

WATER CRISIS PROBLEM & SOLUTION IN GENERAL

By:

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Big chunk of Antarctic ice shelf falling apart

PRESS TRUST OF INDIA
NEW YORK, MARCH 26

A HUGE chunk of ice measuring 13,680 square kilometres or about seven times the size of Manhattan island has begun to collapse because of climate change in the fast-warming region of Antarctica.

The scientists at the US National Snow and Ice Data Center (NSIDC) at the University of Colorado, USA,

Wilkins has been in place for at least a few hundred years. But warm air and exposure to ocean waves are causing a break-up.

Satellite images, scientists say, indicate that the Wilkins began its collapse on February 28 and a large iceberg, 41 by 2.5 kilometres, fell away from the ice shelf's southwestern front, triggering a runaway disintegration of 405 square kilometres of the shelf interior.

SCIENCE NOTES

have based their calculation on the satellite imagery received by it.

The Wilkins Ice Shelf is a broad plate of permanent floating ice on the southwest Antarctic Peninsula, about 1,600 kilometres south of South America.

In the past 50 years, the western Antarctic Peninsula has experienced the biggest temperature increase on Earth, rising by 0.5 degree Celsius per decade.

NSIDC Lead Scientist Ted Scambos, who first spotted the disintegration in March, said, "We believe the

The edge of the shelf crumbled into the sky-blue pattern of exposed deep glacial ice that has become characteristic of climate-induced ice shelf break-ups such as the Larsen B in 2002. A narrow beam of intact ice, just 6 kilometres wide was protecting the remaining shelf from further breakup as of March 23, they said.

Scientists track ice shelves and study collapses carefully because some of them hold back glaciers, which if unleashed can accelerate and raise sea level.



A satellite image shows the Wilkins Ice Shelf on the Southwest Antarctic Peninsula as it began to break apart. AP

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NATIONAL NETWORK

The Indian EXPRESS
VADODARA ■ WEDNESDAY ■ JUNE 23, 2004

1 m rise in sea level will displace 1.7 million Indians, says report

EXPRESS NEWS SERVICE
CHENNAI, JUNE 22

THIS is not from the film *Day after Tomorrow*, but the Government of India's report to the United Nations on climate change.

Parts of it read like a weather-horror story: The sea levels in India are rising and even a further one metre increase in sea levels is estimated to displace about 1.7 million people in the country, wash away 4,200 kms of roads and destroy 5,764 sq.kms of land.

The Gulf of Kutch and the West Bengal coast have recorded the highest rise in sea levels in the present climatic conditions, ranging between 0.4 and 2 mm per year.

According to the initial national communication to the United Nations Framework Convention on Climate Change (UNFCCC) released by the

Environment Minister, A. Raja, at a national workshop here, "Future climate change in coastal zones is likely to be manifested through worsening of some of the existing coastal zone problems."

The report containing climatic projections, with 1994 as base year, will be presented this week to the U.N. Convention, which aims to stabilise greenhouse gas concentrations in the atmosphere.

India's coastline stretches over 7,500 sq km and the population density in coastal areas is 455 persons per sq km — 15 times more than the national average of 324 persons per sq km.

The report indicates increases in both the minimum and maximum temperatures by 2-4 degree Celsius in the 2050s. In the

north, the increase in maximum temperature may exceed 4 degrees, which may further rise in southern parts. There is also a possibility of overall decrease in the rainfall days.

This decrease is greater in the western and central parts by 15 days, while closer to Himalayas, it may increase by 5-10 days.

The report predicts more water scarcity in river basins. Especially, the river basins of Sabarmati and Luni, which occupy about a quarter of Gujarat and 60 per cent of Rajasthan, The Cauvery, Ganga, Narmada and Krishna River basins are likely to experience seasonal or regular water-stressed conditions.

Consequently, the food security of India "may be at risk in future", says the

report. "Food security of India may be at risk in future due to the threat of climate change leading to increase in frequency and intensity of droughts and floods."

The positive side to the report states: Greenhouse gas emission by India is "very low" — per capita emission is 0.87 tonnes of carbon dioxide equivalent per annum and aggregate emissions are about 3 per cent of the global total.

Addressing the workshop on Coastal Regulation Zone (CRZ) in Chennai, the Environment Minister said a CRZ management system that balances both conservation and development aspects has to be evolved.

An expert committee headed by scientist, Dr. M.S. Swaminathan, has been set up to consider the entire gamut of issues, which will submit its report in three months.

