

Bell County WCID 1 Update

Killeen City Council Workshop

July 2, 2019

District Overview and Operations
Update

Bell County WCID 1 Update

- Wastewater Treatment review and projections
- Water Treatment and Transmission review and projections
- Capital Projects report
 - Stillhouse Water Plant and Transmission
 - Wastewater Capacity

Bell County WCID 1 Update

- Wastewater Treatment
 - Condition
 - Capacity
 - Flow Projections
 - Rate and rate projections

WWTP 1&2
201 S. 38th Street

Plant 2

Plant 1

Ops Bldg

Admin
Bldg



© 2017 Google

Google Earth

31°06'35.53" N 97°42'11.74" W elev 772 ft eye alt 2516 ft

1996



Cotton Cir

3037 Way

Red Fern Dr

Olive Ln

577 ft

© 2016 Google

Google earth

31°02'36.77" N 97°40'02.48" W elev 717 ft eye alt 3359 ft

1995

Compost Facility

Write a description for your map.

Legend

Google Earth

© 2018 Google

500 ft



Wastewater Treatment

Condition

- The 38th Street plant was upgraded in 2009. Most aspects of the plant are in fair condition with a couple of exceptions; the large blowers and the digester mixer assemblies.
- The Chaparral Plant or South Plant was recently improved and is generally in very good condition. The most critical recurring maintenance is with the influent lift station pumps.

500 hp Blowers



Untitled Map

Write a description for your map.

Legend
I-14 Widening

Digesters and Thickeners

50 hp drives



60 ft





EXCERPTS FROM TAC RE: WW PLANT PLANNING

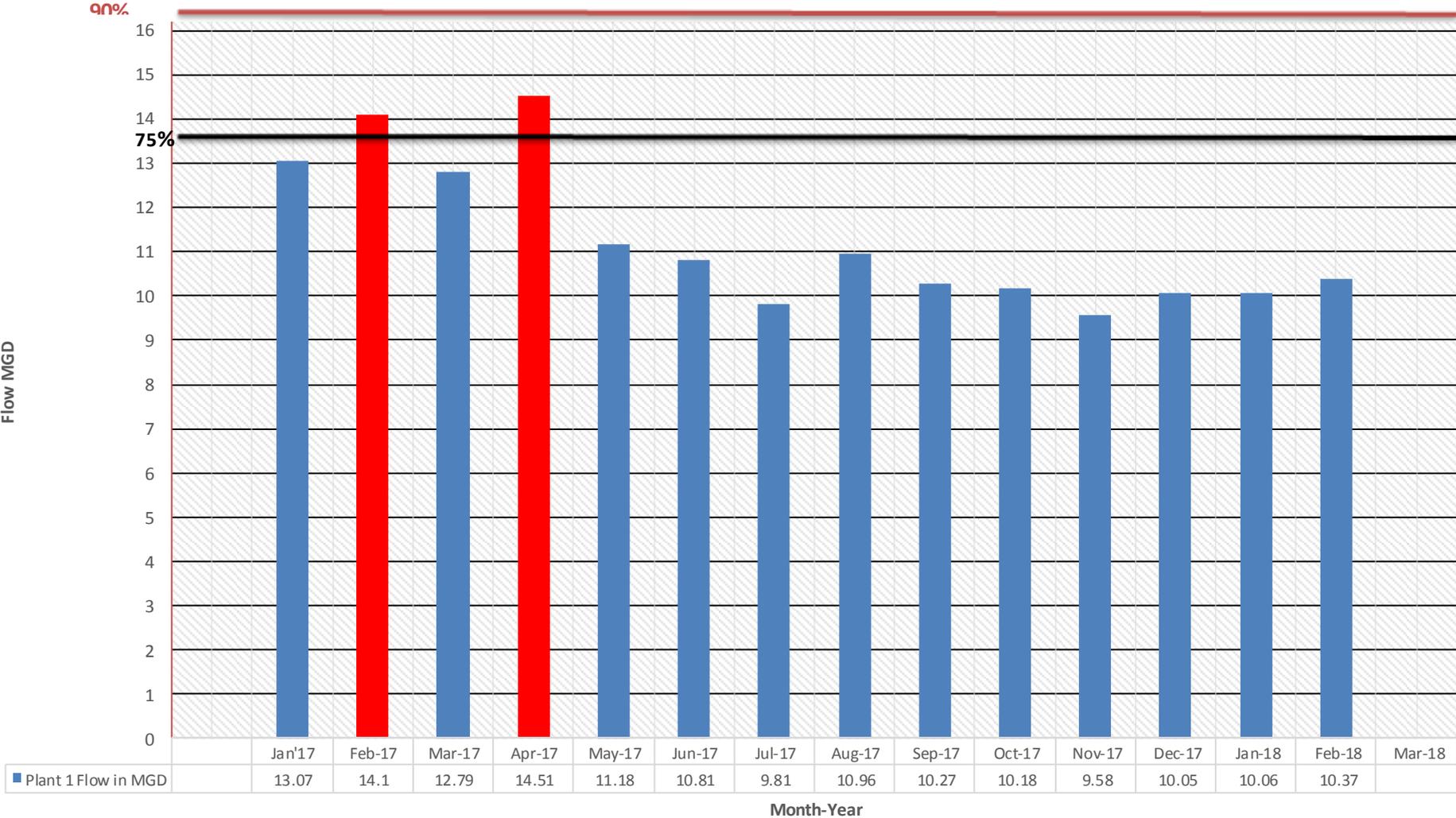
Texas Administrative Code

<u>TITLE 30</u>	ENVIRONMENTAL QUALITY
<u>PART 1</u>	TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
<u>CHAPTER 305</u>	CONSOLIDATED PERMITS
<u>SUBCHAPTER F</u>	PERMIT CHARACTERISTICS AND CONDITIONS
<u>RULE §305.126</u>	Additional Standard Permit Conditions for Waste Discharge Permits

