

# Capital Projects Update

Bruce Borelli  
Director of Engineering  
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# Capital Projects Dashboard

## Madison Metropolitan Sewerage District

**16 Projects:  
\$73.8M Total**



### Legend

- On target with Budget and Capital Improvements Plan
- Closely Monitoring—not requiring action just yet
- Will require minor action or change
- Will require major action or a course correction

# Capital Projects Dashboard – Large Projects



PS13 & PS14 Rehab  
\$10.8 million



NEI-Truax Extension Relief  
\$9.6 million (estimate decreased to \$8.5 million)



West Interceptor Shorewood Relief-Phase 1  
\$7.9 million



PS4 Rehabilitation  
\$5.3 million



PS7 Improvements  
\$4.2 Million



Liquid Processing Improvements Phase 1  
\$16.8 million

Operations Building 1<sup>st</sup> floor Remodel  
\$2.0 million

Headworks Flow metering  
\$2.3 million

Treatment Plant HVAC Improvements  
\$0.8 million

Energy Master Plan  
\$0.6 million

Lagoon Dike Improvements  
\$2.1 million

Grass Lake Dike Restoration  
\$0.9 million

Interceptor Rehabilitation 2020  
\$2.1 million

NSVI-McKee Road to Dunn's Marsh  
\$4.6 million (estimate decreased to \$4.1M)

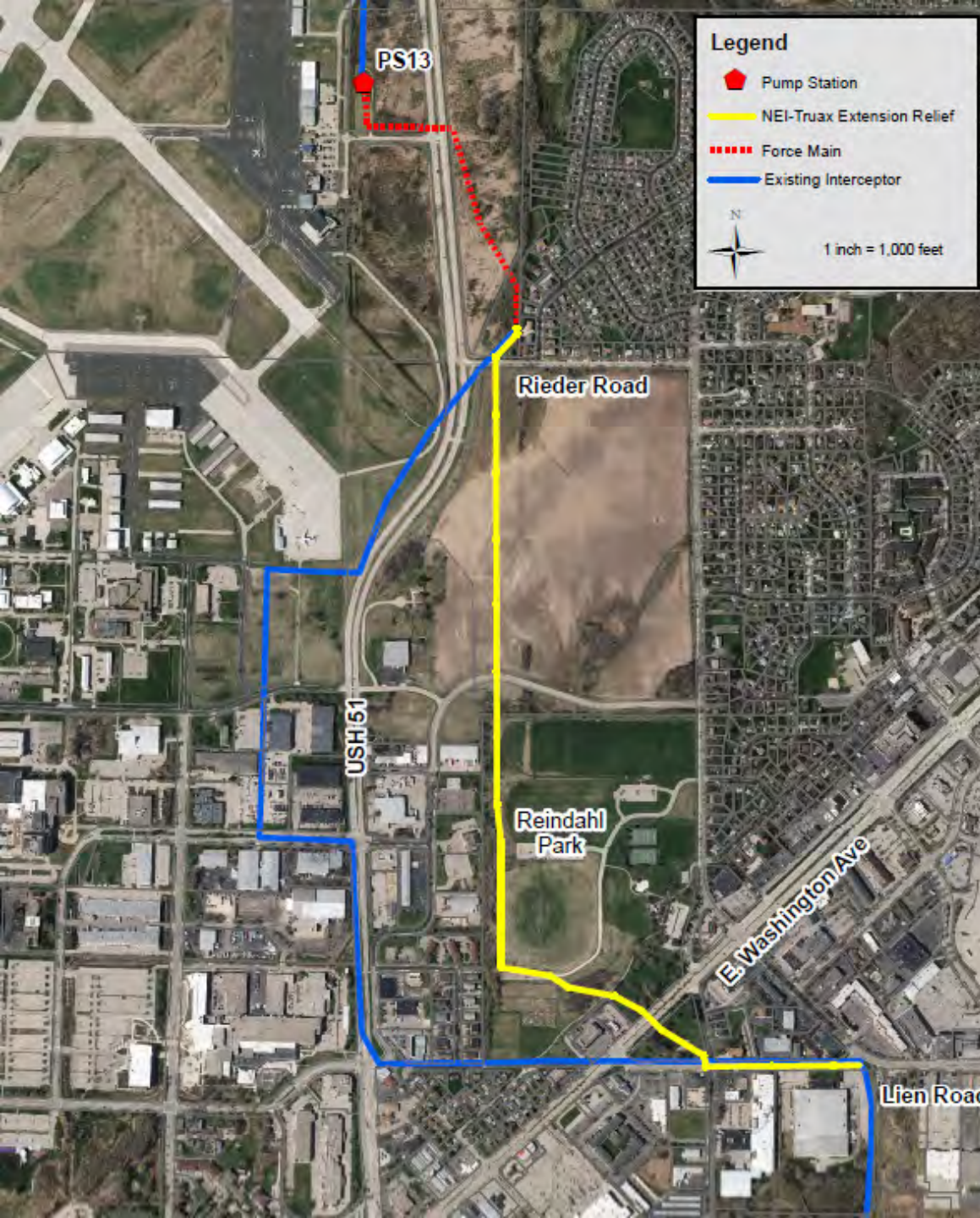
PS17 Force main Relief – Phase 1  
\$3.0 Million

NEI Joint Grouting  
\$0.3 million

## Legend

- On target with Budget and Capital Improvements Plan
- Closely Monitoring— not requiring action just yet
- Will require minor action or change
- Will require major action or a course correction

# Northeast Interceptor-Truax Extension Relief



- Scope: No major changes
- Schedule & Status:
  - Substantially complete (100%)
  - In-service
  - Final Completion: Spring of 2021 (restoration punchlist items)
- Contractor: Speedway Sand & Gravel
- Budget:
  - Total Project Budget: \$9.6M
  - Decreased to \$8.5M
  - Original Contract: \$7,034,000
  - Change orders: +\$187K (+2.7%)

