VILLAGE OF LAKE ZURICH ILLINOIS

At the Heart of Community

Village of Lake Zurich Lake Michigan Supply from CLCJAWA

April 3, 2023

CDM Smith

Agenda/Outline

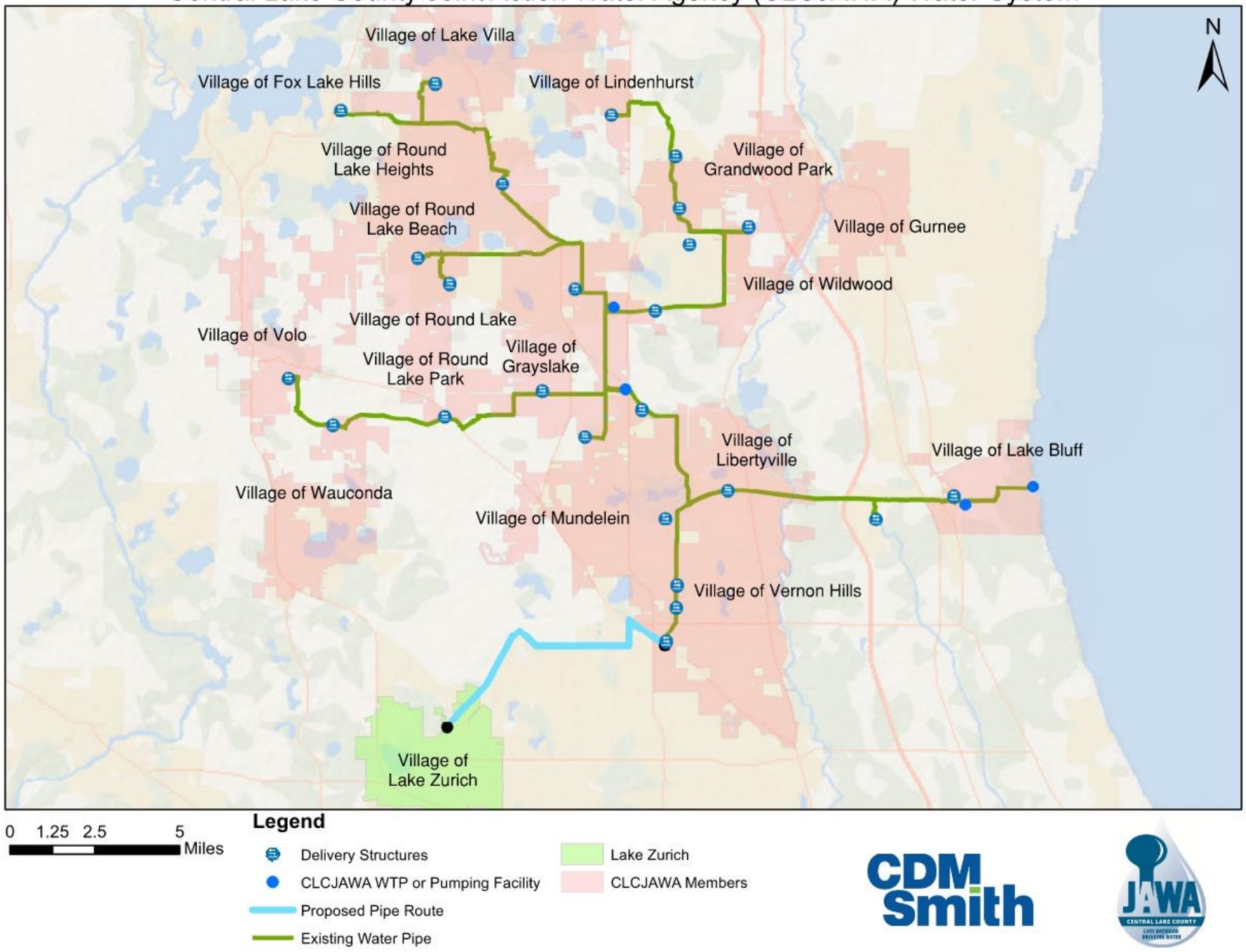
- Presentation Overview
- Background
- Lake Zurich Expansion Assessment Report Summary
  - Review of Assumptions
  - Proposed Route
  - CLCJAWA Improvements
  - Impact on Lake Zurich
  - Lake Zurich Improvements
  - Costs
- Funding Options
- Capital Buy-In Fee Financing Options
- Next Steps and Schedule
- Discussion

Background

Background

- Village completed a feasibility study in 2020/2021 and Board agreed to move forward with evaluating and refining CLCJAWA Lake Michigan option.
- Village already has an IDNR allocation to use Lake Michigan water.
- CDM Smith retained to evaluate required improvements and costs for CLCJAWA supply and Village improvements
- Today, we present the summary of improvements, costs, funding options, schedule, and next steps.