(a) Whenever flow measurements for any sewage treatment plant facility in the state reaches 75% of the permitted average daily or annual average flow for three consecutive months, the permittee must initiate engineering and financial planning for expansion and/or upgrading of the wastewater treatment and/or collection facilities. Whenever the average daily or annual average flow reaches 90% of the permitted average daily flow for three consecutive months, the permittee shall obtain necessary authorization from the commission to commence construction of the necessary additional treatment and/or collection facilities. In the case of a wastewater treatment facility which reaches 75% of the permitted average flow for three consecutive months, and the planned population to be served or the quantity of waste produced is not expected to exceed the design limitations of the treatment facility, the permittee will submit an engineering report supporting this claim to the executive director. If in the judgment of the executive director the population to be served will not cause permit noncompliance, then the requirements of this section may be waived. To be effective, any waiver must be in writing and signed by the director of the enforcement division of the commission, and such waiver of these requirements will be reviewed upon expiration of the existing permit; however, any such waiver shall not be interpreted as condoning or excusing any violation of any permit parameter.

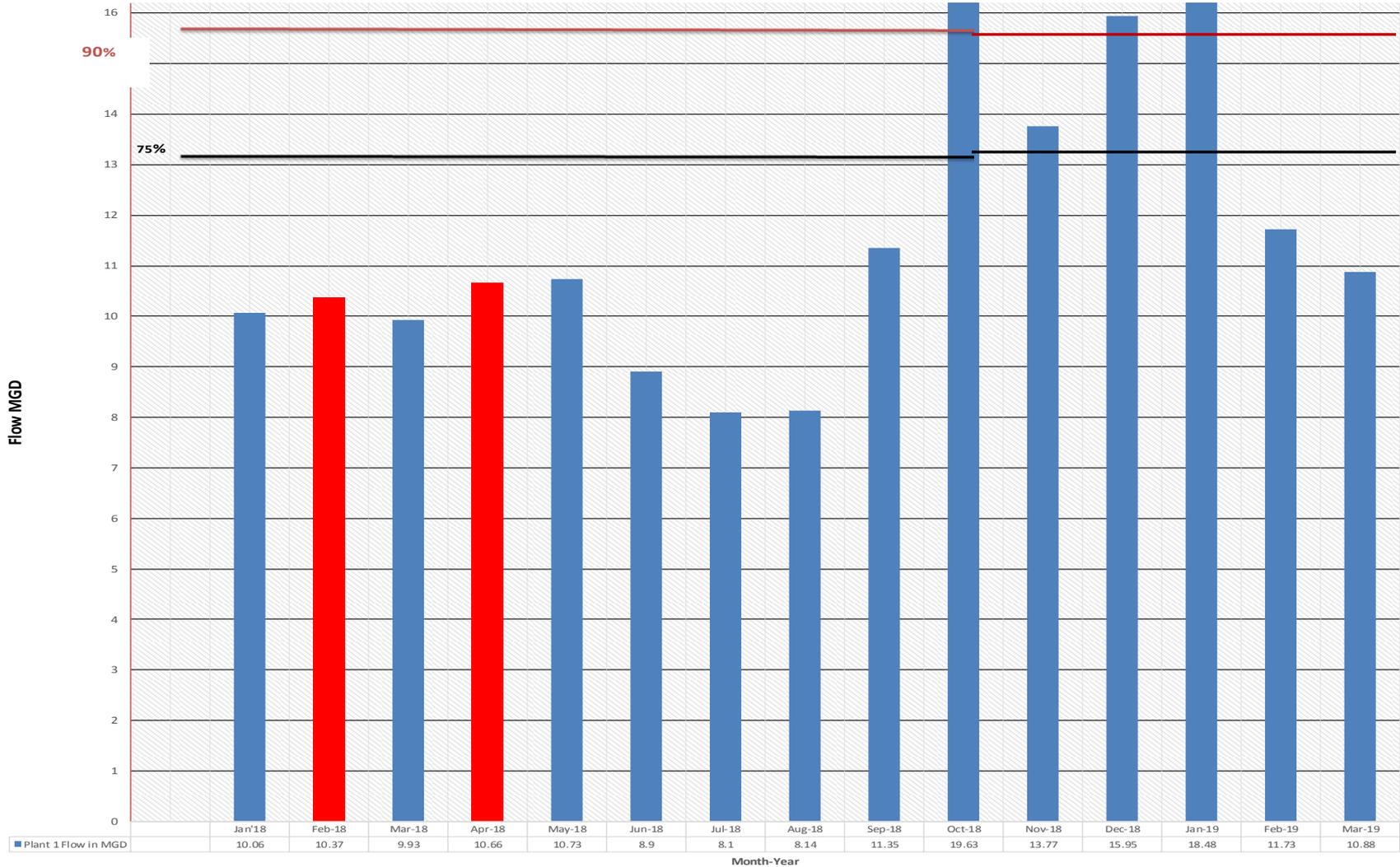
Capacity Projections

Plant 1 Flow in MGD



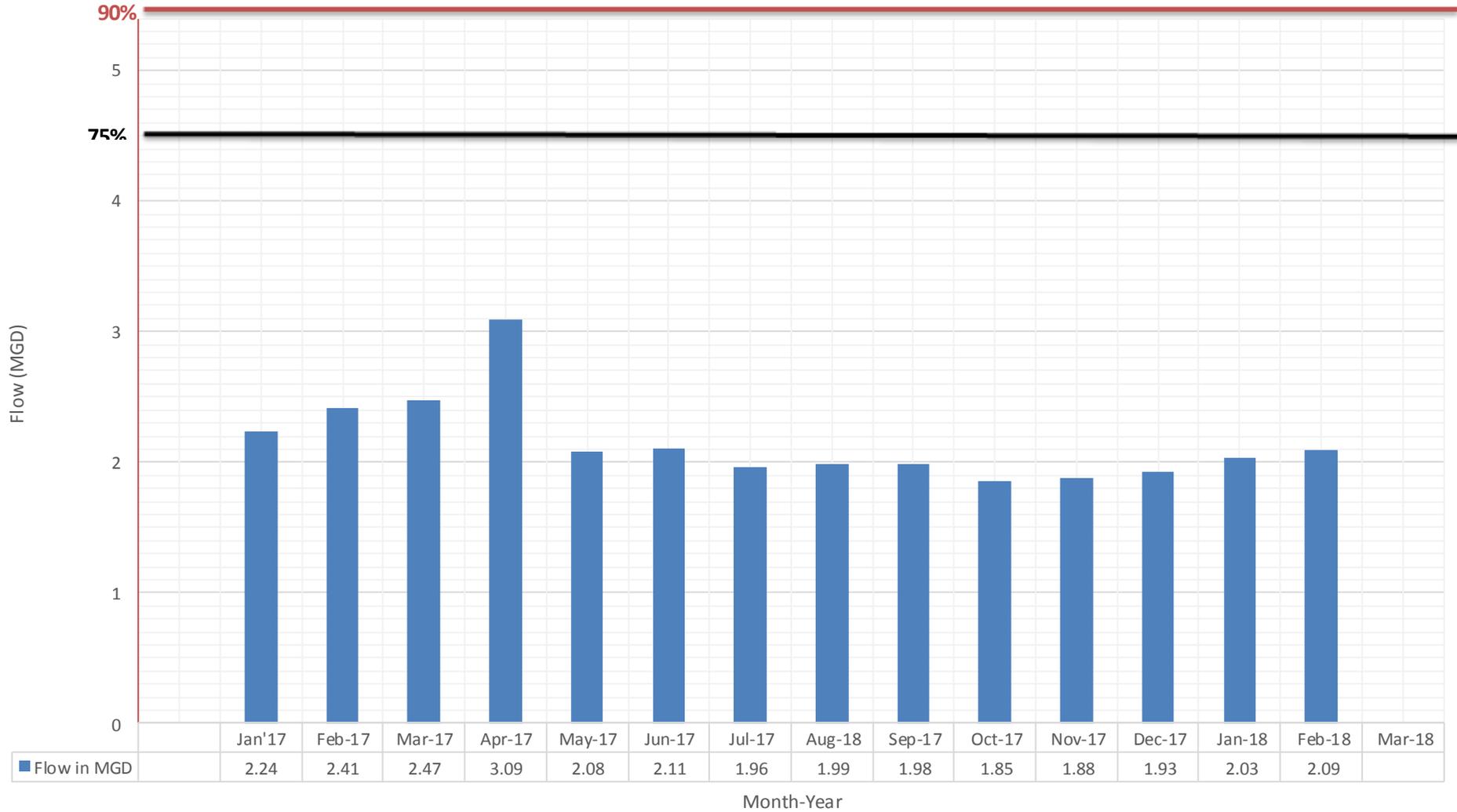
Historical Flows

Plant 1 Flow in MGD



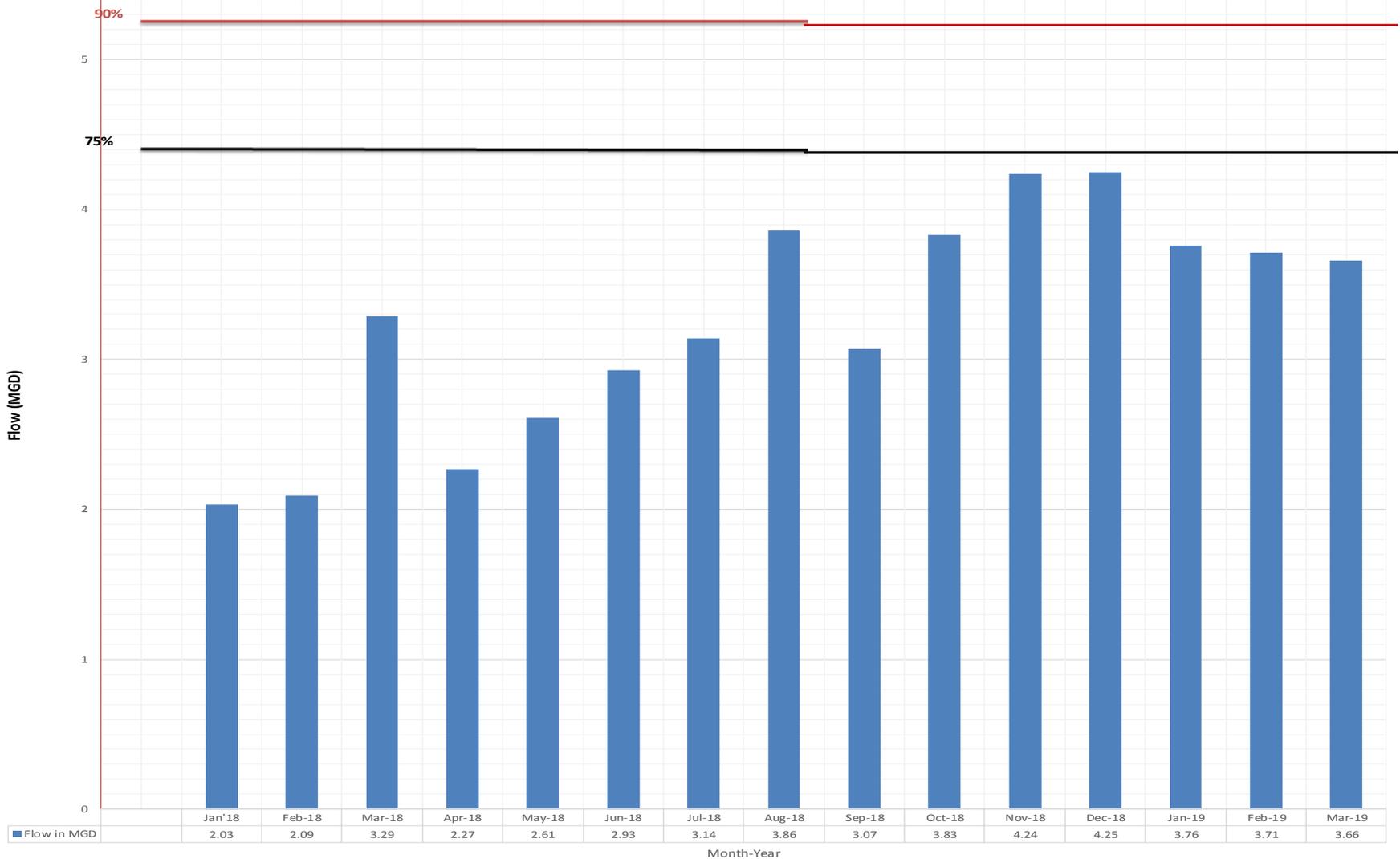
Capacity Projections

South Plant Flow in MGD



Historical Flows

South Plant Flow in MGD



Wastewater Rate and Rate projection

- The current O&M rate is 89 cents per 1,000 gallons treated.
- This is calculated from expense projection divided by flow projection.
