



Mumbai Water Supply

- Area 437.71 Sq. Km
- Population 12.431 Million (53 % Slum)
- Present demand 4200 Mld
- Present Supply 3500 Mld
- Connections 366000 Nos.
- Revenue Rs. 784 Cr



Challenges

- Underground utility mapping
- AMR Metering –
 - Prohibitive Cost
 - Protection against damage
 - Monopoly on Global of AMR Technology (Suggestion – universally acceptable interchangeable unit)
- Managing water supply in slum colonies
 - Narrow passages – no place to lay pipeline
 - Bunch of connections in passages
 - Govt. policy – Slum post 1.1.1995 not eligible for facility
- Distribution Constrains
- Inequitable Distribution
- Planners Constrains
- Network Analysis
- Gravity Supply
- Bigger Supply Zones
- Mixed Localities
- Drawal at Various Levels
- Continuous Infrastructure Development
- Delay in Implementation of DP plan (Especially Roads)
- Short Supply & Contamination



Action Plan

Comprehensive Water Distribution Improvement Programme (WDIP)

- Network Survey & GIS Mapping.
- Hydraulic simulation of water supply zones / DMAs
- Leakage Detection & Repairs
- Setup Permanent Leak Detection & NRW Assessment System.
- Equitable Distribution
- Customer Relationship Management
- Capacity Building
- Asset Management
- Quality Assurance & Reporting
- Develop 24 x 7 Water Supply System
- New Source Development – 2891 MLD With Gargai, Pinajal & Damanganga



MUMBAI SEWERAGE SETUP

1. Sewerage Project wing: Laying of New Sewer Network
2. Sewerage Operations wing: Operation of Maintenance of Sewer Pumping Stations ,Treatment Plants ,Underground Sewer network.
3. Mumbai Sewage Disposal Project Wing: Implementation of major Waste Water Treatment Facility.
4. Mechanical and Electrical Wing:
Planning, Implementation ,Operation and Maintenance of Mechanical/Electrical equipment



Sewage Generation & Disposal

- Total Water Supply – 3500 mld
- Domestic sewage generated -2700 mld
- Sewage collected -1700 mld
- Treatment facility available -1998 mld
- Untreated sewage going to Sea through Nalla - 1000 mld
- Sewered Area - 62%
- Population served with sewerage facility- 48.5%
- Diversion of dry weather flow - 13 sites planned



Challenges in implementation OF Major Projects and Operations

- 1) Paucity of land.
- 2) Construction of New Facility by retaining the Existing one till new Facility is commissioned.
- 3) Laying Sewer underneath Railway tracks by 'No Dig Technology.
- 4) Rehabilitation of Old Sewer Network.
- 5) Slum connectivity with Sewerage network.
- 6) Desludging, operations and disposal

