

Wastewater Treatment South Austin Regional (SAR) WWTP

**Water and Wastewater Commission
November 10, 2015**

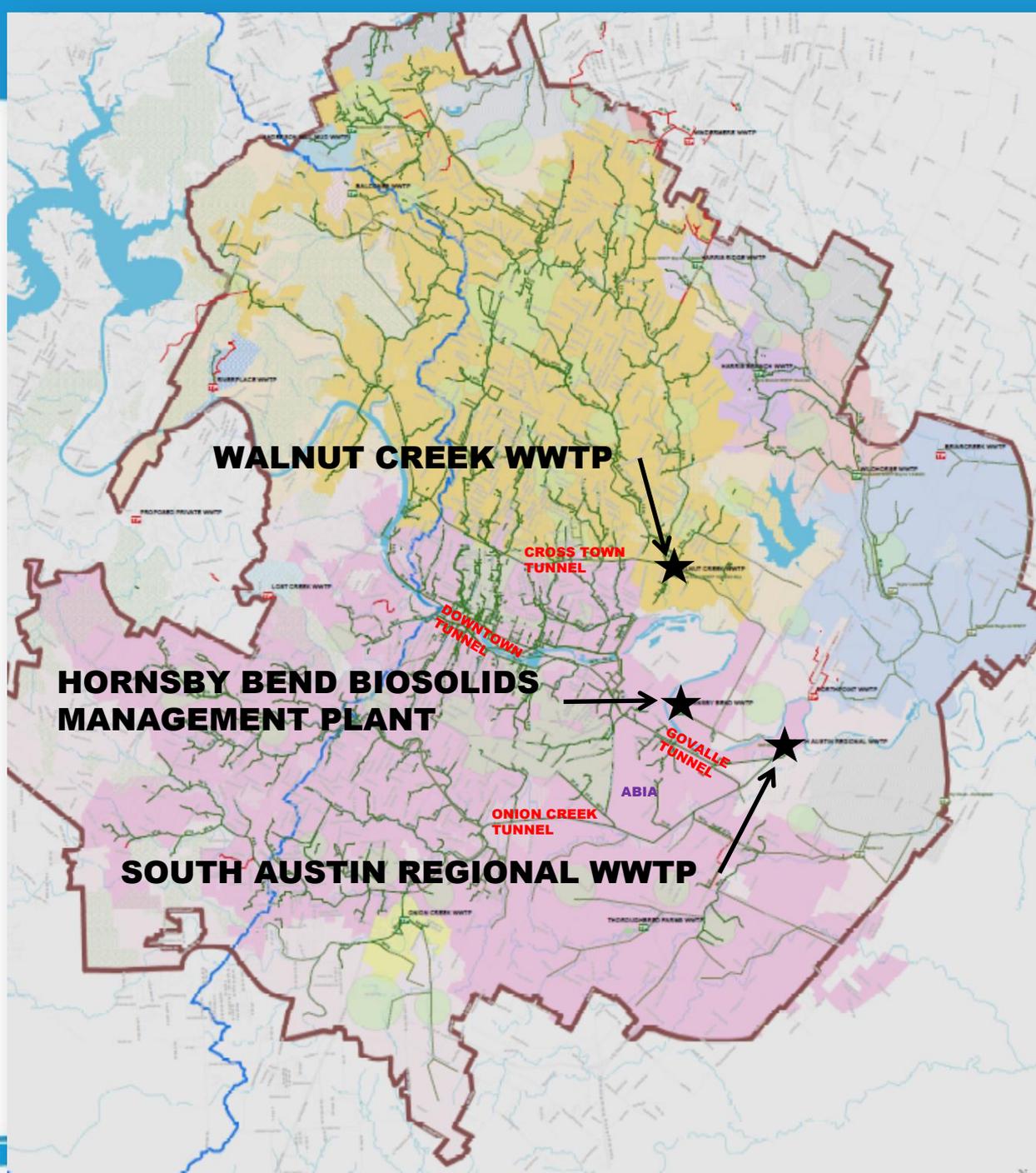
**Austin Water
Facility Engineering Division | Wastewater**

