

Bengaluru

SARS-COV2 – The water and wastewater management challenge

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SARS-COV-2

- While the genetic material of SARS-CoV-2 has been [detected](#) in untreated wastewater, there have been no reports of SARS-CoV-2 being transmitted via treated or untreated wastewater. (Jackie Knee et al)

CPHEEO circular (WHO/CDC based)

- Ensure 0.5 mg / l Chlorine . pH < 8 . Contact time 30 minute
- PPE for sanitation workers + Health+ Hygiene + disinfection.

Formal + Informal

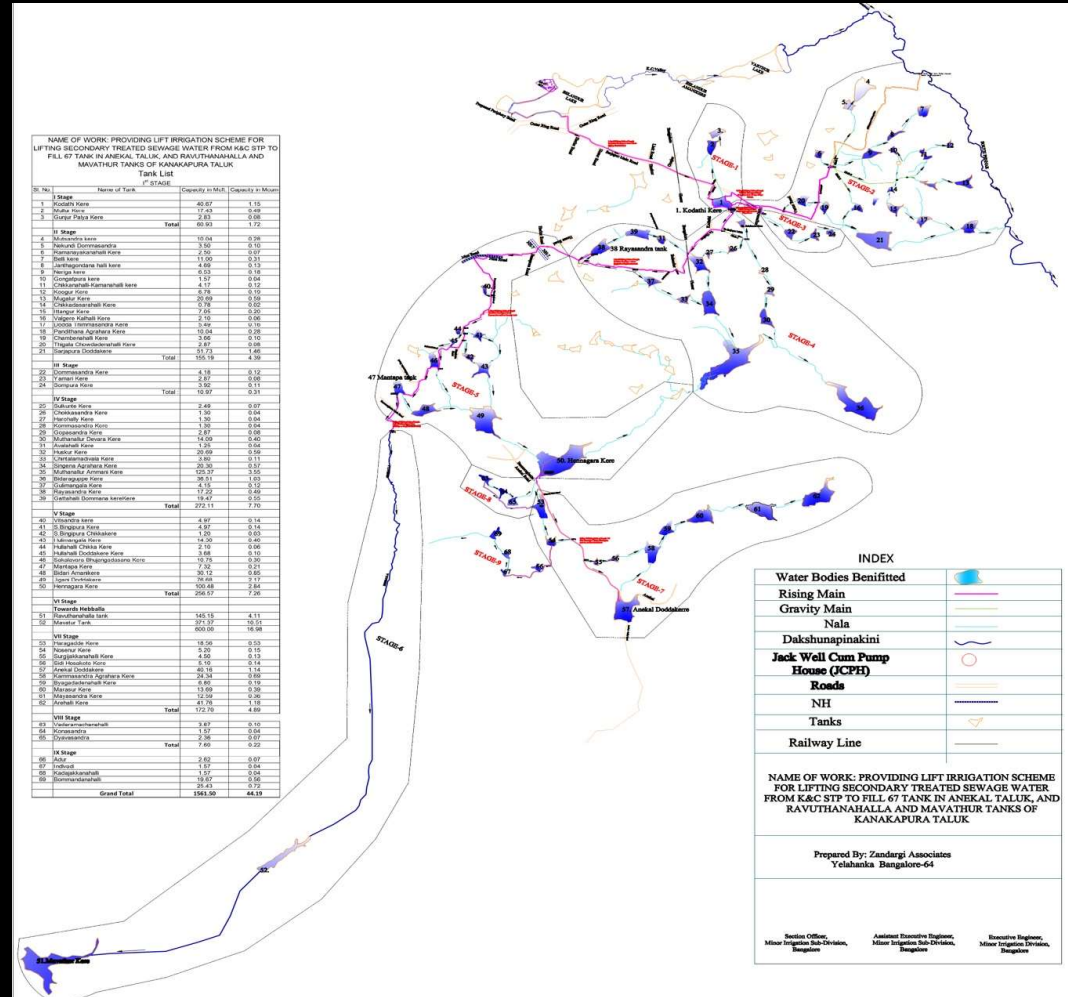
- 28 STP's
- > 3500 decentralized STP's
- Community toilets
- >500,000 on plot systems
- Temporary toilets in labour camps/ construction sites
- > 500 Honeysuckers

