NORTH TEXAS MUNICIPAL WATER DISTRICT

Regional Service Through Unity… Meeting our Region's Needs Today and Tomorrow

MONOFILL SITE PERMITTING

November 10, 2021

Open House

RJ Muraski, Assistant Deputy Planning/CIP

Zeke Campbell, Assistant Deputy Water Treatment/Conveyance

NORTH TEXAS MUNICIPAL WATER DISTRICT

AGENDA FOR OPEN HOUSE

Briefing and Stations

Briefing on Monofill Site Permitting

Station 1 Water Treatment Process

Station 2 Current Residual Operations

Station 3 Future Monofill Site and Permitting

Station 4 Water Quality and Watershed Protection Program

NORTH TEXAS MUNICIPAL WATER DISTRICT

OUR VISION, MISSION AND GOALS

VISION: **Regional Service Through Unity – Meeting Our Region's Needs Today and Tomorrow**

MISSION: **Provide high quality and dependable water, wastewater and solid waste services in a cost efficient manner**

Goal 1: Service	Provide superior water, wastewater and solid waste services today and tomorrow.
Goal 2: Stewardship	Responsibly manage public resources to ensure responsiveness, effectiveness and efficiency.
Goal 3: Partnership	Actively with members, customers, partners, employees and stakeholders.
Goal 4: People	Build a talented, competent and committed team.

NORTH TEXAS MUNICIPAL WATER DISTRICT - HISTORY

- **1951 – Created by Texas Legislature to Provide Water Service**
- **1956 – Began Providing Treated WATER to Member Cities**
- **1970s – Expanded to WASTEWATER Service**
- **1980s – Expanded to SOLID WASTE Service**

13 Member Cities

Allen, Farmersville, Forney, Frisco, Garland, McKinney, Mesquite, Plano, Princeton, Richardson, Rockwall, Royse City, and Wylie

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Vision: Regional Service Through Unity – Meeting Our Region's Needs Today and Tomorrow

Mission: Provide high quality and dependable water, wastewater and solids waste services in a cost efficient manner.

NORTH TEXAS MUNICIPAL WATER DISTRICT

REGIONAL PROVIDER: WATER, WASTEWATER, SOLID WASTE

NORTH TEXAS MUNICIPAL WATER DISTRICT

BY THE NUMBERS

SERVE up to 80 COMMUNITIES

Service area of 2,200 square miles in 10 counties

Serving 2 million people in one of the fastest-growing regions in the country

18
MAJOR RAW & TREATED WATER PUMP STATIONS

6
WATER TREATMENT PLANTS
876 MGD Capacity
(million gallons/day)

610+ MILES
WATER TRANSMISSION PIPELINES

DID YOU KNOW?