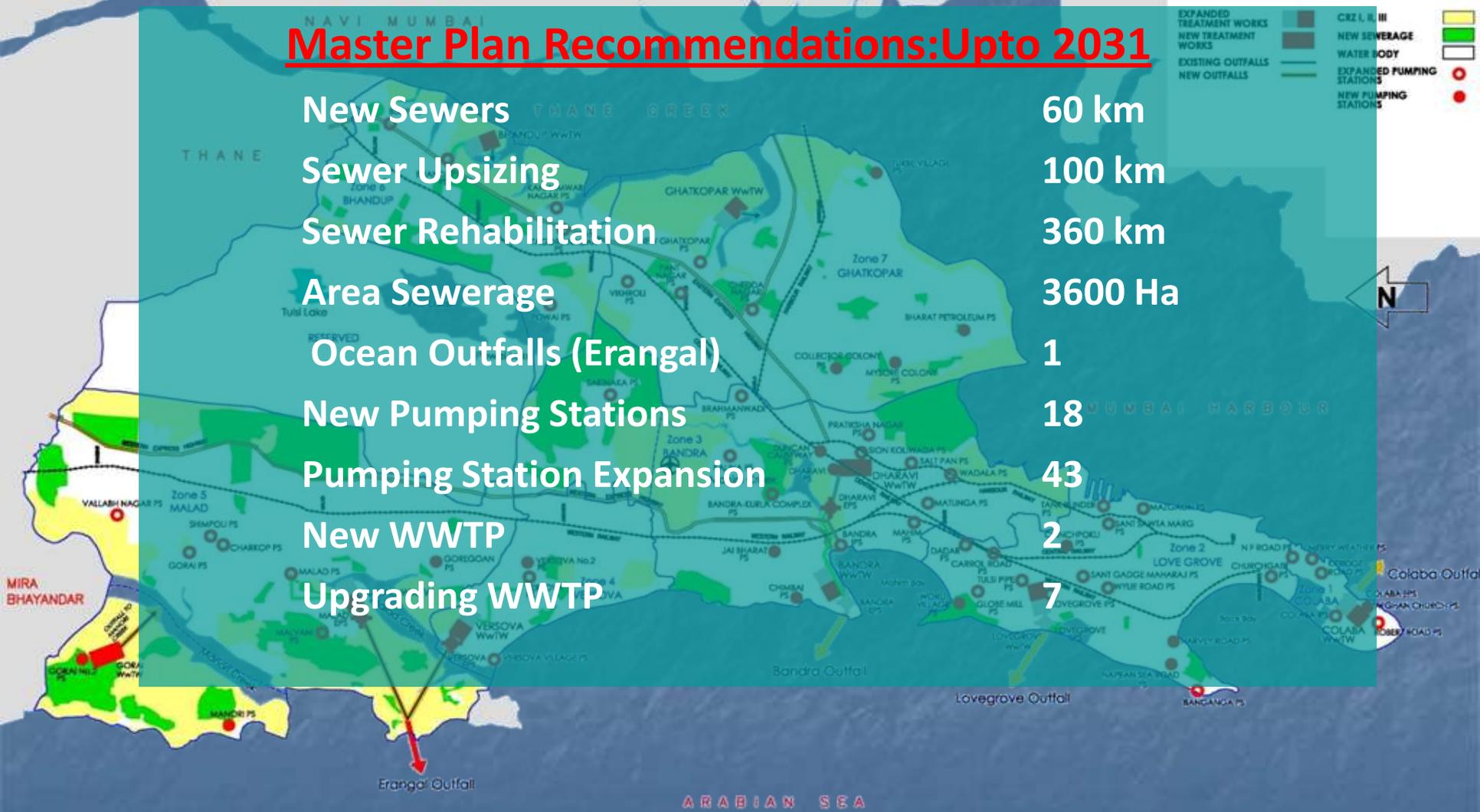


Mumbai Sewage Disposal Project Stage II Master plan

Master Plan Recommendations:Upto 2031

New Sewers	60 km
Sewer Upsizing	100 km
Sewer Rehabilitation	360 km
Area Sewerage	3600 Ha
Ocean Outfalls (Erangal)	1
New Pumping Stations	18
Pumping Station Expansion	43
New WWTP	2
Upgrading WWTP	7

EXPANDED TREATMENT WORKS	CRZ I, II, III	
NEW TREATMENT WORKS	NEW SEWERAGE	
EXISTING OUTFALLS	WATER BODY	
NEW OUTFALLS	EXPANDED PUMPING STATIONS	
	NEW PUMPING STATIONS	

