

# Groundwater Treatment Public Meeting

## December 11, 2023



**Water  
is Life.**

[NORMANOK.GOV/WATERISLIFE](https://normanok.gov/waterislife)

# OVERVIEW



- Background on Norman's Water System
- Need to Treat Groundwater Supply
- Land Acquisition for Groundwater Site
- Current Land Situation
- Proposed Improvements
- City Zoning/Platting Process and Future Meetings
- Questions/Discussion

# NORMAN'S WATER SYSTEM



- Sources of Water
  - Lake Thunderbird
    - Treated at Vernon Campbell Water Treatment Plant
    - Supplies 65-70 percent
  - Groundwater – 43 wells and supplies about 20-30 percent
  - Oklahoma City – One connection and supplies about 7 percent
- 650 miles pipe
- 5 water towers
- Over 6,000 FH's, over 11,000 valves



# NEED TO TREAT GROUNDWATER



Source of Water	Disinfectant Residual Required	City of Norman Status
Surface Water Only	Yes	Not Applicable
Groundwater Only	No	Not Applicable
Combined SW and GW	Yes	<b>Not Compliant</b>



## Future Regulations

- Arsenic – Under review
- Chromium – Under review
- Lithium – Ongoing sampling

received  
9-2-14

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY  
WATER QUALITY DIVISION

IN THE MATTER OF:  
NORMAN UTILITIES AUTHORITY,  
RESPONDENT,

CASE NO. 13-077

FACILITY NO. S-20616  
OPDES PERMIT NO. OK0029190  
PROBLEM(S): Permit Violation(s); OPDES Permit Compliance Schedule; TSS and Ammonia Exceeded Permit Limits; Fecal Coliform Monitoring Violation(s); DMR Violation(s); Submitted Incomplete DMR(s)

OKLAHOMA  
DEPT. OF ENVIRONMENTAL QUALITY  
AUG 28 2014  
FILED BY: *Prax*  
HEARING CLERK

**CONSENT ORDER**

The parties to this case, the Oklahoma Department of Environmental Quality ("DEQ") and the Norman Utilities Authority ("Respondent") hereafter collectively referred to as ("Parties") agree to this Consent Order in order to resolve certain environmental compliance issues.

This Consent Order supersedes and closes Notices of Violation ("NOV") Nos. S-20616-11-1, S-20616-12-1, and S-20616-13-1, issued by DEQ to Respondent on October 11, 2011, August 16, 2012, and October 23, 2013, respectively. The Consent Order also closes and supersedes Part I of the Compliance Schedule contained in the Oklahoma Pollutant Discharge Elimination System ("OPDES") Permit No. OK0029190 ("Permit").

**FINDINGS OF FACT**

1. Respondent owns and operates a publicly-owned treatment works ("POTW") which serves residents of the City of Norman in Cleveland County, Oklahoma. The POTW consists of a wastewater collection system and mechanical wastewater treatment facility ("WWTF") located in the S ½, SE ¼, SE ¼, Section 7, Township 8 North, Range 2 West of the Indian Meridian, Cleveland County, Oklahoma. The WWTF discharges treated effluent to the Canadian River pursuant to the OPDES Permit No. OK0029190 ("Permit") that was issued by DEQ to Respondent, and which became effective July 1, 2010.

-1-

# LAND ACQUISITION FOR GW SITE



- 2014 – Centralized site recommended in 2060 SWSP
- 2015 – Rate increase proposed funding for land
- 2020 – Plummer (Engineer) completed siting analysis
- 2021 – Carollo Engineers completed prelim. design
- 2021 – Multiple meetings with Council regarding land