226+ MILES
LARGE-DIAMETER WASTEWATER PIPELINES

13
WASTEWATER TREATMENT PLANTS

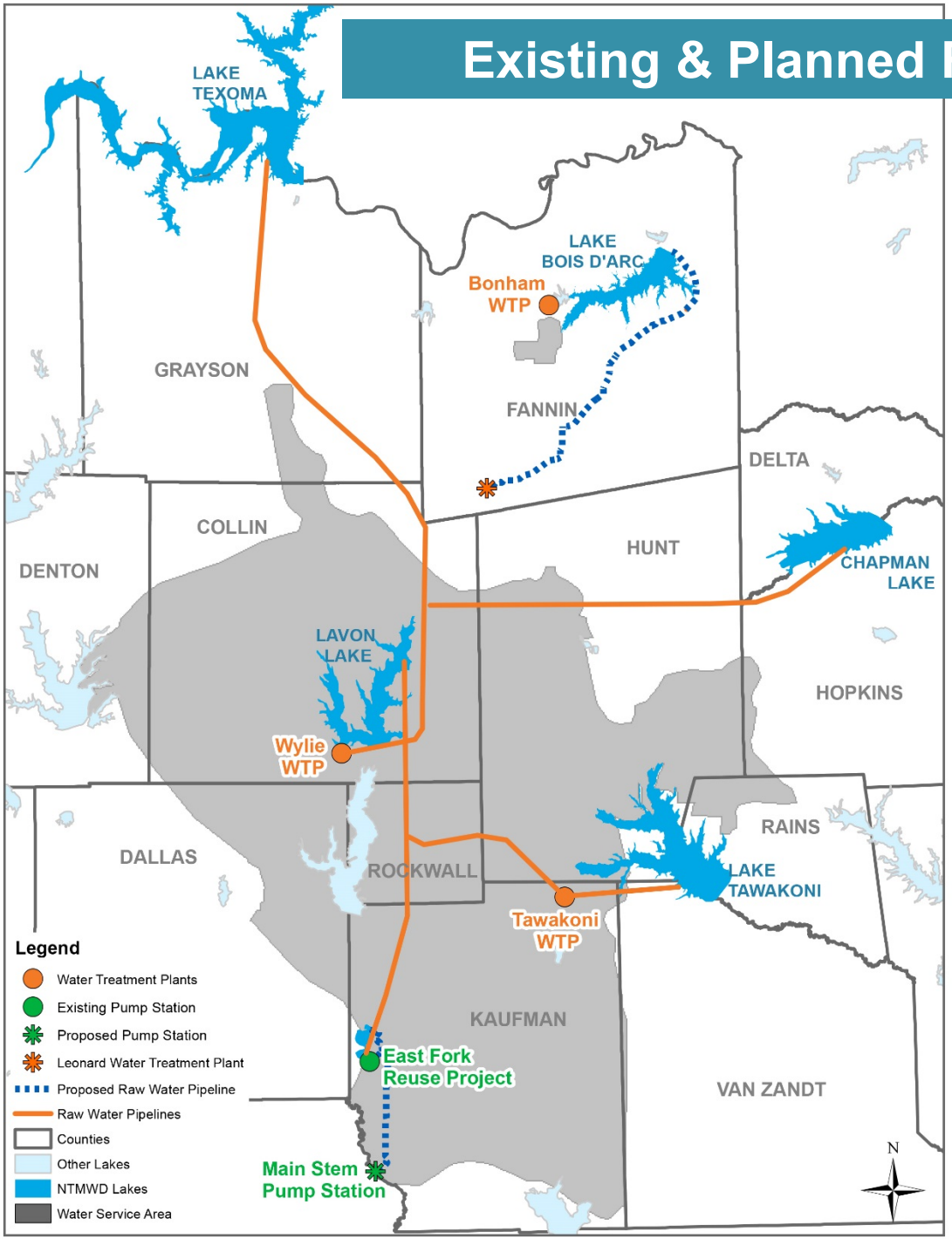
163+ MGD
WASTEWATER TREATMENT CAPACITY
MGD (million gallons/day)

3 TRANSFER STATIONS
up to 3,295 tons of solid waste/day

1 million+
tons/year accepted at landfill

NORTH TEXAS MUNICIPAL WATER DISTRICT

Existing & Planned Raw Water Supplies



Existing:

- Lavon Lake
- Lake Texoma
- Lake Tawakoni
- Chapman Lake
- Reuse/Wetland
- Lake Bonham

Future:

- Bois d'Arc Reservoir in Fannin County

Water Treatment Plant Capacity

877 MGD fully ozonated

- Wylie: 840 MGD
- Tawakoni: 30 MGD
- Bonham: 6 MGD

MONOFILL SITE PERMITTING

The Project is NOT a Sewage Sludge Monofill

- TCEQ uses a Standard Template notifying landowners of a Permit application for Both Water and Wastewater Solids
- The NTMWD Permit is for placement of residuals from the Water Treatment Process at the Wylie Water Treatment Plant

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

NOTICE OF RECEIPT OF APPLICATION AND INTENT TO OBTAIN A SEWAGE SLUDGE OR BIOSOLIDS SURFACE DISPOSAL PERMIT

PROPOSED PERMIT NO. WQ0005323000

APPLICATION. North Texas Municipal Water District, P.O. Box 2408, Wylie, Texas 75098, has applied to the Texas Commission on Environmental Quality (TCEQ) for proposed Sludge Permit No. WQ0005323000 to authorize the surface disposal of water treatment residuals on approximately 310 acres. The disposal site will be located approximately 0.25 miles north of the intersection of County Road 644 and Farm-to-Market Road 547, in Collin County, Texas 75442. TCEQ received this application on May 19, 2021. The permit application is available for viewing and copying at Charles J. Rike Memorial Library, 203 Orange Street, Farmersville, Texas. This link to an electronic map of the site or facility's general location is provided as a public courtesy and not part of the application or notice. For the exact location, refer to the application. https://tceq.maps.arcgis.com/apps/webappviewer/index.html?id=db5bac44afbc468bbddd360f8168250f&marker=-96.3231%2C33.0928&level=12

ADDITIONAL NOTICE. TCEQ's Executive Director has determined the application is administratively complete and will conduct a technical review of the application. After technical

NORTH TEXAS MUNICIPAL WATER DISTRICT

MONOFILL SITE

What is a Monofill Site?

