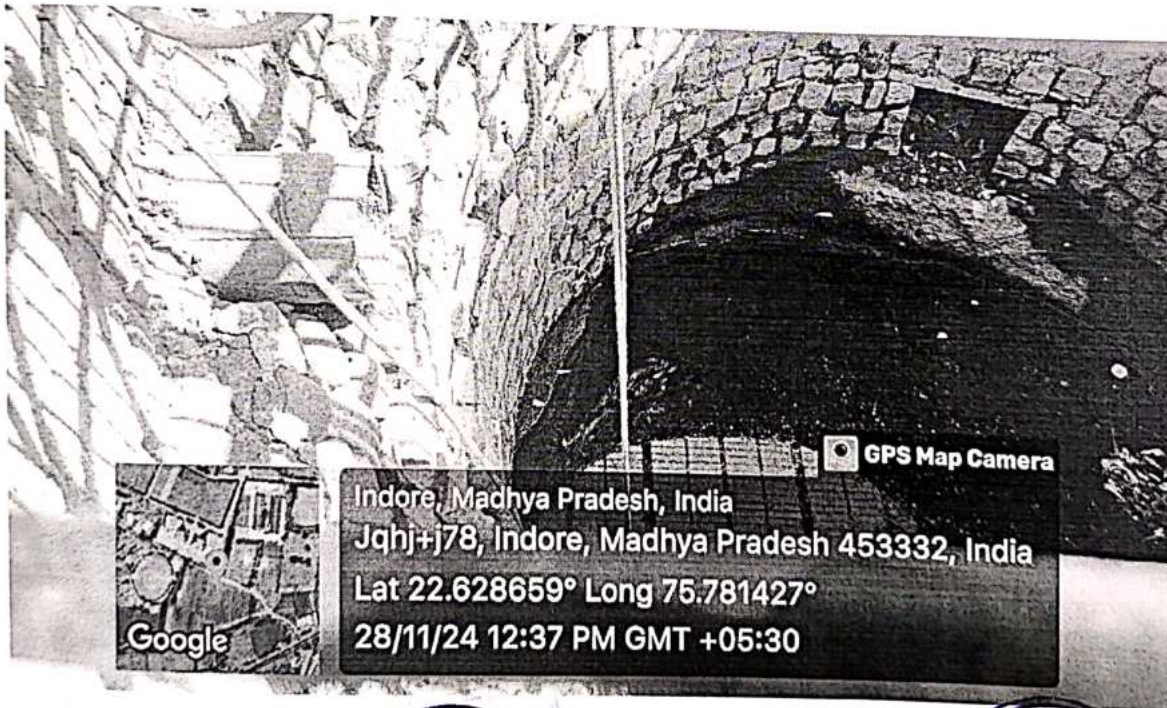
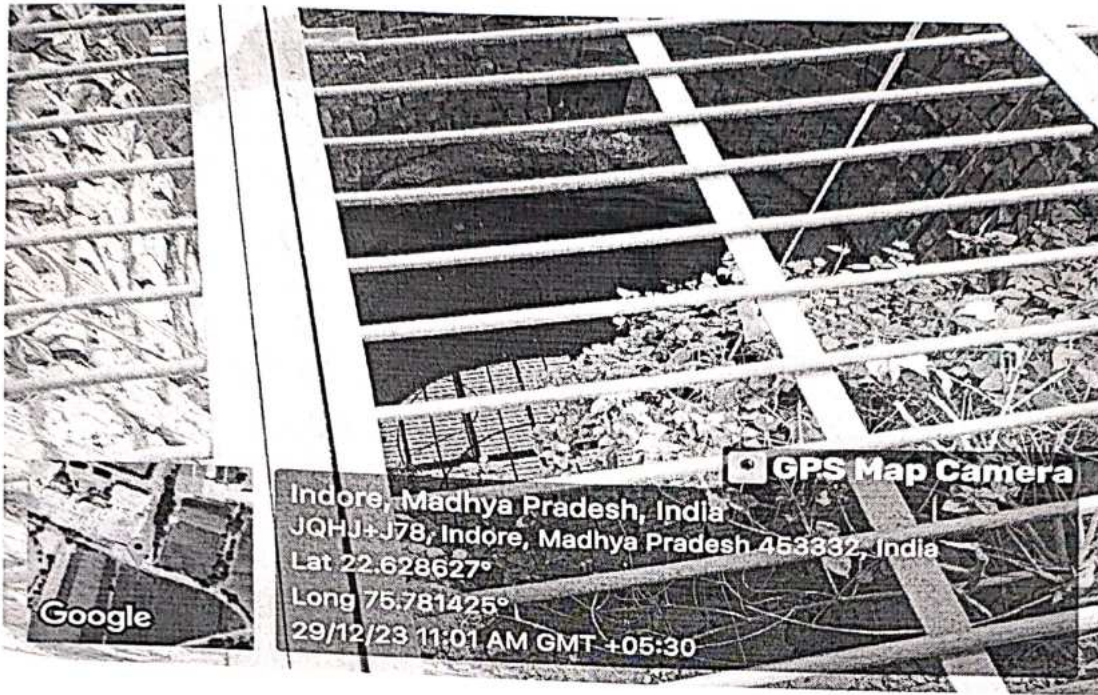
Total 7 numbers of Bore well and 2 numbers of open well are available in the IIMR Campus.