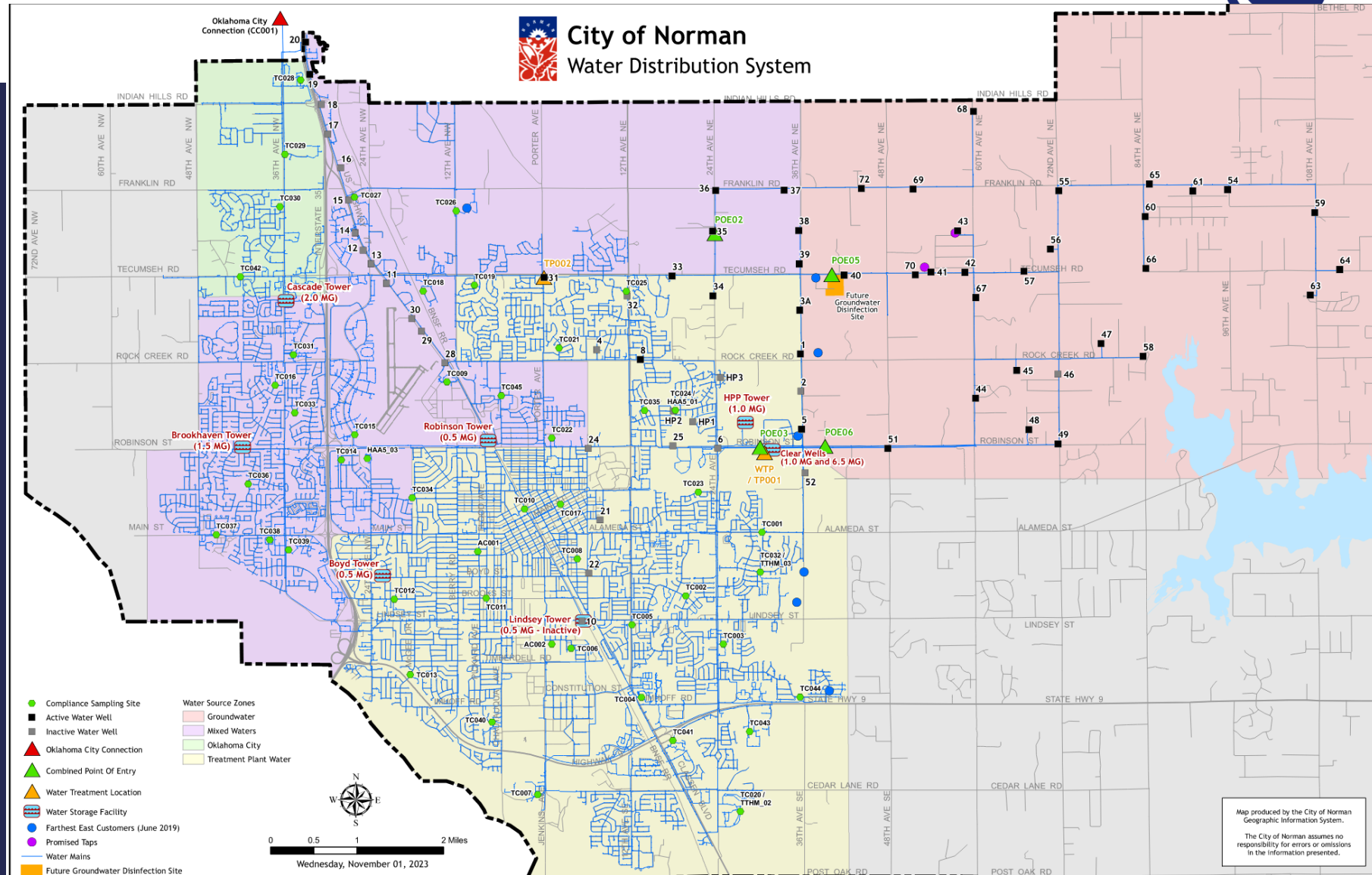
**2022 – Council approval of purchase of approx. 28 acres at 4020 E Tecumseh using water funds**