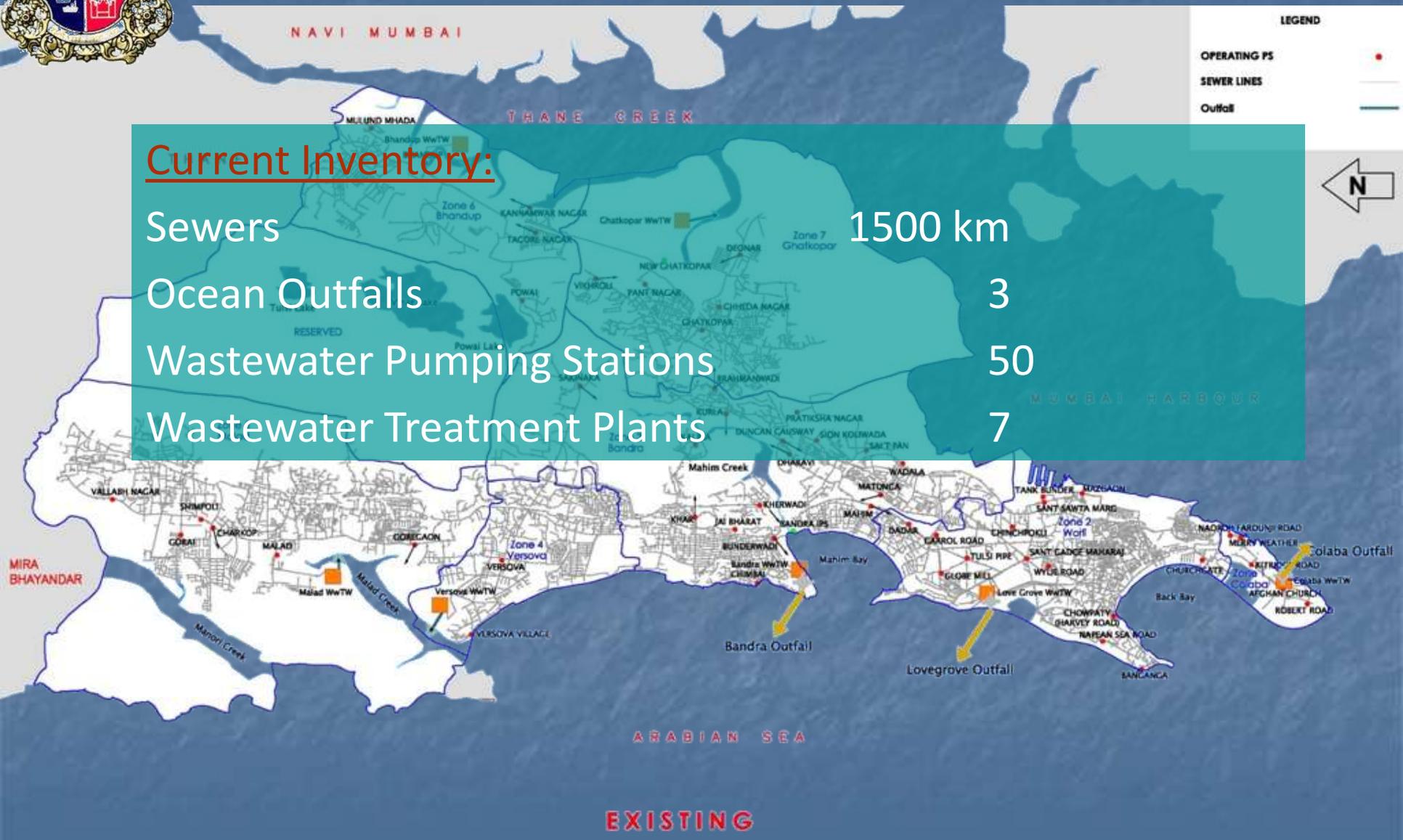


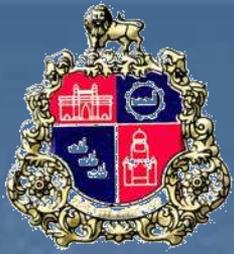


Mumbai Sewage Disposal Project

Current Inventory:

Sewers	1500 km
Ocean Outfalls	3
Wastewater Pumping Stations	50
Wastewater Treatment Plants	7