Central Lake County Joint Action Water Agency (CLCJAWA) Water System



Expansion Assessment Summary

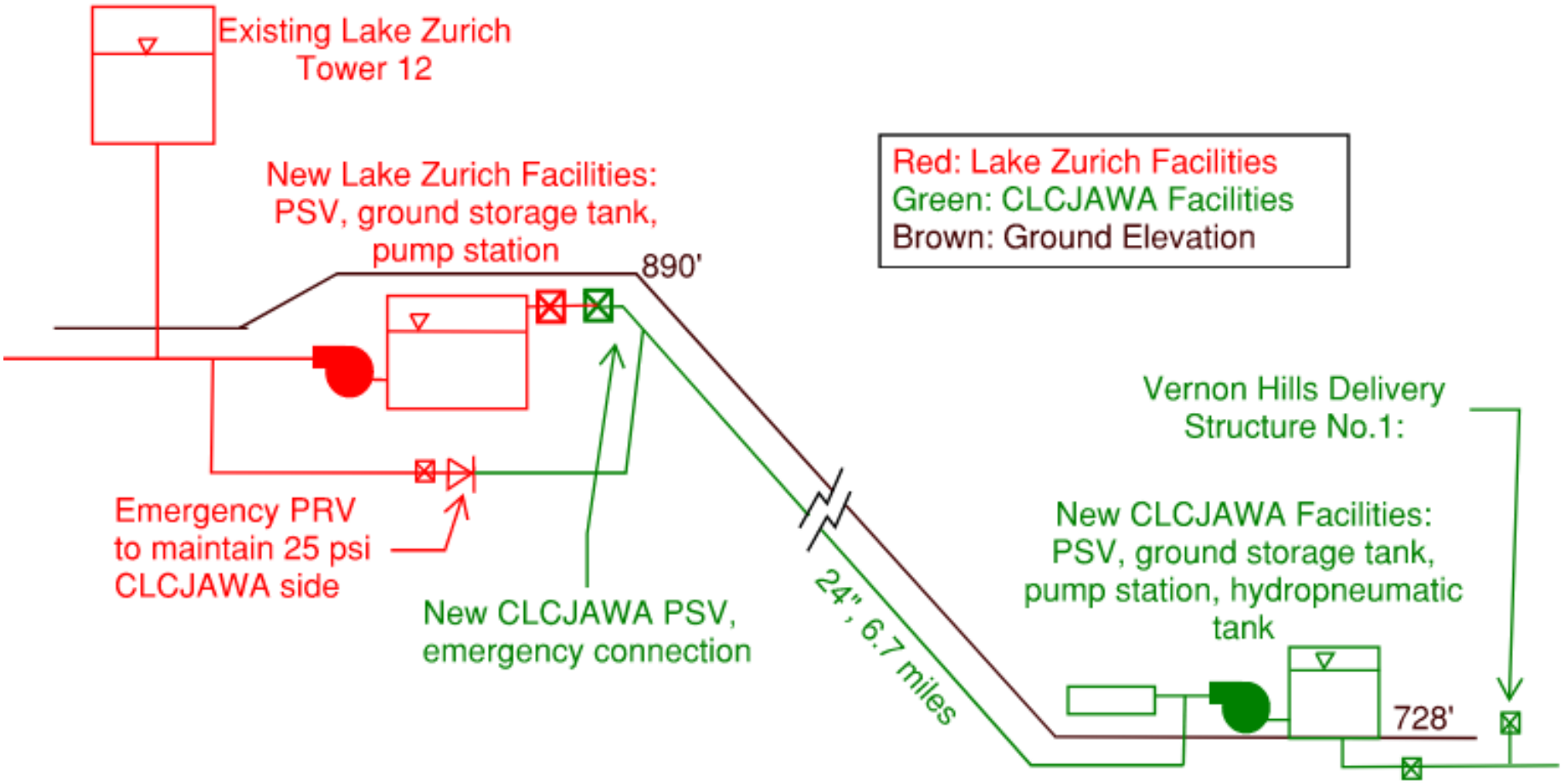
Village of Lake Zurich Demands/Assumptions