# LAND ACQUISITION – WHY HERE?

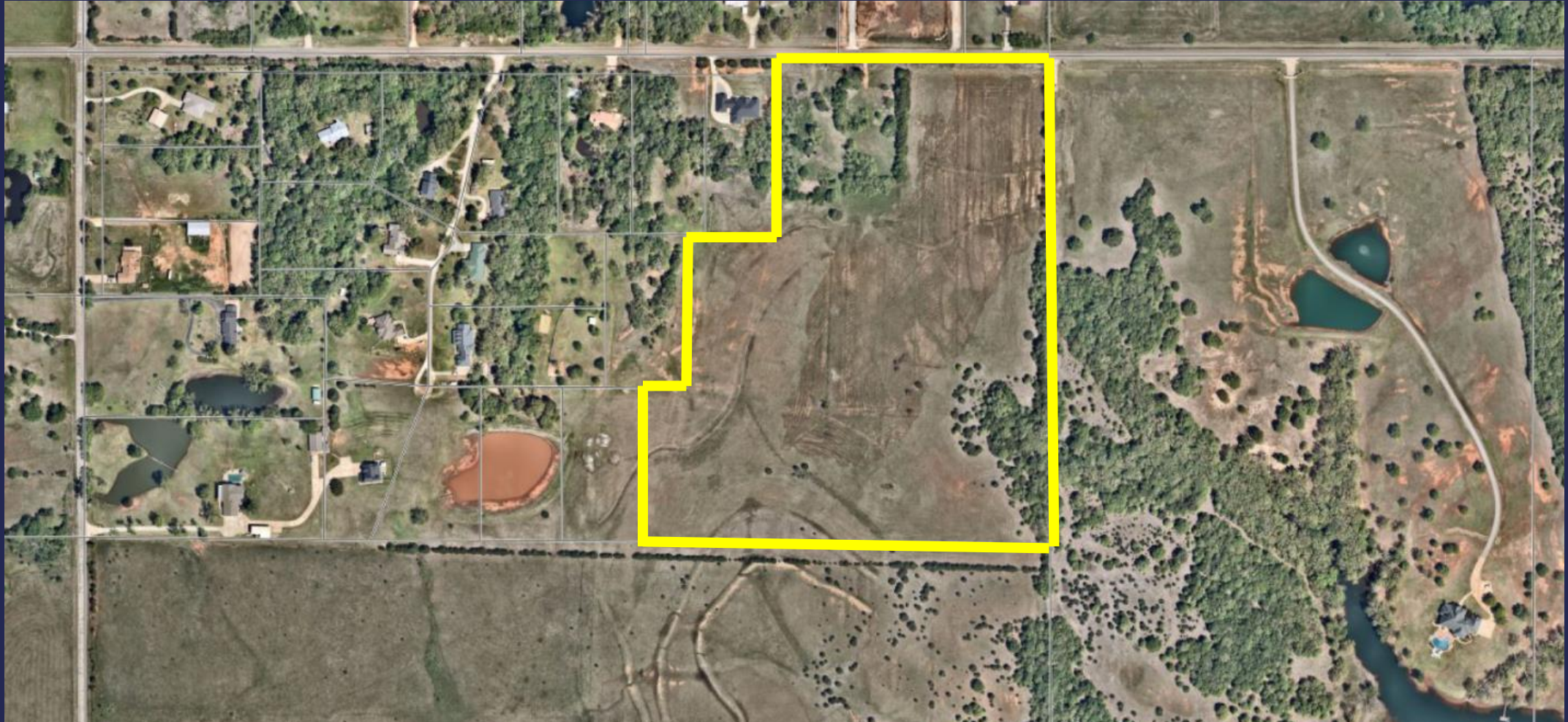


- Land listed for sale (no condemnation)
- Less piping required than other alternatives



Map produced by the City of Norman Geographic Information Systems. The City of Norman assumes no responsibility for errors or omissions in the information presented.