PRESENTATION TOPICS

- **Austin Wastewater Infrastructure Overview**
- **Wastewater Service Areas**
- **South Austin Regional WWTP Layout and Overview**
- **SAR Facility Needs**
- **Summary and Questions**

- **Austin Water Statics (City Maintained):**
 - ❖ **Retail and Wholesale customers ≈ 890,000**
 - ❖ **Service Area ≈ 538 square miles.**
 - ❖ **Service Connections ≈ 187,000**
 - ❖ **Gravity Lines ≈ 2,614 Miles (13,800,000 Linear Feet)**
 - ❖ **Force Mains ≈ 78 Miles (411,800 Linear Feet)**
 - ❖ **Manholes ≈ 49,048**
 - ❖ **Lift Stations ≈ 150**
 - ❖ **Decentralized Package WWTP = 7**
 - ❖ **Wastewater Treatment Plants = 2**
(Walnut Creek & South Austin Regional WWTP)
 - ❖ **Biosolids Plant = 1 (Hornsby Bend Biosolids Management Plant)**

*2014 Data



SAR WWTP Plant Overview



COLORADO RIVER

OUTFALL

RECLAIMED WATER TOWER

FILTER BLDG.

TRAIN C
Completed in 2006

TRAIN A
Completed in 1986

TRAIN B
Completed in 1988

ELECTRICAL SUBSTATION 1

SLUDGE THICKENER

ELECTRICAL SUBSTATION 2

LIFT STATION 2

IFS

LIFT STATION 1

ADMIN BLDG.