# Northeast Interceptor-Truax Extension Relief

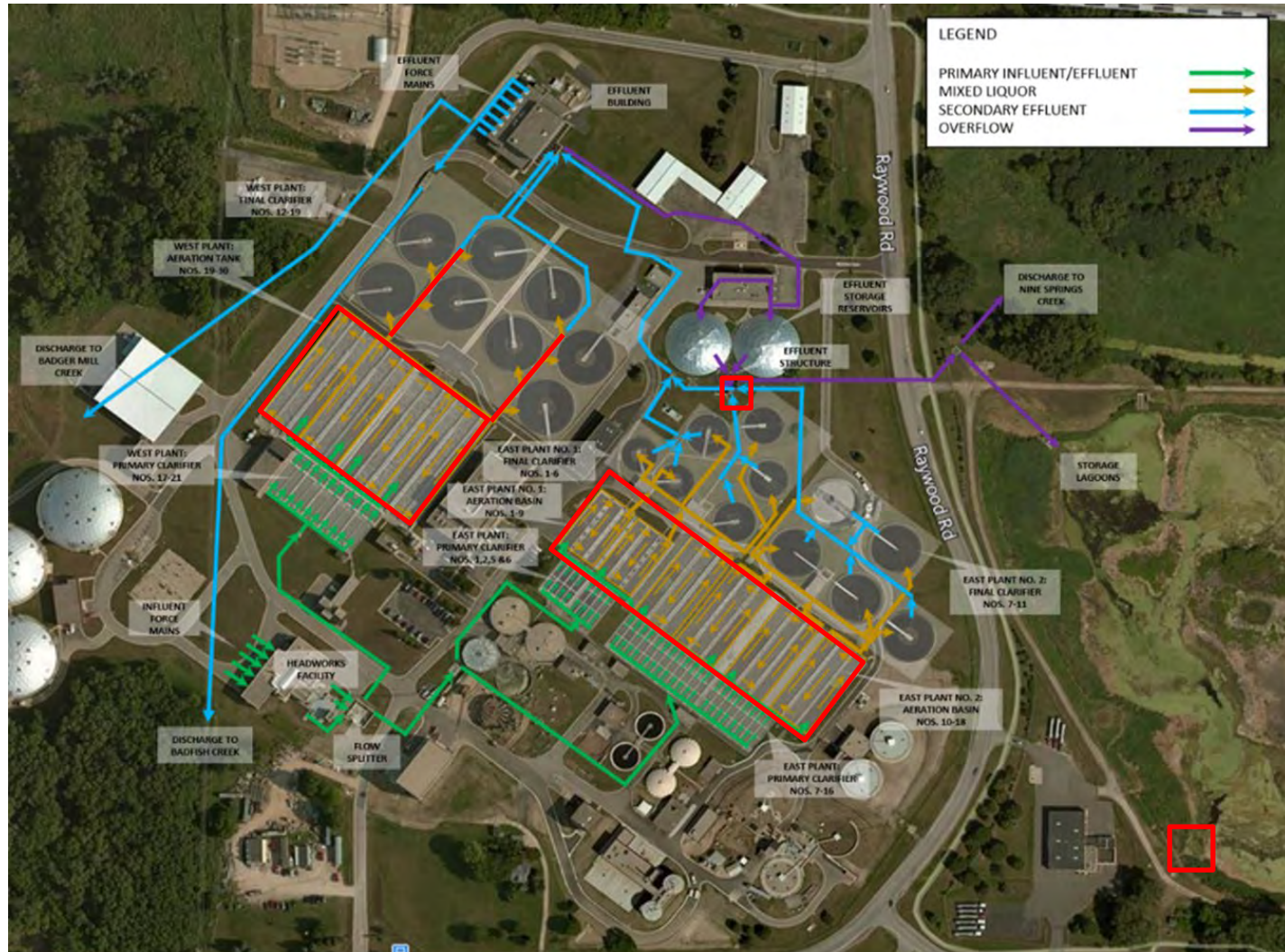


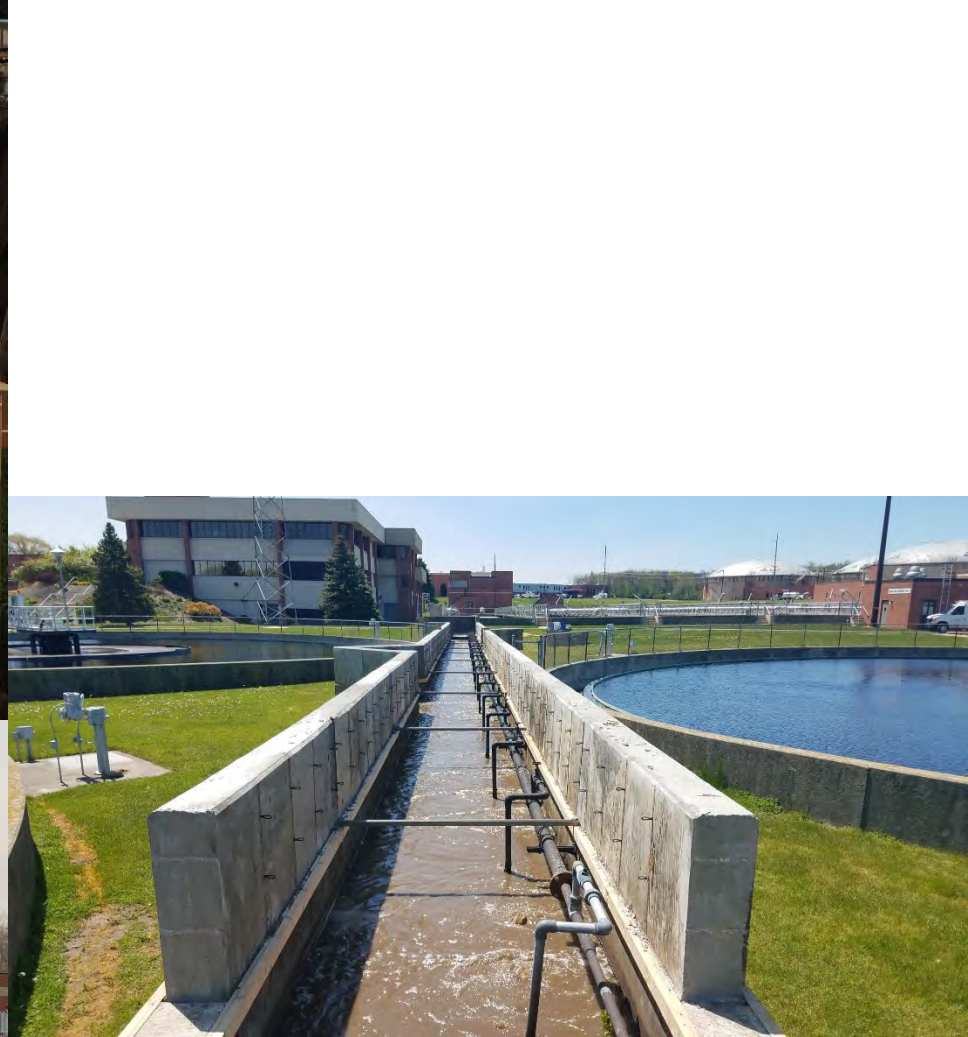


# Liquid Processing Improvements-Phase 1

- Scope: No major changes
- Schedule & Status:
  - In construction
  - 65.4% complete
  - Final completion summer of 2021
- Contractor: C.D. Smith
- Budget:
  - Total Project Budget: \$16.8M
  - Unchanged
  - Original Contract: \$12,895,000
  - Change orders to date: +\$155K (+1.2%)