- Water Demands
  - Current maximum day demand 2.92 MGD (million gallons per day)
  - Future maximum day demand 3.42 MGD
- Peak hour flows and fire flows to be supplied by Village internal system
  - Storage and pumping facilities
  - Maintain same level of service currently provided by Village
  - Ability to boost chlorine residual if needed
- Emergency (average day flow)
  - Back-up wells – 8 and 12

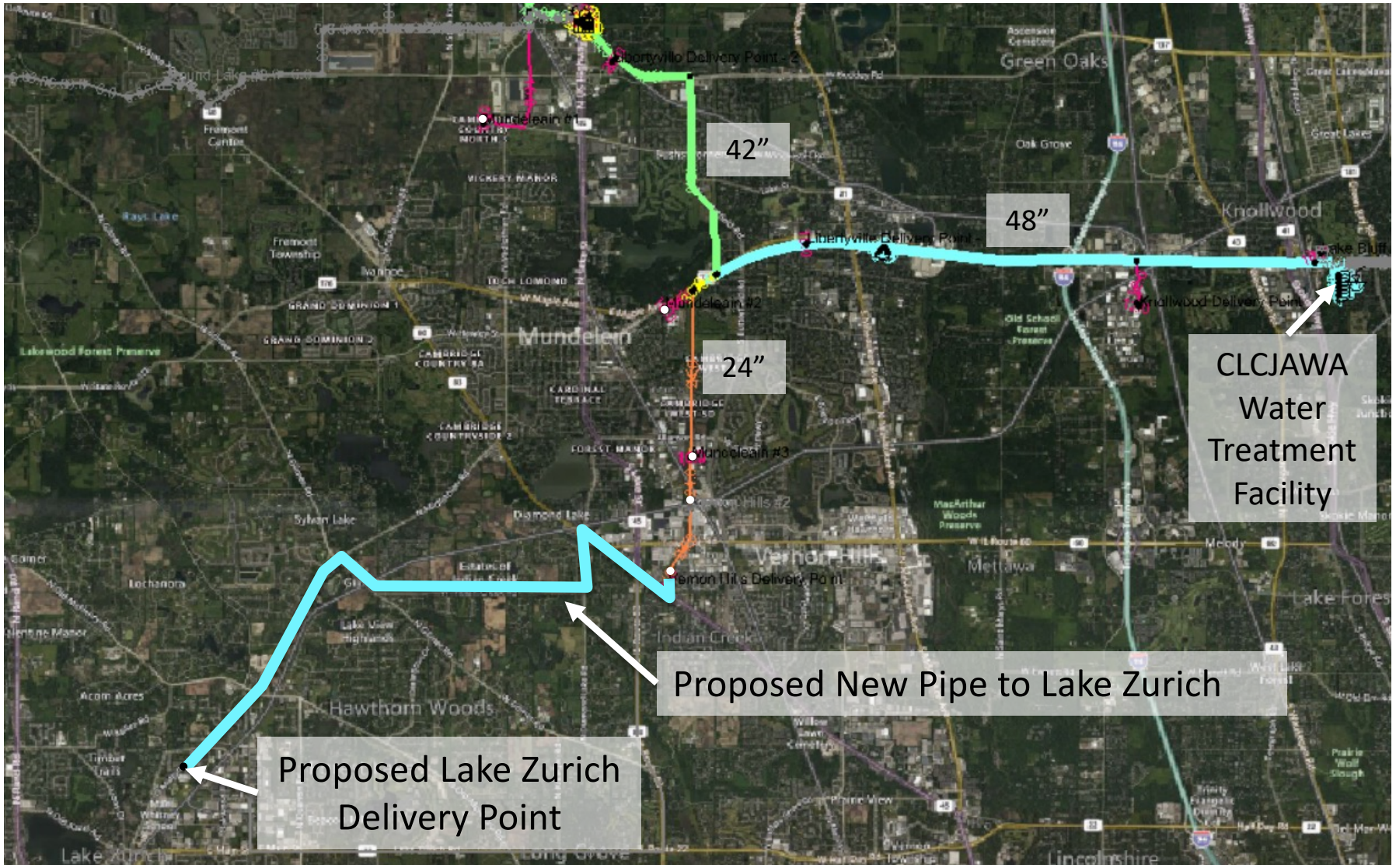
Feasibility of Supply from CLCJAWA

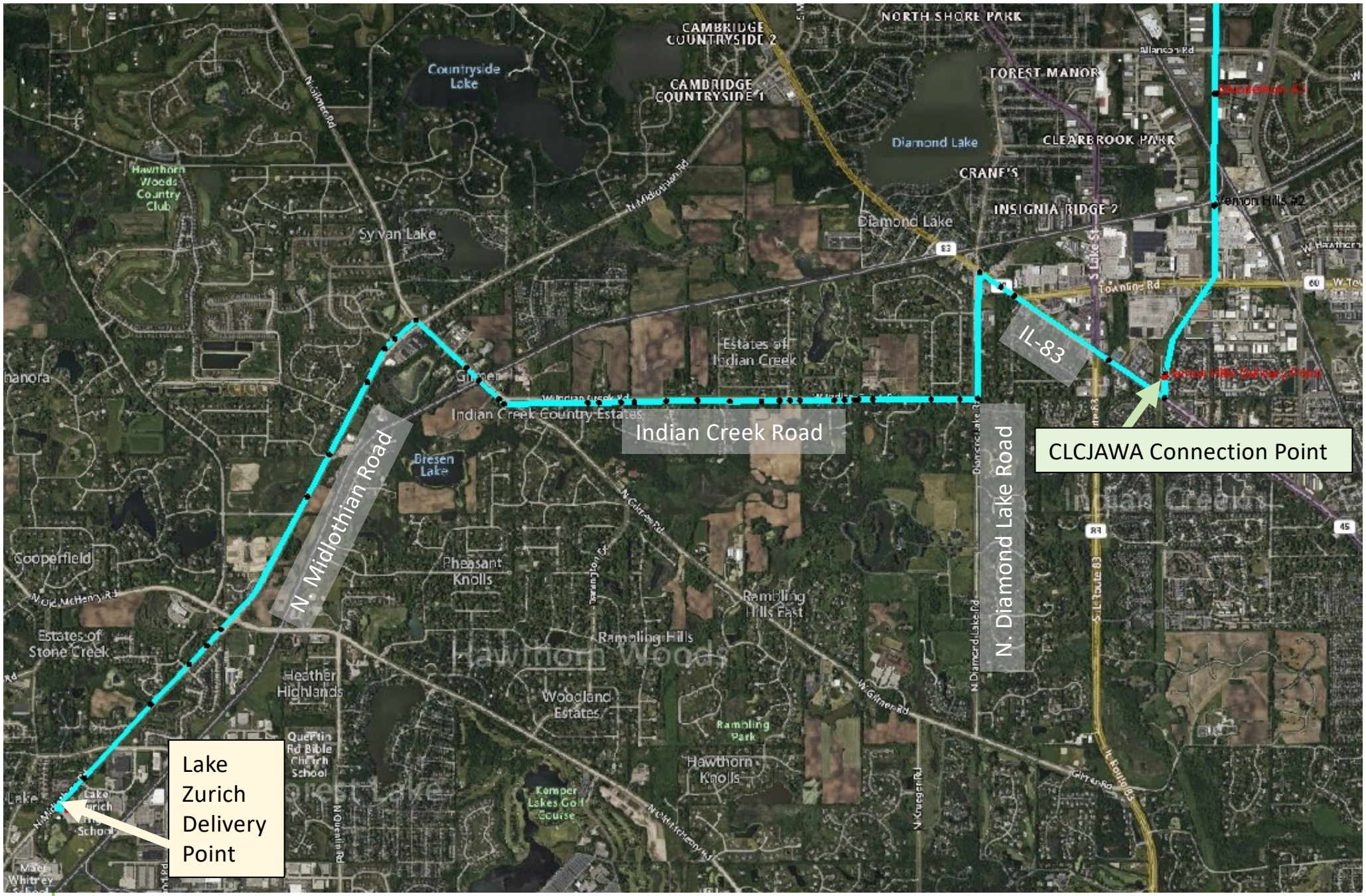
- Hydraulics
- High level pipeline route study
- Capital costs

Water Delivery to Lake Zurich



Proposed New Delivery to Lake Zurich




CAMBRIDGE COUNTRYSIDE 2
NORTH SHORE PARK
Countryside Lake
CAMBRIDGE COUNTRYSIDE 1
FOREST MANOR
Diamond Lake
CLEARBROOK PARK
CRANE'S
Hawthorn Woods Country Club
INSIGNIA RIDGE 2
Sylvan Lake
Diamond Lake
Estates of Indian Creek
IL-83
Indian Creek Country Estates
Indian Creek Road
CLCJAWA Connection Point
N. Midlothian Road
Bresen Lake
N. Diamond Lake Road
Cooperfield
Pheasant Knolls
Rambling Hills East
Rambling Hills
Estates of Stone Creek
Hawthorn Woods
Heather Highlands
Woodland Estates
Rambling Park
Hawthorn Knolls
Quentin Rd Bible Church School
Kemper Lakes Golf Course
Lake Zurich Delivery Point