- In 2019/2020, loader lease, digester gearbox, grinder for compost, chemical price increases and boundary expansion costs comprise most of the overall budget difference between fy 19 and fy 20.
- With the changes in expenses and flow projected, the coming rate will increase by 3 cents per 1,000 gallons to 92 cents/1,000 gallons treated

Bell County WCID 1 Update

- Water Treatment & Transmission
 - Condition
 - Capacity
 - Projections
 - Rate and rate projections



Google earth

1995

Imagery Date: 12/11/2012 31°07'35.65" N 97°31'12.29" W elev 727 ft eye alt 2124 ft

Legend

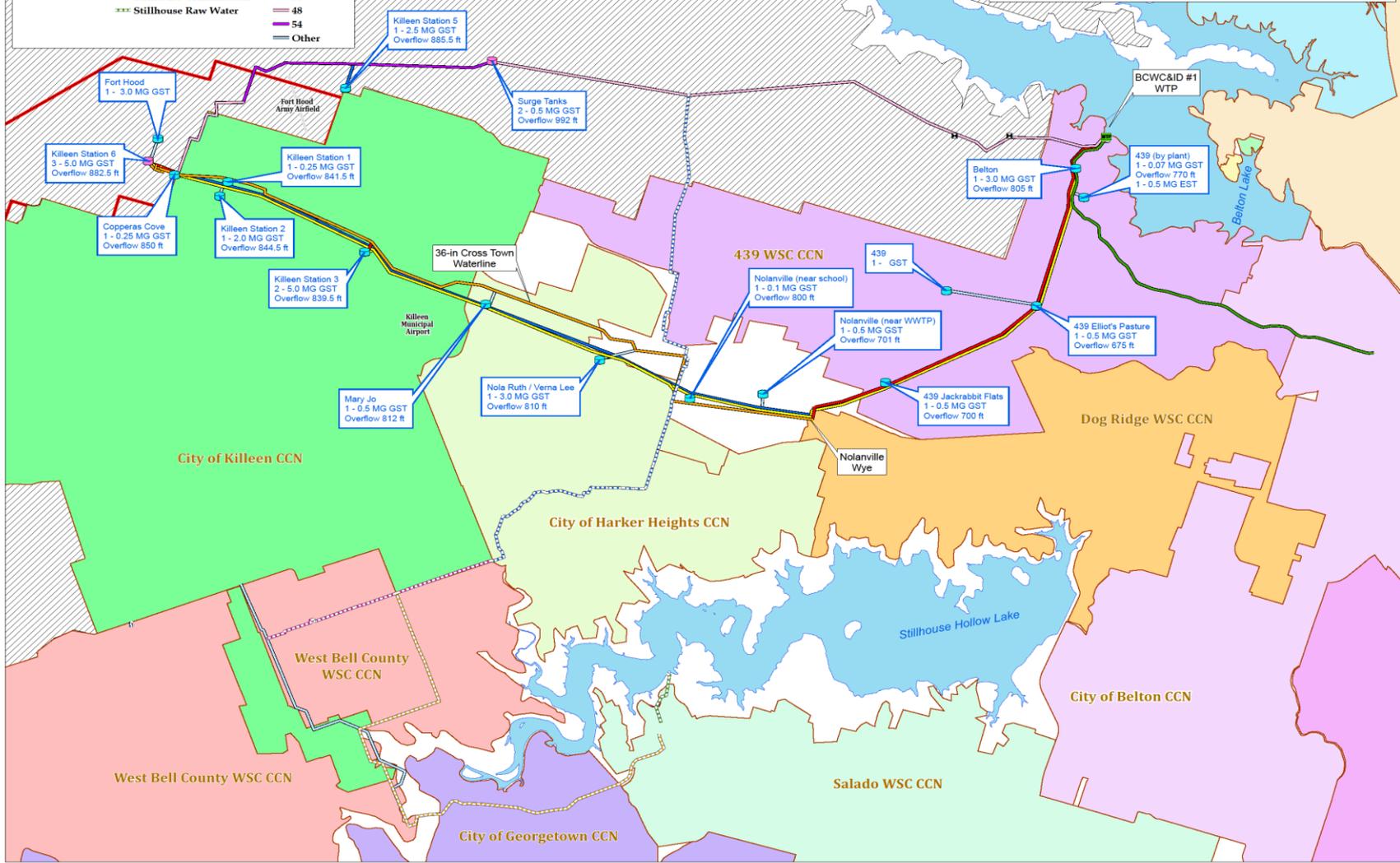
- Direct Connect
- WCID #1 Boundary
- Kempner Site
- Customer Tank
- District Tank
- Military Base
- City Limits
- Water Pipelines
- Diameter (in)
- 18
- 21
- 24
- 30
- 36
- 48
- 54
- Other
- South Transmission System
- Chaparral
- Stillhouse Transmission
- Stillhouse Raw Water
- Proposed Alignments
- Stillhouse 40 acre WTP Site