The location of Bore well as follows –

1. One Bore Well situated to the near Basket Ball Court
2. One Bore Well situated opposite to the Guest House
3. One Bore Well situated to the near Sports Complex
4. One Bore Well situated near Staff Quarter
5. One Bore Well situated near Girls Hostel
6. Two Bore Well situated in the Farm (Near Mango Trees)

Geotagged Photos of borewell in the campus

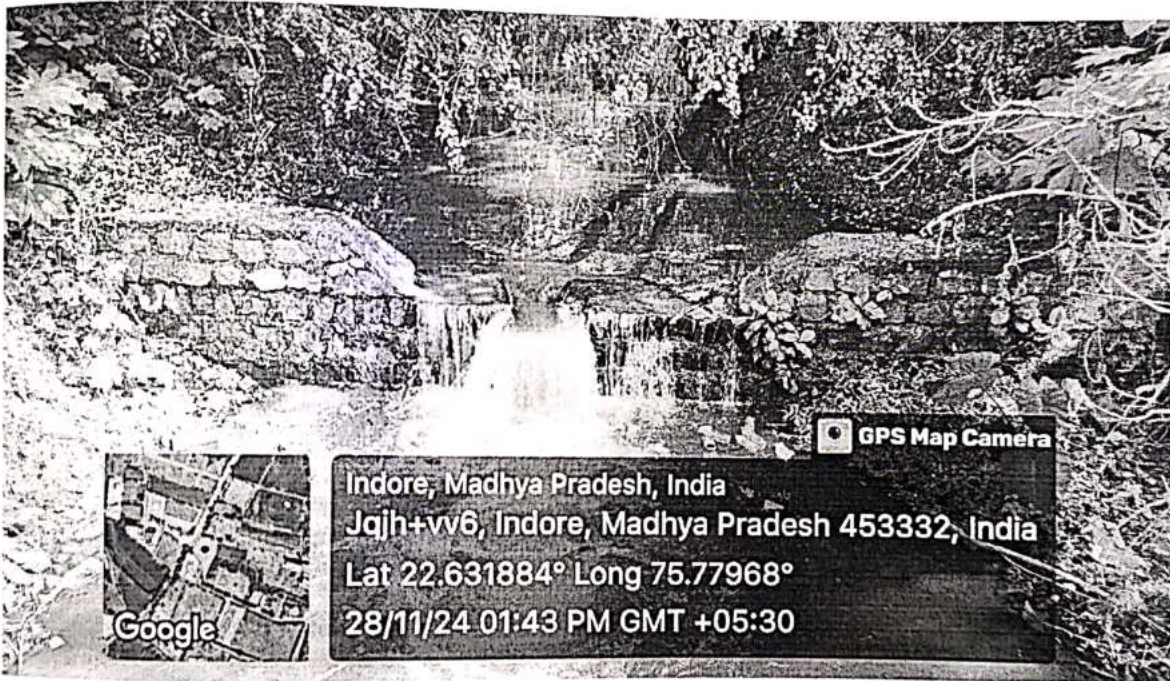






Construction of tanks and bunds

Runoff generated in the campus is collected using small masonry bund (check dam) in the campus a natural canal passing through the campus. In the institute Bunds are constructed to control the water table within the reclamation area and control the flow of discharge water in the fill area. Water retention is the primary purpose of such bund.





Indore Institute of Management & Research

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