# CURRENT LAND CONDITION

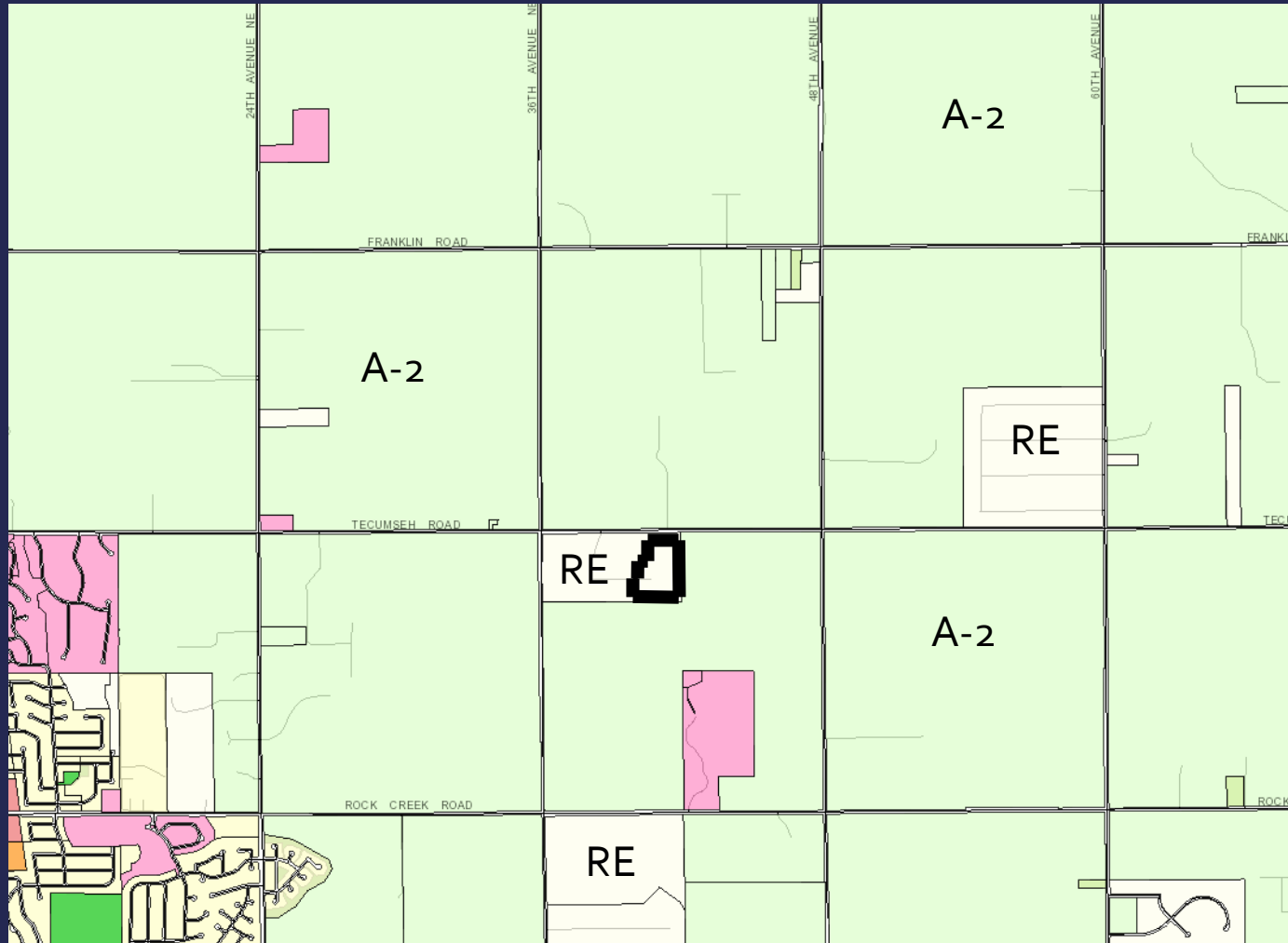


# CURRENT LAND - ZONING

## Zoning

### Zoning

- A-1: General Agricultural
- A-2: Rural Agricultural
- C-1: Local Commercial
- C-2: General Commercial
- C-3: Intensive Commercial
- C-O: Suburban Office Commercial
- CCFB: Center City Form Based Code
- CO: Suburban Office Commercial
- CCPUD: Center City Planned Unit Development
- CR: Rural Commercial
- I-1: Light Industrial
- I-2: Heavy Industrial
- M-1: Restricted Industrial
- O-1: Office\_Institutional
- PL: Park Land
- PUD: Planned Unit Development
- R-1: Single Family Dwelling
- R-1A: Single Family Attached Dwelling
- R-2: Two-Family Dwelling
- R-3: Multi-Family Dwelling
- R-E: Residential Estates
- RE: Residential Estates
- RM-2: Low Density Apartment
- RM-4: Mobile Home Park
- RM-6: Medium Density Apartment
- RO: Residence-Office
- ROW: Right of Way
- SPUD: Simple Planned Unit Development
- TC: Tourist Commercial
- Unclassified

