

Bayou Preservation Association
Sustainable Water Resources Symposium

Regional Wastewater Management

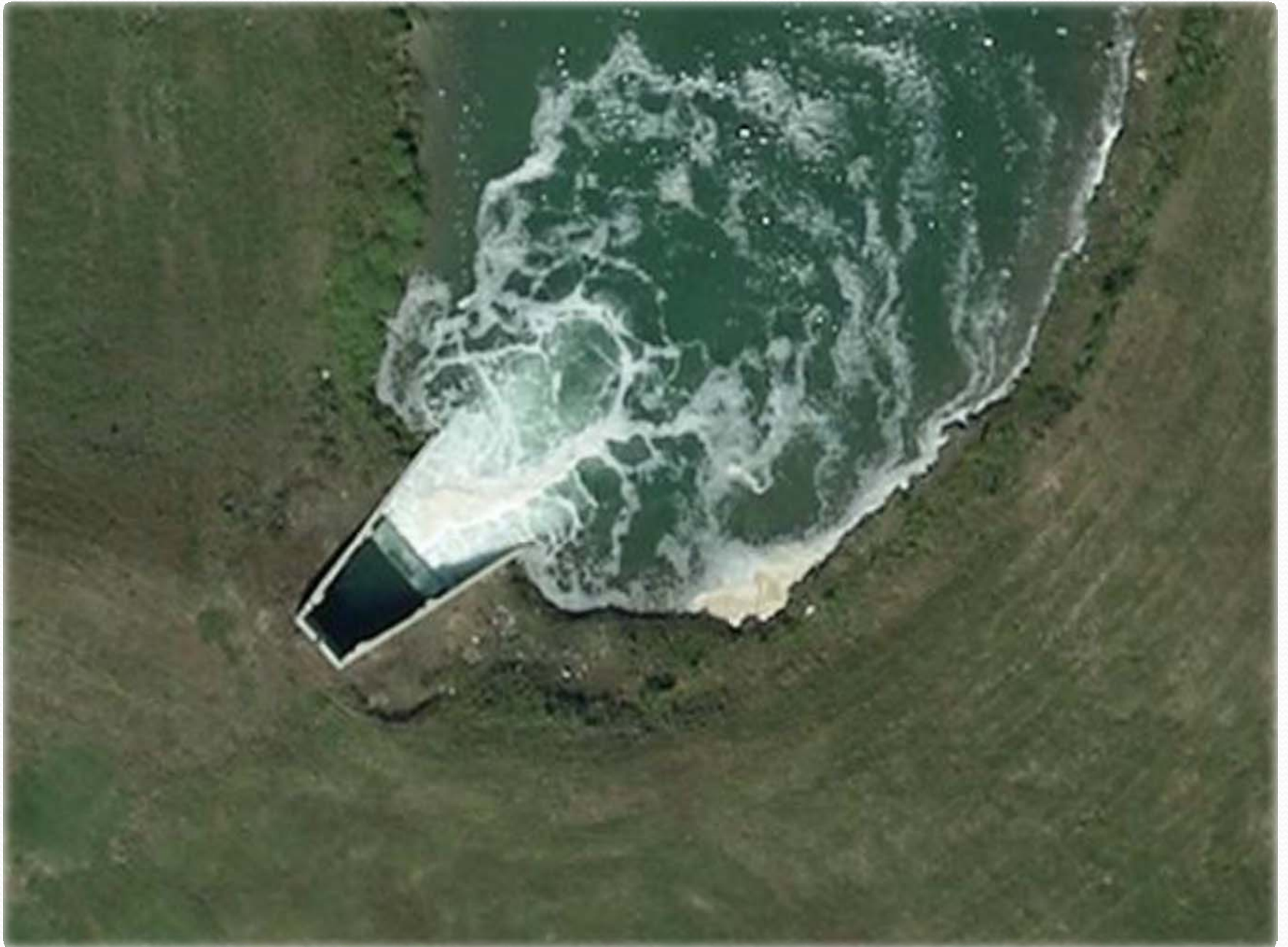
A Perspective on Wastewater Regionalization in the Houston, Texas ETJ

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“Management“ in this context means carrying out a set of policies and practices related to the permitting and care of either centralized or decentralized wastewater systems to ensure public health and environmental protection in a manner and to an extent that is acceptable locally and in accordance with regulatory requirements.



