



City-Wide Delivery of Sustainable and Equitable Sanitation Services in Warangal

Project Brief

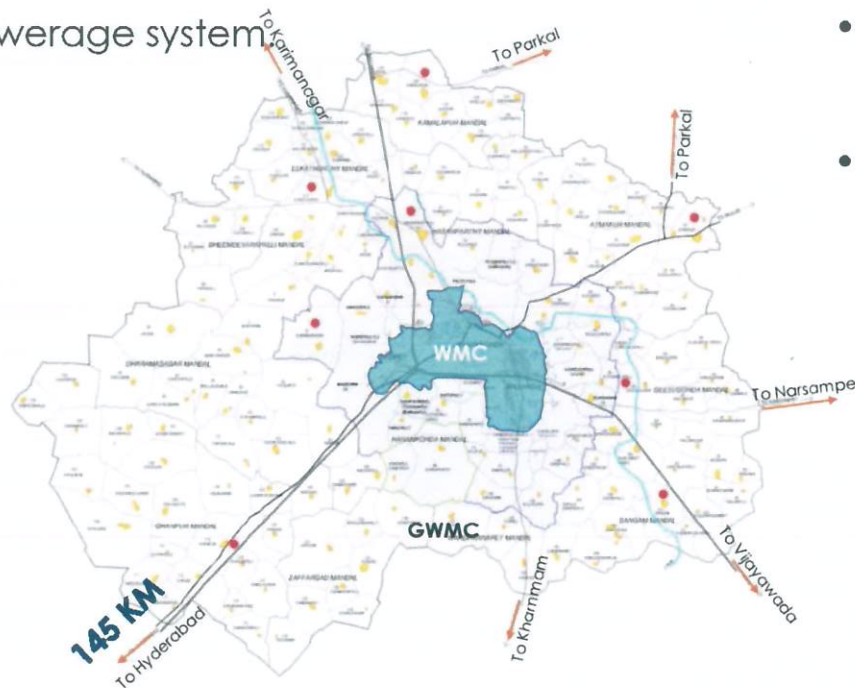
November 13, 2017





Telangana - Regional Context

- The youngest state in India
- Population : 35 million (Census,2011)
- Capital city : Hyderabad
- Population in urban areas: 35 % (12.1 million)
- Urban Local Bodies: 68
(6 Municipal Corporations, 37 Municipalities and 25 Nagara Panchayats).
- Except for Hyderabad, no urban area has a Sewerage system



Warangal City - Context

- Second largest city in Telangana after Hyderabad.
- Located at a distance of 145 km from Hyderabad.
- Identified as one of the smart cities under Government of India Programme.
- Historical and cultural city is headquarters of Warangal district.
- Per capita income of Warangal District: below the National average ~ 1100 USD.
- The Greater Warangal Municipal Corporation (GWMC) was created by merging the surrounding 42 villages with the Warangal Municipal Corporation (WMC).

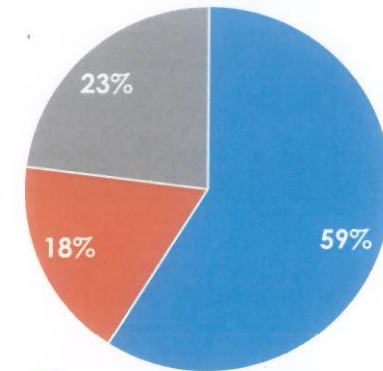
• Area : 472 sq.km, • No. of HH : 0.19 million
 • Population : 0.8 million • Number of Slums: 183
 (Census, 2011) • Slum Population : 30%



Sanitation Situation-Warangal

- Sanitation ranking– Stood at 35 out of 74 Indian Cities in Swachh Sarvekshan (SS) 2016 national ranking and at 28 out of 434 Indian cities on SS 2017
- City does not have a Sewerage system.
- Coverage of Water Supply < 50 %.
- Per capita Supply of Water < 100 lpcd.
- Coverage of Drains : 42 %.
- Households (HH) having access to Toilets: 77%
 - HH with toilets connected to septic tank : 59%
 - HH with pit latrines : 18%
 - HH with OD and Insanitary Toilets :23%