Gulf of Kutch and West Bengal coast have recorded the highest rise in sea levels

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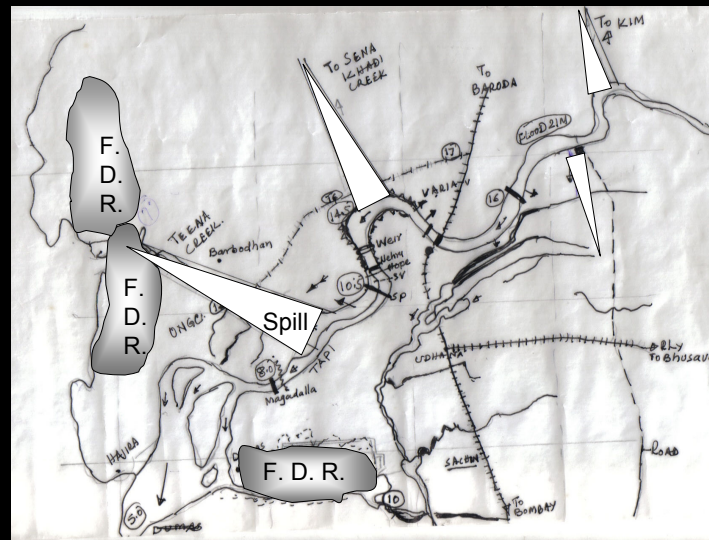
Map showing the khar land area for Surat

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Coastal Area of Hajira, Olpad.
- Tena Sena Creek &
Kim River

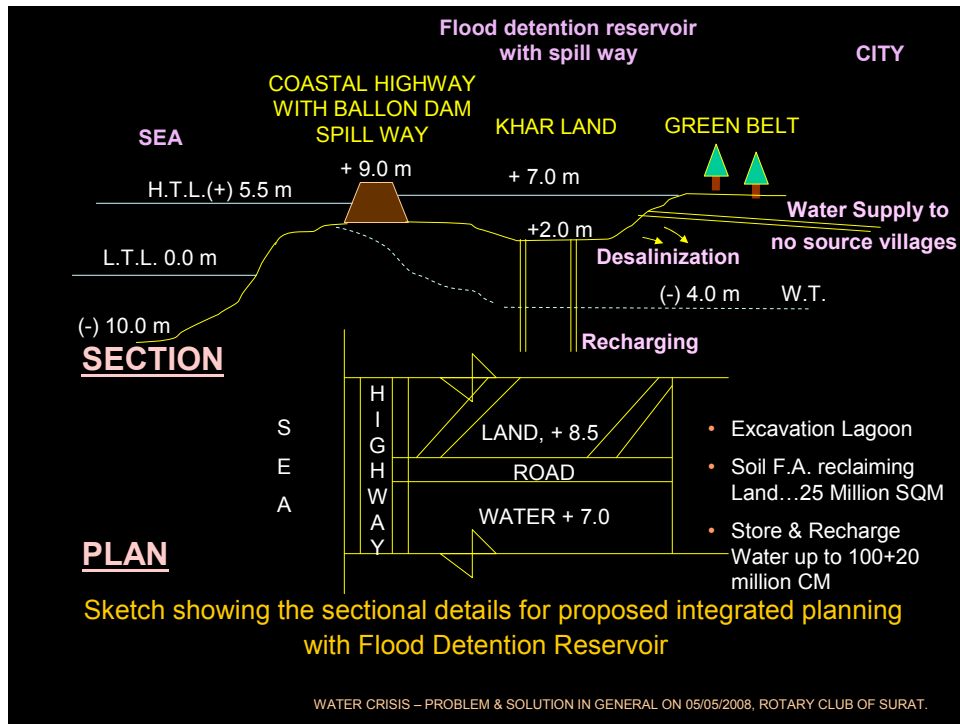
This is a detailed map of the Khabarovsk region in the Far East of Russia. The map shows the Amur River flowing from the north to the south, with Khabarovsk and Blagoveshchensk as major cities. Other cities like Khatanga, Khatanga, and Khatanga are also marked. The map includes various geographical features such as rivers, lakes, and mountains. A yellow arrow points to a specific location on the map, and a yellow circle highlights a small area near the Amur River.