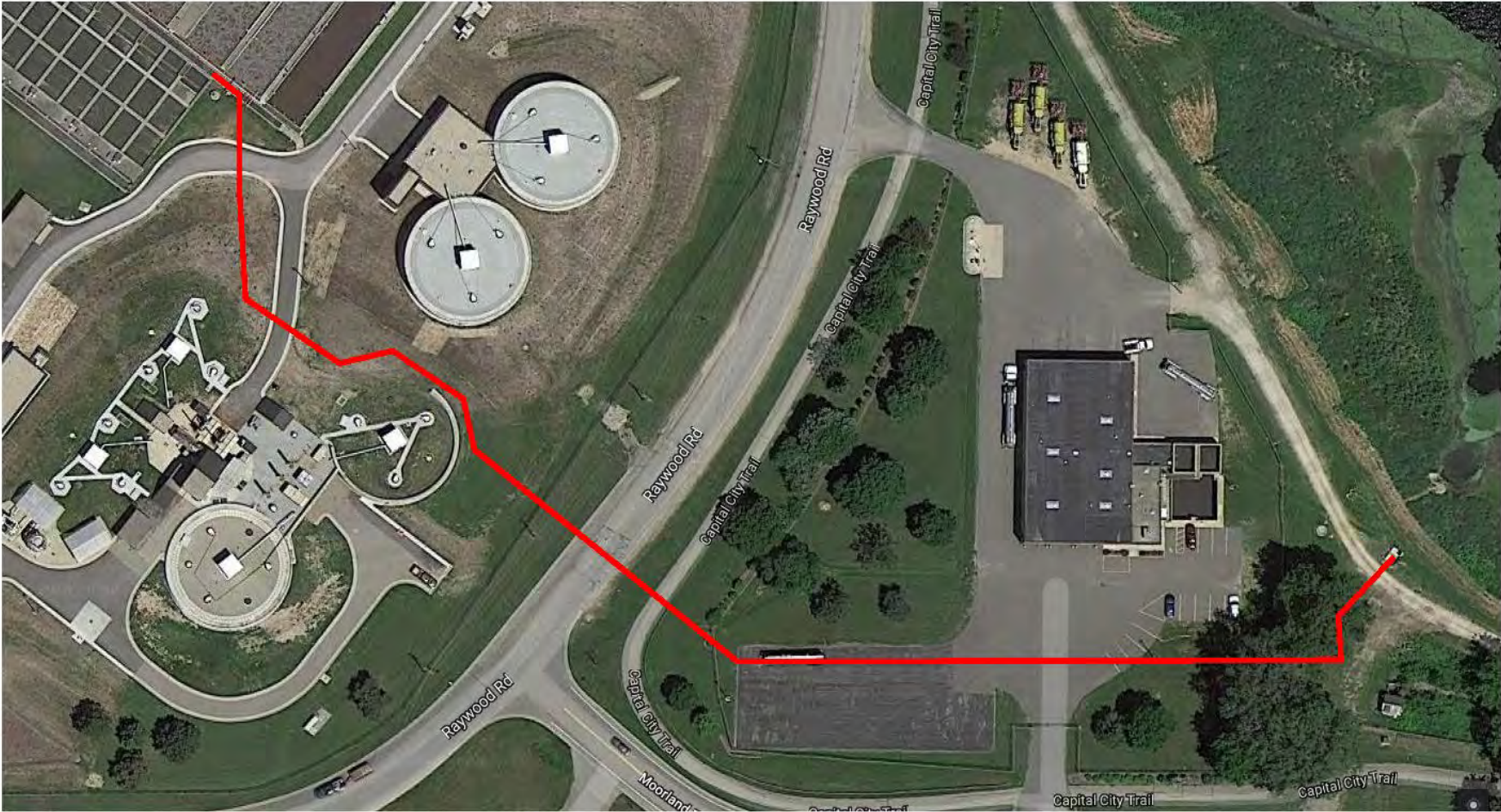
# Hydraulic and Process Improvements







# Lagoon Pump Station



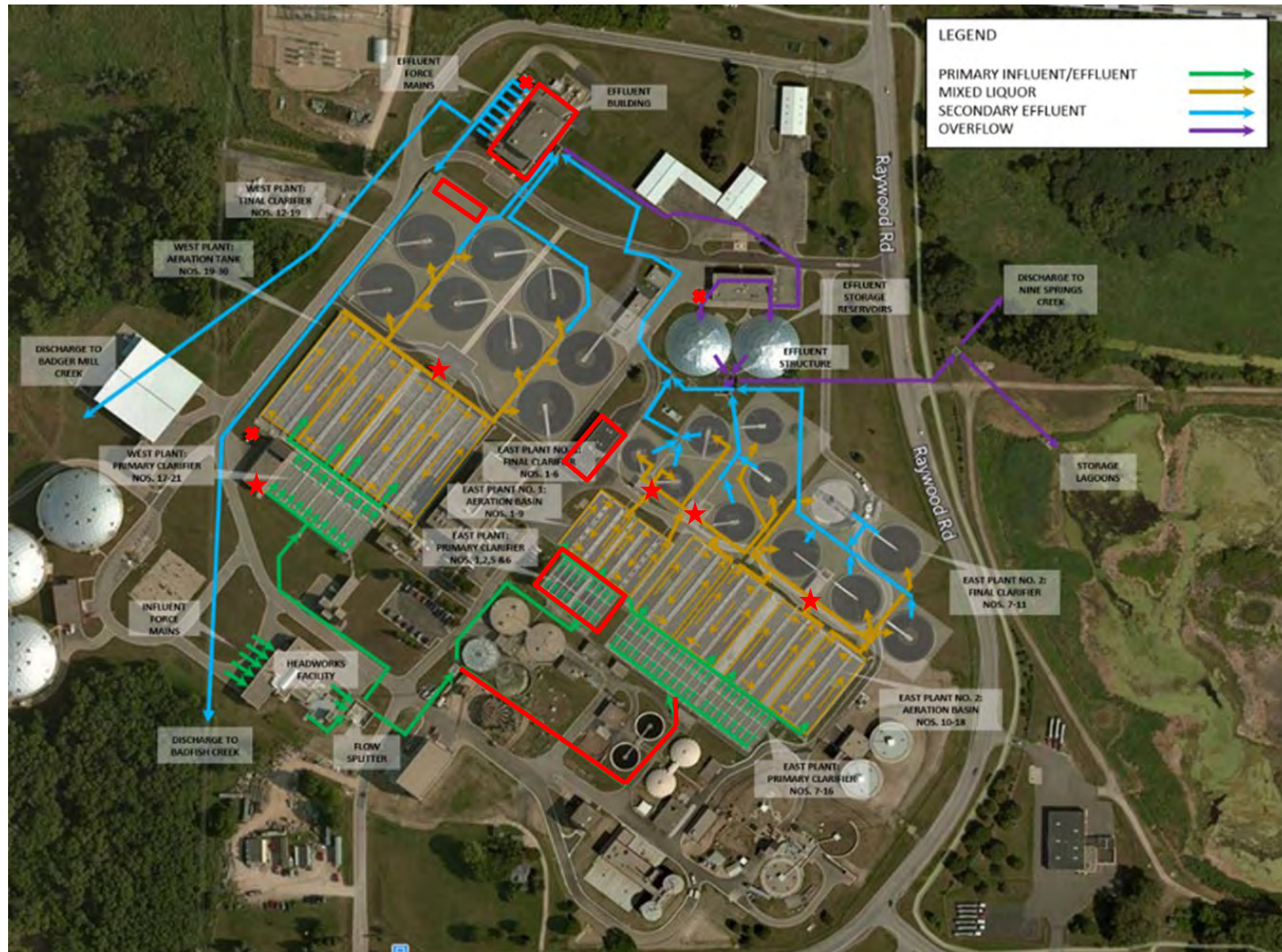


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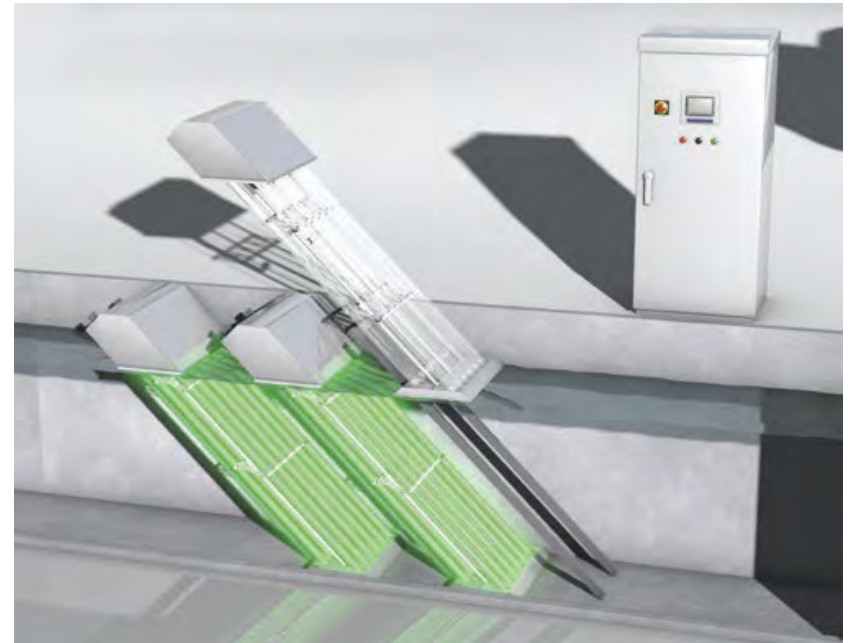




# Reliability & Rehabilitation Improvements



# Reliability-UV Disinfection Replacement



## Current UV System:

- 3,680 bulbs @ 75W each
- 10 lamp banks in 5 channels
- \$60K/year electrical cost

## New UV System:

- 180 bulbs @ 1,000W each
- 3 lamp banks in 3 channels
- \$44K/year electrical cost



Started Construction: 10/16/2020  
Installation Complete: March 15, 2021  
Fully Operational: April 15, 2021





# Reliability-Electrical Substations







# Rehabilitation-Primary Tanks 1 & 2



Photo 7 Primary Tank 1 bottom of walkway.



Photo 8 Primary Tank 1 top of elevated slab.



Photo 9 Primary Tank 1 top of walkway.



Photo 10 Primary Tank 1 edge of elevated slab.