Bell County Water Control & Improvement District No. 1
Master Plan

CDM Smith

0 0.25 0.5 1 1.5 2 Miles

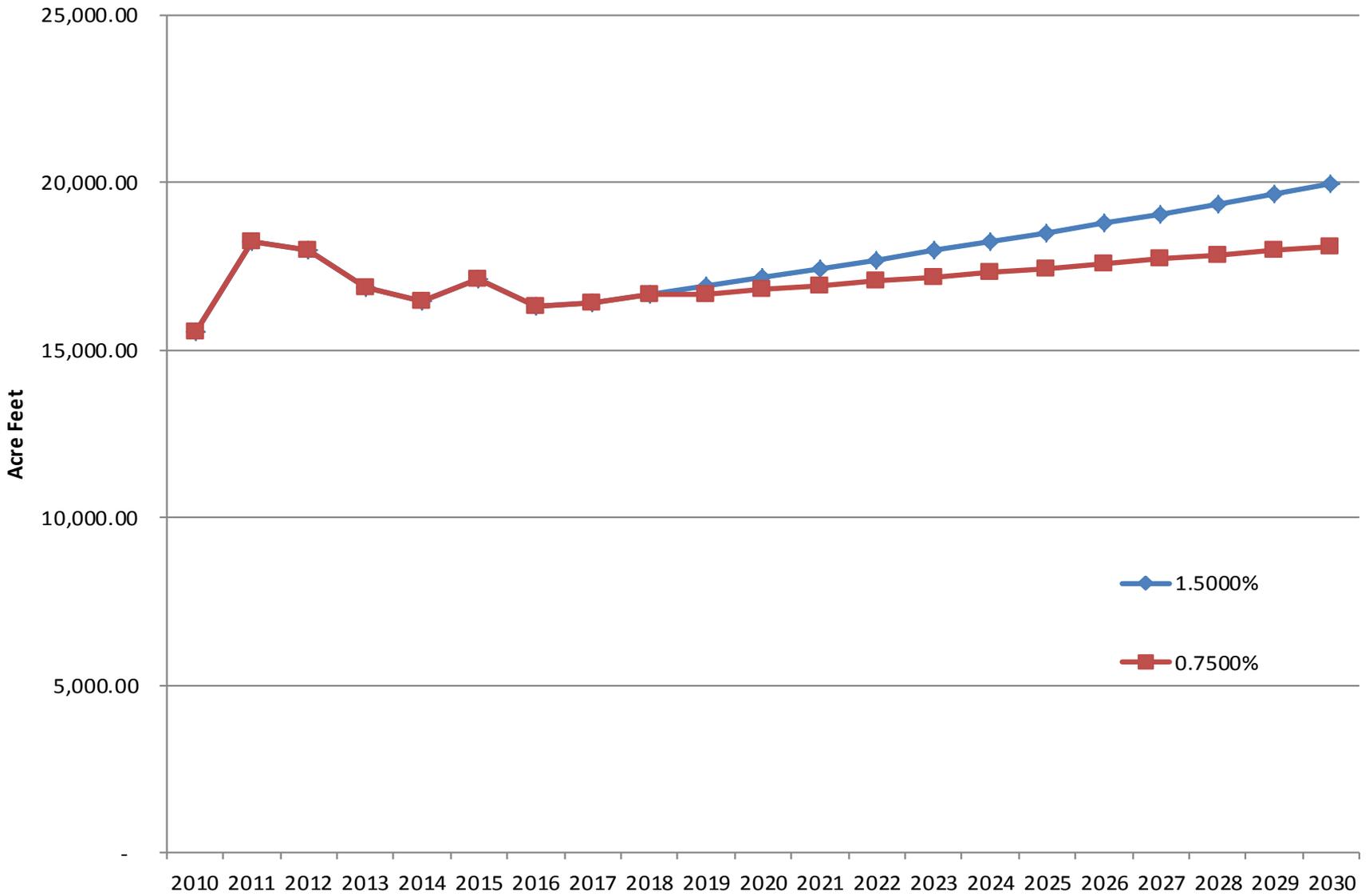
Distribution System Schematic
October 2017