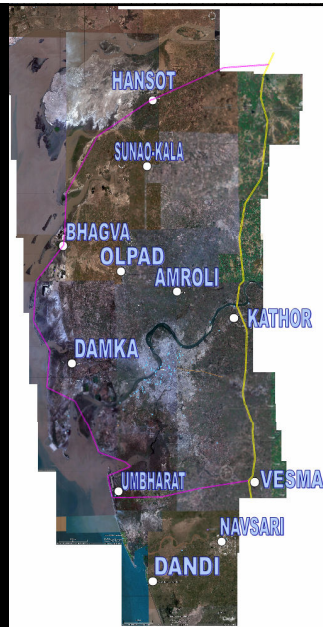
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Map showing proposed flood detention reservoir with integrated planning

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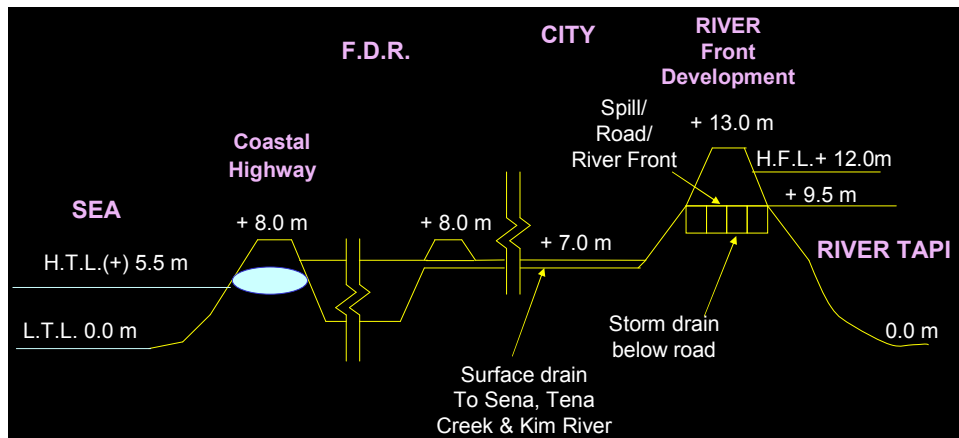


— NH-8.

— Proposed Coastal Highway

Proposed Coastal Highway with Flood Detention Reservoir

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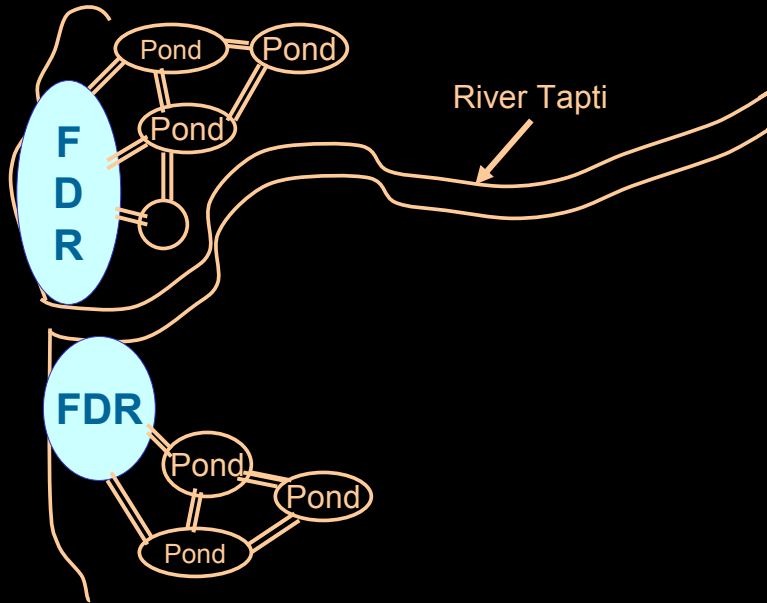


Sketch showing the sectional details for proposed Integrated planning with Coastal Highway & Flood Detention Reservoir

Plate shows flood, spills, barrel direct drain to act as storm drains interceptor, surface drain network to divert flood water to major khadies redeveloped, Tena, Sena, Kim, Mindhola.

