

# 36"/42" Raw Water Intake Replacement Project

Public Hearing



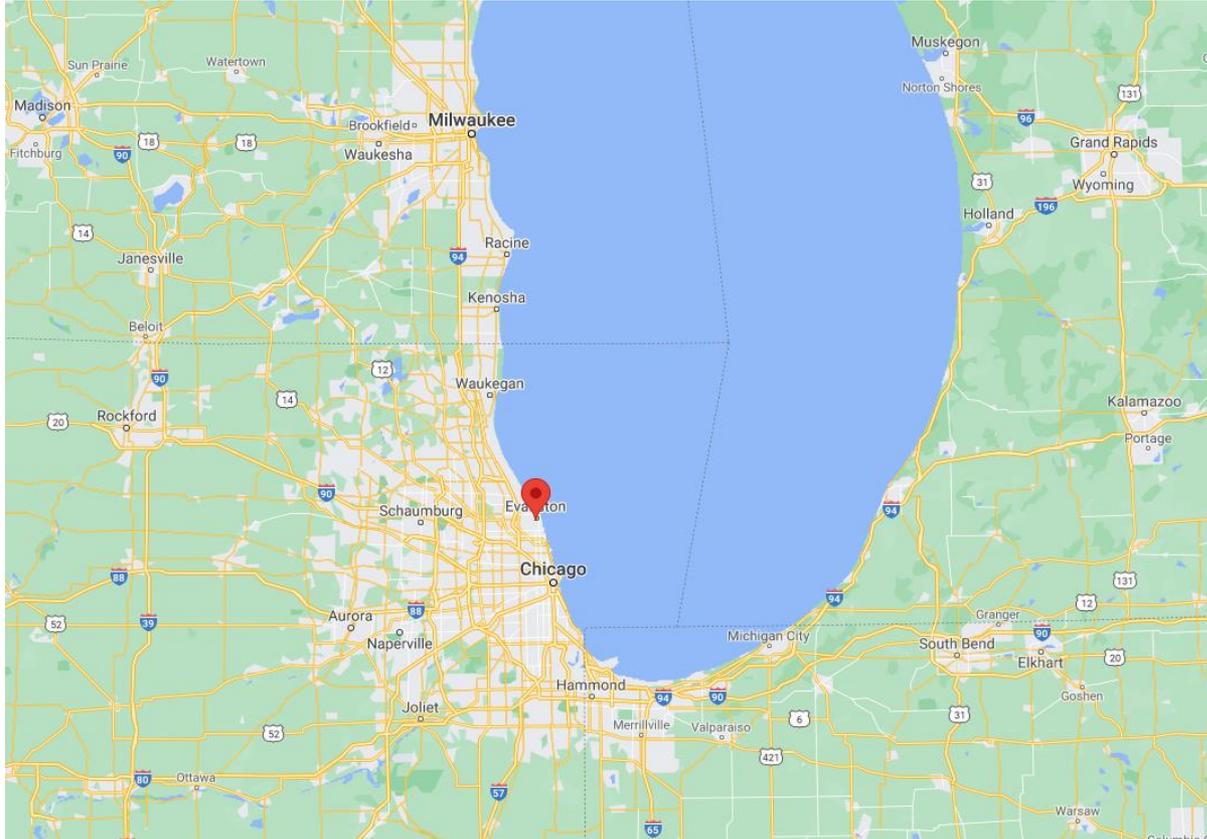
**Lara Biggs, City of Evanston, Bureau Chief – Capital Planning**  
**Rick Bolliger, Stantec, Associate Environmental Scientist**