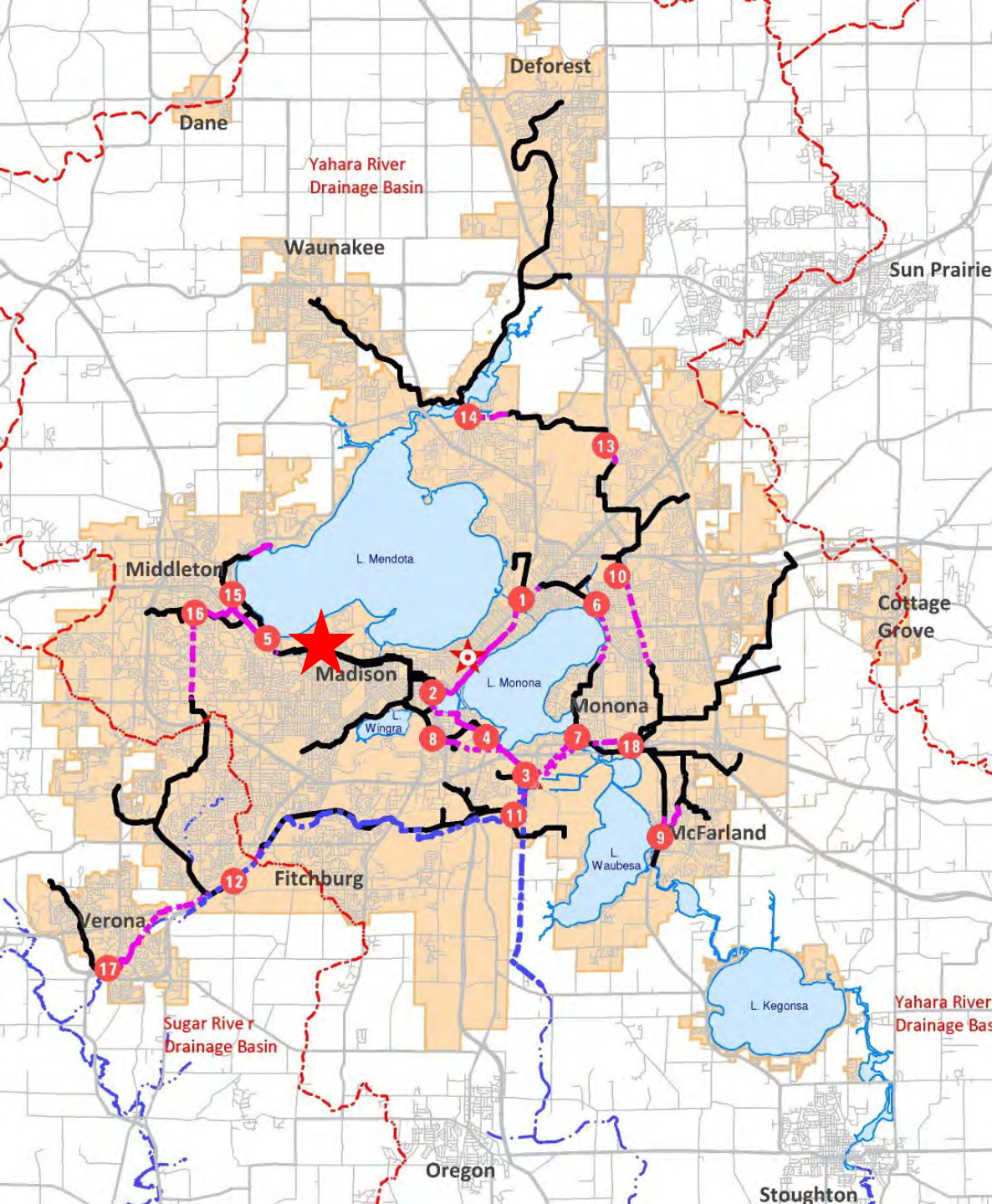


# Rehabilitation-54" Primary Influent Pipe



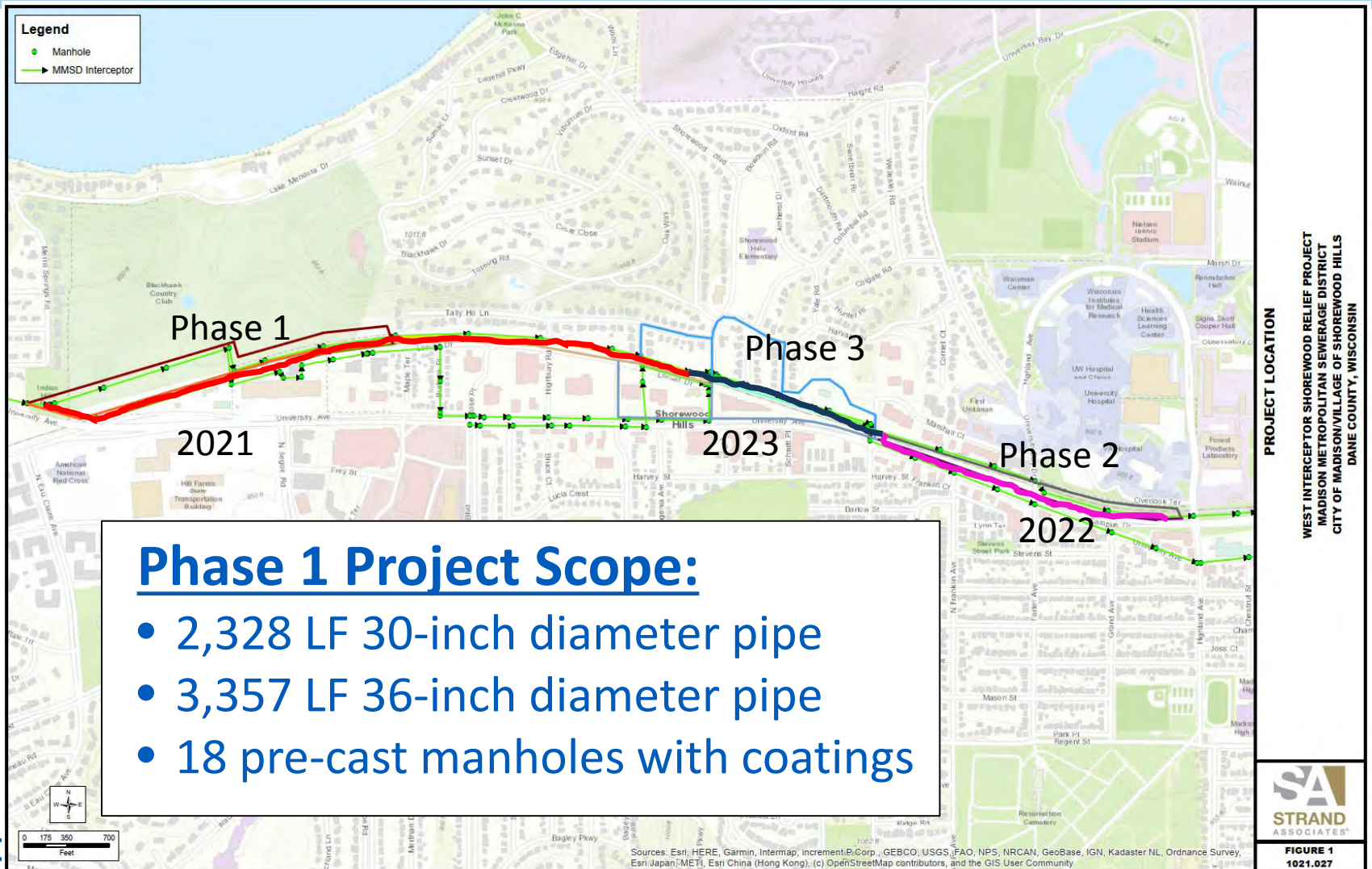


# West Interceptor Shorewood Relief- Phase 1



- Scope: Added UW Fiber Relocation (\$200K)
- Schedule & Status:
  - In bidding phase
  - Bids open today
  - Construction start: 4/2021
  - Completion: End of 2021
- Contractor: TBD
- Budget:
  - Total Project Budget: \$7.9M
  - Original Contract: TBD
  - Change orders: TBD

# Project Location



# Pumping Stations 13 & 14 Rehabilitation



- Scope: No major changes
- Schedule & Status:
  - In construction
  - 0% complete
  - Expected construction start: April 2021
  - Final completion: Summer of 2022
- Contractor: C.D. Smith
- Budget:
  - Total Project Budget: \$10.8M
  - Original Contract: \$9,276,979
  - Change orders to date: \$0



# Capital Projects Dashboard - Medium Projects



# Nine Springs Valley Interceptor-McKee Road to Dunn's Marsh

- Scope: No major changes
- Schedule & Status:
  - In construction
  - 0% complete
  - Expected construction start: December 2020
  - Final completion: End of 2021
- Contractor: RG Huston
- Budget:
  - Total Project Budget: \$4.1M
  - Decreased from \$4.6M
  - Original Contract: \$3,319,665
  - Change orders to date: \$0



# Project Background

- Existing: 4,200 feet of reinforced concrete pipe
- Varying sizes from 30" – 42"
- Corroded and need capacity

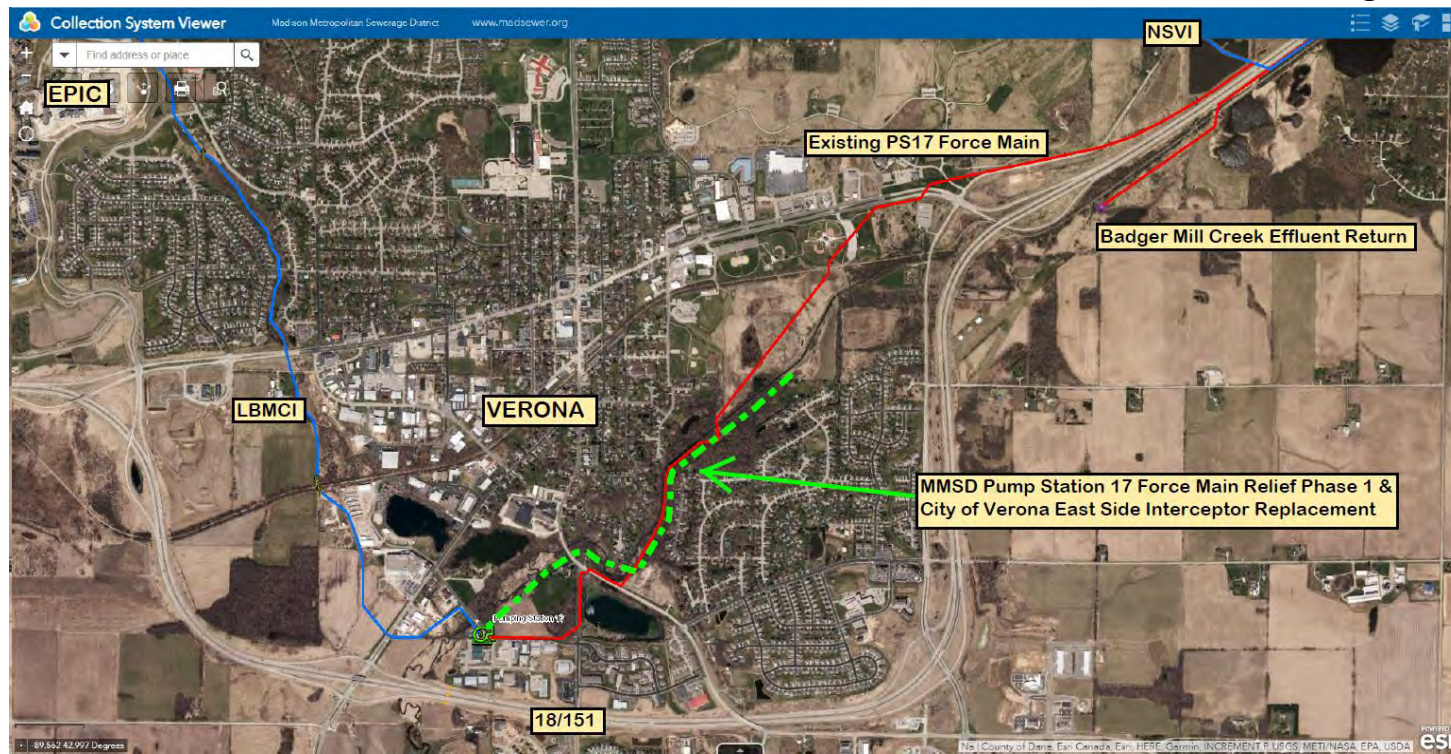
- New: 4,200 feet of fiberglass pipe
- Varying sizes from 36" – 48"
- 12 new manholes with interior coating





