

# Roeland Park Community Forum

## Johnson County Wastewater

October 30, 2023



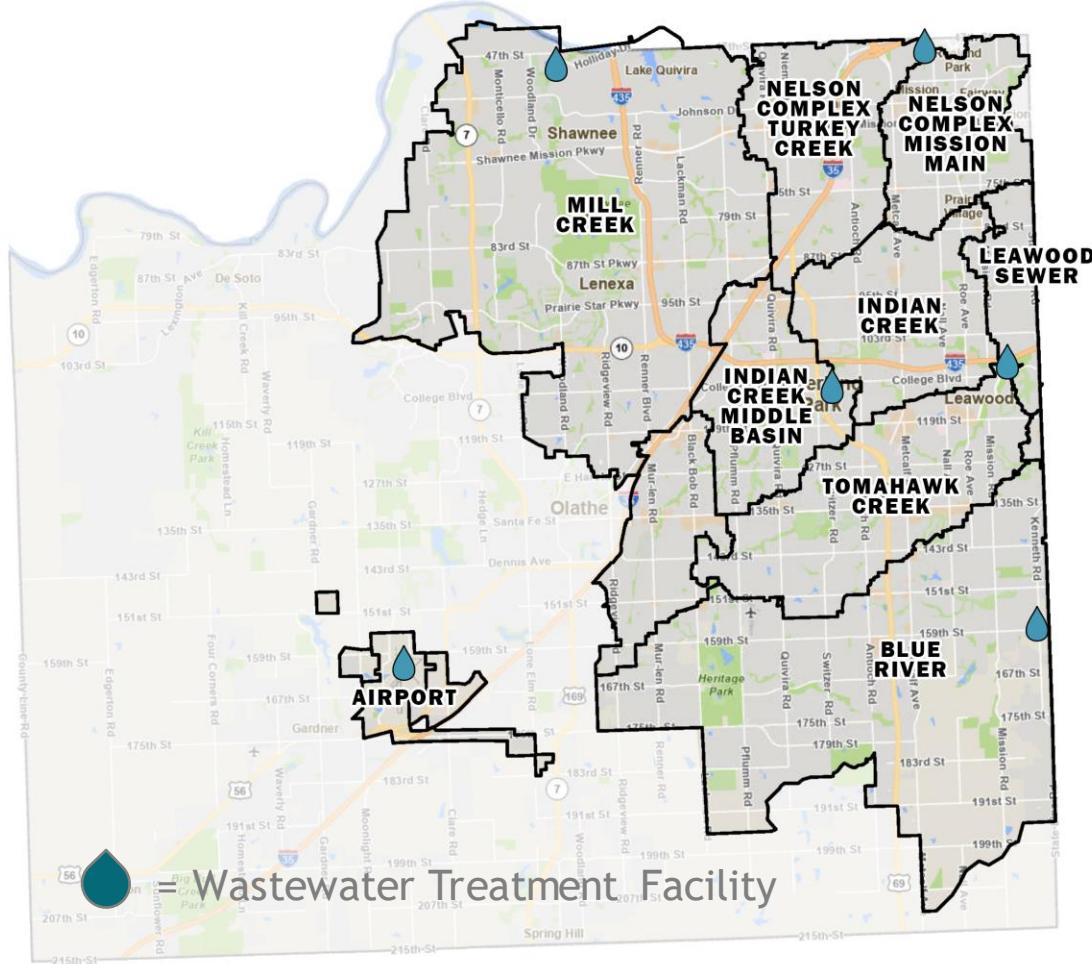
# Presentation Outline

- Johnson County Wastewater Introduction
- Nelson Wastewater Treatment Facility Improvements Project
- Other JCW programs



## Quick Facts about JCW

- Founded in 1940s
- Serves 500,000 Customers in 16 Cities
- Employs approx. 200 people
- Collects and Treats 18 billion gallons of wastewater annually
- Infrastructure Stats:
  - 6 Wastewater Treatment Facilities
  - 30+ Pump Stations
  - 2,300 Miles of Sewer Pipe
  - 55,000 Manholes



# Nelson Service Area

# Turkey Creek

# Mission Main

Nelson  
WWTF

# Original Nelson Facility



## SEWAGE TREATMENT WORKS

MISSION TOWNSHIP MAIN SEWER DISTRICT NO.1

JOHNSON COUNTY, KANSAS

1949

Interstate Construction Co.  
Constructors  
Kansas City, Mo.