Dallas Central Wastewater Treatment Plant – Dallas, Texas

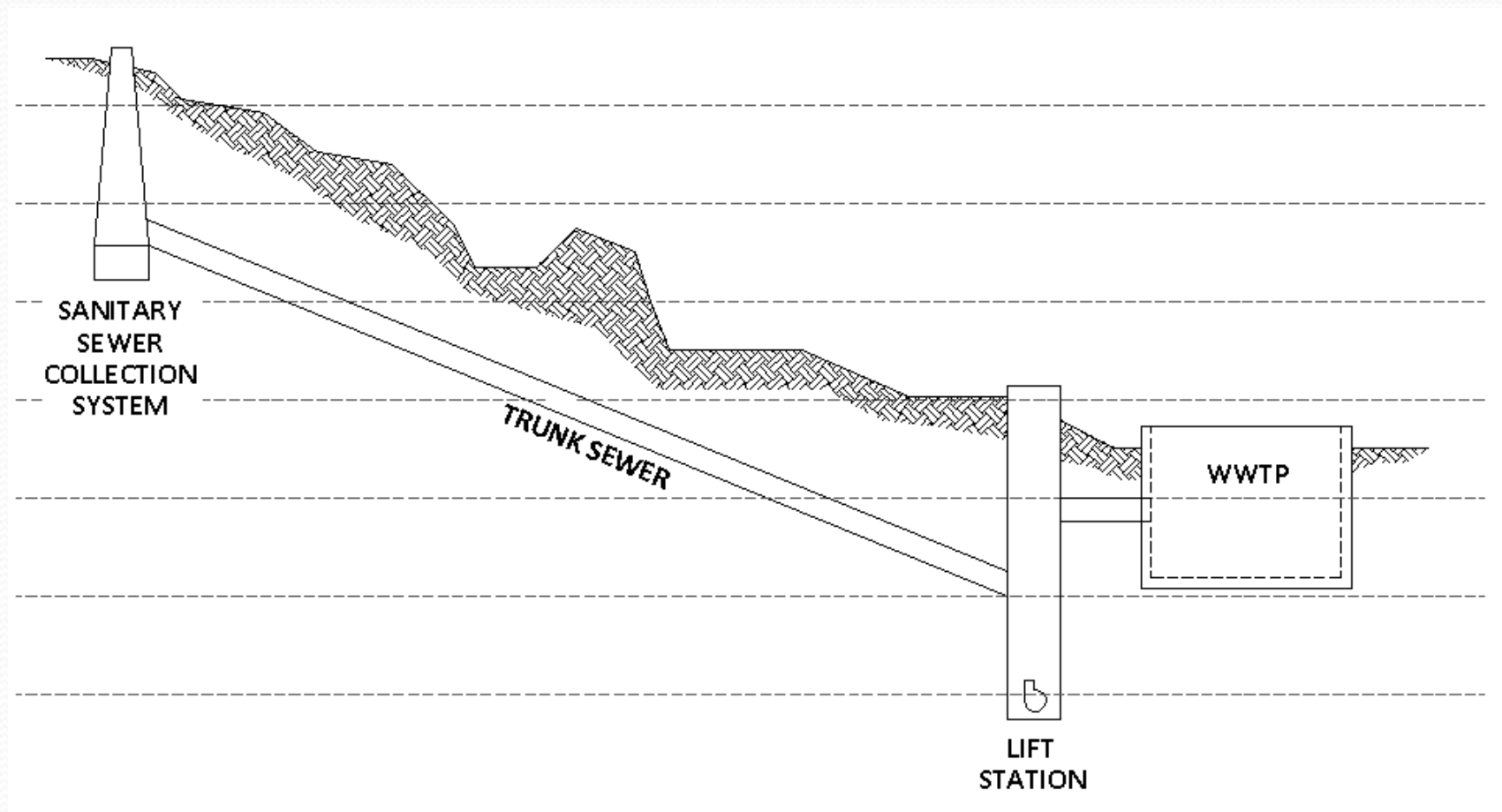


Dallas Central WWTP – Outfall

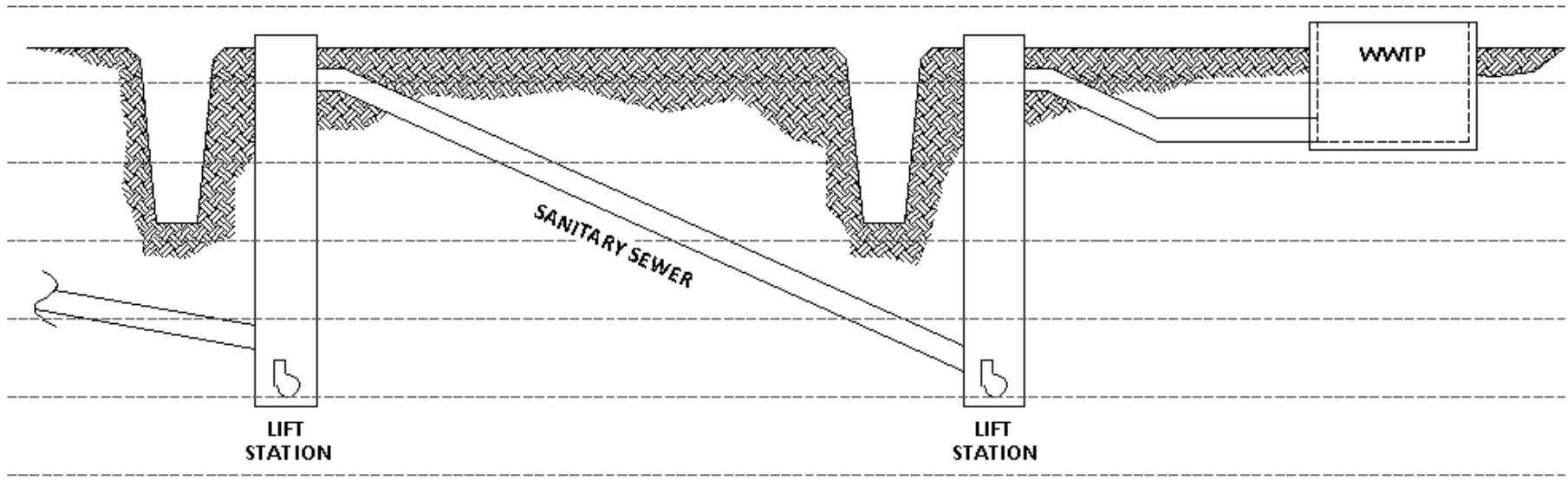


Walnut Creek Wastewater Treatment Plant – Austin, Texas

STEEP SLOPE SANITARY SEWER COLLECTION SYSTEMS



FLAT SLOPE SANITARY SEWER COLLECTION SYSTEMS





69TH Street Wastewater Treatment Plant – Houston, Texas

H-GAC breaks domestic wastewater treatment plants into categories by capacity as follows:

Regional Domestic Plant	> 3.0 mgd
Intermediate Domestic Plants	0.5mgd–3.0
Small Domestic Plants	< 0.5 mgd

mgd

Regional Domestic Plants (~ 65 plants)

- > 3.0 mgd average daily flow capacity
- Serve multiple entities or a large municipal service area
- Permanent type construction
- Multiple process trains provide high degree of treatment reliability
- Effluent is sampled by continuous composite daily
- Lowest unit operating costs
- Full time (40 hours/week or more) operator attendance

Intermediate Domestic Plants (~ 335 plants)

- 0.5 mgd – 3.0 mgd average daily flow capacity
- Serve small cities or several MUD's
- Typically permanent type construction
- 2 or more process trains provide good treatment reliability
- Effluent is sampled by continuous composite sampler one or more times a week
- Higher unit operating costs
- Part time (8 – 20 hours/week) operator attendance

Small Domestic Plants (~ 650 plants)