Access to Toilets

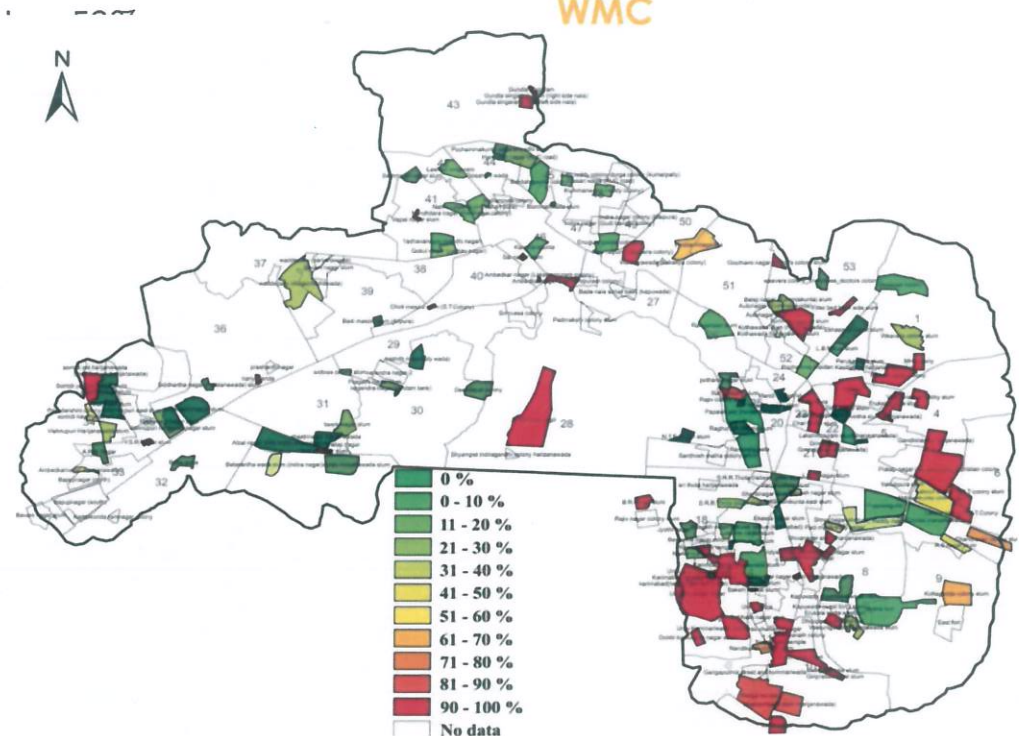


- HH with Septic Tanks
- HH with Pit Latrines
- HH with Insanitary toilets and OD