- Designated for only one specific type of by-product
- This Monofill is for residuals from the Water Treatment Process

NTMWD applied for the Permits of the Monofill Site

- Permit is for residual disposal at the Monofill site. (May 2021)
- Design of the site is scheduled to begin in 2024, however that is dependent on any changes with the land application
- Began the permitting to reduce future uncertainty

MONOFILL SITE PERMITTING

PROJECT BACKGROUND

- Member cities and communities in Collin County are growing rapidly
  - 2 Million North Texans served by NTMWD
- NTMWD must plan and construct infrastructure and processes required to meet future growth
- NTMWD purchased 410 acres in 2011 near Josephine for a site to place residuals from the water treatment process
- NTMWD submitted an application to the Texas Commission on Environmental Quality (TCEQ) for the construction of a Monofill site
  - Dispose material in the most economical fashion
  - Reclaim land at Wylie Water Treatment Plant for future needs
- Our Goal: Be a good neighbor by planning and constructing a facility with proven, technologies that aligns with industry best practices and blends into the surrounding community

MONOFILL SITE NORTH OF THE CITY OF JOSEPHINE

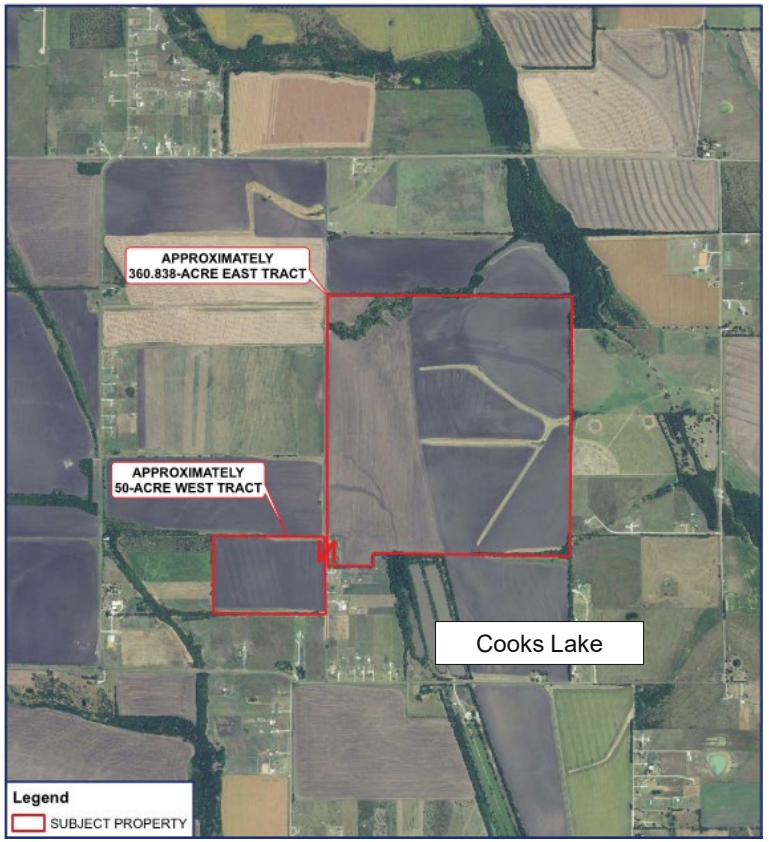
PROJECT OVERVIEW

Project includes:

- **Permits to build site**
- **Site to dewater and stock pile residual material from Wylie Water Treatment Plant**
- **Pipeline to convey residuals from the Water Treatment Process**

NORTH TEXAS MUNICIPAL WATER DISTRICT

MONOFILL SITE (410 ACRES NORTH OF CITY OF JOSEPHINE)