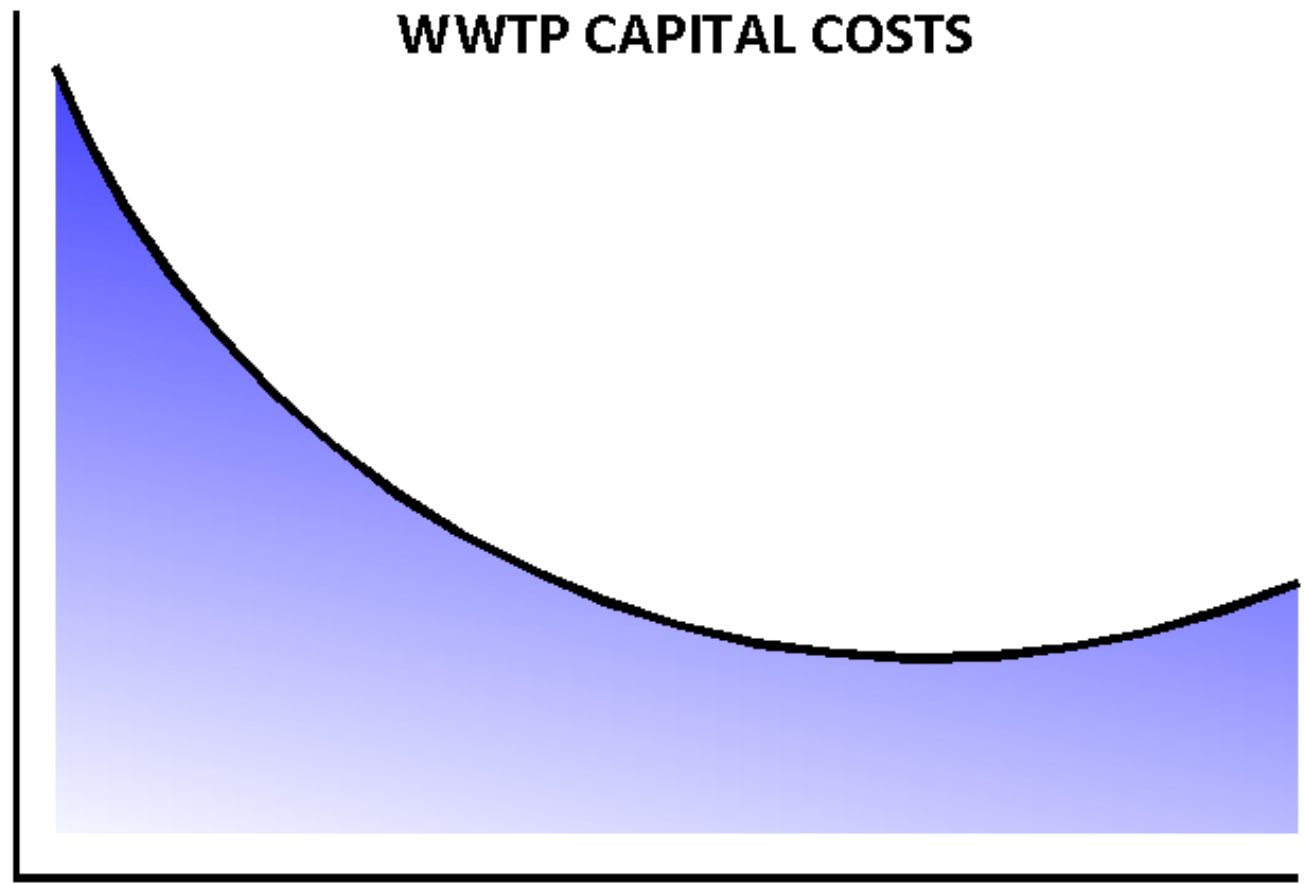
- < 0.5 mgd average daily flow capacity
- Typically single user
- Temporary or permanent type construction
- Many have single trains that lack treatment reliability
- Effluent grab or manually grab composited samples once a week
- Highest unit operating costs
- Drive by (4 – 8 hours/week) operator attendance