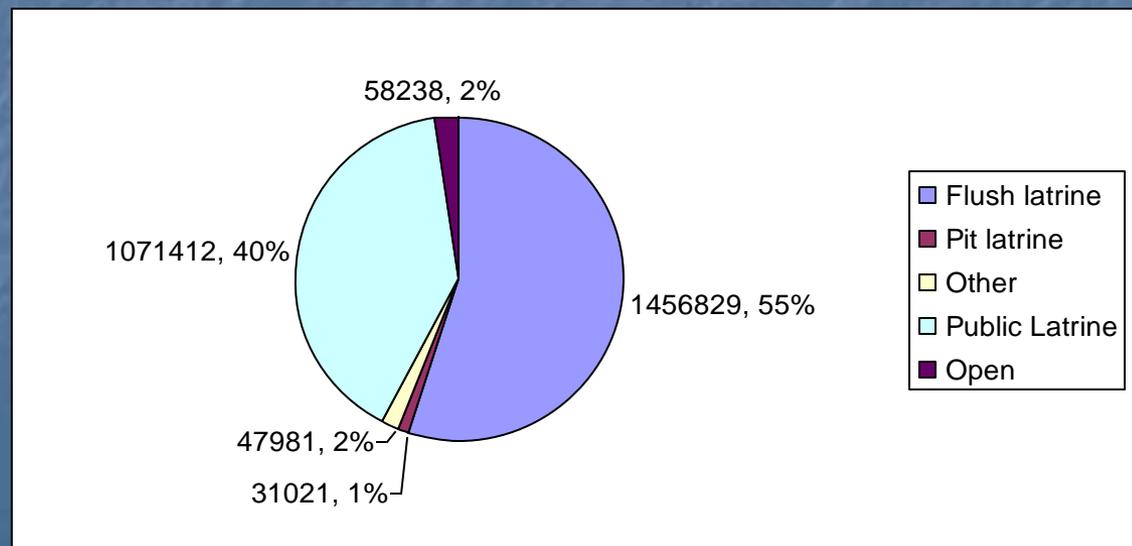
SANITATION NEED ASSESSMENT

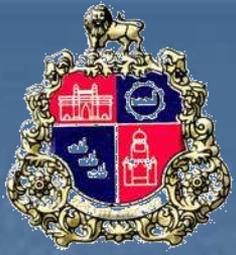
- . Total population of Mumbai
1,24,32,830
- . Total slum population of Mumbai
65,29,448 (52.51%)
- . Non slum population
59,03,382 (47.49%)

DISTRIBUTION OF HOUSE HOLDS BY TYPE OF LATRINE FACILITY IN MUMBAI

Latrine Type	Users
Flush latrine	1456829
Pit latrine	31021
Other	47981
Public Latrine	1071412
Open	58238

(Source - Census-2011)



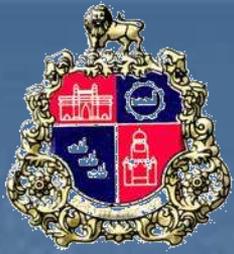


MUMBAI SEWAGE DISPOSAL PROJECT

- . Slum Occupancy - 8.3% of Area**
- . Slum Population - 53**
- . Seats Available - 10899 seats**
- . Seats under construction - 4200 seats**
- . Seats required - 35000 seats**

Operation and Maintenance by Community based Organisation.

Monthly family pass issued to slum users

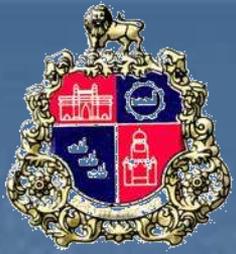


LONG TERM STRATEGY FOR OPEN DEFECATION FREE **MUMBAI**

- . All toilet construction activities should be under one head.**
- . Liaison with all land owners such as**
 - 1) Railway Authorities.**
 - 2) Salt Commissioner.**
 - 3) Mumbai Port Trust.**
 - 4) Forest Dept.**

**Above bodies are not allowing construction or Demolition/
reconstruction of community Toilet Blocks on their Land.**

- . Regular monitoring of O & M of toilet blocks -**
As per Circular U/N DMC (ENV.&W.M.)/476/Gen/dtd.
26.06.2007 – After Handing over the Toilet blocks to CBO,
the concern A.E. (Env.) of local ward office shall check
periodically & report to D.M.C. (ENV.&W.M.) / Ch. Eng.
(M.S.D.P.)



PLAN FOR UPDATING SANITATION DATA

- . As a part of monitoring mechanism regarding service level benchmark of sanitation coverage under *JnNURM* is very essential.**
- . City Sanitation Plan (CSP) is being prepared in consultation with CRISIL**
- . To compile all sanitation related data a Tender for inventory of all existing Toilet blocks in Mumbai is under progress.**



THANK YOU.....