NORTH TEXAS MUNICIPAL WATER DISTRICT

CONCEPTUAL PIPELINE ROUTE TO MONOFILL SITE

NORTH TEXAS MUNICIPAL WATER DISTRICT

MONOFILL SITE TIMELINE

Project Timeline

- TCEQ Permitting
  2021-2022
- Facility/Site Design
  2024- 2025
- Construction
  2025 - 2026
- Site Operational
  2026

NORTH TEXAS MUNICIPAL WATER DISTRICT

NTMWD Water Treatment Process

RAW WATER PUMPED

LAKE WATER PUMPED TO WATER TREATMENT PLANTS VIA PUMP STATIONS

WATER TREATMENT

WATER MIXED WITH FERRIC SULFATE TO REMOVE SEDIMENT, DIRT AND DEBRIS FROM LAKE WATER

CLEAN WATER STAYS ON TOP; SEDIMENT DROPS TO BOTTOM OF BASIN AND IS REMOVED

PRIMARY DISINFECTION USING OZONE TREATMENT

SECONDARY DISINFECTION OF WATER USING CHLORAMINES OR CHLORINE

FILTRATION

WATER FILTERED TO REMOVE ANY LAST PARTICLES

END USER

CLEAN TREATED WATER DISTRIBUTED TO CITIES-CHLORAMINES ADDED TO MAINTAIN QUALITY WITHIN SYSTEM

Rev. May 2019

NORTH TEXAS MUNICIPAL WATER DISTRICT

CURRENT WATER TREATMENT PROCESS

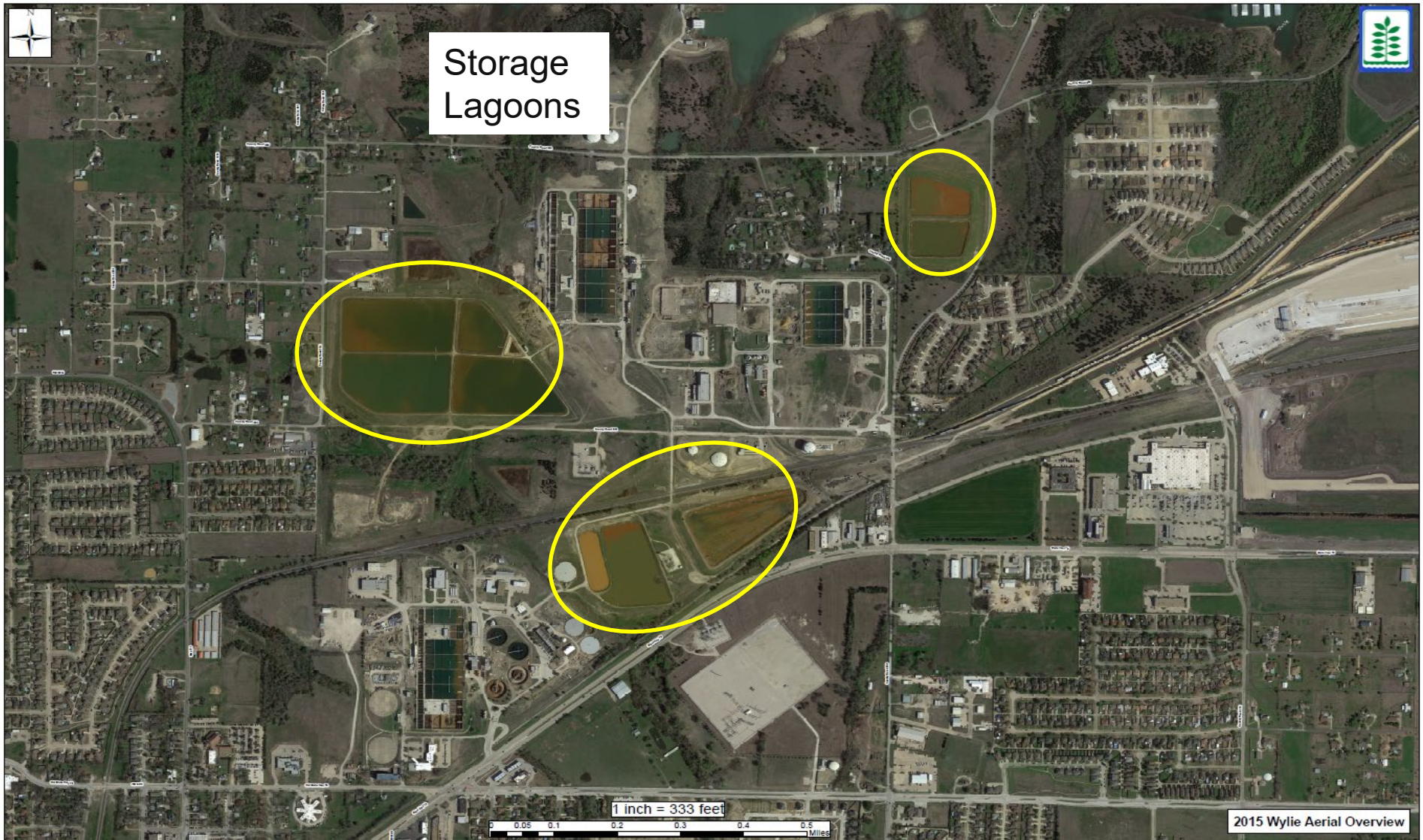
Current Treatment Process and Residuals

- Raw water from Lake Lavon pumped into plant
- Mixed with Ferric sulfate in sedimentation basin
  - Coagulation:
    - Ferric Sulfate attaches to suspended solids
  - Flocculation:
    - Coagulated particles clump together and sink to bottom as sediment
- Suspended material settles to bottom and pumped to storage lagoons
- Once lagoons are filled, dried sediment hauled off to be used as an iron rich soil enhancer for agricultural use.

Lagoons take up large amount of real estate on plant site

NORTH TEXAS MUNICIPAL WATER DISTRICT

WYLIE WATER TREATMENT PLANT SITE



NORTH TEXAS MUNICIPAL WATER DISTRICT

CURRENT DISPOSAL METHOD

Current residuals are pumped from the Lagoons on the Wylie Water Treatment plant campus, trucked and land applied.