J-1146
Indian Creek Road
N. Diamond Lake Road
IL-83
Vernon Hills Delivery Point
PS Location 2
PS Location 1
(CLCJAWA Connection Point)

Summary of CLCJAWA Improvements

- 24-inch WTM (water transmission main) approximately 6.7 miles in length
- Pump Station to boost pressure along the way
- Delivery structure at Village delivery point

Impact on Lake Zurich Distribution System

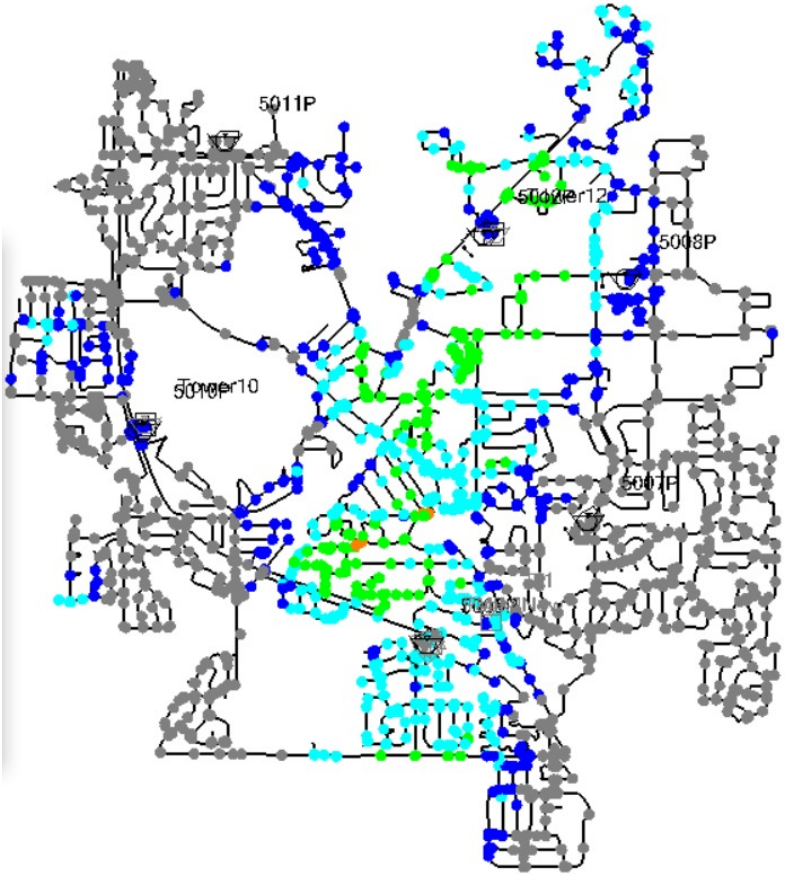
- Hydraulics
  - Maintain consistent pressure and fire flows
  - Adequate storage for emergency and diurnal changes
- Summary of improvements
- Capital costs
- Emergency (back-up wells)