FUTURE TRAIN D

SAR WWTP Plant Overview



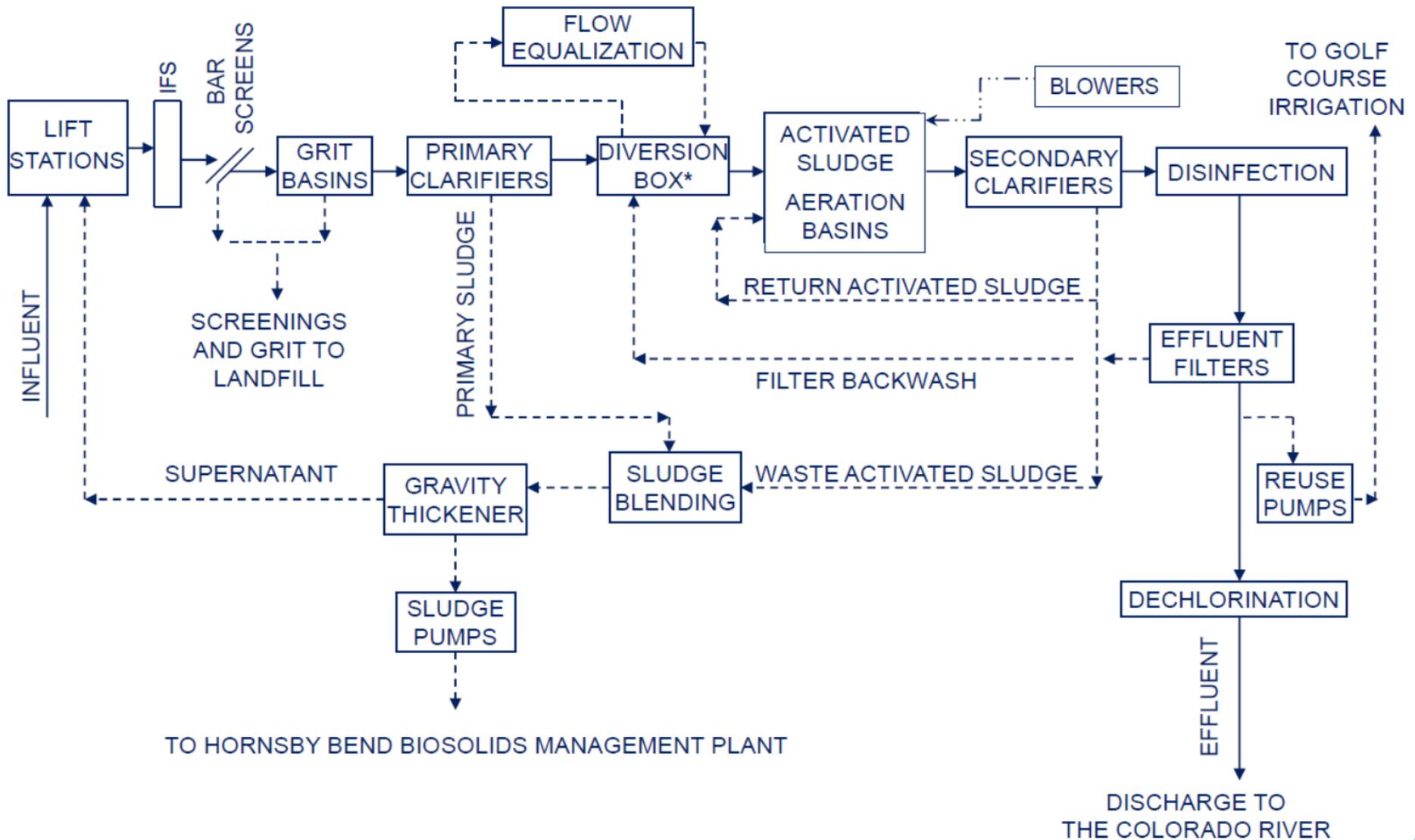
TCEQ RATED CAPACITY

Train A = 25.0 MGD DAILY AVERAGE
Train B = 25.0 MGD DAILY AVERAGE
Train C = 25.0 MGD DAILY AVERAGE
Total = 75.0 MGD DAILY AVERAGE

TCEQ DISCHARGE PERMIT			
	7-DAY	MONTHLY	ANNUALLY
BOD (mg/l)	15	10	5
TSS (mg/l)	25	15	5
AMMONIA (mg/l)	5	2	2

MGD – Million Gallons per Day
BOD – Biochemical Oxygen Demand
TSS – Total Suspended Solids