NORTH TEXAS MUNICIPAL WATER DISTRICT

FUTURE WATER TREATMENT PROCESS

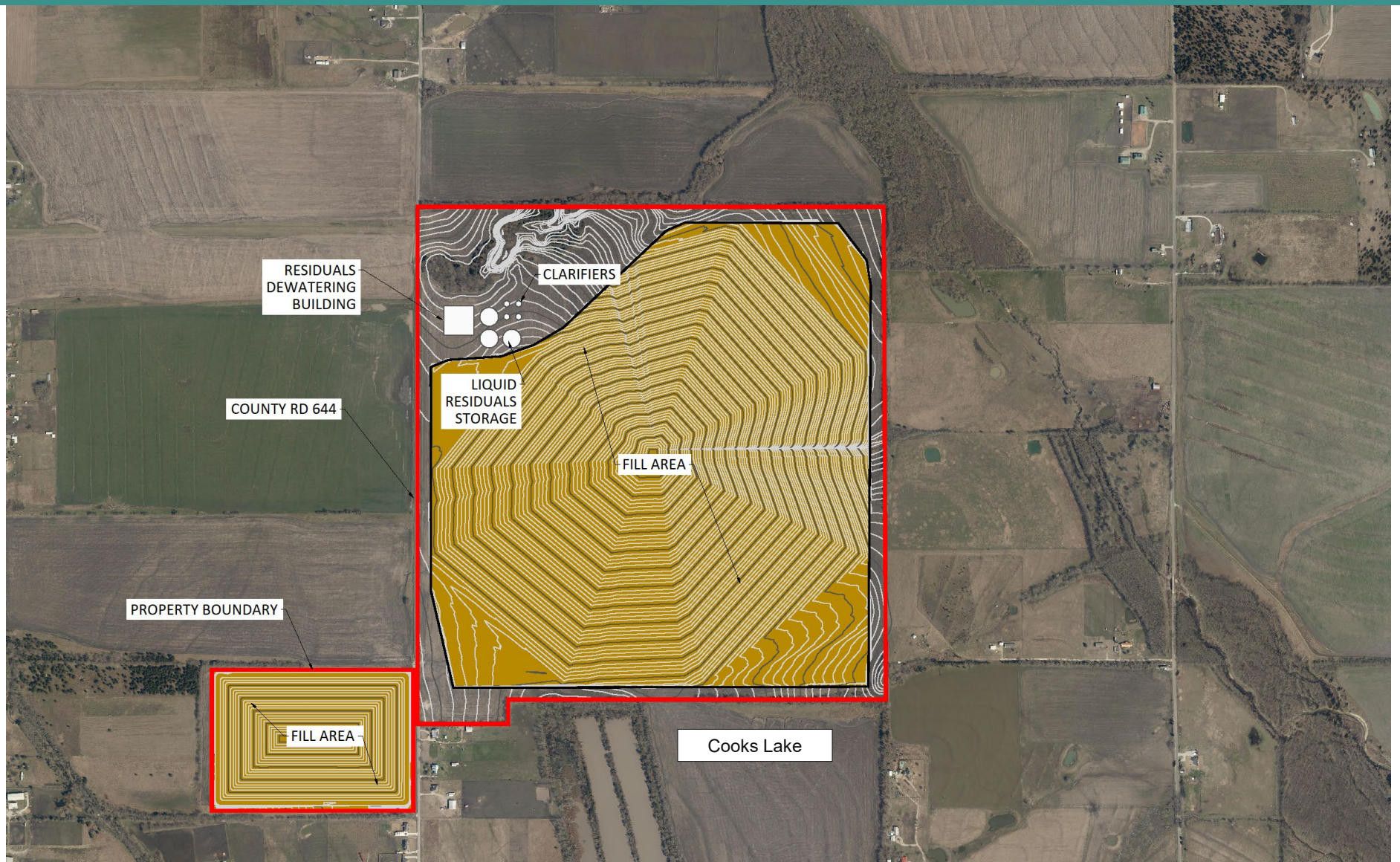
Future Treatment Process and Residuals

- Raw Lake water pumped into plant
- Mixed with Ferric sulfate in sedimentation basin
  - Coagulation:
    - Ferric Sulfate attaches to suspended solids
  - Flocculation:
    - Coagulated particles clump together and sink to bottom as sediment
- Suspended material settles to bottom and pumped to Monofill Site where material dried and placed at this site.

Frees up real estate on plant site for expansion and accommodate other facilities.

NORTH TEXAS MUNICIPAL WATER DISTRICT

MONOFILL SITE CONCEPTUAL LAYOUT



NORTH TEXAS MUNICIPAL WATER DISTRICT

MONOFILL SITE TIMELINE

Project Timeline

- TCEQ Permitting
  2021-2022
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- Site Operational
  2026

KEEP UPDATED ON PROJECT

NTMWD Web Page under - Services - Key Projects - WTR Monofill

NTMWD - North Texas Municipal

ntmwd.com

Apps Gmail YouTube Maps SARA logo Created...

NORTH TEXAS MUNICIPAL WATER DISTRICT

