

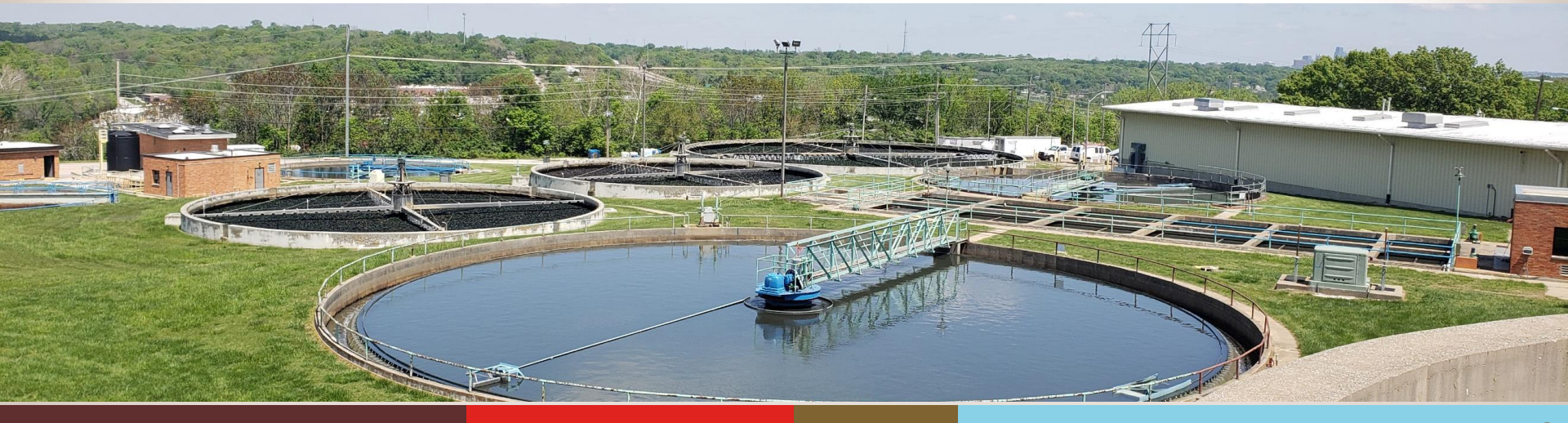
Roeland Park Community Forum Johnson County Wastewater