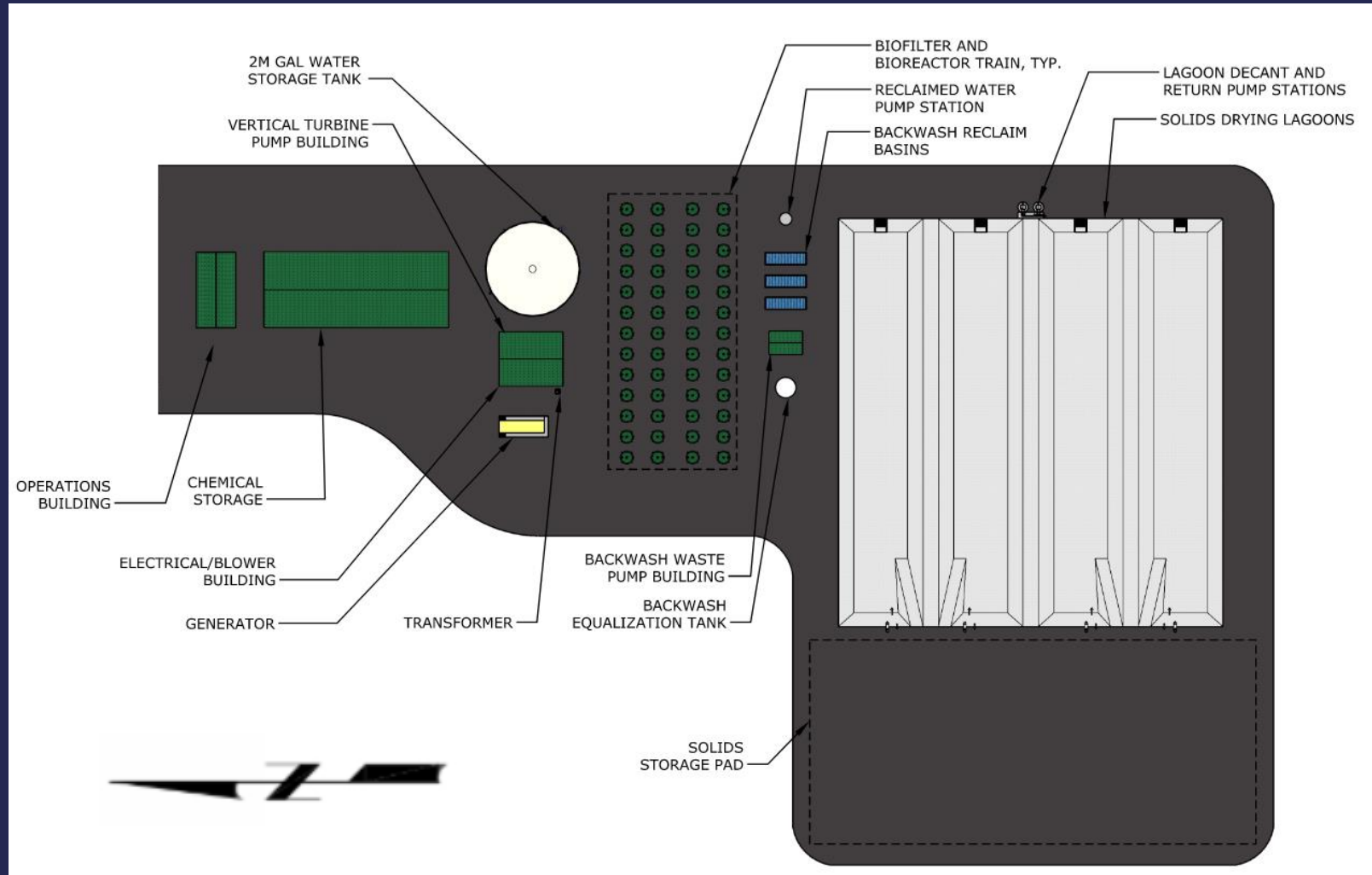




# GROUNDWATER TREATMENT OVERALL SITE DEVELOPMENT



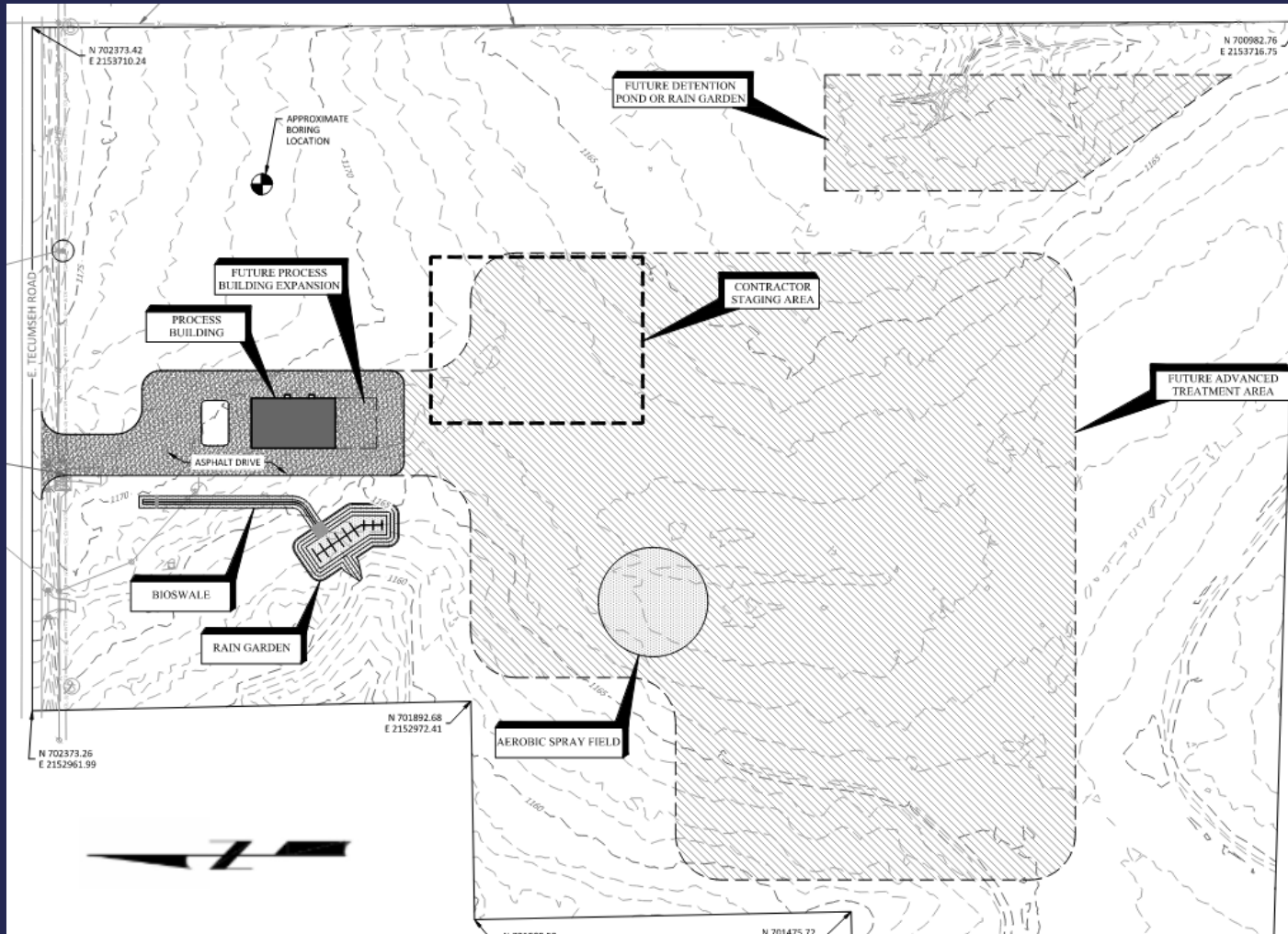
- Layout completed by Carollo Engineers
- Used to confirm site would accommodate future treatment systems
- Schematic shows full buildout of the site
- Design to be refined as facilities are built