December 2, 2021

# Purpose for Public Hearing

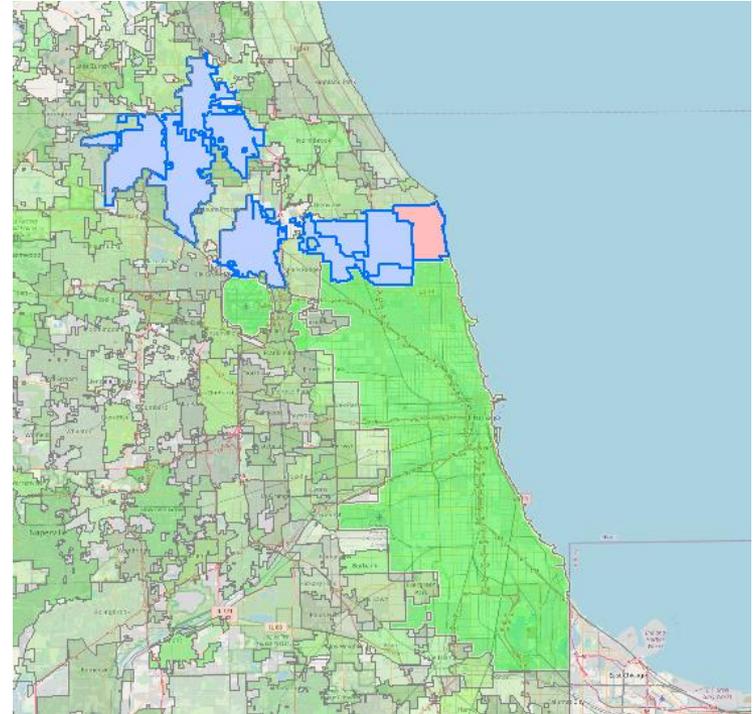
- Evanston to replace raw water intake in Lake Michigan originally constructed in 1909
- Illinois Public Water Supply Loan Program to supply a portion of the project funds
- Illinois Environmental Protection Agency (IEPA) completed a Preliminary Environmental Impact Determination (PEID)
- Loan applicant is required to conduct public hearing to present project planning and PEID, and make those documents available for public inspection
- Public has 10 days to submit written comments

# City of Evanston



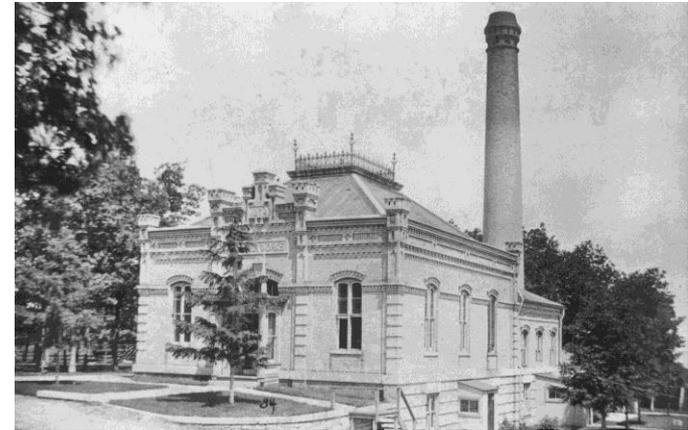
# Service Area

- We Supply water to The City of Evanston and 9 Communities
- Total Service Population of 480,000
  - 75,000 retail
  - 405,000 wholesale
- 61,000 businesses



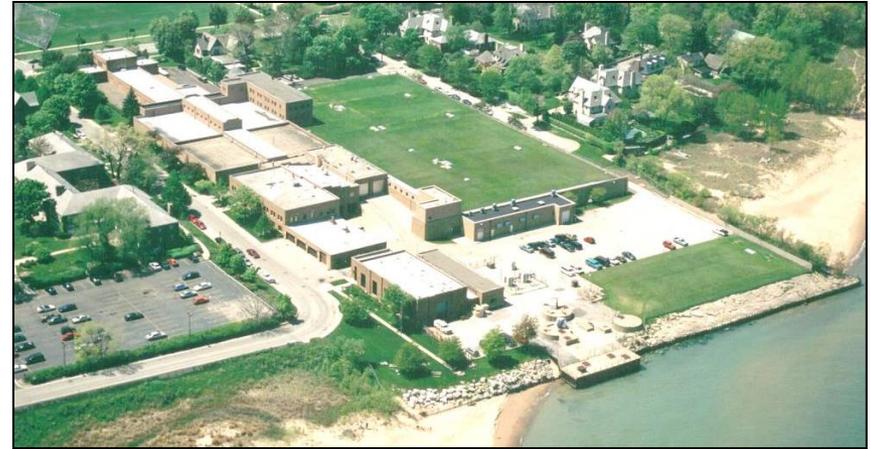
# History

- 1851 – Northwestern University Founded
- 1863 – Evanston was Incorporated
- 1871 – Great Chicago Fire
- 1874 – Communal Water System Established
  - 2 mgd lake-water supply with cast iron mains
- 1909 – Intake Constructed
- 1914 – 12 mgd filter plant built