VILLAGE OF LAKE ZURICH ILLINOIS

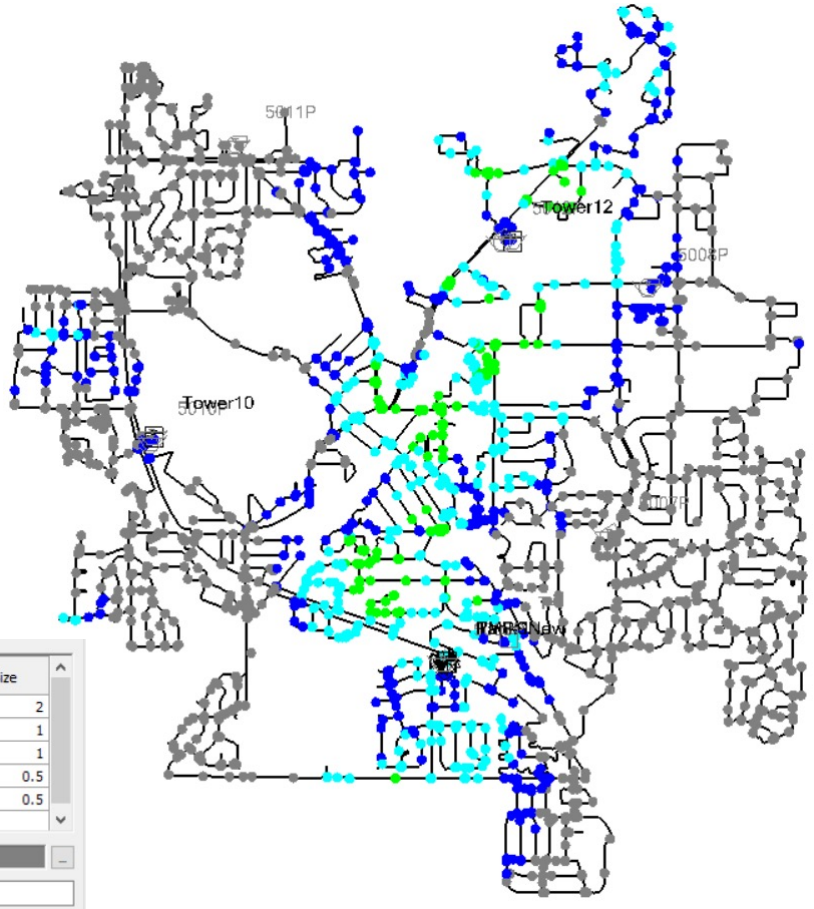
At the Heart of Community

Pressure Comparison

Existing (Well Supply)



Future CLCJAWA Supply with Improvements



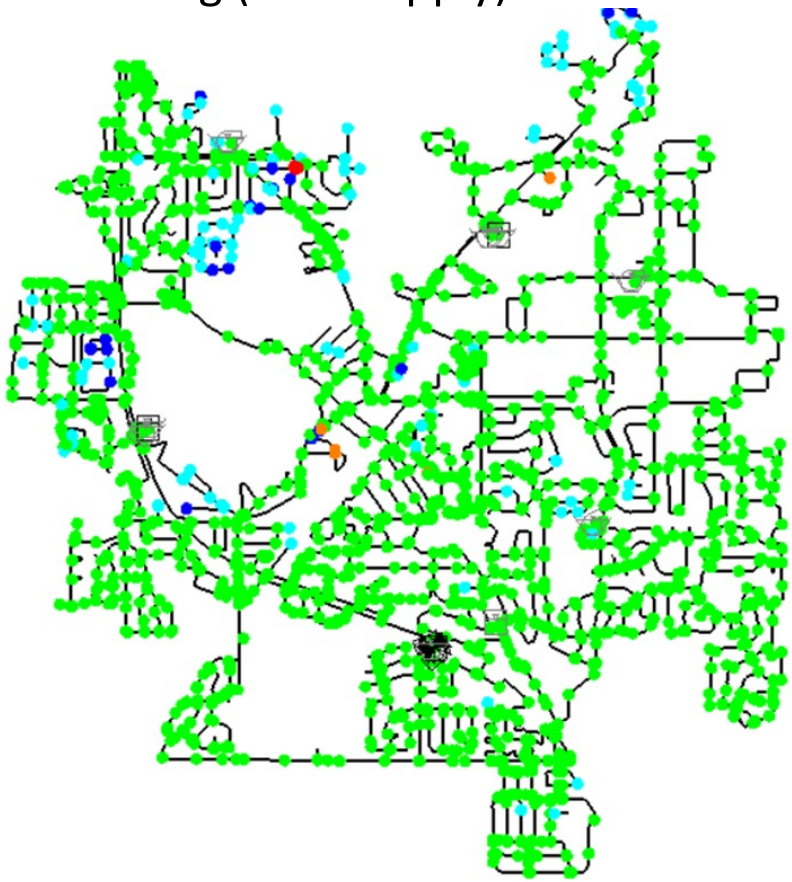
	Value <= (psi)	Color	Size
0	30.0	255, 0, 0	2
1	35.0	255, 128	1
2	40.0	0, 255, 0	1
3	45.0	0, 255, 2	0.5
4	50.0	0, 0, 255	0.5
*			

Above Range Color:

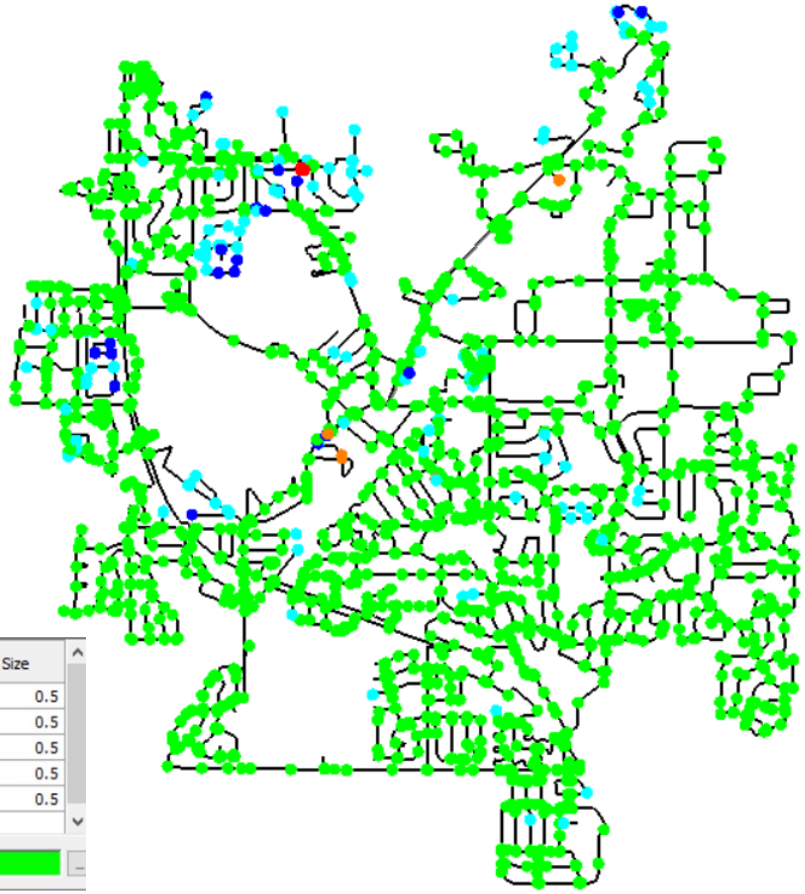
Above Range Size: 0.5

Fire Flow Comparison

Existing (Well Supply)