# GROUNDWATER TREATMENT OVERALL SITE DEVELOPMENT

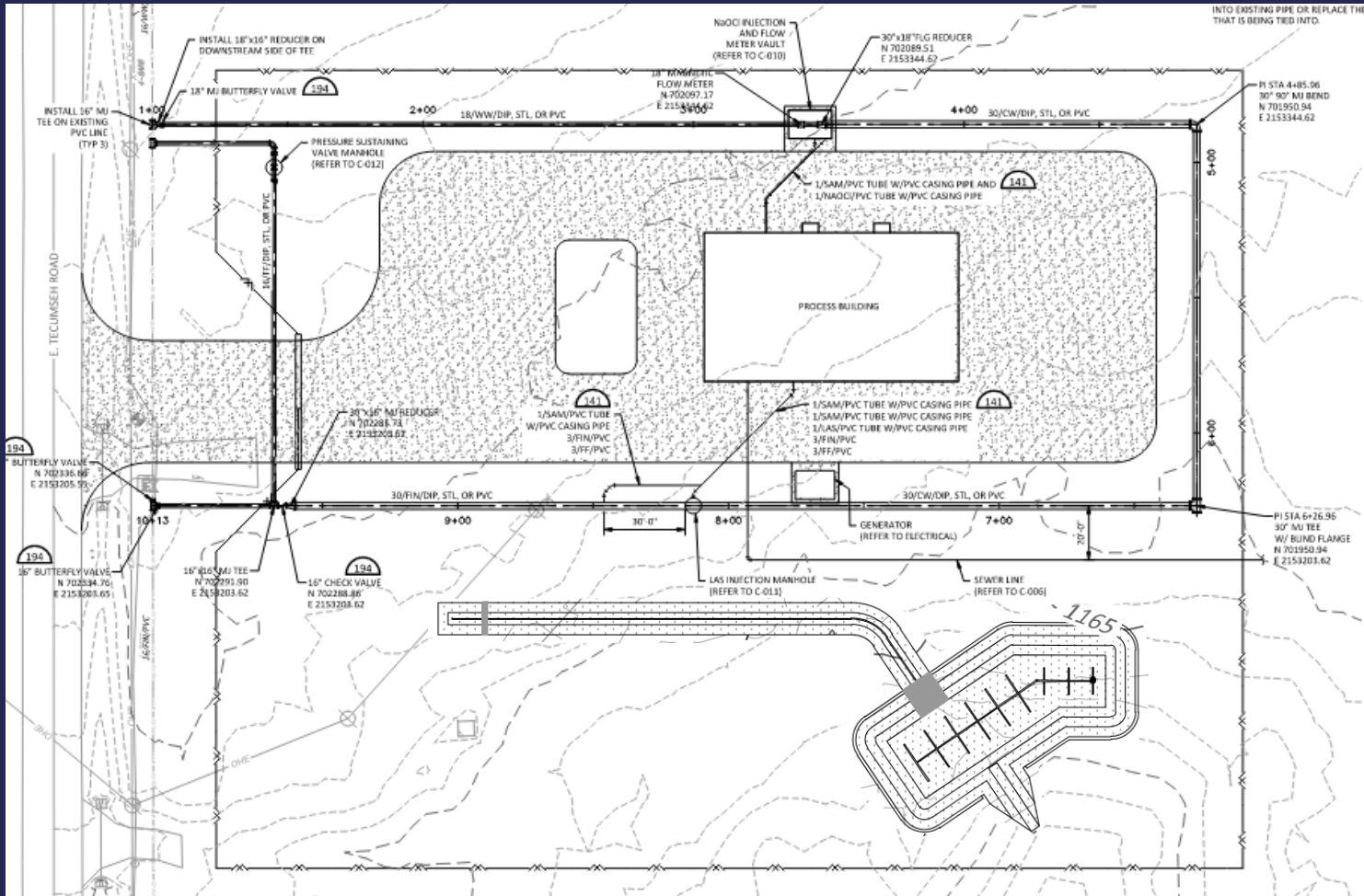


# GROUNDWATER DISINFECTION



- Updated layout from 2022 site layout
- Building more centered (east/west) on the site
- Building shifted south from roadway
  - Protection of existing trees
  - Better aesthetic for street traffic