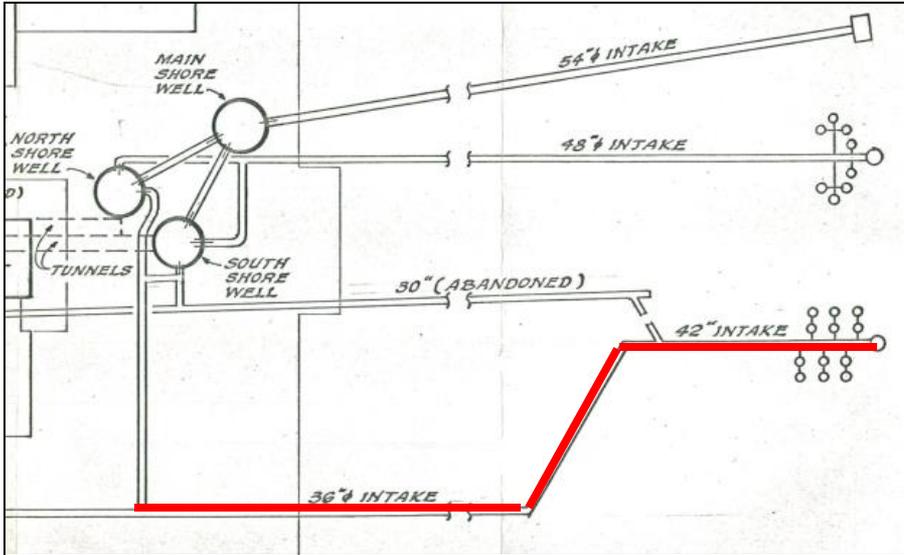


# Current Water Treatment Plant

- Average Flow = 45.5 mgd
- Rated Capacity = 108 mgd
- 3 intakes extending one mile into Lake Michigan
- Treatment is conventional sand filtration.
- 156 miles of water main from 3- to 48-inches in diameter + Transmission



# Raw Water Intake System



36/42-Inch Intake	48-inch Intake	54-Inch Intake
1909	1956 (length extended in 1976)	1976
36-inch with transition to 42-inch	48-inch	54-inch
5,950 feet	5,300 feet	5,340 feet
28 feet	28 feet	28 feet
Unburied cast iron pipe that terminates in array of 14 intake cones	Buried concrete pipe that terminates in array of 9 intake cones	Buried concrete pipe that terminates in timber crib intake structure
----	Intake heater and chlorine feed	Intake heater and chlorine feed