# Pumping Station 17 Force Main Relief-Phase 1

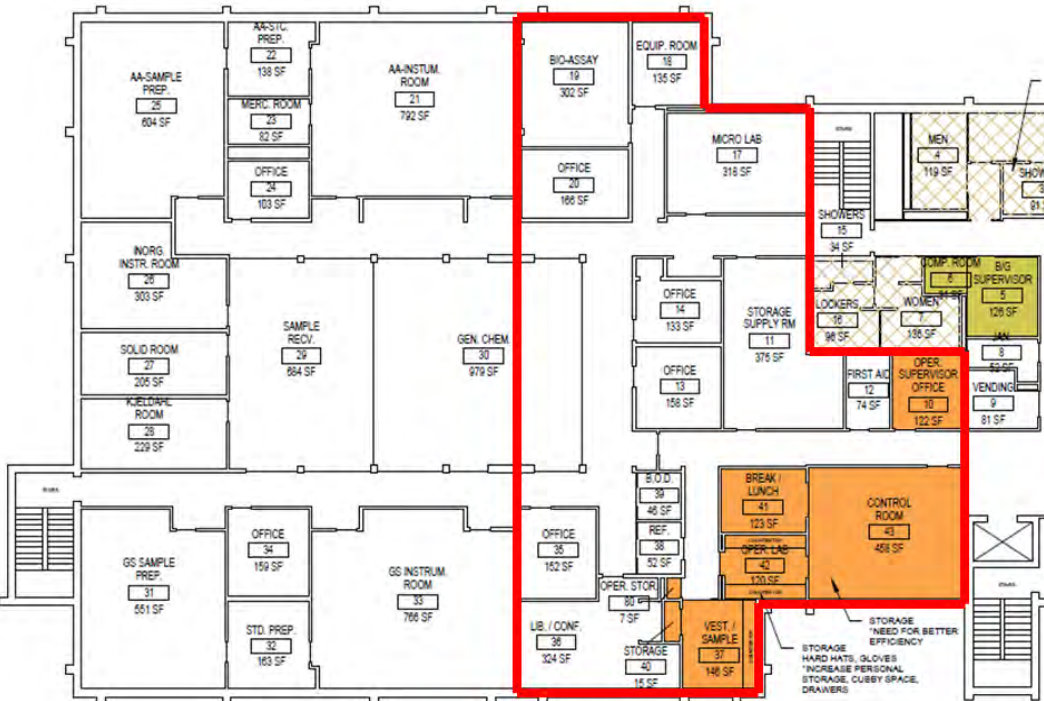
- Scope: No major changes
- Schedule & Status:
  - In construction
  - 0% complete
  - Expected construction start: December 2020
  - Final completion: End of 2021
- Contractor: Minger Construction
- Budget:
  - Total Project Budget: \$3.5M
  - **Increased from \$3.0M**
  - Original Contract: \$2,951,963 (MMSD portion)
  - Change orders to date: \$0





# Operations Building 1<sup>st</sup> Floor Remodel

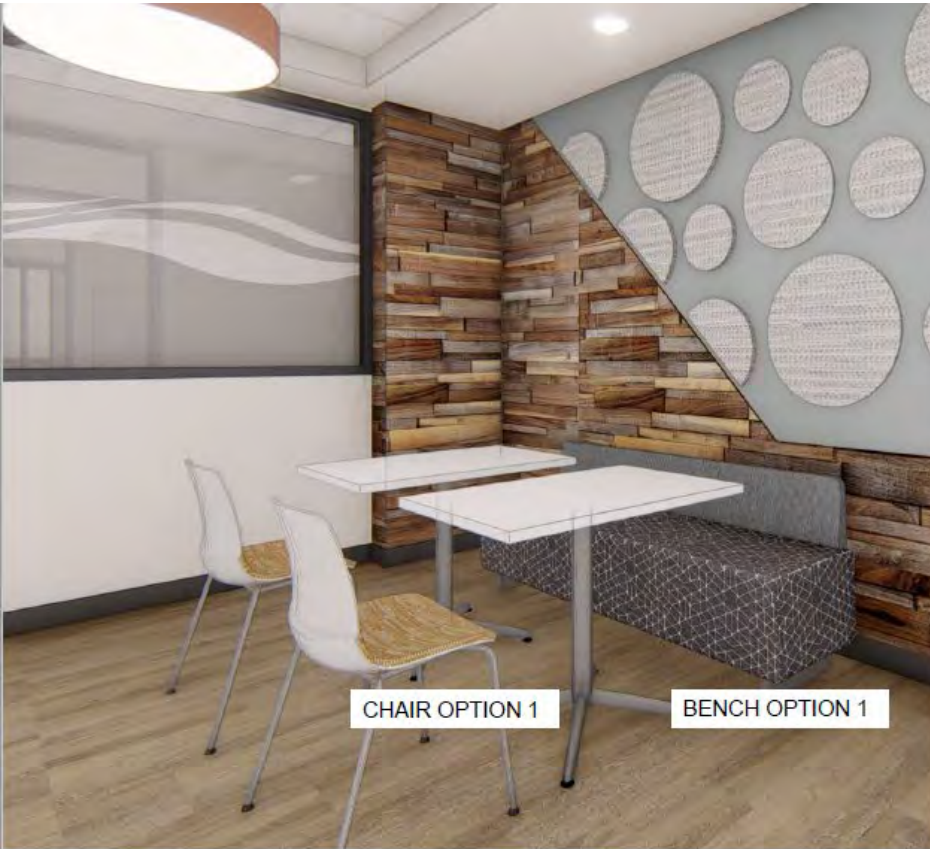
- Scope: Increased for bridge and front entrance modifications
- Schedule & Status:
  - In construction
  - 5.7% complete
  - Final completion: August of 2021
- Contractor: Kenneth F. Sullivan
- Budget:
  - Total Project Budget: \$2.0M
  - Increased from \$1.7M
  - Original Contract: \$1,566,525
  - Change orders to date: \$0



# Proposed Floor Plan



# Rendering of Breakroom





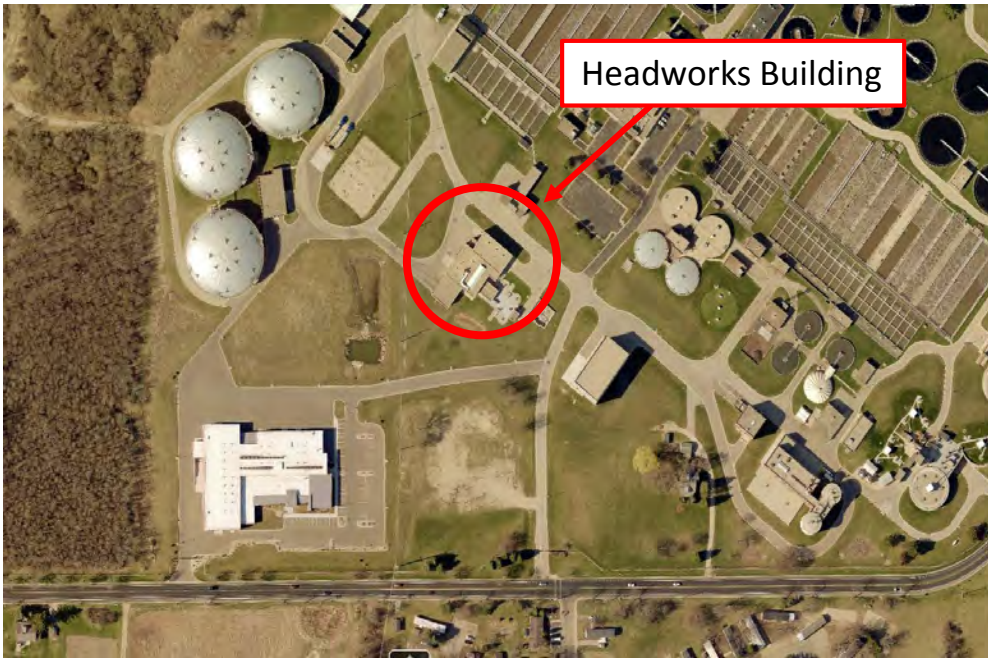
# Progress



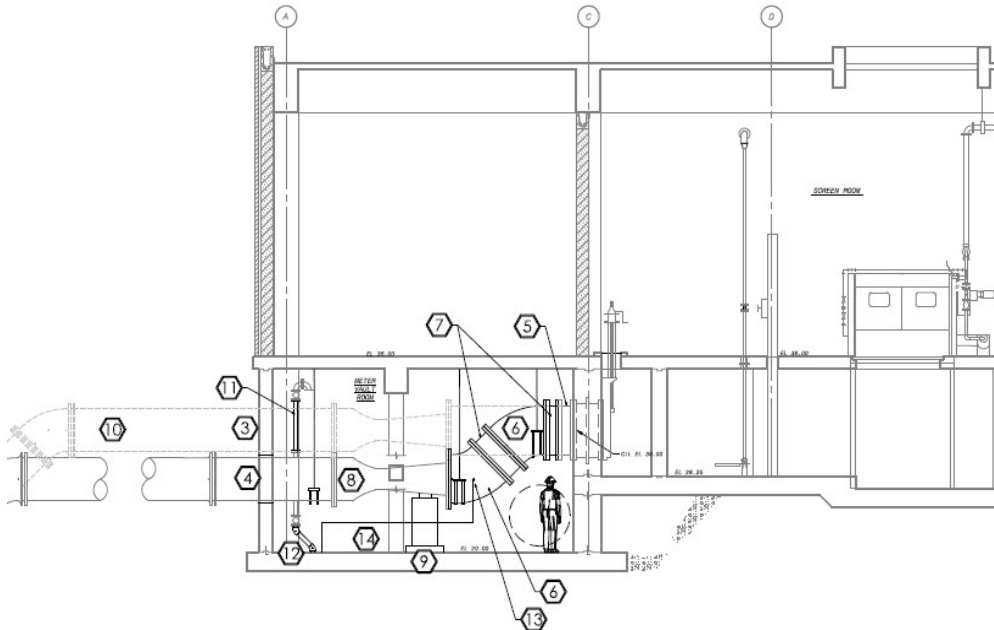


# Pump Station 7 Improvements

- Scope: No major changes
- Schedule & Status:
  - Fully complete (100%)
  - In-service
  - Final Acceptance: 1/14/2021  
Commission meeting
- Contractor: C.D. Smith
- Budget:
  - Total Project Budget: \$4.2M
  - Unchanged
  - Original Contract:  
\$3,348,000
  - Change orders: -\$82K(-2.5%)
  - Final Contract: \$3,266,398