Slum Sanitation

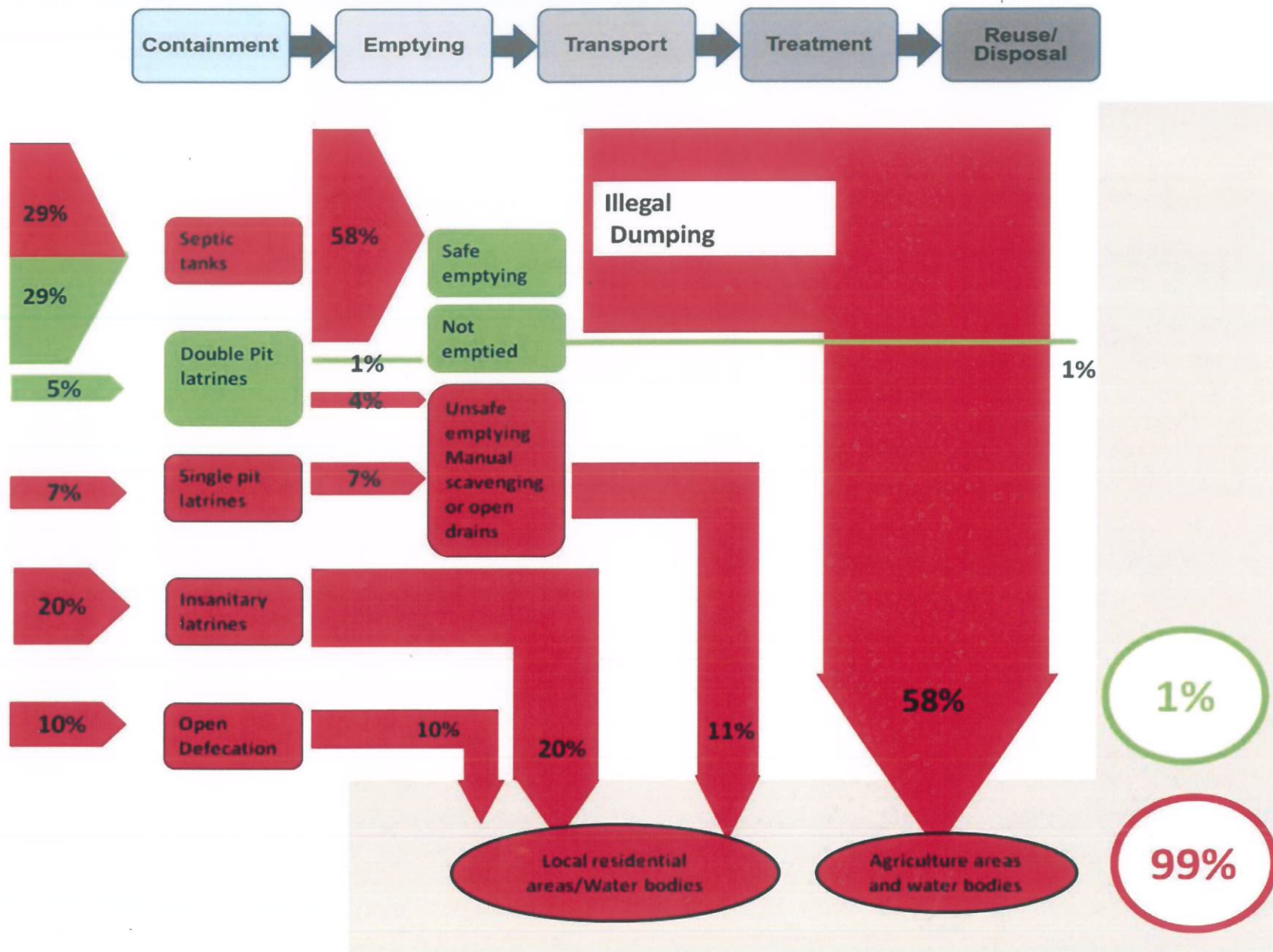
- OD >50% in 64 out of 183 slums
- Insanitary Toilets in Slums > 30%
- No Community Toilets in Slums

Open Defecation in Slums in WMC





Fecal Waste Flow Diagram





Key Sanitation Challenges

1. Inadequate Access to Toilets

- Meeting /creating demand for individual toilets
- Prevalence of insanitary toilets
- Inadequate PT /CT and gender friendly facilities
- Dysfunctional PT/CT due to absence of service level and O & M standards
- Inadequate and dysfunctional toilets in schools and public buildings
- Lack of design standards for toilets and trained manpower

2. Unsafe Management of Fecal Waste/Septage

- Unsafe collection and transportation (no PPE)
- Unsafe disposal practices leading to pollution and safety hazards (at 20 locations)
- Lack of regulations (price and quality)

3. Unsafe Management of Waste Water

- Unsafe flows of sullage and waste water from toilets in open drains leading to pollution of water bodies and vector breeding