# GROUNDWATER DISINFECTION



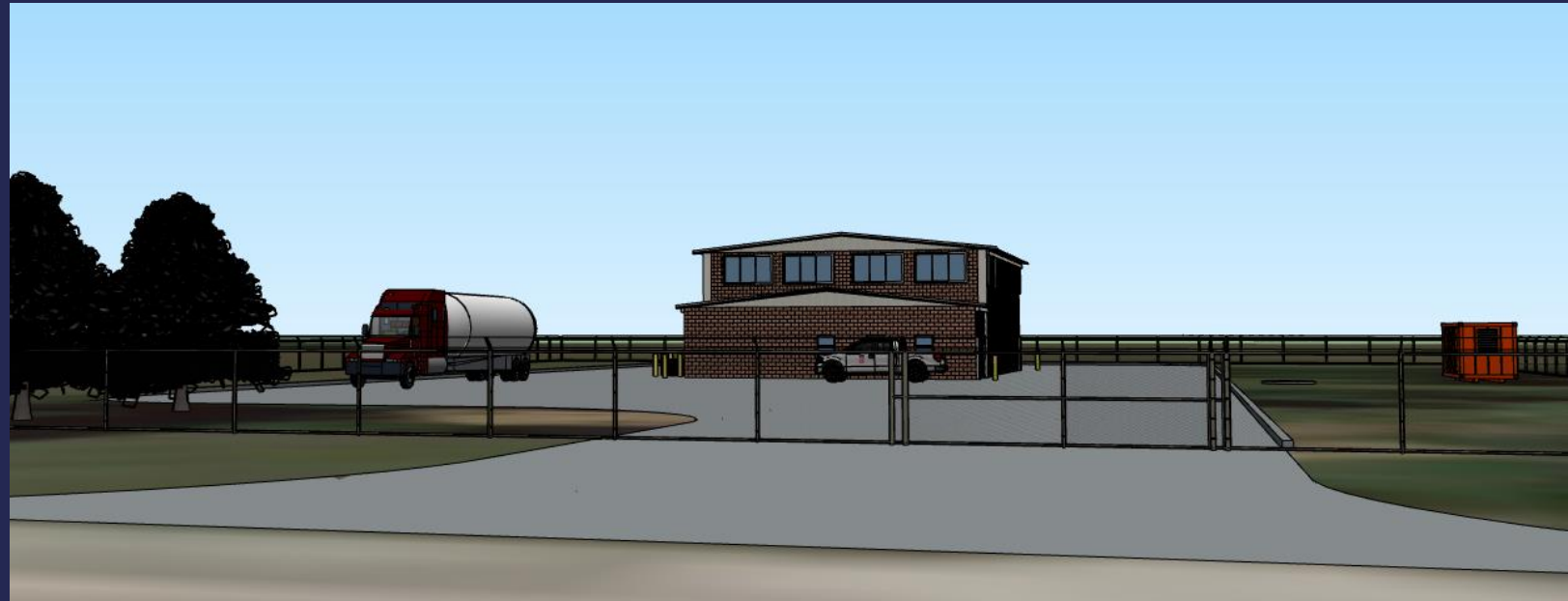
- Process Building (Split Face CMU)
  - Lab Room
  - Chemical Storage and Feed Pumps
  - Electrical Room
- Site Piping and Valving (Buried)
- Emergency Generator
- Site Development
  - Paving
  - Fencing
  - Stormwater Detention / Rain Garden
  - Onsite Sewer Disposal (per DEQ standards)