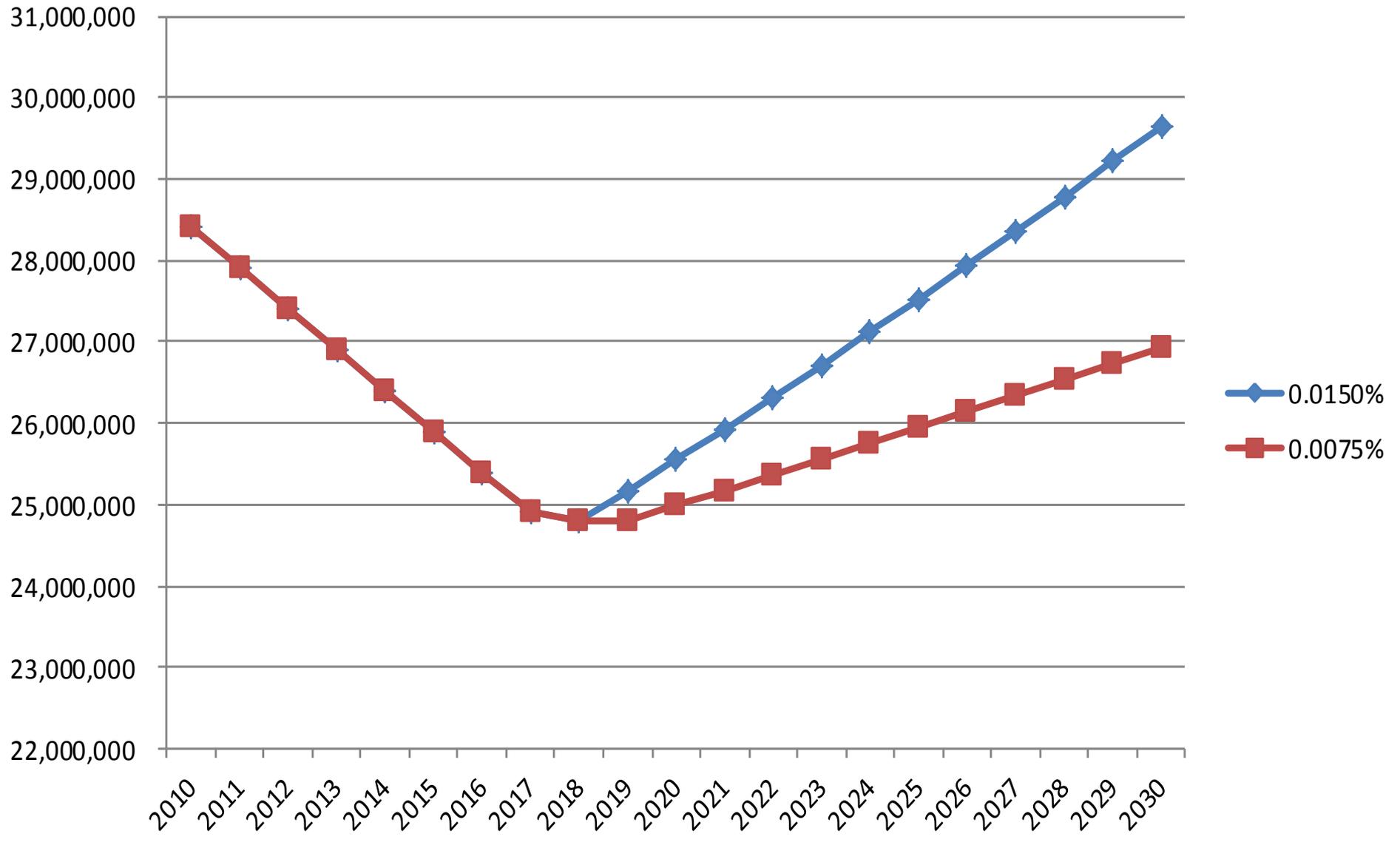
Water Treatment and Transmission Condition

Overall, the system is in good shape. Several large diameter transmission valves have been replaced over the past 3 years. Filter media has been replaced on about 1/3 of the plant filters. Within the next 2 years an updated master plan is needed to prioritize needs but the Surge Tanks on the 48" feed line are woefully undersized and are a system weakness.

Killeen Water Usage Projections 2010-2030



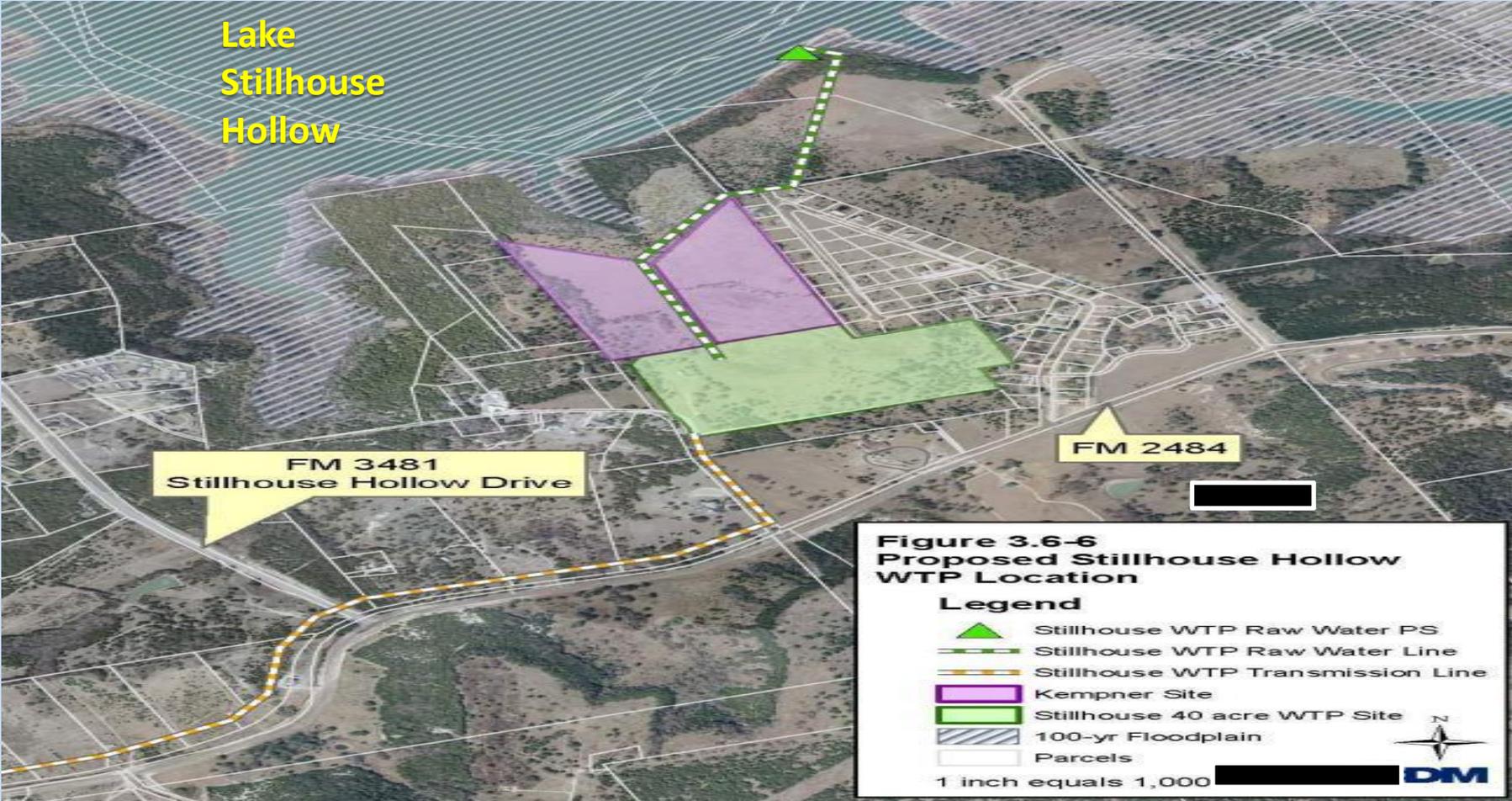
Killeen Water Usage Proj Gal through 2010-2030