4. Weak Institutional Capacity

- Lack of city sanitation planning
- Weak organisation for sanitation service
- Capacity gaps
- Inadequate finances for sanitation
- Weak data systems and monitoring

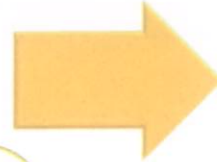
5. Weak Stakeholder Engagement

- Political Ownership
- Lack of platform for citizens to engage with city government
- SHG networks not leveraged for sanitation awareness



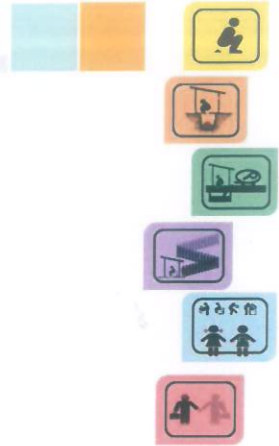
Vision

- **To make Warangal a model town in sanitation by eliminating open defecation and by safe and sustainable management of fecal waste.**
- This will be achieved by providing access to safe toilet facilities and FWM infrastructure and services, adopting innovative processes and decentralized technologies, effective regulations, capacitating institutions and citizen engagement.



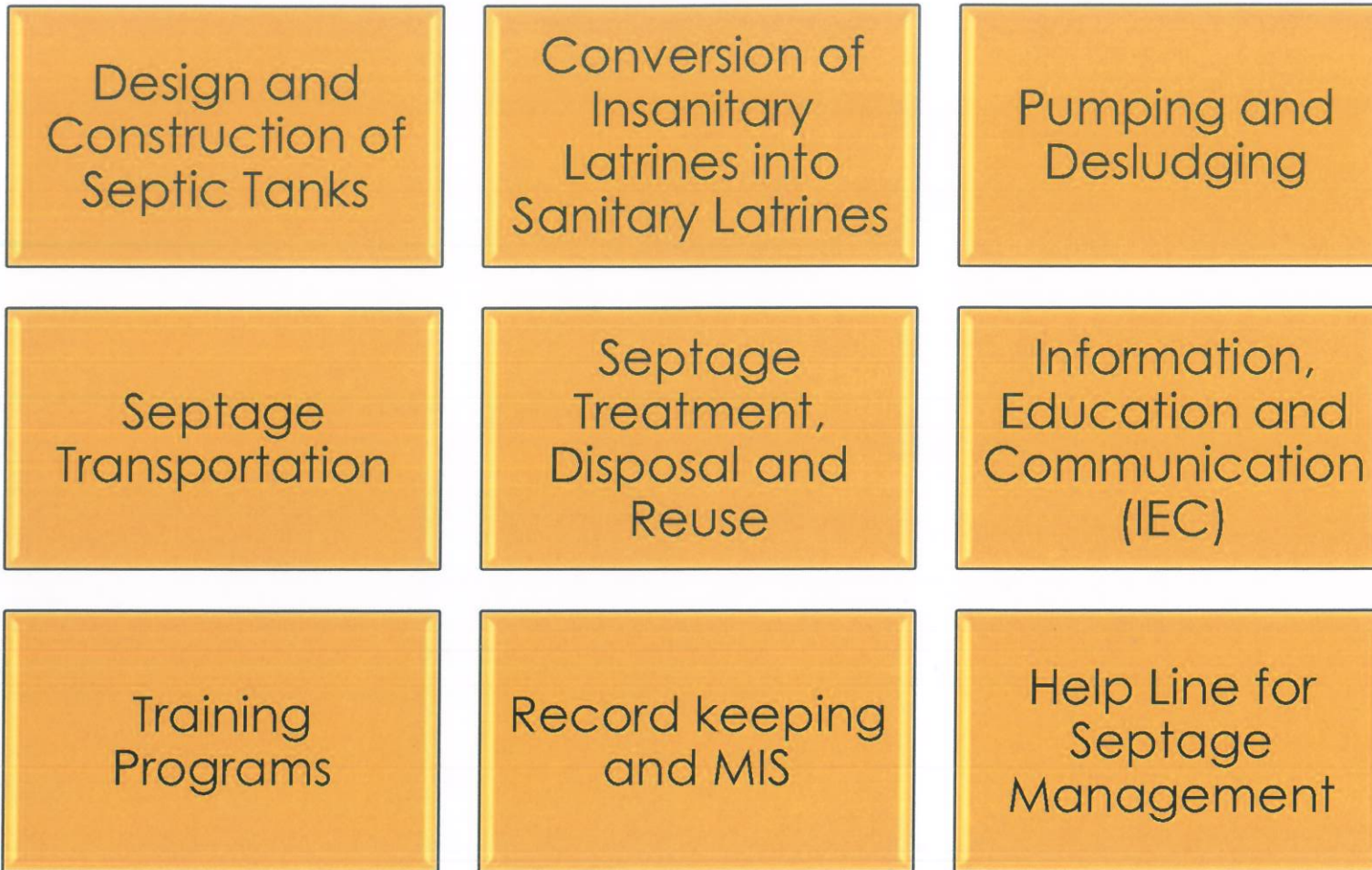
Actions

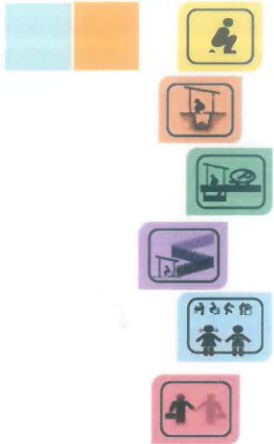
- Stakeholders' alignment
- Enhancing access to sanitation
- Safe management of septage
- Decentralized waste water management
- Strengthening institutions
- Platforms for citizen engagement & monitoring



Septage Management and Decentralized Waste Water Management

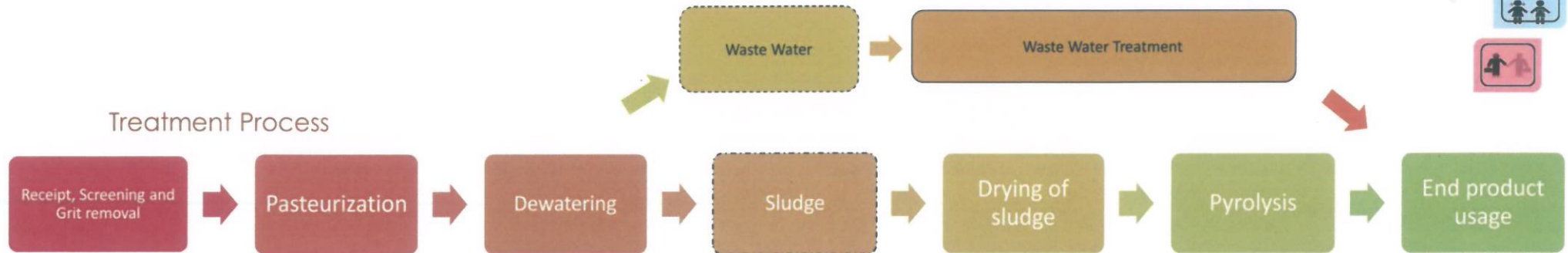
Septage Management – Key components of regulatory framework