Headworks Building

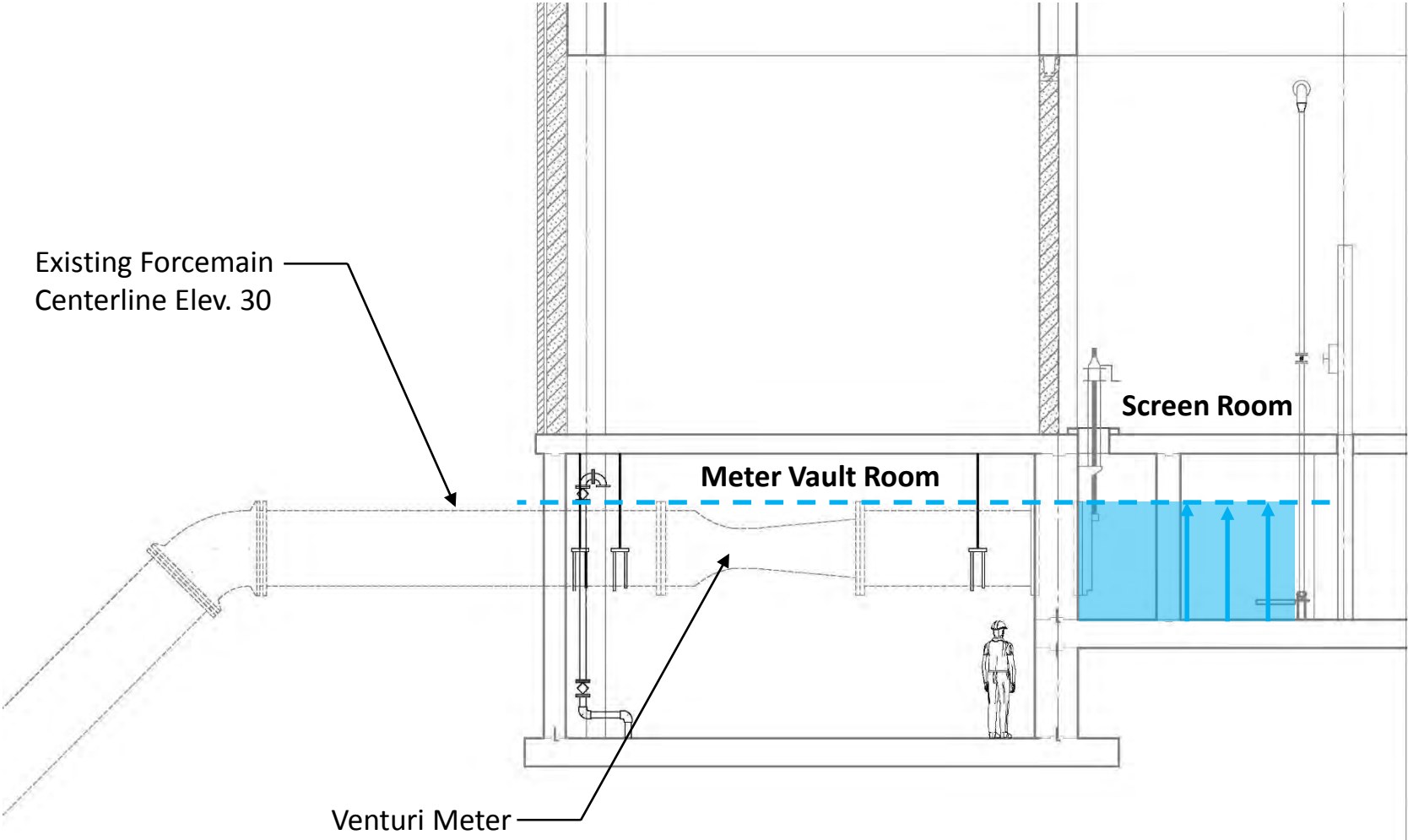


SCALE: 1/8" = 1'

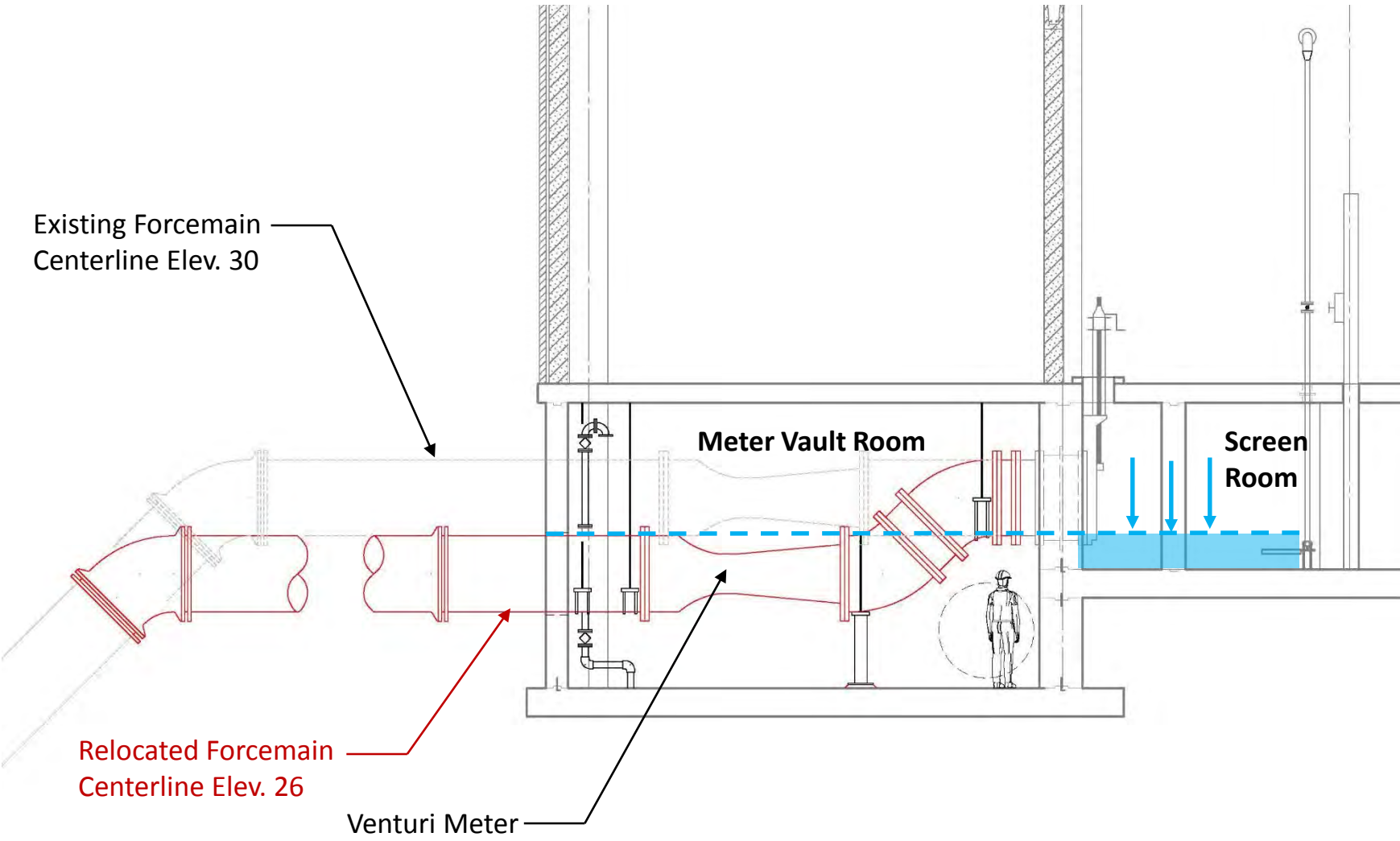
# Headworks Flow Metering

- Scope: No major changes
- Schedule & Status:
  - In construction
  - 73% complete
  - Final completion: Summer of 2021
- Contractor: Staab Construction
- Budget:
  - Total Project Budget: \$2.3M
  - Unchanged
  - Original Contract: \$1,833,000
  - Change orders to date: +\$50K (+2.7%)