October 30, 2023



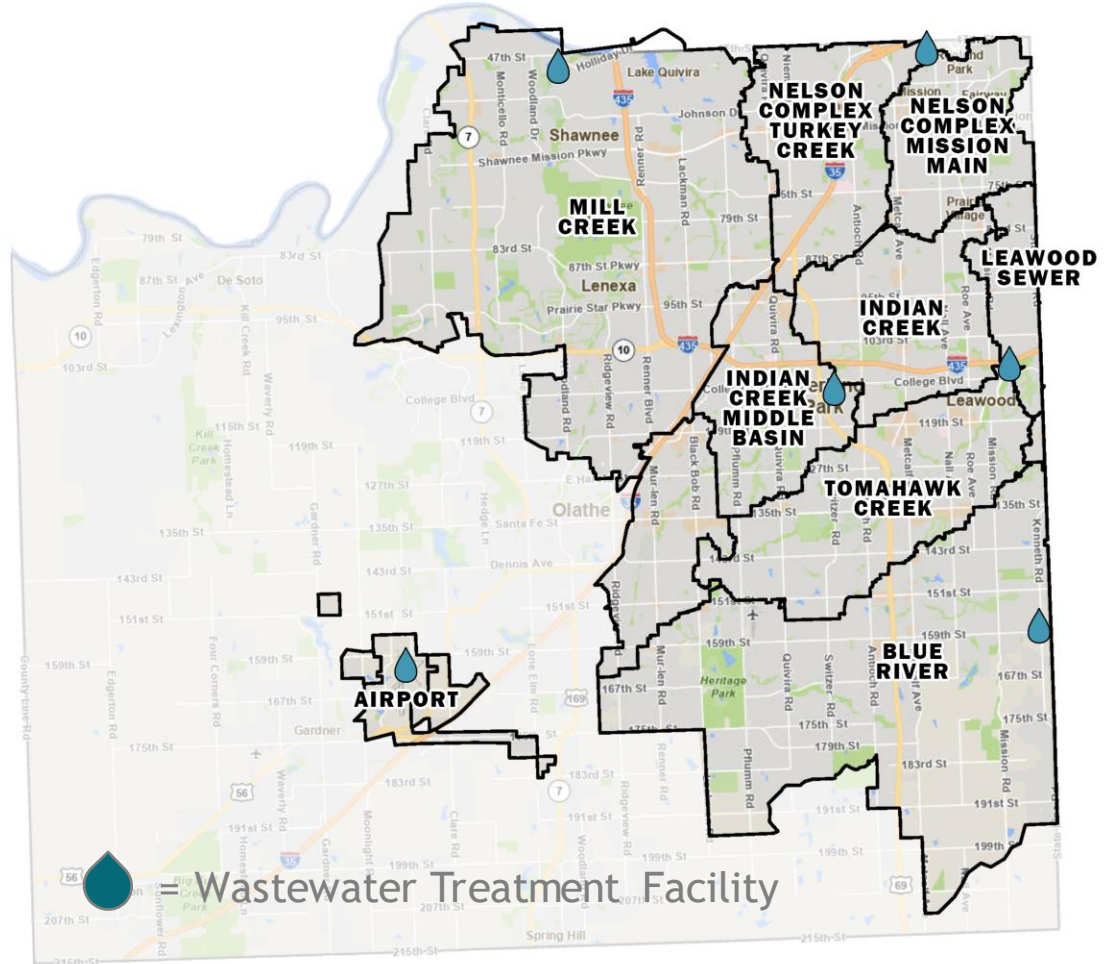
Presentation Outline

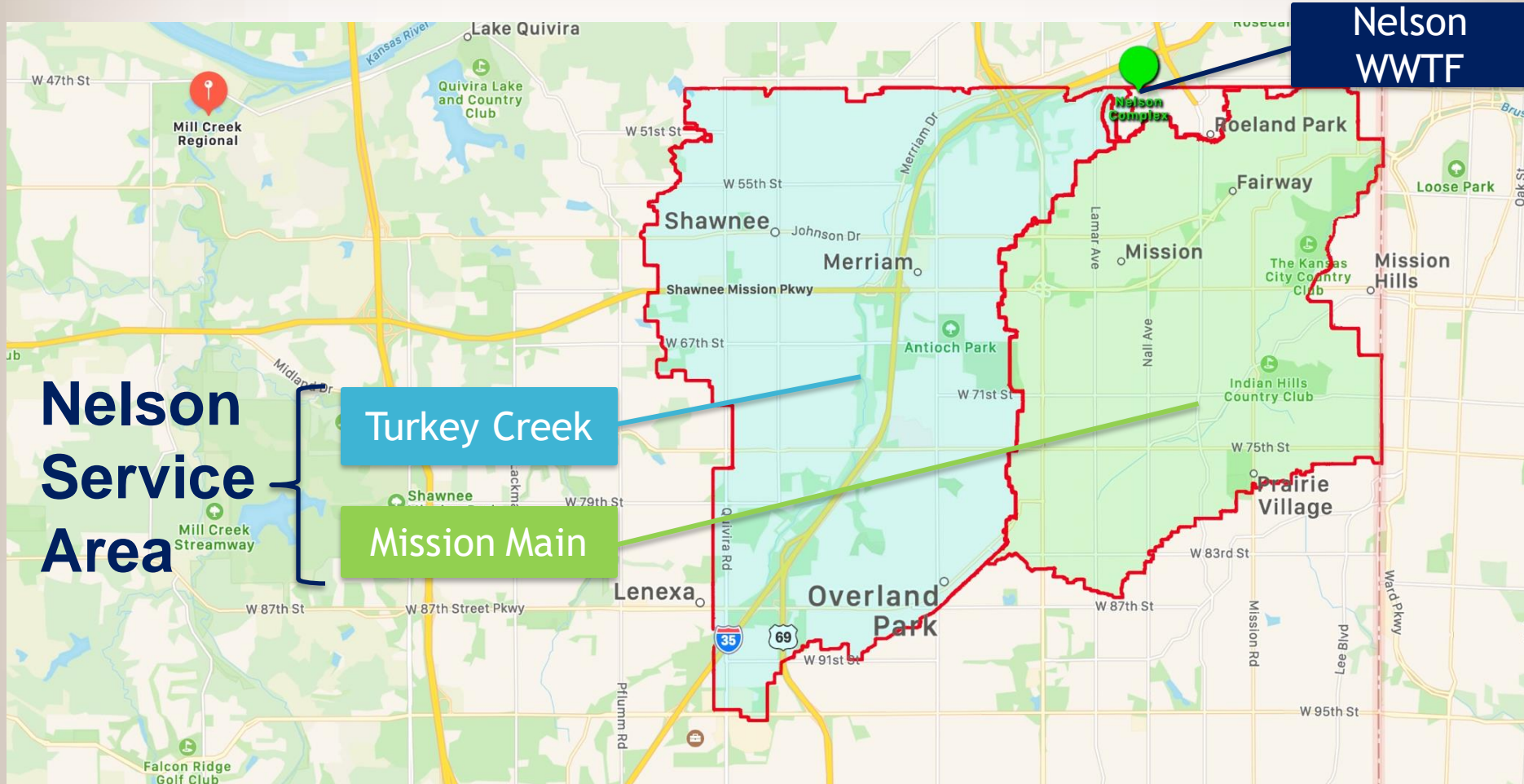
- Johnson County Wastewater Introduction
- Nelson Wastewater Treatment Facility Improvements Project
- Other JCW programs



