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Strand Associates, Inc.® (SAI)

Wastewater Treatment Plant Design Update

City of Independence, Iowa

April 1, 2024



Today's Agenda

- Review of Project Scope
- Regulatory Driver/Aging Infrastructure
- Site and Structure Design Update
- Opinion of Probable Project Cost
- Schedule

Introductions



Sam Hocevar



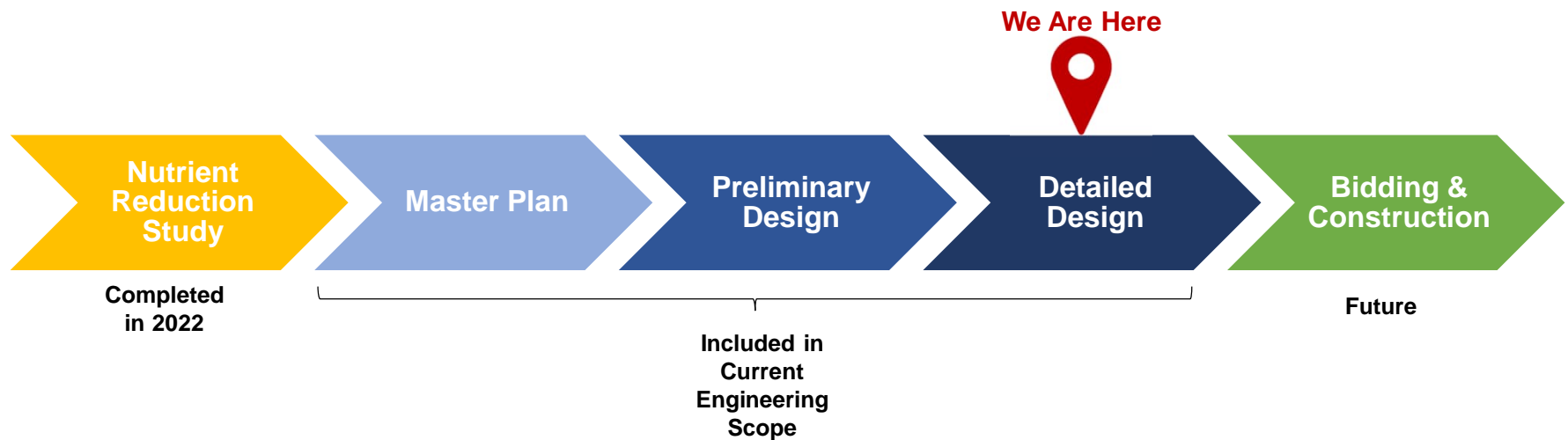
Randy Wirtz



Bradley Lake

Update on Engineering Design Progress

- Project Scope: Design Improvements to the existing wastewater treatment plant (WWTP)
- Project Phases:



Regulatory Factors Drive Improvements for Treatment of Nutrients

- Total Phosphorus (TP) and Total Nitrogen (TN) limits to be included in future permits
- Ammonia limits likely to be adopted in future
- Implications for biological treatment design
 - Existing process does not remove much TP and TN
 - Replace old trickling filters with newer technology



Existing Trickling Filters



Treatment Recommendations Address Concerns with Aging Infrastructure and Capacity Limitations

- Biological treatment for nutrient removal with compatible clarifiers and new building
 - Oxidation ditches, circular clarifiers, RAS/WAS Building
- Headworks Building equipment replacement
- UV Disinfection
 - Conversion of chlorination/dechlorination to ultraviolet disinfection within existing tank
- Aerobic digestion
 - Conversion from anaerobic digestion to aerobic digestion
- Sludge Storage
 - Rehab existing sludge storage and add new storage



Site Design Layout Accommodates Buildings/Structures Being Re-Used

Structures/Buildings Planned for Re-Use

1. Headworks Building
2. Pump Building (change name to Blower Building)
3. Chlorination Basins
4. Sludge Storage Tanks & Associated Structures
5. Administration Building
6. Outfall Sewer to River