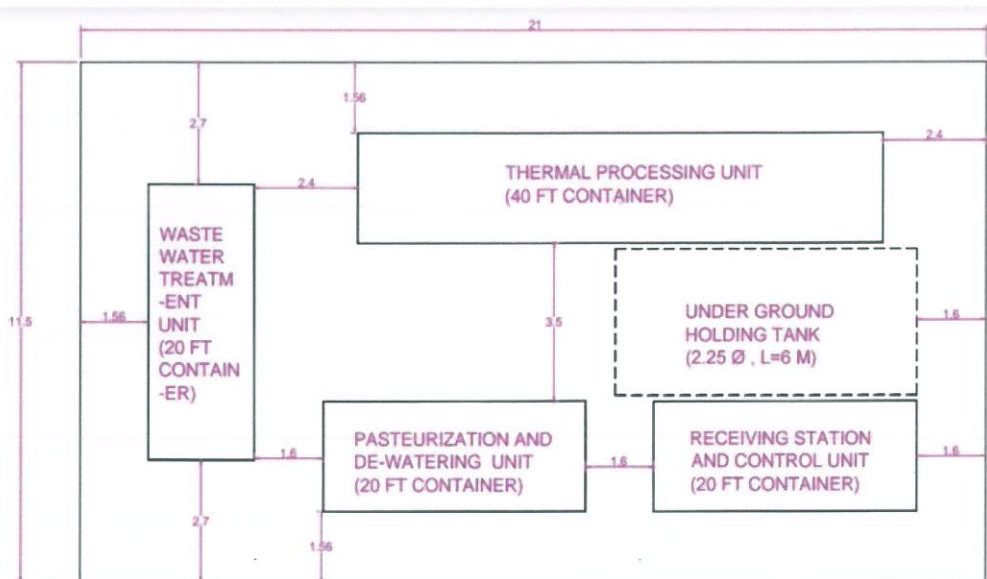
Septage Management and Decentralized Waste Water Management

Sanitation Resource Park Established and Ready for Launch

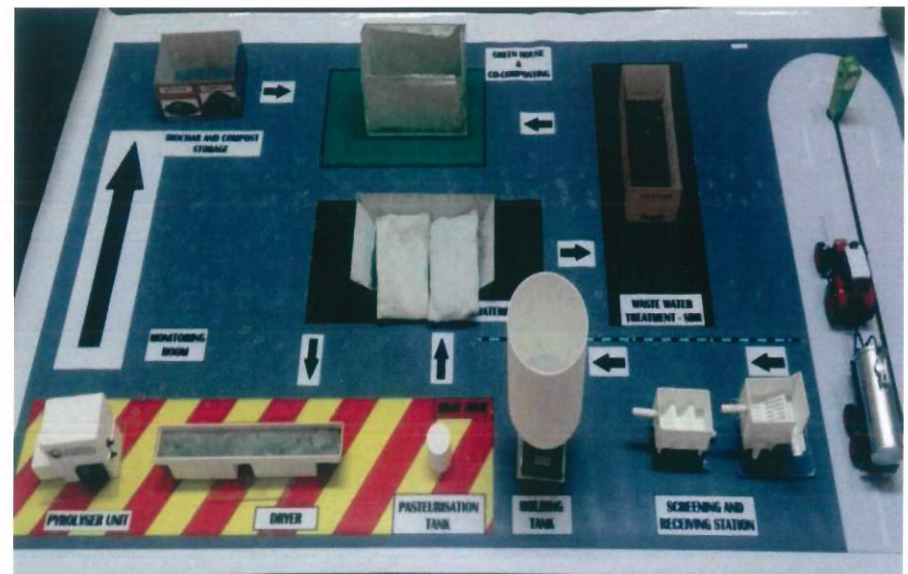


Faecal Sludge and Septage treatment process goes through 6 stages:

Typical System Layout – Containerized solution

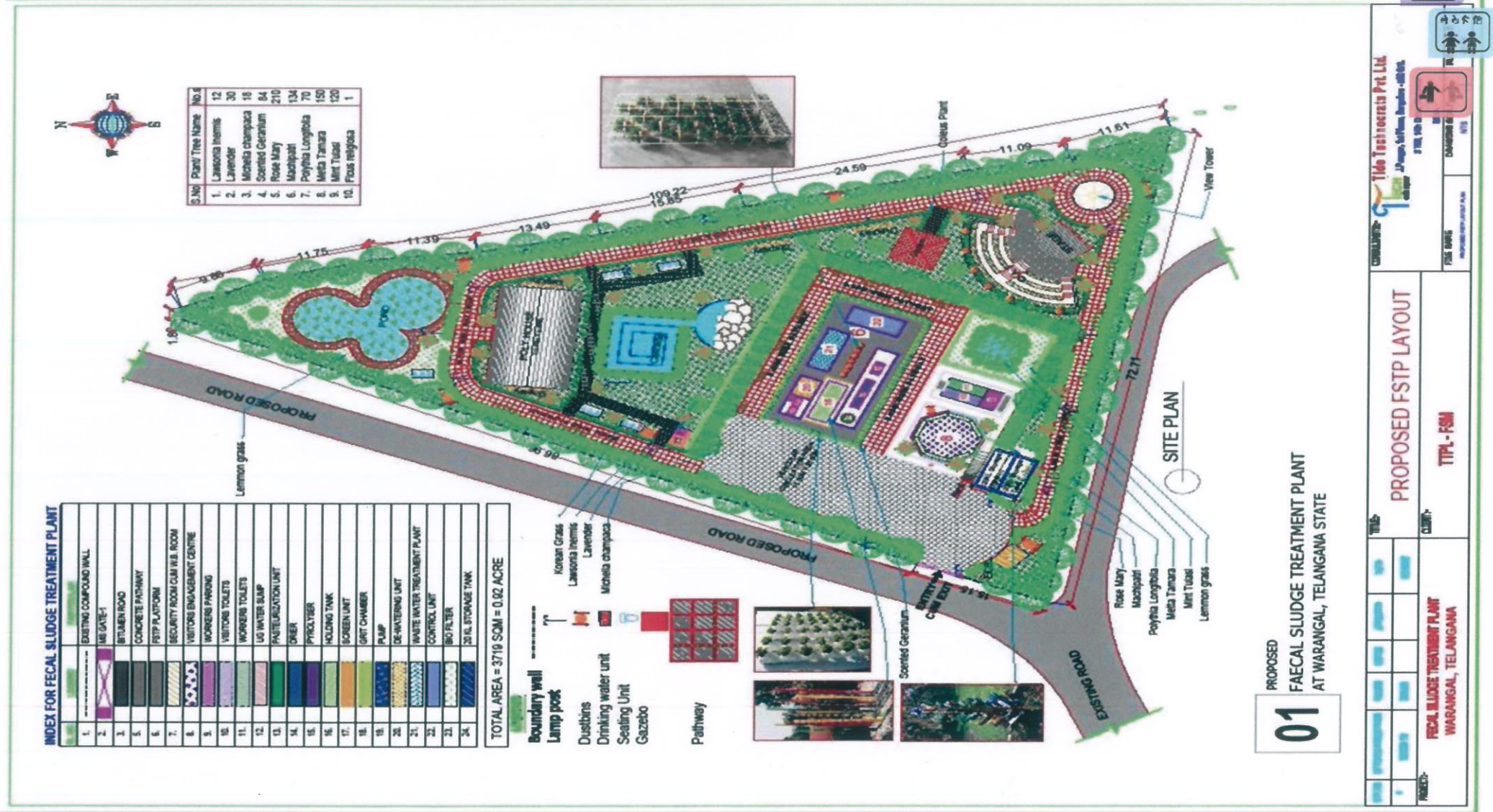


Model of FSTP Site



Septage Management and Decentralized Waste Water Management

Sanitation Resource Park Established and Ready for Launch



01

PROPOSED
 FAECAL SLUDGE TREATMENT PLANT
 AT WARANGAL, TELANGANA STATE

PROPOSED FSTP LAYOUT

CLIENT: TPL - FSM

CONSULTANT: Tido Technocrats Pvt. Ltd.

DATE: 15/08/2023

SCALE: 1:1000

PROJECT: FSTP LAYOUT

WARANGAL, TELANGANA





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