# Project Scope



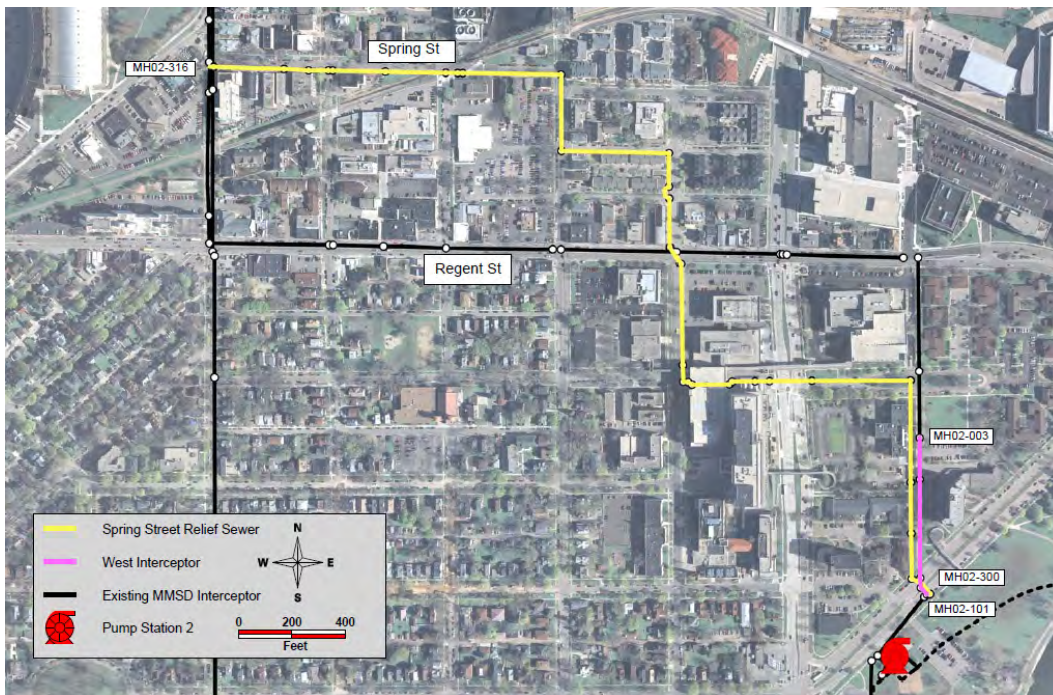
# Project Scope







# 2020 Interceptor Rehabilitation



- Scope: No major changes
- Schedule & Status:
  - In construction
  - 93% complete
  - Final completion: January of 2021
- Contractor: Visu-Sewer
- Budget:
  - Total Project Budget: \$1.2M
  - Reduced from \$2.1M
  - Original Contract: \$971,896
  - Change orders to date: \$0

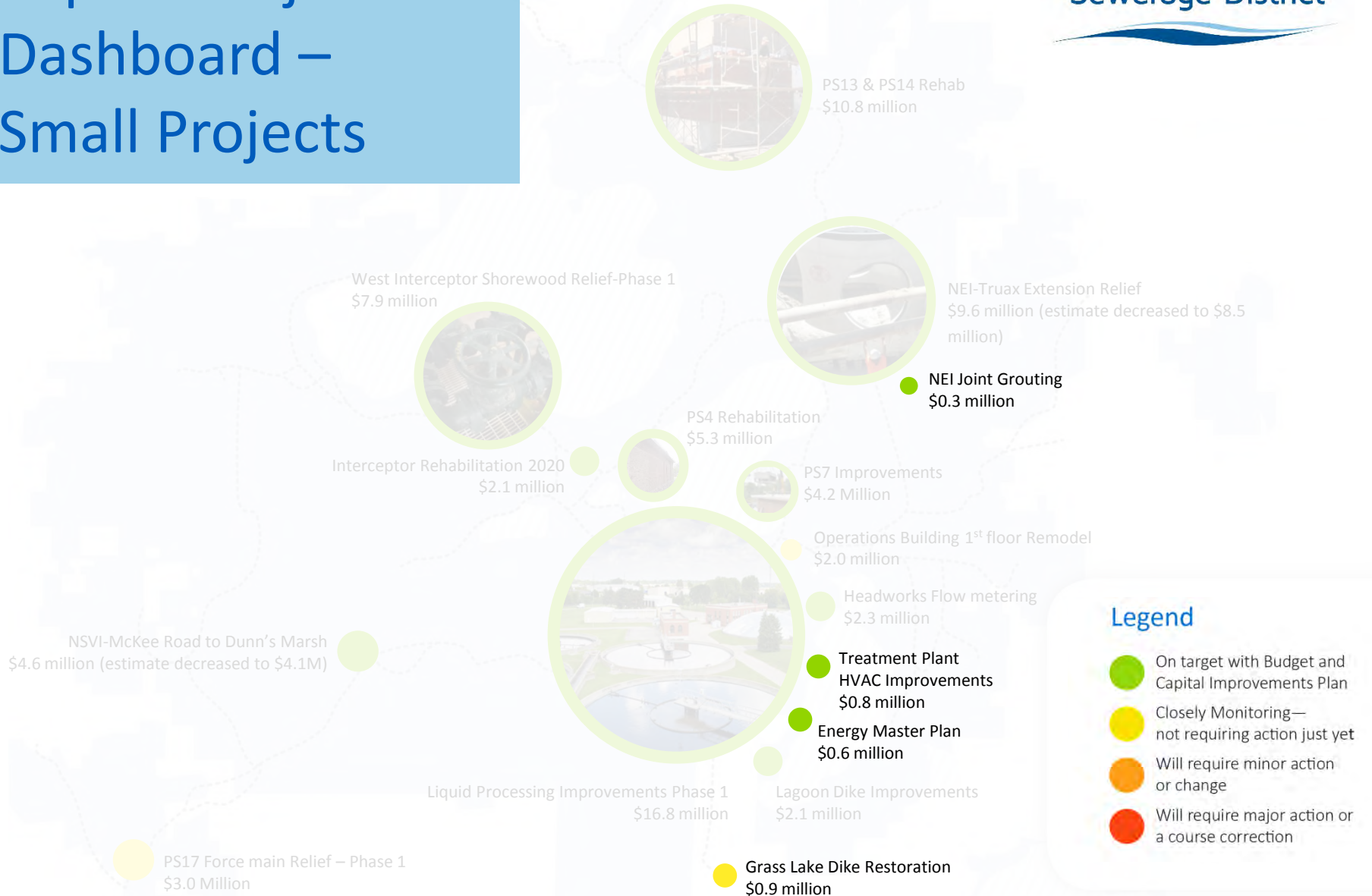


# 2020 Interceptor Rehab: Project Scope



- Two Interceptors:
  - WI-Spring Street Relief
  - NEI-Johnson Street Relief
- WI-Spring Street Relief: 5,200' of 24" Cast Iron (ca. 1940)
- NEI-Johnson Street Relief: 200' of 30" Cast Iron (ca. 1937)

# Capital Projects Dashboard – Small Projects



## Legend

- On target with Budget and Capital Improvements Plan
- Closely Monitoring—not requiring action just yet
- Will require minor action or change
- Will require major action or a course correction

# NEI Joint Grouting-Phase 1

- Scope: No major changes
- Schedule & Status:
  - Fully complete (100%)
  - Final Acceptance: Jan./Feb. of 2021
- Contractor: Michels
- Budget:
  - Total Project Budget: \$304K
  - Unchanged
  - Original Contract: \$208,186
  - Change orders to date: \$0