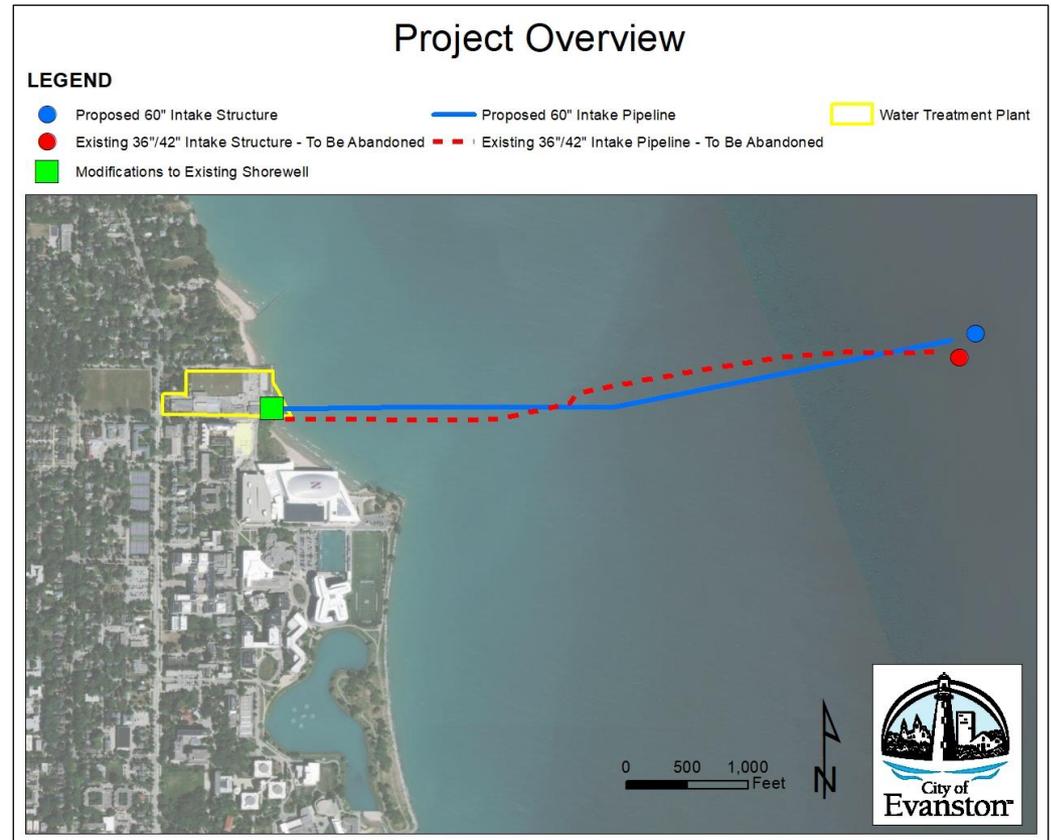
# Project Need

- Age
- Capacity
- Design Criteria
  - Materials
  - Security
  - Reliability
  - Climate Change

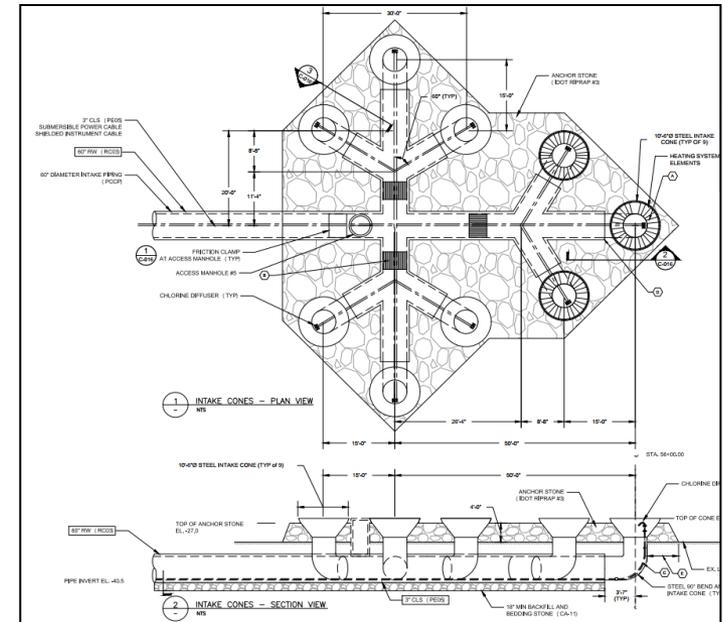
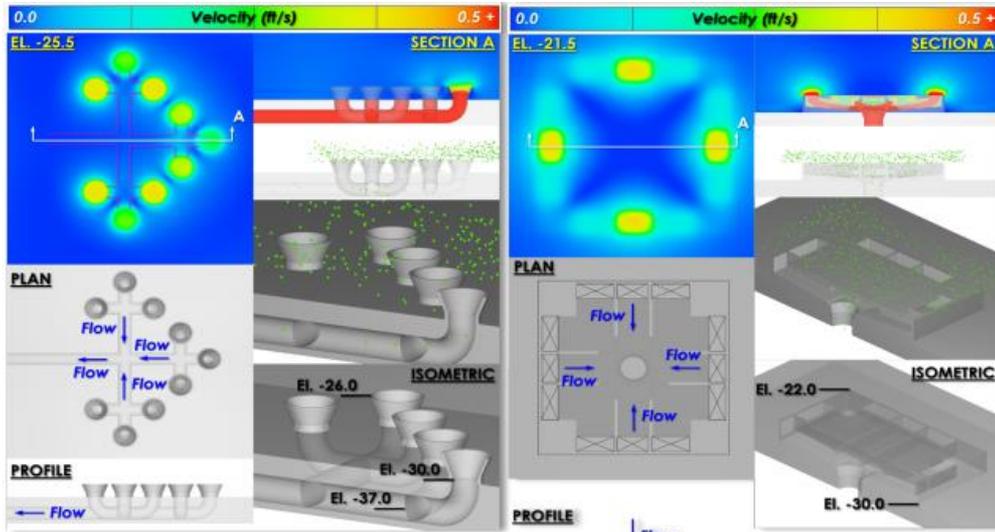