Regional Service Through Unity...Meeting our Region's Needs Today and Tomorrow

BOARD RESOURCES | MEMBER PORTAL

ABOUT US | SERVICES | ENVIRONMENT | EDUCATION | MEDIA

SERVICES	KEY PROJECTS	RESOURCES	VIDEO
Water	Bois d'Arc Lake	Solid Waste Facilities	
Wastewater	East Fork Water Reuse Project	Projects	
Solid Waste	WTR Monofill	Business Opportunities	
	Sister Grove RWRRF	Purchasing Department	
	McKinney-Prosper Transfer Sewer Pipeline	Water Quality	
	Wilson Creek RWWTP Expansion	Consultant Selection Process: FY2022-24	
	Rowlett Creek RWWTP		

lyYard.org

KNOW WHEN TO WATER SIGN UP NOW

Texas weather changes rapidly. Know when to water and when to wait with WaterMyYard.org.

Our Water System

Our Wastewater System

Our Solid Waste System

OPEN HOUSE STATIONS

Visit our Stations

Also, stay up to date online – www.NTMWD.com/WTR-monofill

Station 1	Water Treatment Process (Front of Room)

Station 2	Current Residual Operations (Hallway)

Station 3	Future Monofill Site and Permitting (Front of Room)

Station 4	Water Quality and Watershed Protection Program (Hallway)

You can also email us at projects@ntmwd.com.