Black & Veatch  
Consulting Engineers  
Kansas City, Mo.

# Existing Nelson Facility



## Aging Infrastructure

- ◊ Constructed beginning in 1940s.
- ◊ JCW has been a good steward of facilities, maximizing their useful life.
- ◊ Similar to the national discussion on infrastructure, technology at Nelson WWTF is beyond its useful life.
- ◊ Replacement will support quality of life in a growing community.



## Water Quality

- ◊ EPA/KDHE are requiring stricter limits to protect water quality.
- ◊ Current Nelson infrastructure cannot meet the future standards.
- ◊ Improvements in water quality support quality-of-life focused community growth.



NACWA  
Peak  
Performance  
Awards



## Biological Nutrient Removal (BNR) Process



- Removes trickling filters, eliminating filter flies and reducing odors.
- Removes higher levels of organic matter, ammonia, nitrogen, and phosphorus, to meet current and future regulatory requirements.



- Additional removal of small particles and phosphorus after biological treatment, improving water quality.
- Allows for future wet-weather expansion.
- Filtered effluent can be disinfected more reliably and at lower cost.

- Foul air will be collected under treatment basin covers and solids facilities and routed to the odor control system.
- Reduces unpleasant odors in the neighborhood, provides a safer workplace, extends equipment life.
- Similar technology to that recently employed at JCW's Tomahawk Creek Wastewater Treatment Facility in Leawood.

# Current Nelson Model



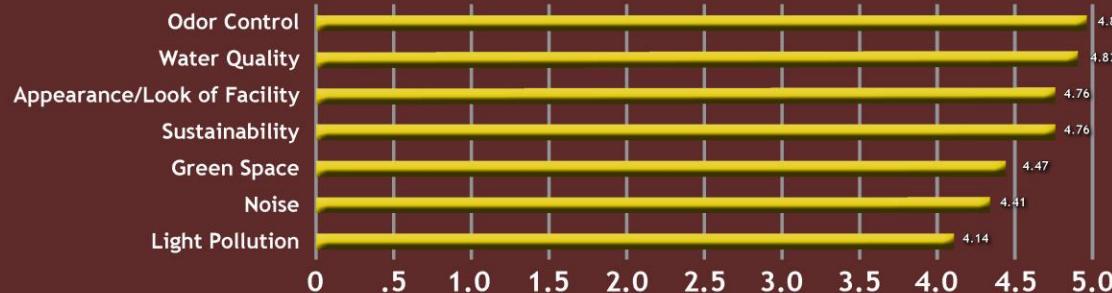
- Current and Future Permit Limits
- Nutrient Removal
- Wet Weather Flows