# Project Overview

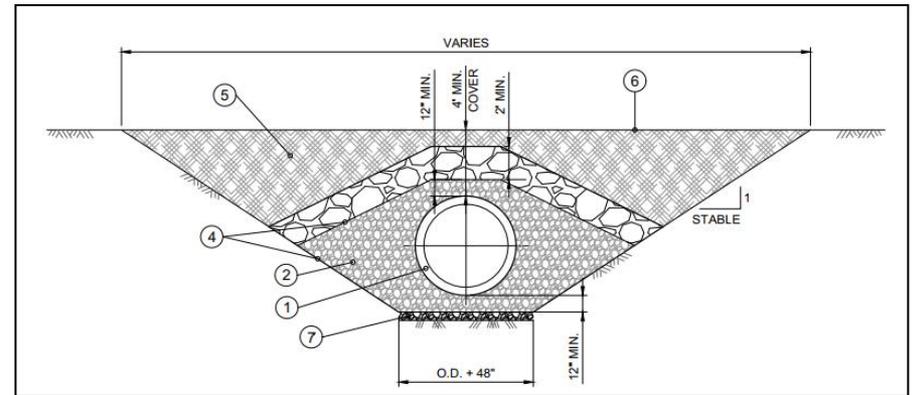
- Intake Structure
- Intake Pipeline
- Shore Side Facilities
- Ancillary Items
  - Heating System
  - Temperature Monitor
  - Chemical Feed
  - Flow Meter