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Linking of Village Ponds (reserved) for no source villages



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Case Studies

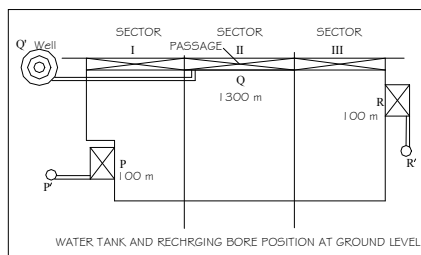
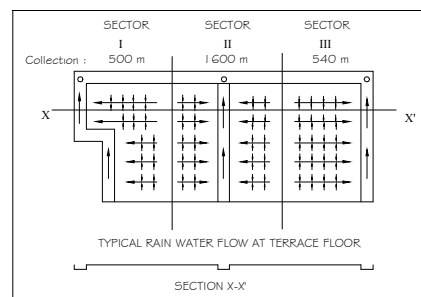
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Radha Krishna Textile Market

Ring Road, Surat

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- Radha Krishna Textile Market, Ring Road, Surat.

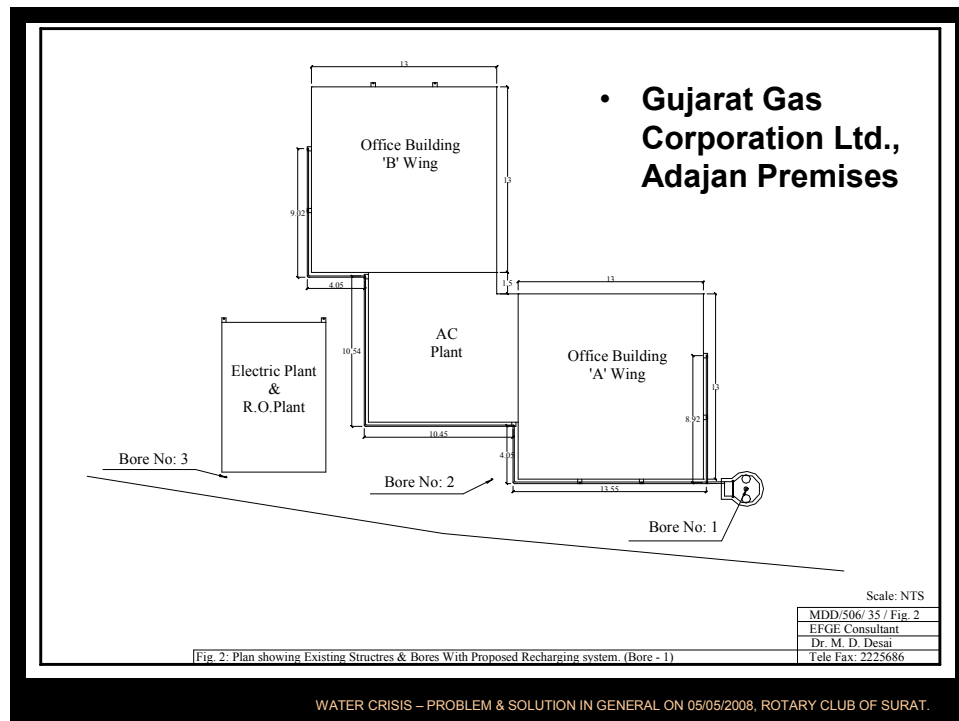


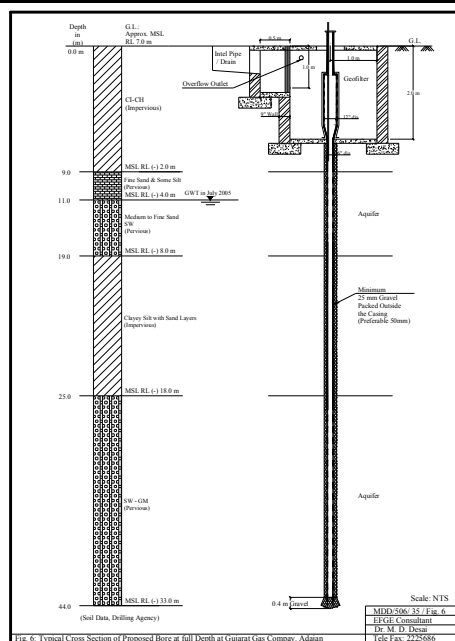
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Gujarat Gas Corporation Ltd.