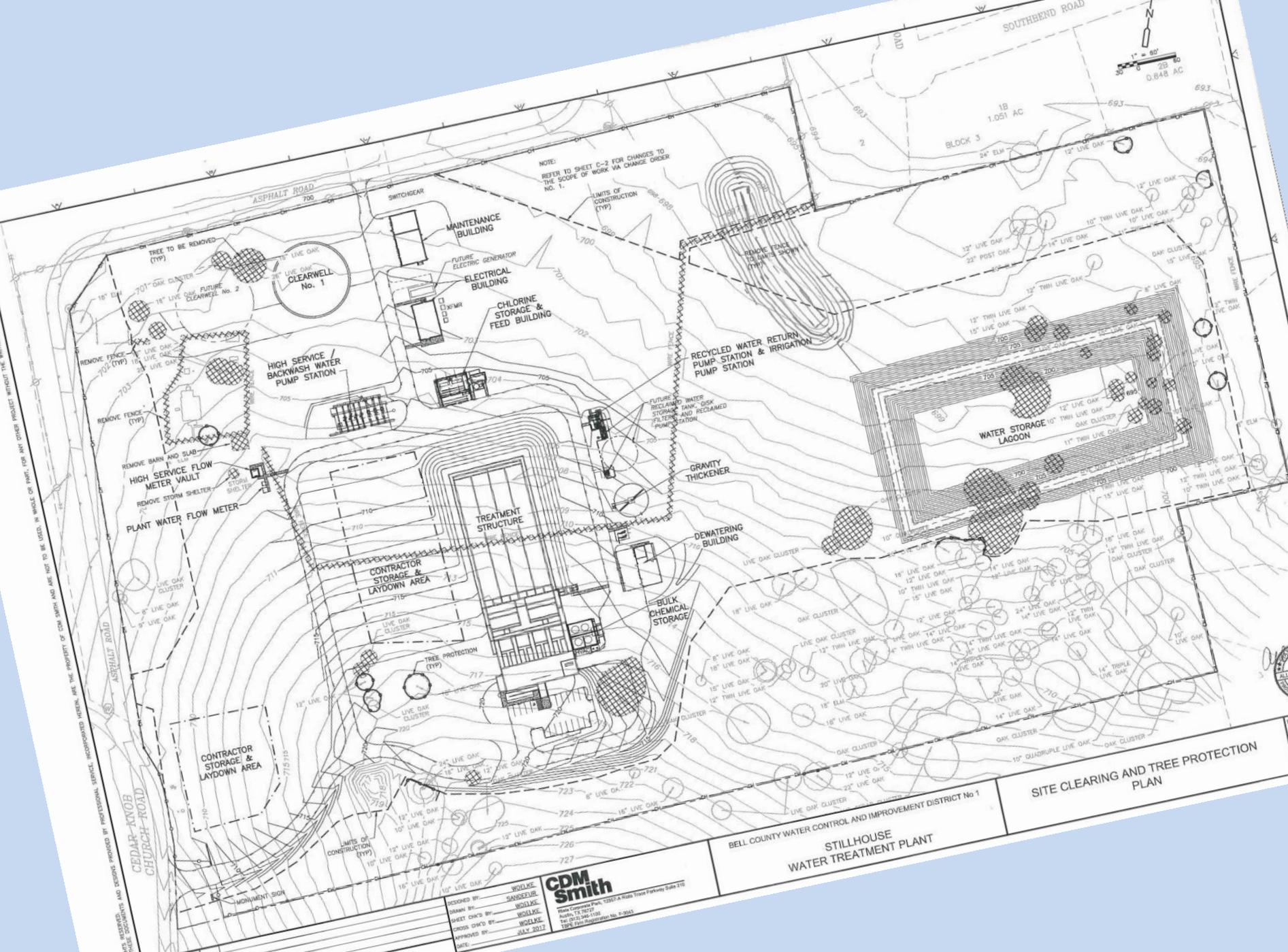
Water Rate and Rate projection

- The current O&M rate is 66 cents per 1,000 gallons treated.
- This is calculated from expense projection divided by flow projection.
- In 2018/2019, water flow was very near projected.
- With increases in chemicals and electricity, the coming legal and administrative costs in creating precincts for the expanded boundary, the coming rate will increase by 1 cent per 1,000 gallons in the coming fiscal year to 67 cents/1,000 gallons treated

LOCATION OF PROPOSED STILLHOUSE WTP







NOTE:
REFER TO SHEET C-2 FOR CHANGES TO
THE SCOPE OF WORK VIA CHANGE ORDER
NO. 1.