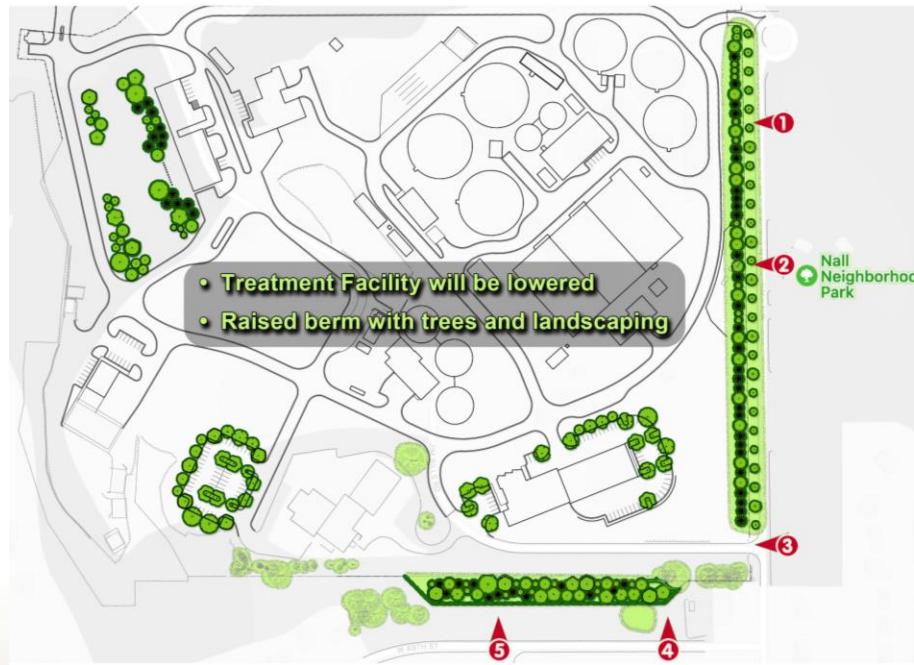
# Serving our Customers

- Conducted two open house events, the latest on October 6, 2022
- Conducted surveys about what is important to citizens in the area
- Project Website: [www.JCWNelson.com](http://www.JCWNelson.com) for project updates
- Have coordinated work with the cities of Mission and Roeland Park

**Were your questions addressed regarding the  
Priorities for Proposed Improvements to the Nelson WWTF?  
on a scale of 0 (Still Have Questions) to 5 (Questions Addressed)**



- Feedback has influenced design decisions
  - Site Screening:



# Odor Control

Current Nelson Facility



● Existing Facilities with Odor Generation Potential

● Existing Facilities with Odor Control Systems

● Existing Administration/Storage Facilities

Rendering of Proposed Nelson Facility



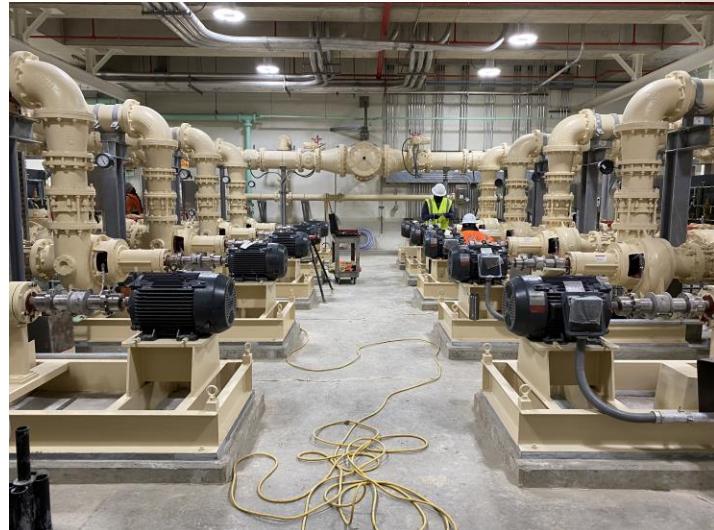
● Proposed Facilities with Odor Control Systems

● Proposed Administration/Storage Facilities

## ADDRESSING ODOR CONCERN

- New Technology
  - Use same proven technology used at the new Tomahawk WWTF in Leawood
- Facilities Consolidated
  - Reduced Footprint
  - Increased Buffer Between Proposed Facilities with Odor Control Systems and Residential Structures

- Beneficial use of digester gas
- Beneficial re-use of solids
- Liquids pumped 1 time
- High efficiency equipment and lighting
- Electric Tower cranes during construction



*High efficiency equipment and lighting*

# Project Delivery Team

Owner:



Engineering Team:



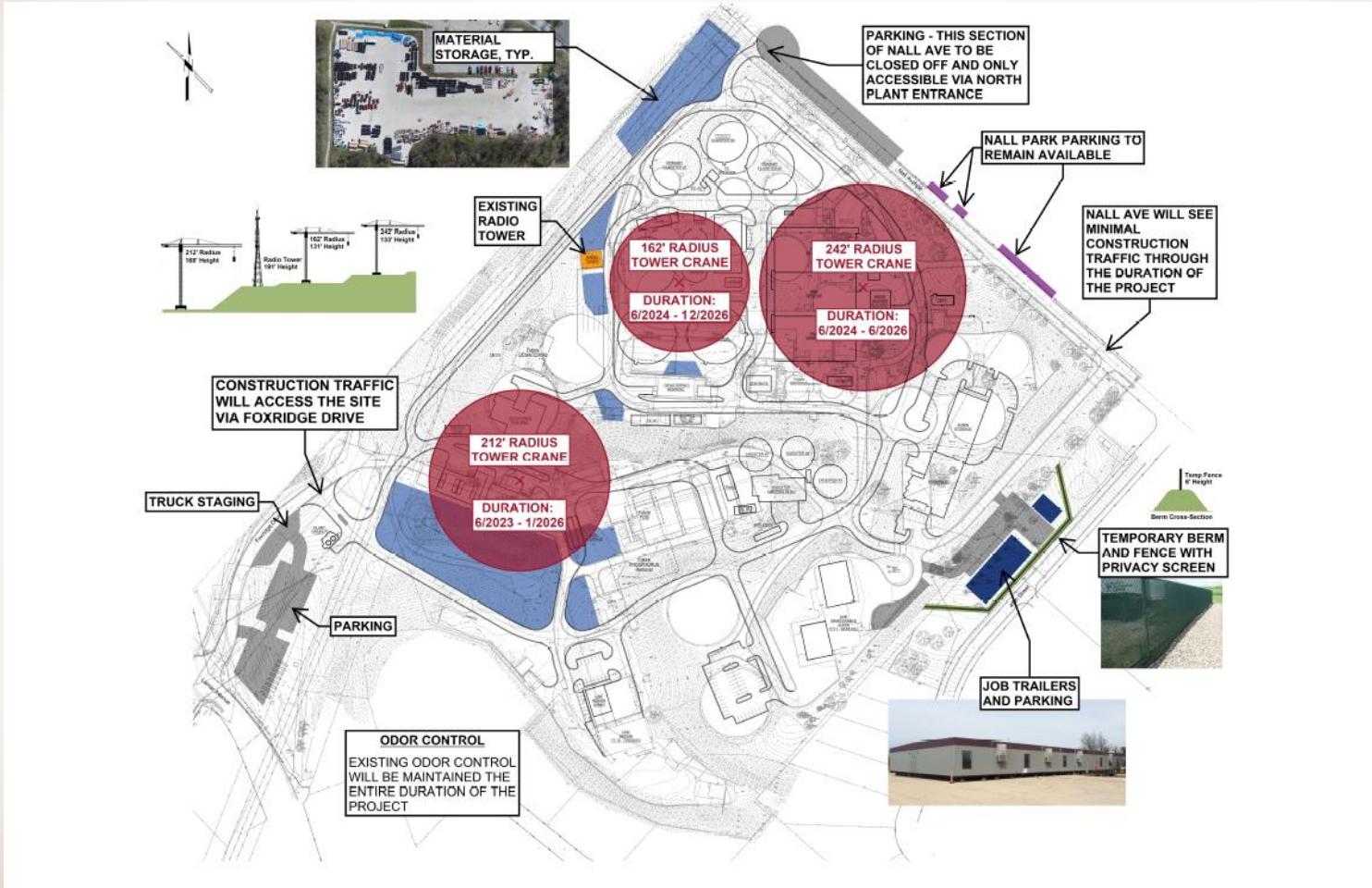
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