

Thompson's Station, Tennessee

# Wastewater System Master Plan Update

January 11, 2020

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# Master Plan Implementation Review

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- Master Plan Overview
- Wastewater System Schedule
- Recommendations
- Implementation Status



# 2018 Master Plan Overview

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- Population expected to continue growth
  - Reach >20,000 by 2048
- Collection System
  - Modeling revealed no hydraulic constraints
  - One recommended project along US-31
  - Recommend new developments contribute funds to tie-in to wastewater system
- Treatment/Disposal
  - Recommend upgrading and maintaining one WWTP
  - Utilize purchased property for drip irrigation

# Master Plan Projects

Project	Construction Cost Opinion	Project Start
Regional Plant – Cell #1 Repair	\$0.3 million	May 2020
Hill Property Drip Fields	\$2.9 million*	Ongoing
Regional Plant – MBR Installation – 0.75 MGD	\$8.5 million	2020
Alexander Site Drip Fields	\$8.6 million	2023
Regional Plant – MBR Expansion – 1.0 MGD	\$3.4 million	2023
Regional Plant – MBR Expansion – 1.5 MGD	\$3.5 million	2038

\*Contract amount

# Treatment Facilities Alternatives Evaluation

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- Regional Treatment Facility Alternative 1
  - Upgrade Existing Lagoon System
- Regional Treatment Facility Alternative 2 – **Selected Alternative**
  - Expand Facility with Alternate Technology
    - Membrane Bioreactors – **Selected Technology**
    - Sequencing Batch Reactors
    - Oxidation Ditch
    - Conventional Activated Sludge
- Regional Treatment Facility Alternative 3
  - Construct a Second Regional Plant

# Wastewater Disposal Sites

Site Name	Total Acres	Suitable Area (ac)	Utilized Area (ac)	WW Disposal Capacity (mgd)
Ozzad Property	33	20	20	0.20
Tollgate	30	8	8	0.08
Hill Property	63	21	0	0.21
Alexander Property	107	67*	0	0.67*

\*Further investigation/analysis necessary to confirm



# Recommended Master Plan Projects

Project	Recommended Project Start	Original Recommended Project Start	Status
Regional Plant – Cell #1 Repair	May 2020	2018	Recommend completing as change order to Hill Property Drip Field Project
Hill Property Drip Fields	Ongoing	2019	
Regional Plant – MBR Installation – 0.75 MGD	2020	2020	Exploring funding options
Alexander Site Drip Fields	2023	2028	Survey completed in 2019 and soils survey beginning 2020
Regional Plant – MBR Expansion – 1.0 MGD	2023	2023	Expansions can be proactively implemented as growth occurs
Regional Plant – MBR Expansion – 1.5 MGD	2038	2038	

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*Thank You!*