# WHAT TO EXPECT AT THE FACILITY

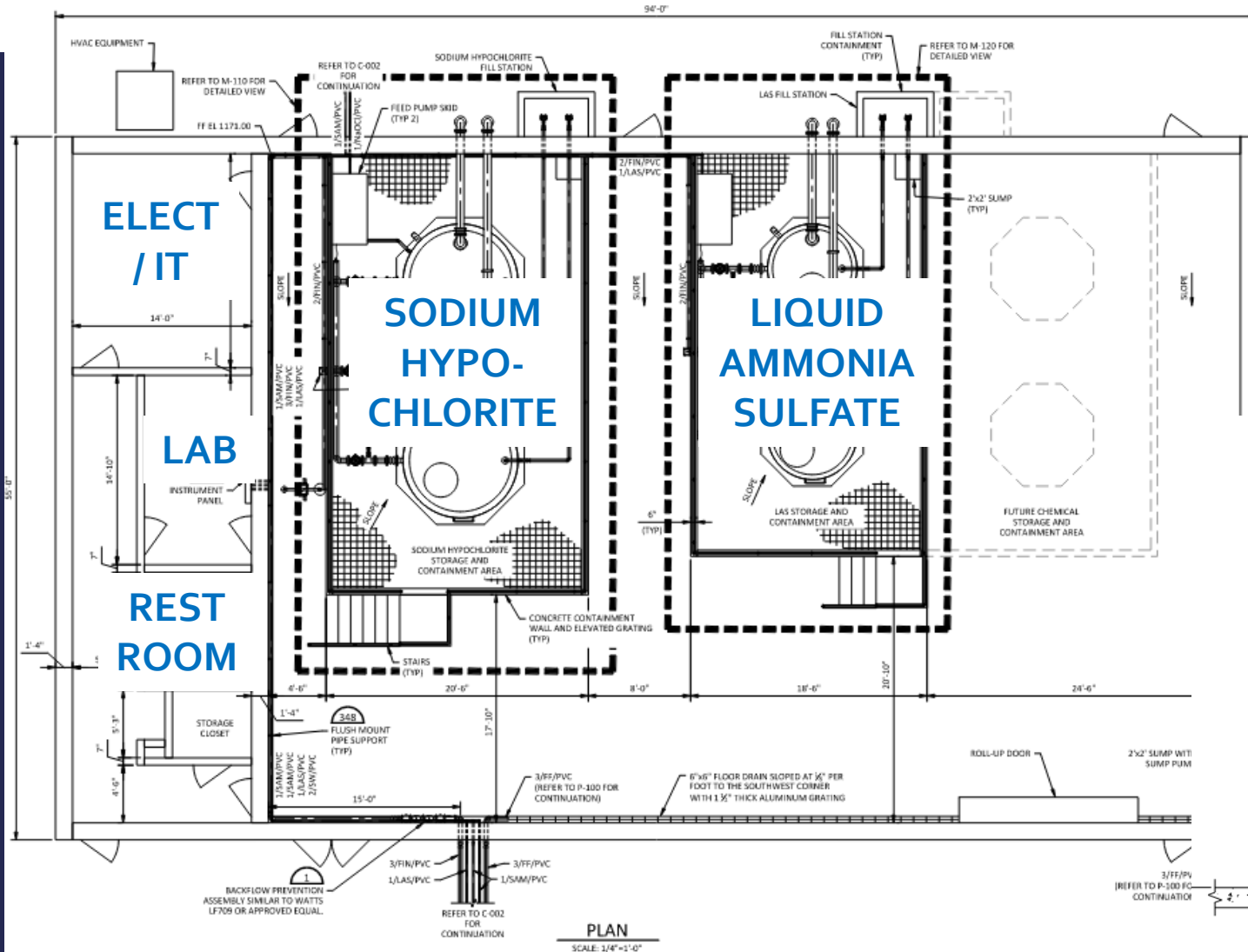


- Standard operation in automatic mode
  - Chemical systems feed based on flow rates
  - System monitored remotely
  - Alarms in place
- Daily visits by Water Treatment Plant staff
- Weekly 1-hour run of emergency generator

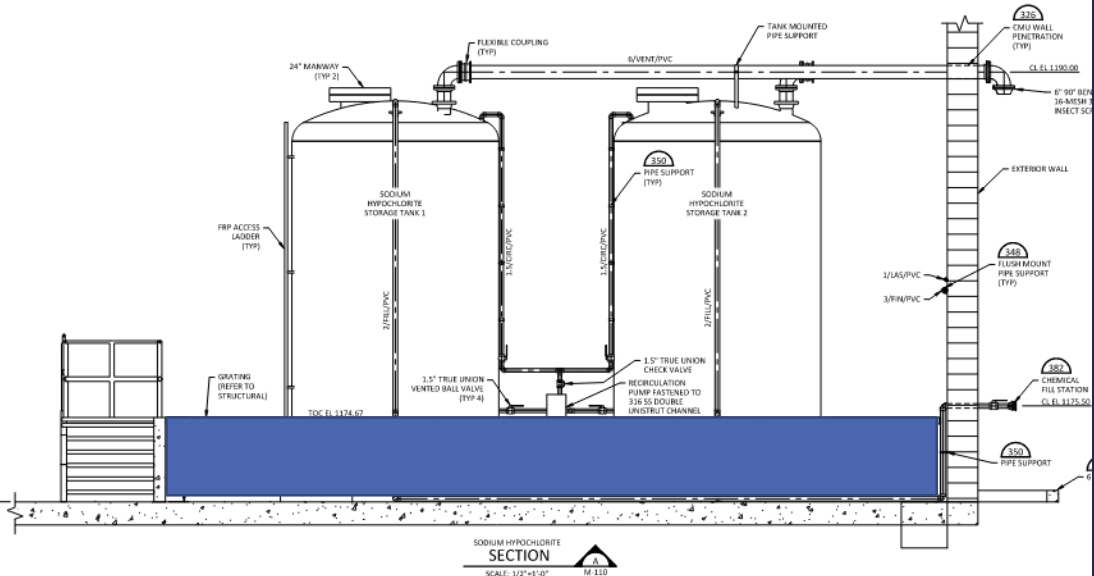
Chemical Deliveries	Average Flow	Peak Flow
Sodium Hypochlorite (Liquid)	1 truck/month	1 truck/week
Liquid Ammonia Sulfate	1 truck/year	3 trucks / year



# BUILDING LAYOUT



- Chemical storage areas include containment
- Additional 6" of height added above regulatory requirement
- Will not drain to sewer system
- Containment curb for deliveries



# ZONING / PLATTING



## Zoning

- Current – RE – Residential Estates
- Proposed – RE with Special Use for Municipal Use

## Platting

- Requirement of Public Works
- No subdivision of property proposed – single lot for the entire property

# ZONING / PLATTING - MEETINGS



- Multiple public meetings to be held in addition to this meeting
- Currently planned dates below
- **Pre-Development Meeting – January 25, 2024**
- **Planning Commission – February 8, 2024**
- **City Council**
  - **March 12, 2024 – First Reading**
  - **March 26, 2024 – Second Reading – Presentation and Public Discussion**



DISCUSSION/  
QUESTIONS?