IAH Wastewater Treatment Plant – Houston, Texas

\$\$ / GPD - TREATMENT CAPACITY

WWTP CAPITAL COSTS



CAPACITY →

Figure 1

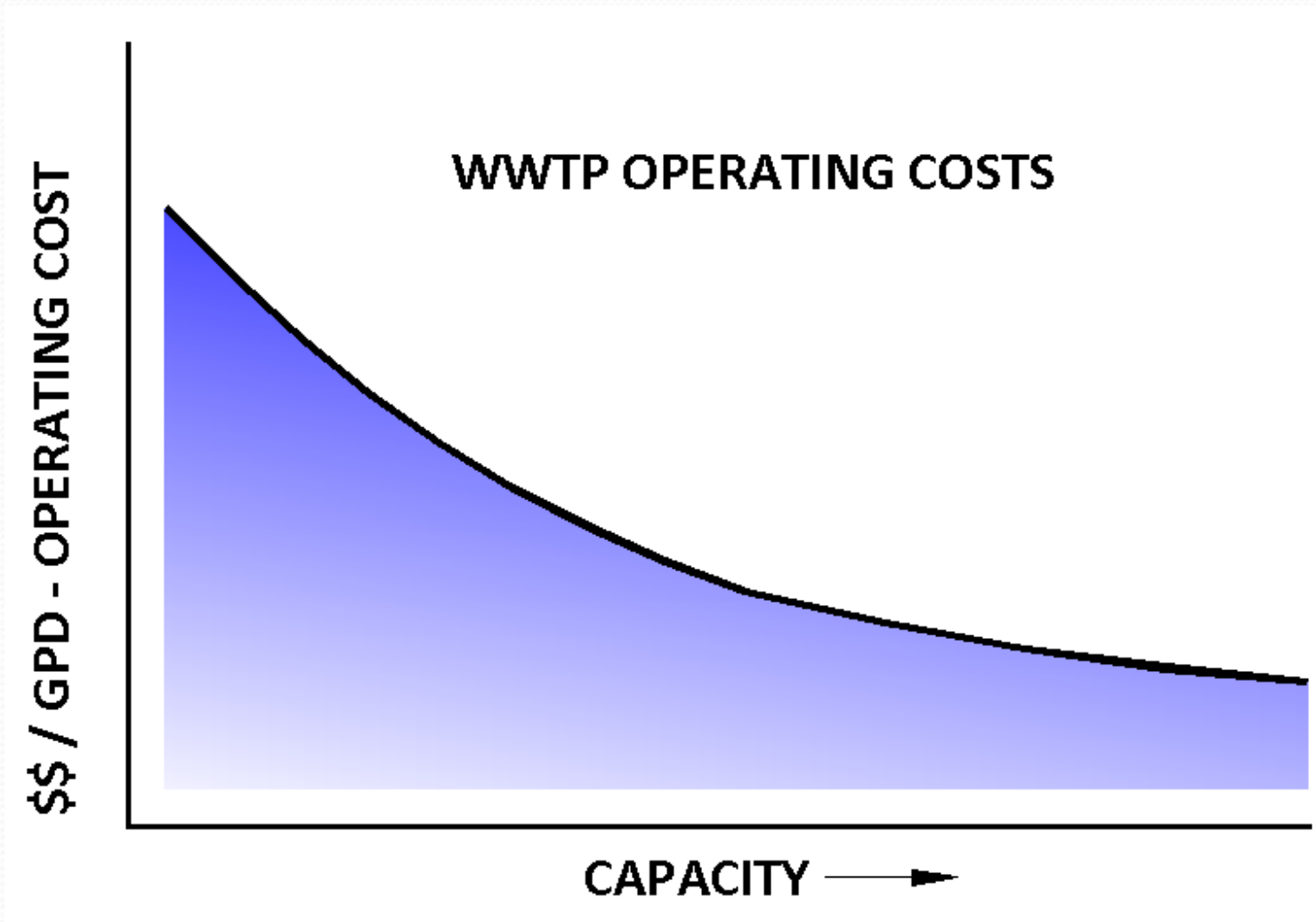


Figure 2

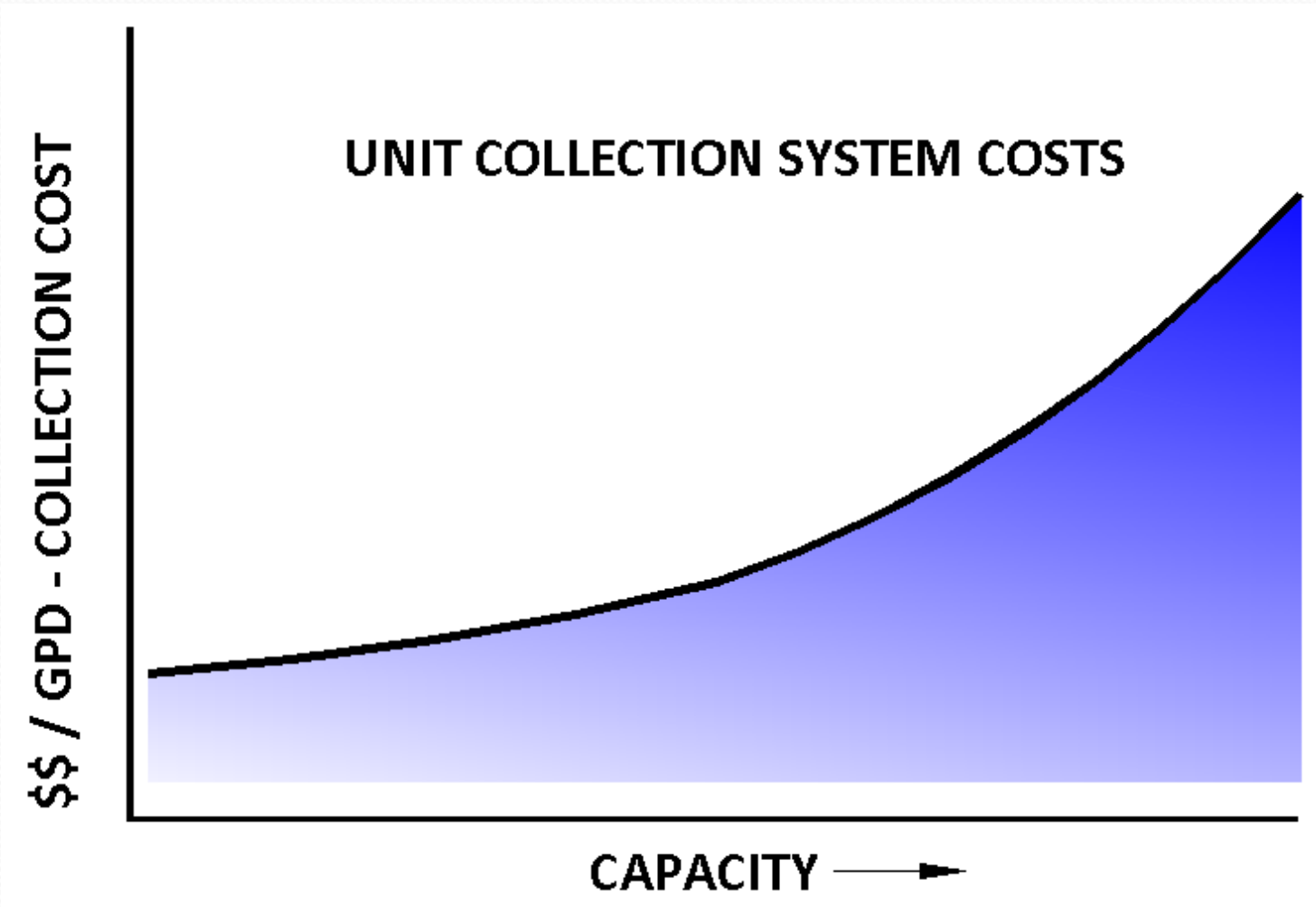


Figure 3



Bridgestone MUD Wastewater Treatment Plant – Spring, Texas



Harris County MUD 367/383 Wastewater Treatment Plant – Spring, Texas

Regional Wastewater Management Issues

- **Flat terrain makes regionalization difficult**
- **Developer driven cost issues make regionalization difficult**
- **On-site Sewage Facilities provide alternates to small plants.**
- **City of Houston annexation of MUD's drives regionalization**
- **TMDL's and higher quality effluent requirements, encourage**