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





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



Project Drivers

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.



New Technologies



- 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.

New Technologies

Filtration



- 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.

Odor Control



- 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



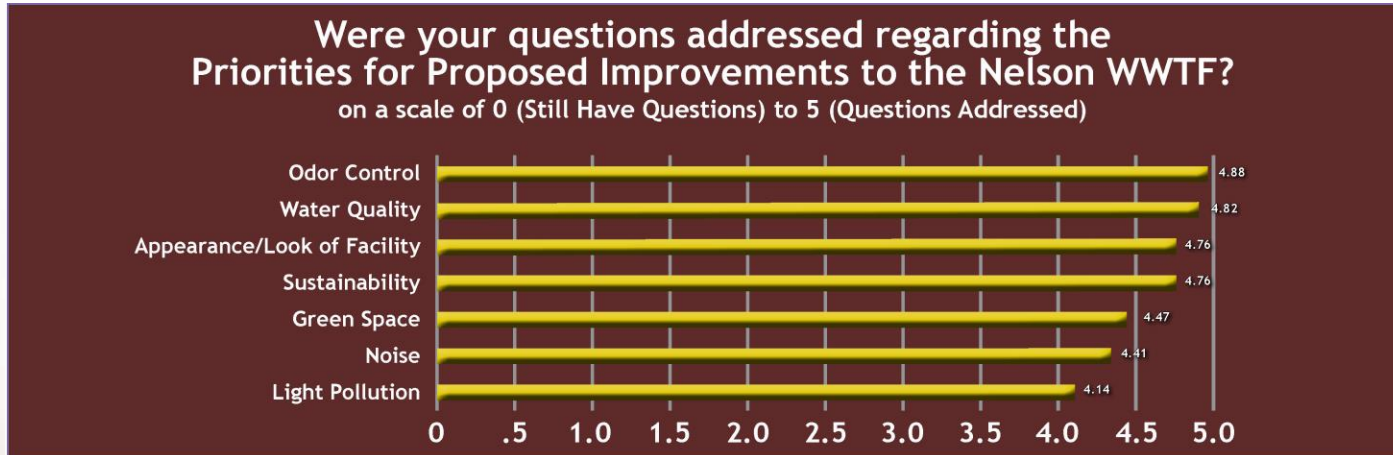
Protecting the Environment

- 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 for project updates
- Have coordinated work with the cities of Mission and Roeland Park



- Feedback has influenced design decisions
 - Site Screening:



Current Nelson Facility



Rendering of Proposed Nelson Facility



-  Existing Facilities with Odor Generation Potential
-  Existing Facilities with Odor Control Systems
-  Existing Administration/Storage Facilities

ADDRESSING ODOR CONCERNS

- 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

-  Proposed Facilities with Odor Control Systems
-  Proposed Administration/Storage Facilities

- 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:



BLACK & VEATCH



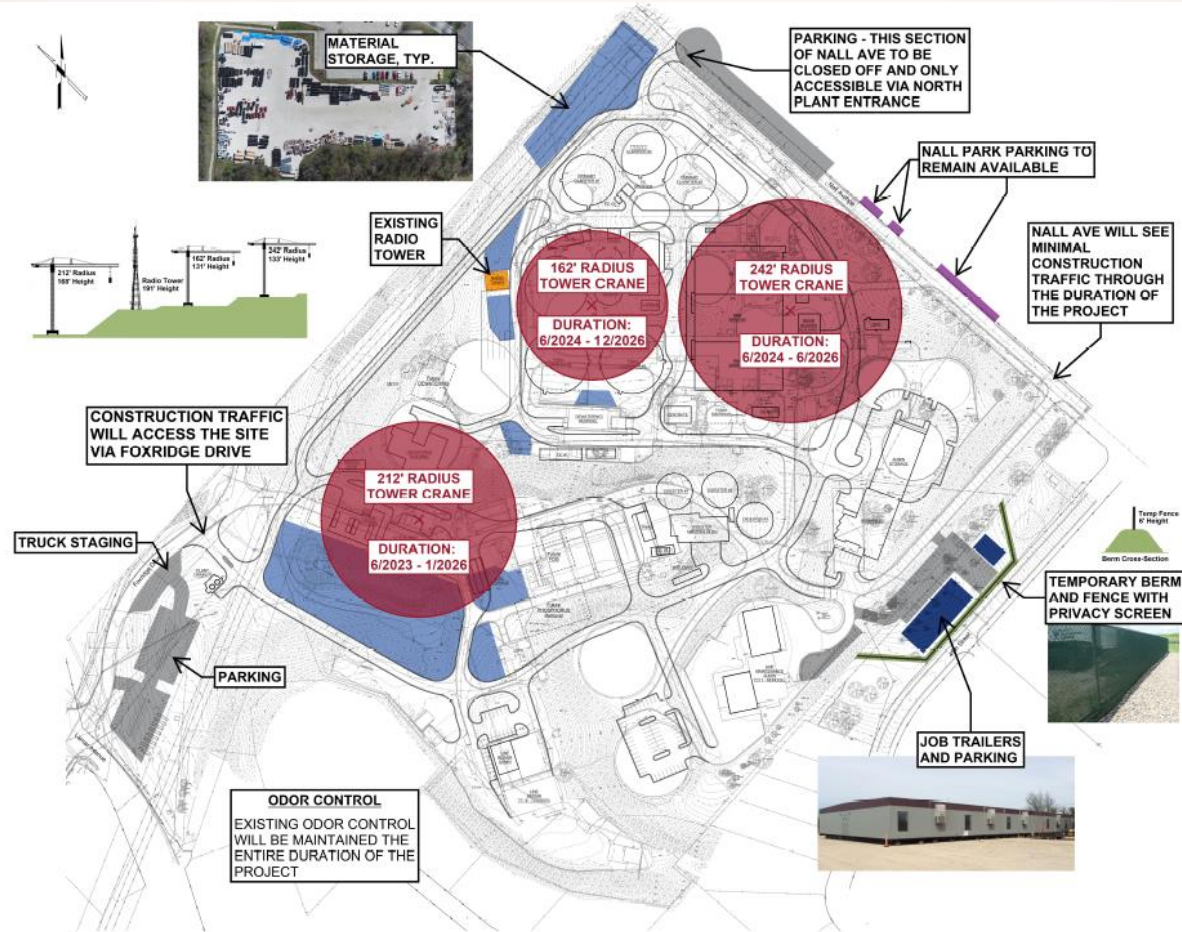
GBA



Construction Manager:

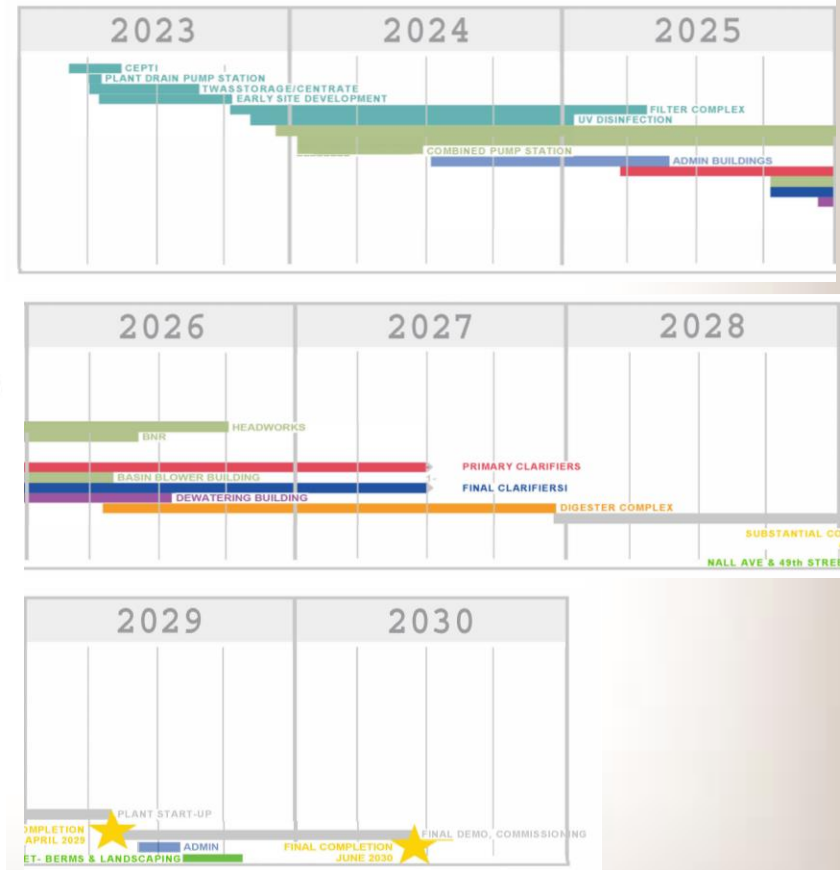


Construction – On Site

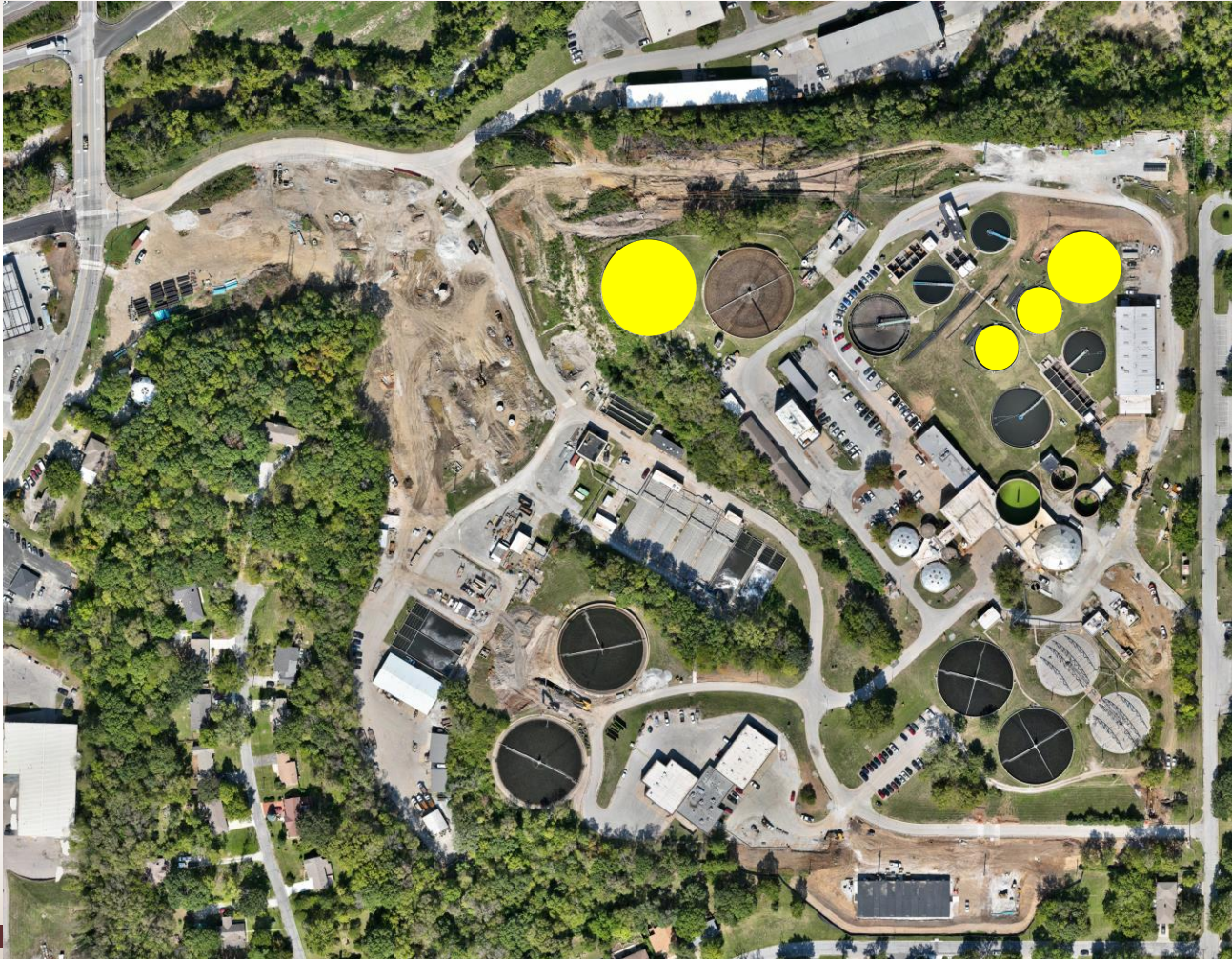




General Construction Schedule



Near-Term Construction Activities



Next Steps – Public Outreach

- JCWNelson.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/Filter - 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 Televiser 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