Adajan Premises

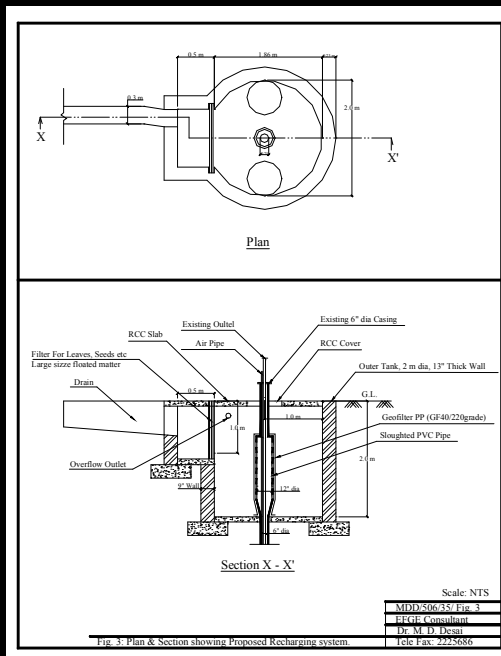
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- **G.G.C.L.,
Adajan Premises**

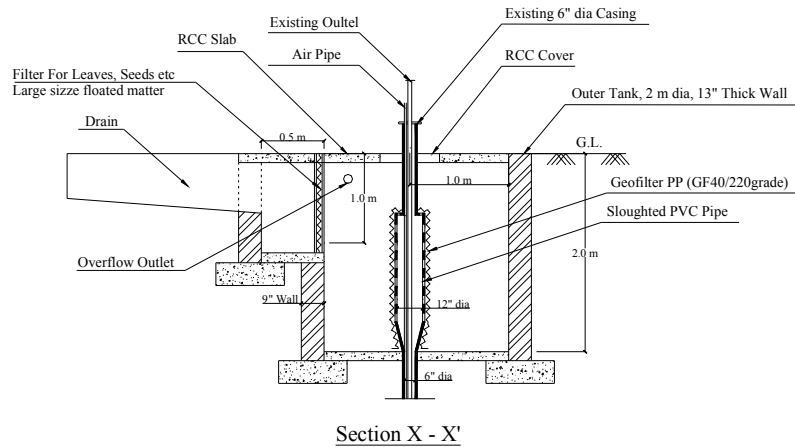
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• **G.G.C.L., Adajan Premises**



Section X - X'

Scale: NTS

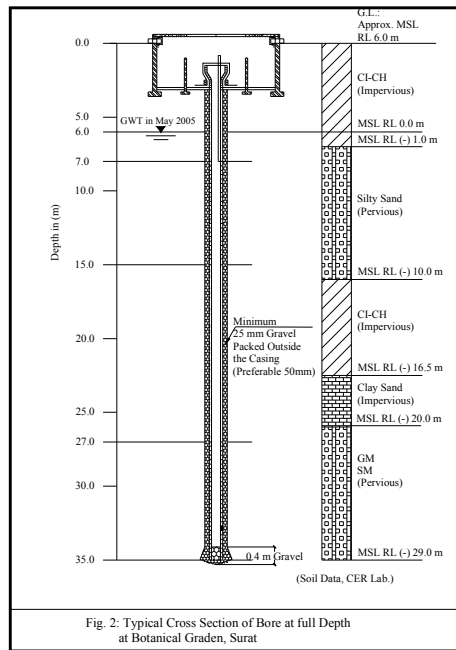
MDD/506/35/ Fig. 3
EFGE Consultant
Dr. M. D. Desai
Tele Fax: 2225686

Fig. 3: Plan & Section showing Proposed Recharging system.

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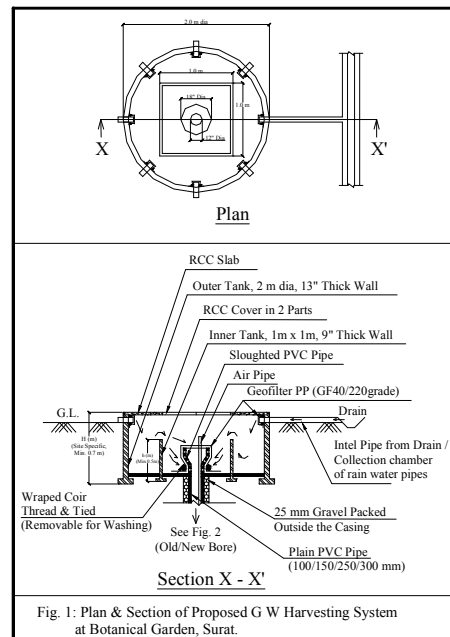
Botanical Garden Surat