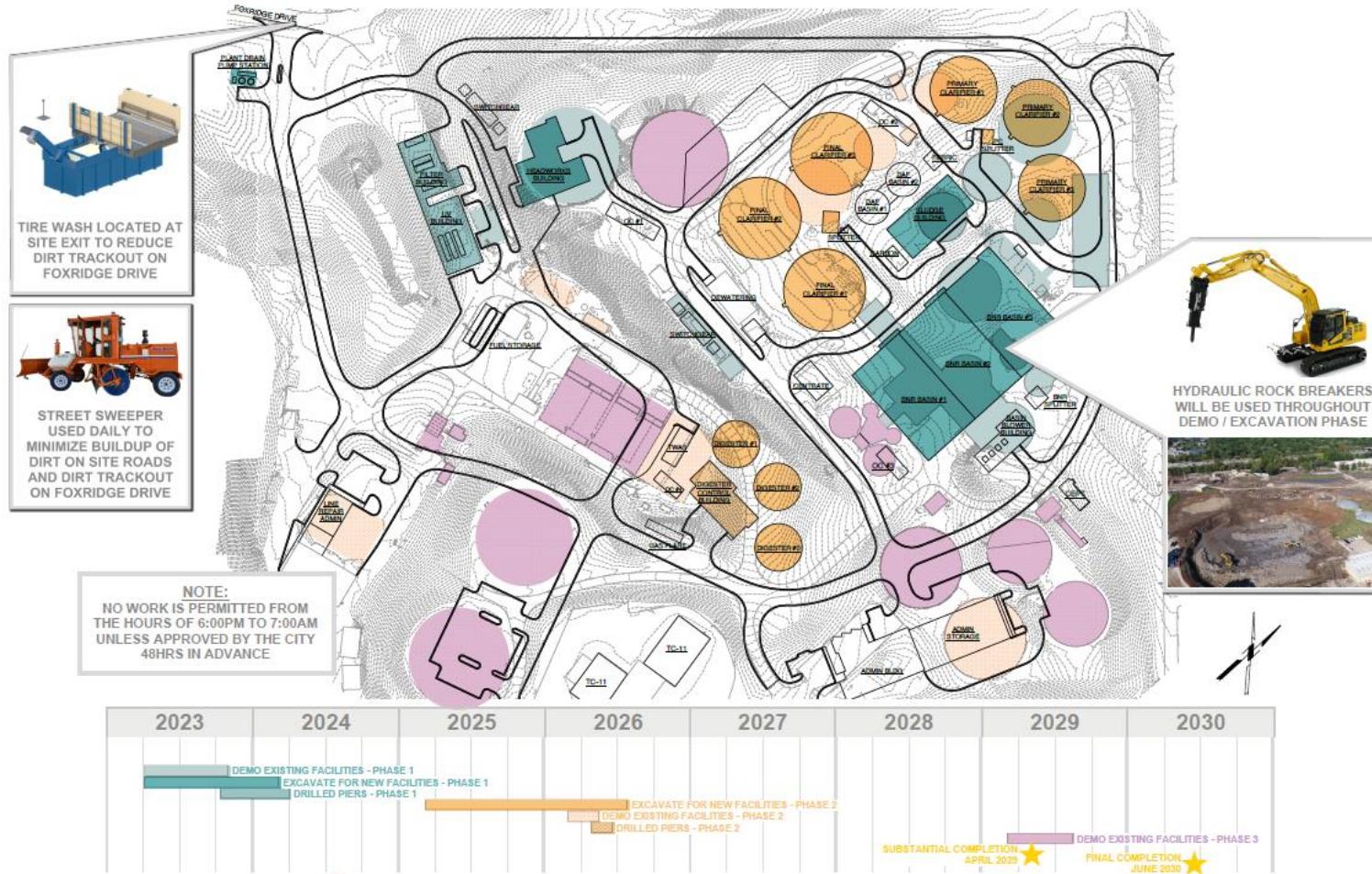
Construction Manager:



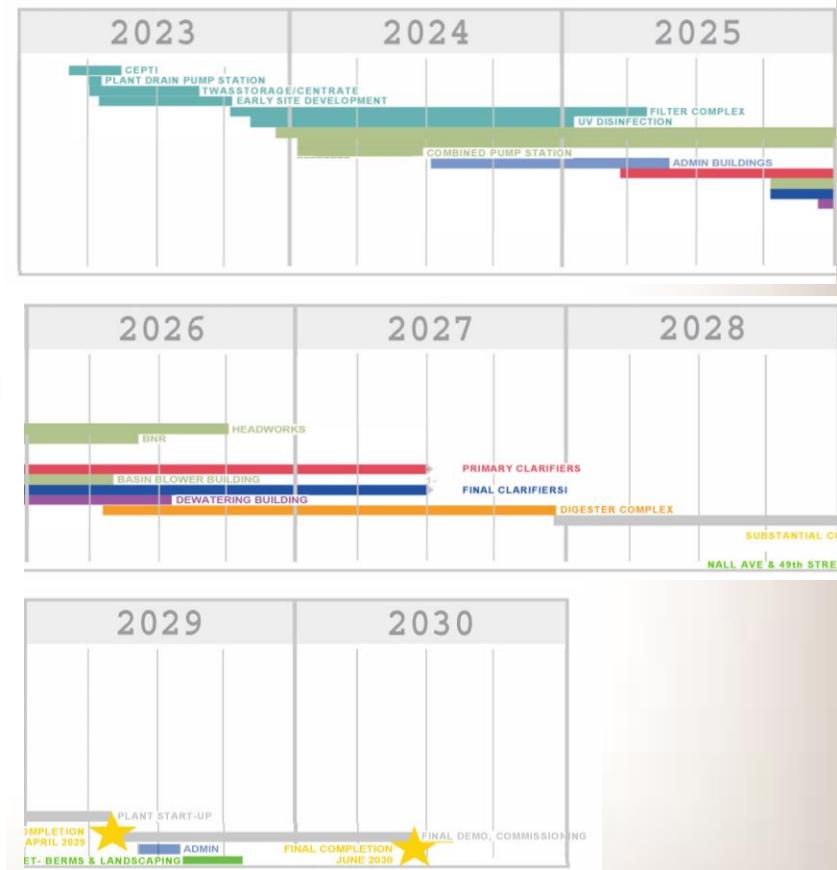
# Construction – On Site



# Dust & Noise During Construction



# General Construction Schedule



# Near-Term Construction Activities



# Next Steps – Public Outreach

- JCW Nelson.com
  - Project updates
  - Sign up for email updates
- Public meeting in early 2024
  - Updated Renderings and Landscaping
- Final Development Plan Mission, first half of 2024
- Construction updates as the project progresses

## What will be happening on site?

### UPCOMING ACTIVITY

- June thru August 2023 - Trailer Build Out, Utility Relocates
- June thru August 2023 - Lower Site Yard Pipe, Utilities, Ductbanks and Grading
- July 2023 - Existing UV Demo
- August thru End of Year 2023 - New UV/Filters - Pad Preparation & Drilled Piers
- August thru End of Year 2023 - Temporary Waste Activated Sludge - Excavation & Structure Construction
- September 2023 - New Road Paving
- End of September 2023 - Commissioning Complete - Chemically Enhanced Primary Treatment



### SCHEDULE

Schedule of facility construction - 2023 elements highlighted in yellow.

## JCW Programs – Renewal and Rehabilitation

- Clean and Televise sewer lines
  - No-dig methods of sewer line rehabilitation
- Inspect Manholes
  - Ongoing rehabilitation of highest risk manholes



## JCW Programs – Property Owner Assistance

- JoCo Inflow
  - Voluntary program to remove illicit sewer connections from private property
  - JCW works with property owners and pays for source removal
- Backup Prevention Program
  - JCW works with customers who have had basement backup issues to reimburse them for a backup prevention device

JOCO  
Inflow

Thank You!