SITE CLEARING AND TREE PROTECTION PLAN

BELL COUNTY WATER CONTROL AND IMPROVEMENT DISTRICT No 1
STILLHOUSE WATER TREATMENT PLANT

DESIGNED BY:	WOELKE	<p>Blair Corporate Park, 72507-A Road, Trane Parkway Suite 216 Austin, TX 78717 Tel: 813.246.1100 Toll Free Registration No. F-9053</p>
DRAWN BY:	WASSERBUR	
CHECKED BY:	WOELKE	
PROJECT MANAGED BY:	WOELKE	
APPROVED BY:	DAVE BOLT	
DATE:		

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Stillhouse WTP Site Comparison

Comparison of Sht CR-1 to aerial photo

Legend

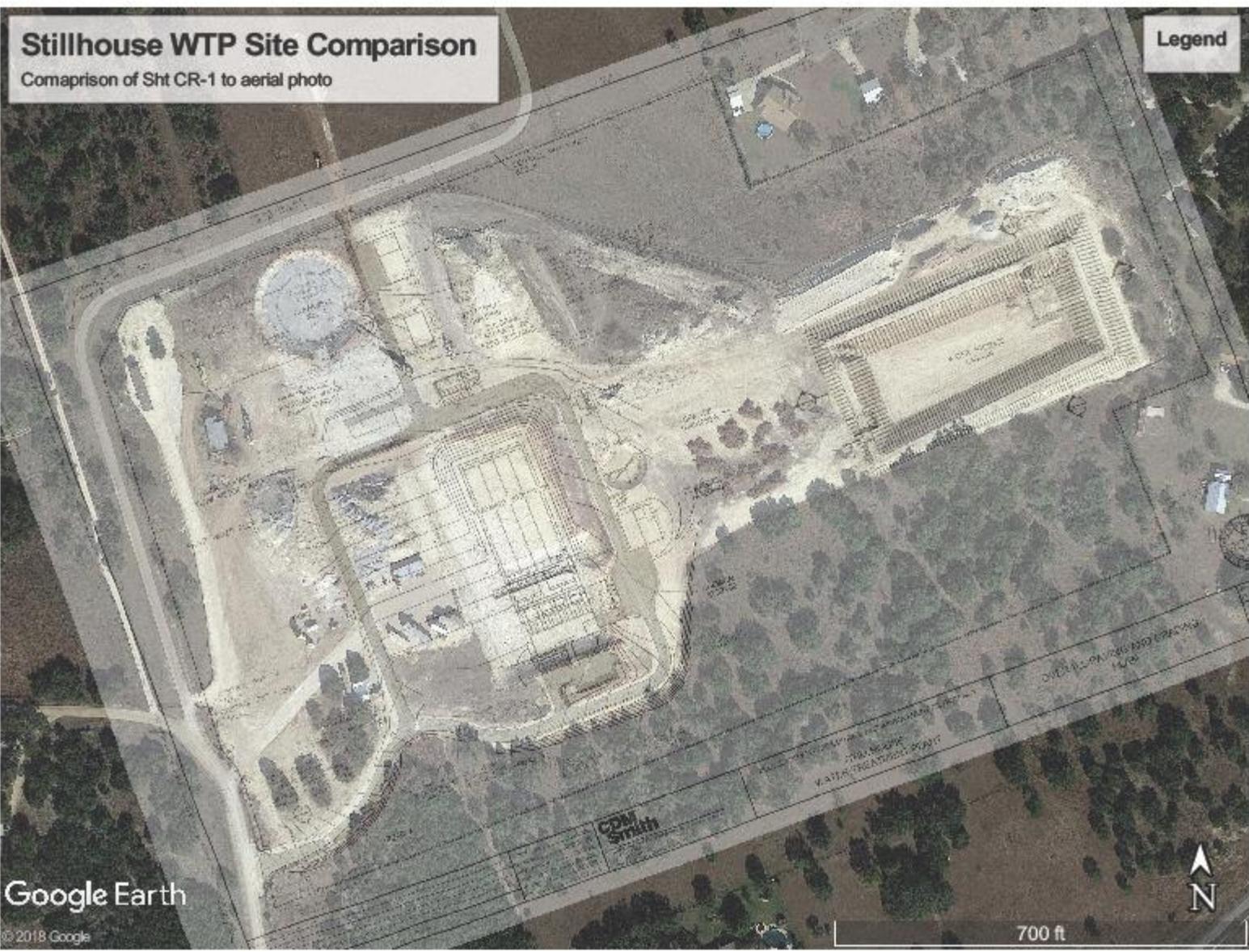
Google Earth

© 2018 Google

CDM
Smith

STILLHOUSE
WATER TREATMENT PLANT

700 ft











STILLHOUSE WATER TREATMENT PLANT DISTRICT COLLABORATION

- On an interim basis (until the new plant is constructed and operational), the District will guarantee Killeen an additional 2 mgd of treated water per day.
- Killeen will not have to pay for the additional water unless the water is actually used.
- This is to help Killeen with the .6 (.39)rule. TAC §290.45(f)(4) states that the capacity of the system shall be at least 0.6gpm per connection (Killeen's variance allows them to use 0.39 gpm instead of 0.6 gpm).

Questions?