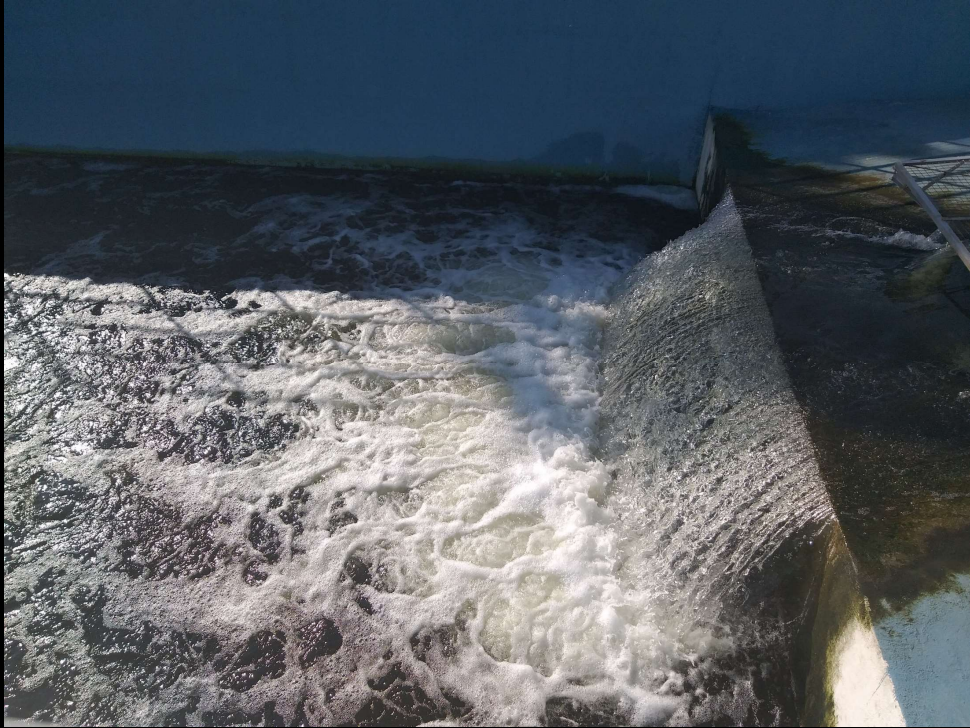


Design parameters (excludes Chlorination) Should SARS-COV-2 test become normal?

Sl. No.	Parameters	Standards as per NGT	Standards as per KSPCB
1	pH	5.5-9.0	6.5-9.0
2	BOD, mg/l	<10	<10
3	COD, mg/l	<50	<50
4	TSS, mg/l	<10	<20
5	Total Nitrogen, mg/l	<10	<10
6	Fecal Coliform (MPN/100ml)	<230	<100
7	PO ₄ -P,mg/l	<1	-
8	<u>Ammonical Nitrogen</u> mg/l	-	<5
9	Nitrate Nitrogen	-	-
10	Residual Chlorine Minimum 1	-	-

Formal transfer of 440 mld of treated wastewater







UDDAPANA HALLI -TANK



JODIKRISHNAPURA TANK



NARASAPURA TANK



DODDAVALABHI TANK

Aquifer recharge and irrigation



Informal Reuse



















Honeysuckers- Pit toilets



Use the Sanitation Safety Plan Risk rating guide

			SEVERITY (S)				
			Insignificant	Minor	Moderate	Major	Catastrophic
			1	2	4	8	16
LIKELIHOOD (L)	Very unlikely	1	1	2	4	8	16
	Unlikely	2	2	4	8	16	32
	Possible	3	3	6	12	24	48
	Likely	4	4	8	16	32	64
	Almost Certain	5	5	10	20	40	80
Risk Score R=(L)x(S)			<6	7 - 12		13-32	>32
Risk level			Low Risk	Medium Risk		High Risk	Very High Risk

How is the end game with SARS-COV-2 envisaged ?

- Herd immunity ?
- Vaccine ?
- New normal and permanent distancing?