# Intake Structure

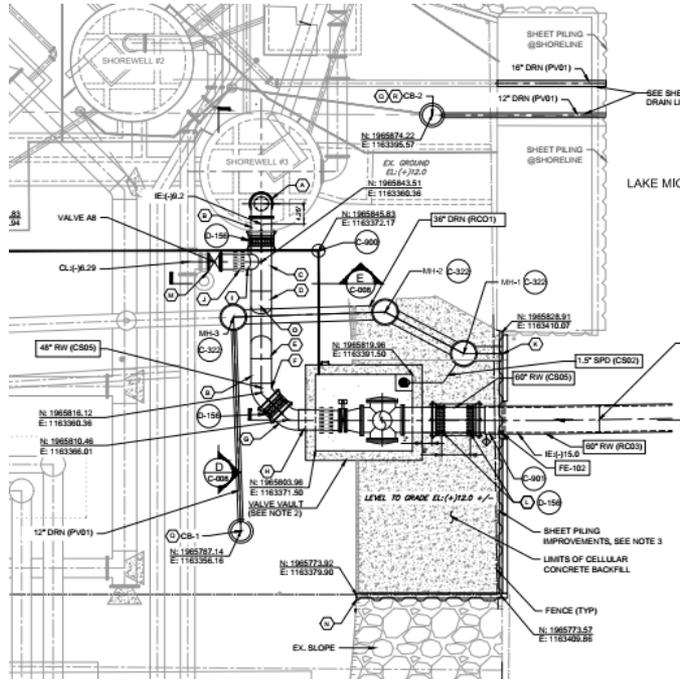


# Intake Pipeline





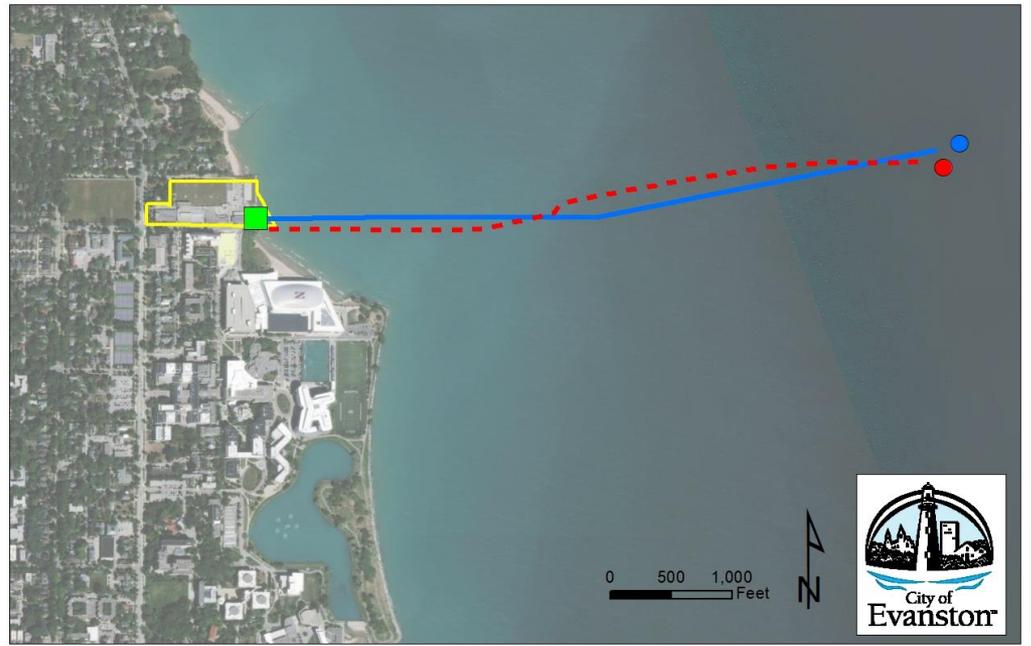
# Construction



## Project Overview

### LEGEND

- Proposed 60" Intake Structure
- Proposed 60" Intake Pipeline
- Water Treatment Plant
- Existing 36"/42" Intake Structure - To Be Abandoned
- - - Existing 36"/42" Intake Pipeline - To Be Abandoned
- Modifications to Existing Shorewall



# Water Production Benefits

- Maintenance Accessibility
- Long Term Reliability
- Operational Redundancy
- Reuse of existing facilities
- Operational Reliability
- Operational Insight



# Environmental Benefits

- Environmental Stewardship
- Envision Approach
- Climate Change
- Climate Action and Resilience Plan
- Renewable Energy Goals
- Energy Production
- Zero Emissions Strategy



# Community Benefits

- Water Reliability
- Long-Term Supply Stability
- Construction Jobs / MBE/WBE
- Community Members
  - Diverse Population
  - Northwestern University
  - Illinois Science and Technology Park
  - Healthcare / Pharmaceuticals
  - Manufacturing
  - Beverage



# Project Cost / Funding

Engineering	\$ 1.5M
Construction	\$ 35.0M
Contingency	\$ 3.5M
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<b>Total</b>	<b>\$ 40.0M</b>
<i>WIFIA Funding</i>	<i>\$ 19.6M</i>
<i>IEPA SRF</i>	<i>\$ 20.4M</i>

# IEPA SRF Funding

- \$20.4M
- Current Interest Rate of 1.11%
  - Typical: 20 Year Term with Semi-Annual Repayments
- Loan Application has been Submitted
- Design Submittal is being Finalized

# Preliminary Schedule

- Design: June 2019 – December 2021
- Permitting: July 2019 – November 2021
- Funding: August 2020 – January 2022
- Bidding: January 2022 – May 2022
- Construction: May 2022 – Oct 2024

# Permitting

- USACE (United States Army Corps of Engineers - Chicago District)
  - Regional Permit 8 – Issued September 3, 2021
- IEPA (Illinois Environmental Protection Agency)
  - Individual 401 Water Quality Certification – Issued May 28, 2021
  - Public Water Supply Construction Permit – Issued June 25, 2021
- IDNR (Illinois Department of Natural Resources)
  - Individual Permit – Issued September 7, 2021
  - EcoCAT Consultation - Completed
- SHPO (State Historic Preservation Office)
  - Section 106 Consultation - Completed
- USFWS (United States Fish and Wildlife Service)
  - Federal Threatened and Endangered Species Consultation - Completed
- USCG (United States Coast Guard)
  - Navigation Consultation - Completed

# Questions or Comments?

- PEID and Project Planning documents are posted on Evanston website
- Written comments may be submitted to either of the following contacts through December 12, 2021

Evanston: Ron Papa  
rpapa@cityofevanston.org

IEPA: Lanina Clark  
Lanina.Clark@illinois.gov