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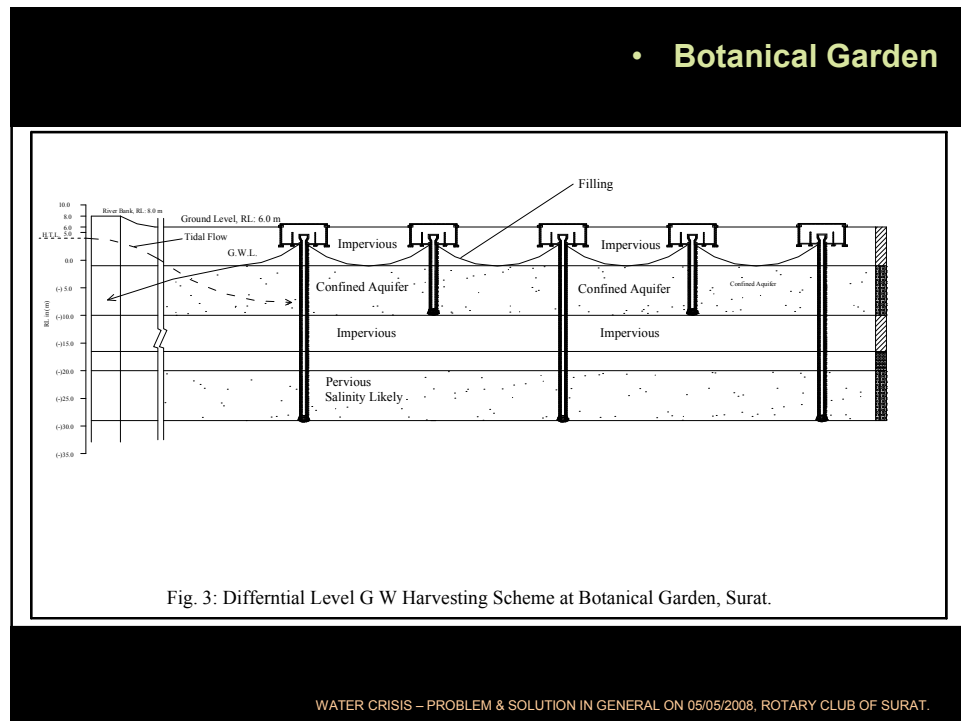
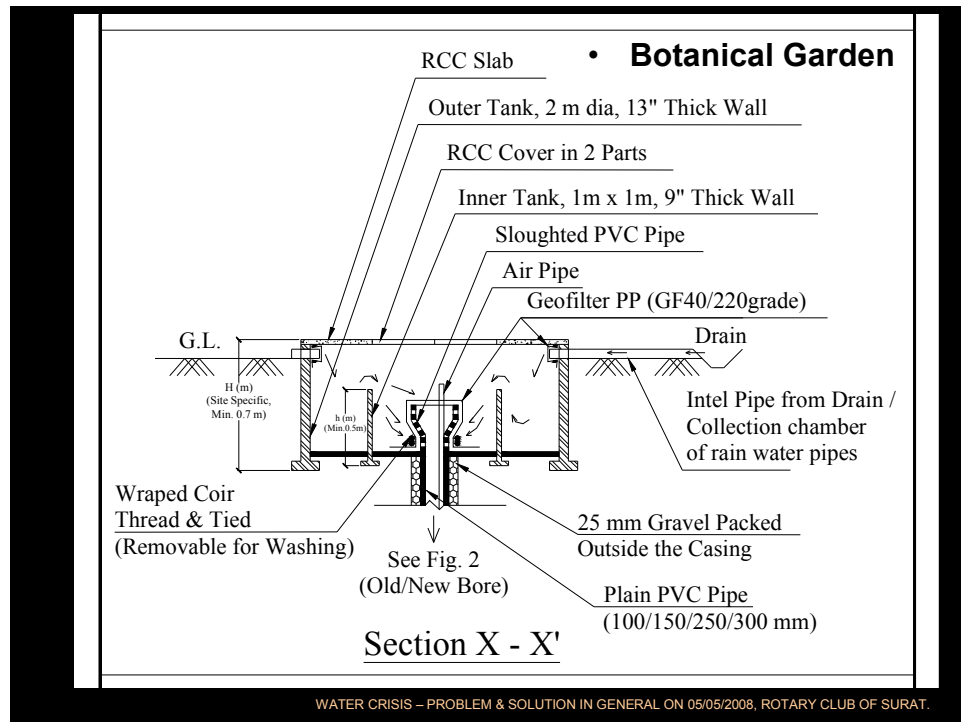
- Botanical Garden

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THANK YOU