MH10-101 to MH10-112 Joint Leaks

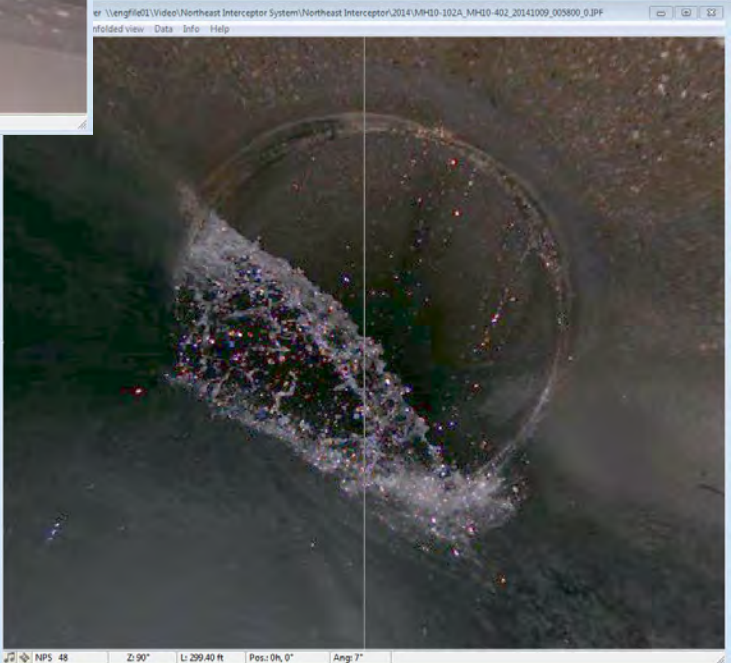
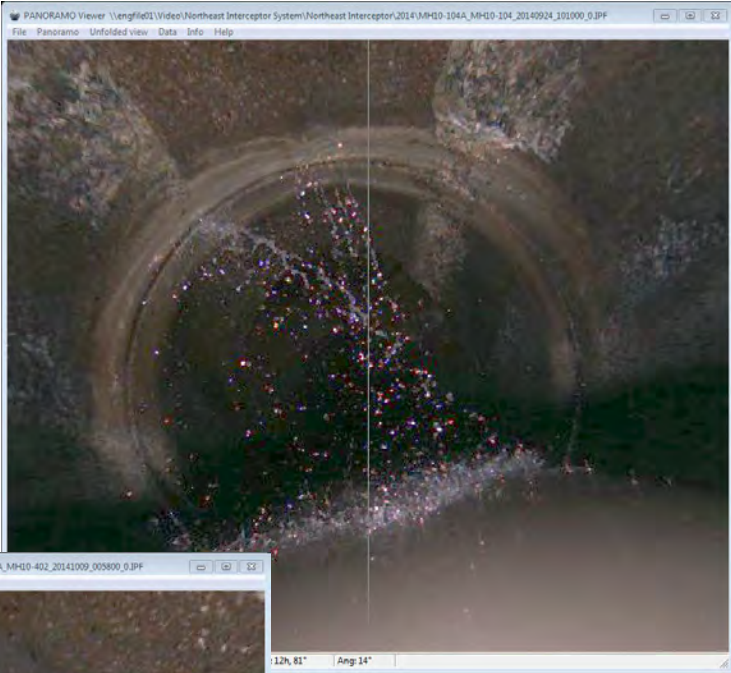
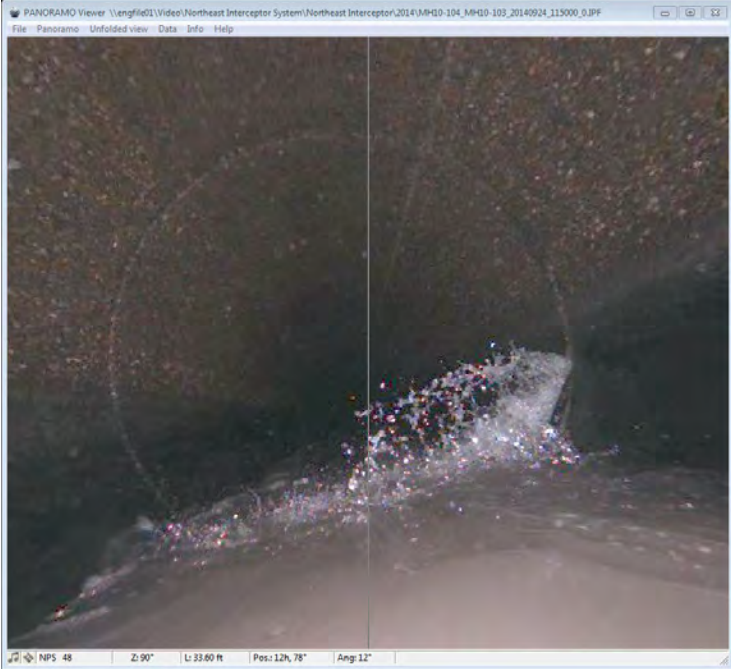
1 inch = 500 feet



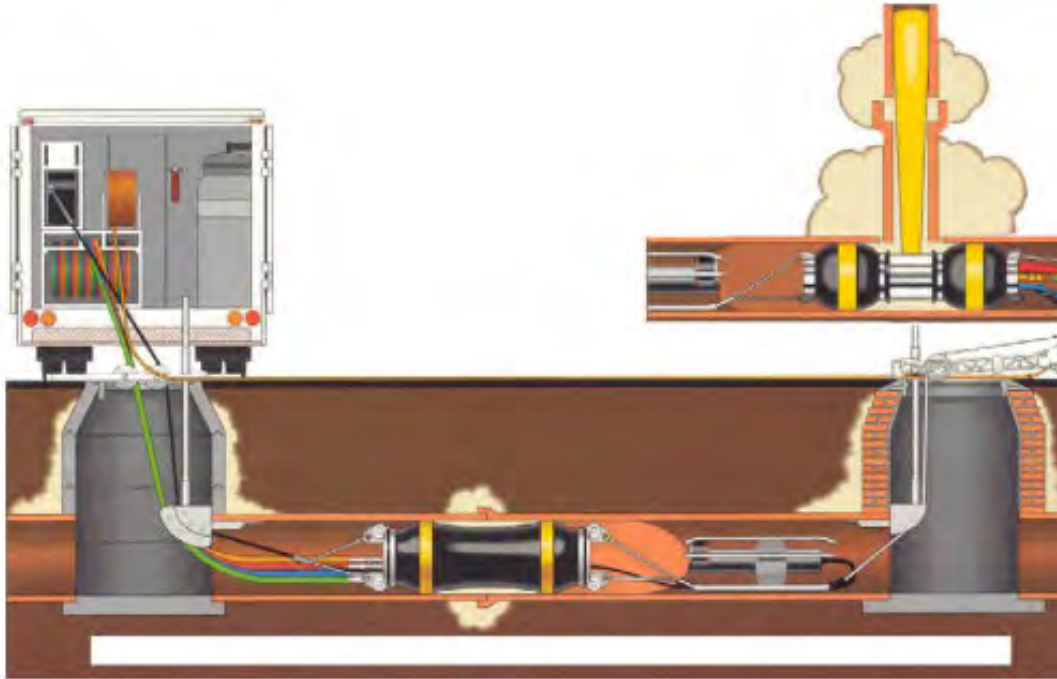
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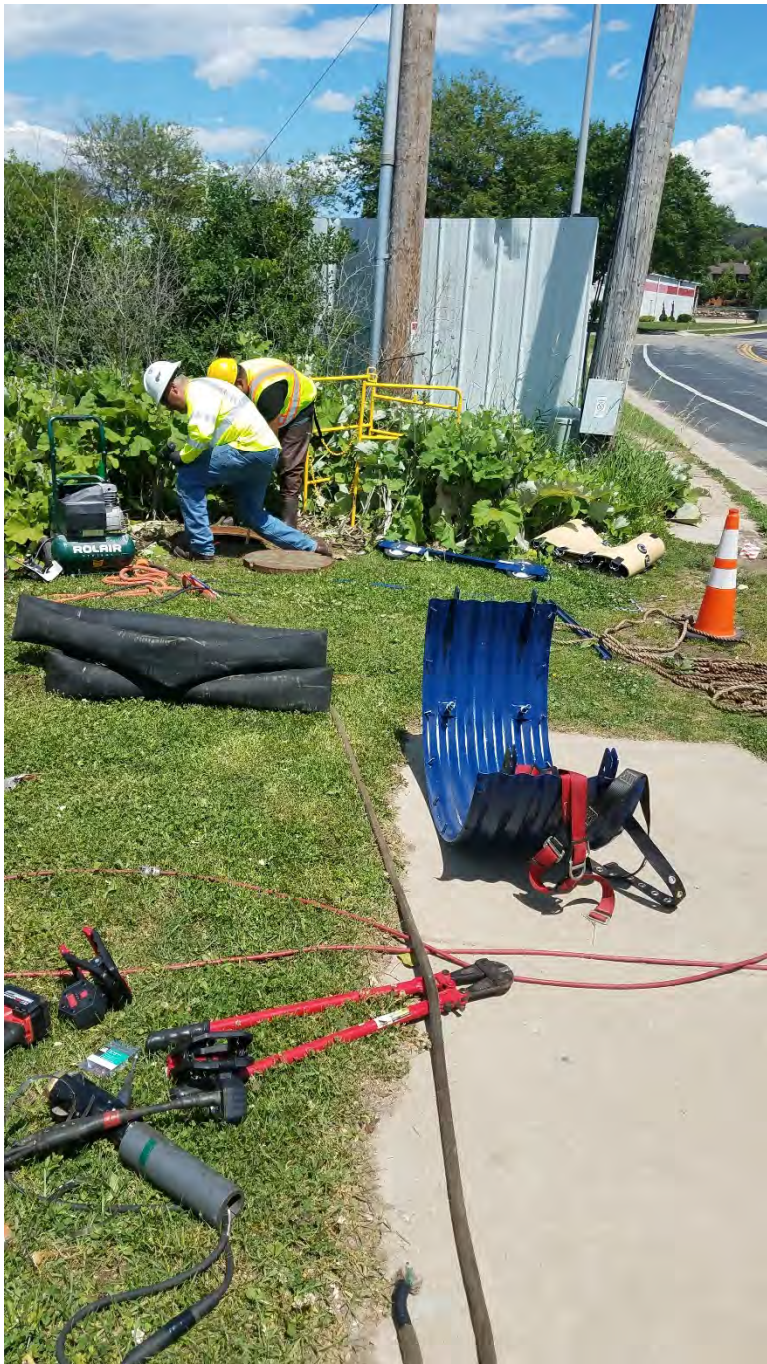


# Northeast Interceptor-Leaking Joints



# Joint Grouting





# Grass Lake Dike Restoration



- Scope: Increased due to flood plain/storage issues. May increase further if compensatory storage is required.
- Schedule & Status:
  - In design
  - **Behind schedule**
  - Hydraulic modeling issues
- Design Consultant: Cardno
- Budget:
  - Total Project Budget: \$860K
  - **Increased from \$500K**



Questions?