SOUTH AUSTIN REGIONAL WASTEWATER TREATMENT PLANT



SAR WWTP Plant Overview



COLORADO RIVER



- Process Flow
- Solids
- Reclaimed

To Hornsby Bend BMP

SAR WWTP PLANNED CIP PROJECTS

Tertiary Filter
Improvements
Phase 1 and 2



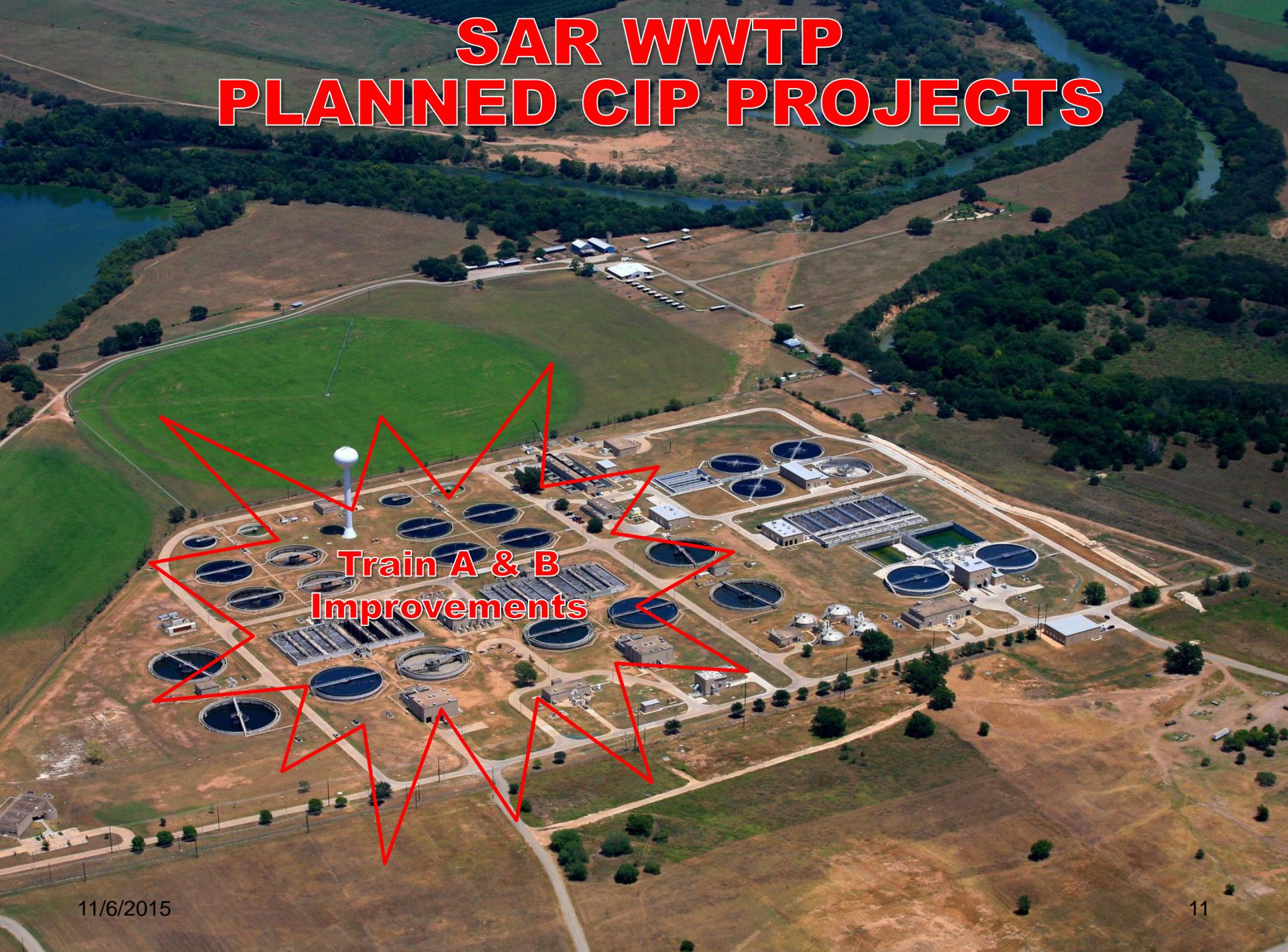
SAR WWTP PLANNED CIP PROJECTS



**Train A & B
Blowers**

Train B Aeration Diffusers
Train A Aeration Diffusers
Train C Aeration Diffusers

SAR WWTP PLANNED CIP PROJECTS

An aerial photograph of the SAR Wastewater Treatment Plant (WWTP). The facility is situated in a rural area with a river to the north and a large green field to the west. The plant itself consists of numerous circular aeration tanks, rectangular clarifiers, and several industrial buildings. A prominent white water tower stands on the left side of the plant. A large red starburst graphic is overlaid on the image, highlighting a specific section of the plant. The text 'Train A & B Improvements' is written in red, bold letters within this starburst.

**Train A & B
Improvements**

SAR WWTP PLANNED CIP PROJECTS

**Electrical
Substation No. 1
Replacement**

**Lift Station 2
Rehabilitation**

**Sludge Thickener
Improvements
Phase 1 and 2**

SUMMARY

- **Train A & B are 29 and 27 years old and has a number of operational and process challenges due to aging infrastructure.**
- **Significant capital investment (nearly \$100 million) planned for the next 5 to 10 years aimed at maintaining reliable long term 75 MGD capacity.**
- **Staff continues to balance needs, priorities, risk and affordability.**

QUESTIONS ?