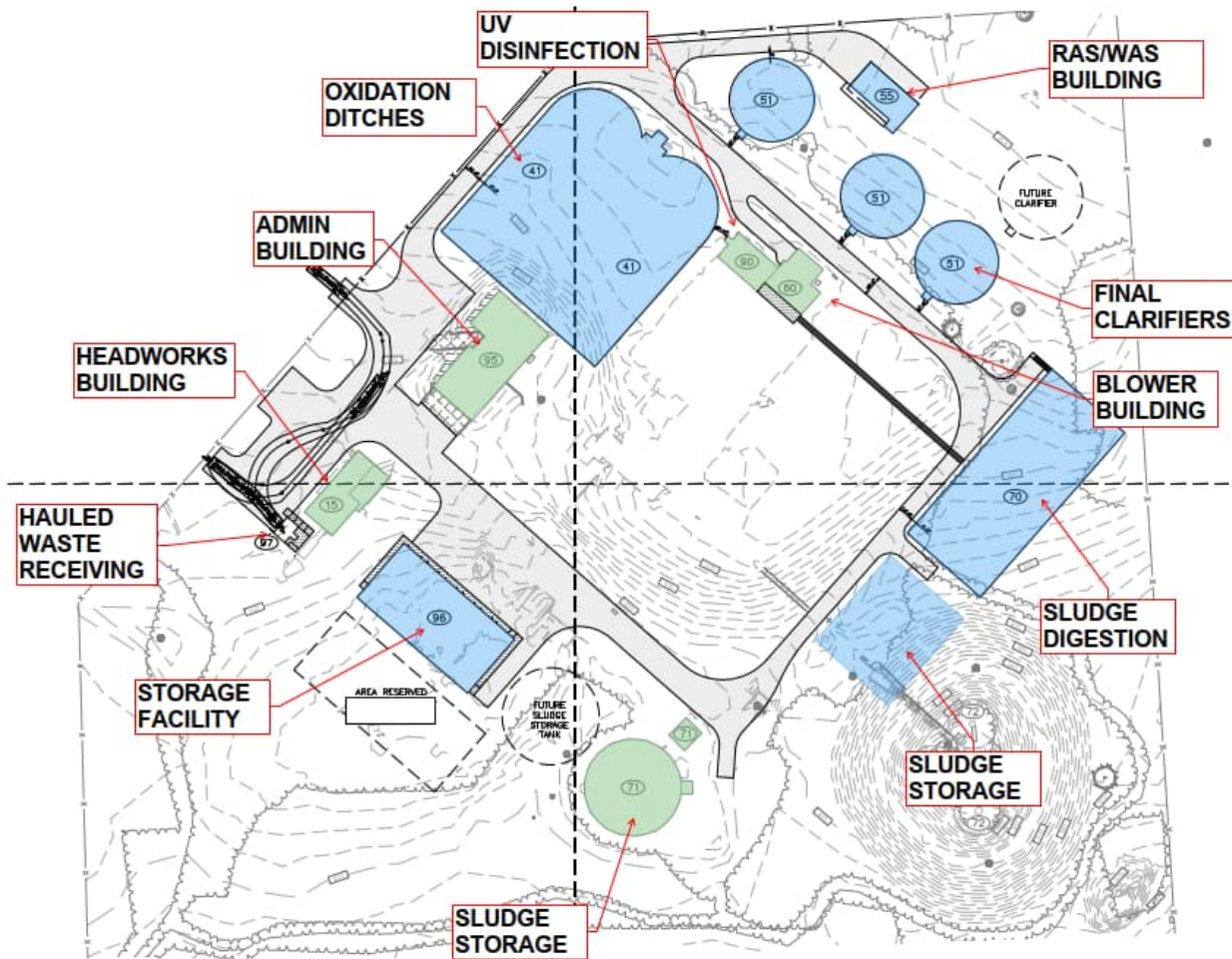
Structures/Buildings Planned for Demolition

1. Trickling Filters & Associated Structures
2. Grit/Pre-Aeration/Clarifiers
3. Control Building
4. Anaerobic Digesters & Associated Structures Building
5. Yard Piping

Demolition of Outdated Processes Provides Necessary Space for Site



Current Site Design (In-Progress)



Opinion of Probable Project Cost Considers All Proposed Improvements

Component	OPC
Process Equipment, Piping and Structures	\$20,270,000
Electrical	\$6,080,000
Site	\$1,420,000
Mechanical	\$1,620,000
Subtotal	\$29,390,000
Contractor's Div 01	\$4,410,000
Contingency	\$6,760,000
Construction Total	\$40,560,000
Technical Services—Construction Phase	\$2,500,000
Total OPCC	\$43,060,000

- Low-interest State Revolving Loan funding available for the project

Estimated Schedule

- May 31, 2024 – Submit Drawings & Specifications to DNR for Review/Approval
- September 30, 2024 - Iowa DNR Approves Drawings and Specifications (estimated 4 months)
- October 30, 2024 - Advertise Project for Bids
- December 15, 2024 - Receive Bids
- February 15, 2025 - Award Project to Lowest Responsible Bidder
- March 15, 2025 - Issue Notice to Proceed to Contractor/Hold Pre-Construction Conference
- August 30, 2027 - Substantial Completion Date of Construction
- October 30, 2027 - Final Completion Date of Construction



Questions?



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