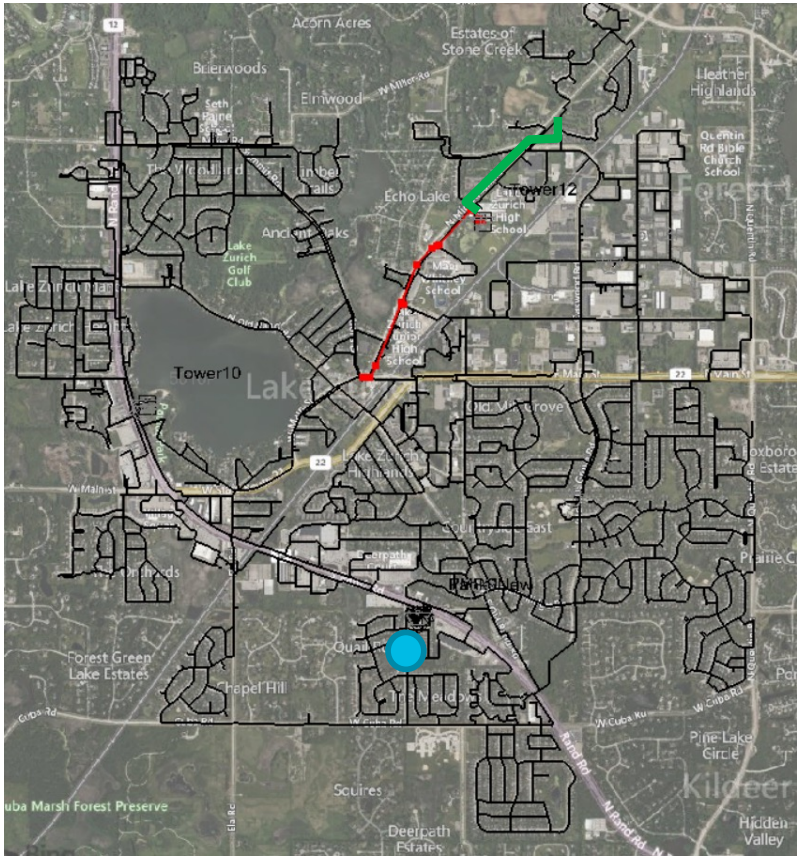


Future CLCJAWA Supply with Improvements

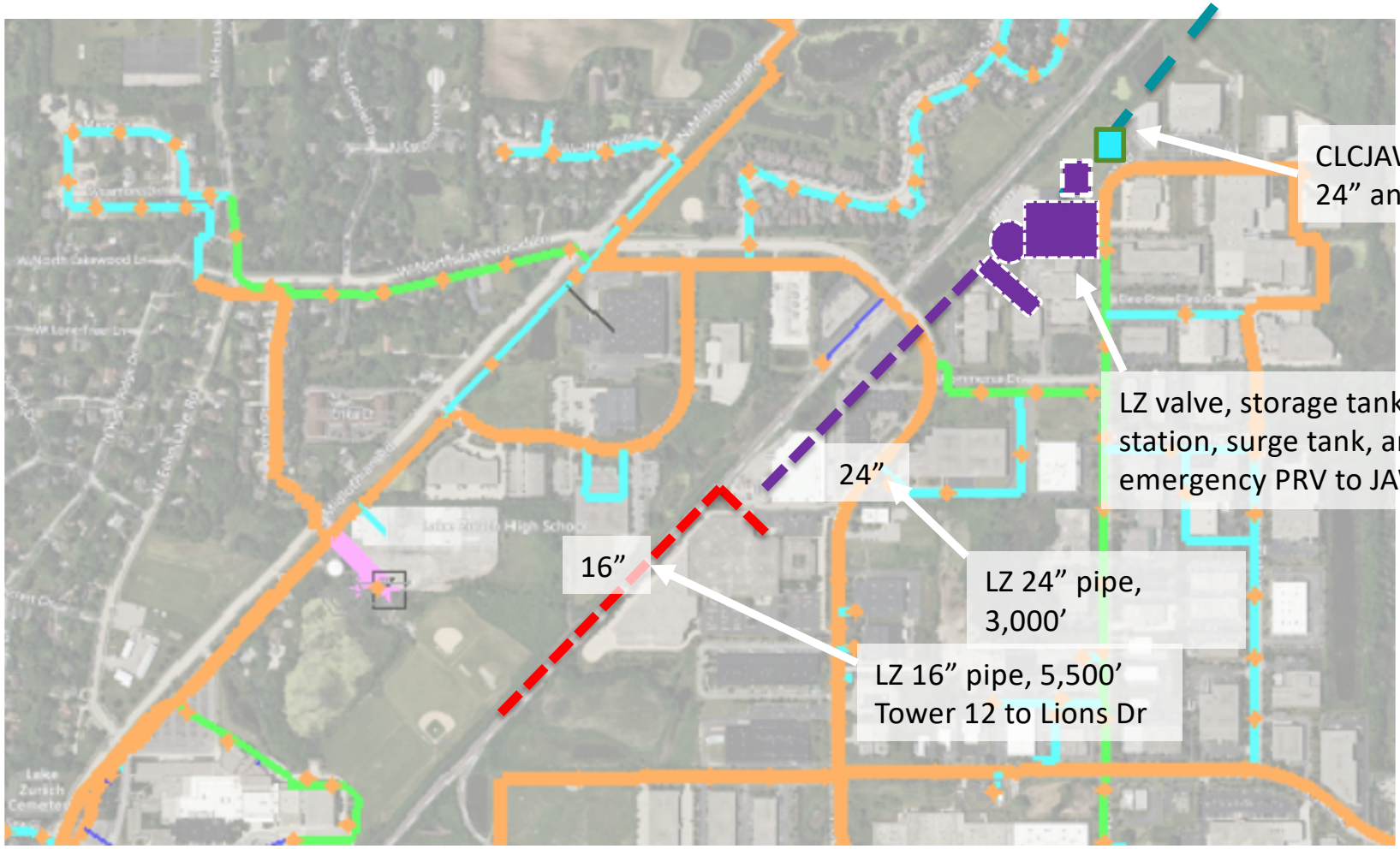


Summary of Village Improvements

- New delivery point reservoir (1MG) and pump station
- 3,000 ft of 24-inch pipe from CLCJAWA delivery point to Tower 12
  - Originally planned by Village to improve system pressure
- 5,000 ft of 16-inch pipe from Tower 12 southwest along Midlothian Rd
- At Well 9 site, new ground level storage tank and pump station
- Keep back-up wells 8 and 12 for emergency supply

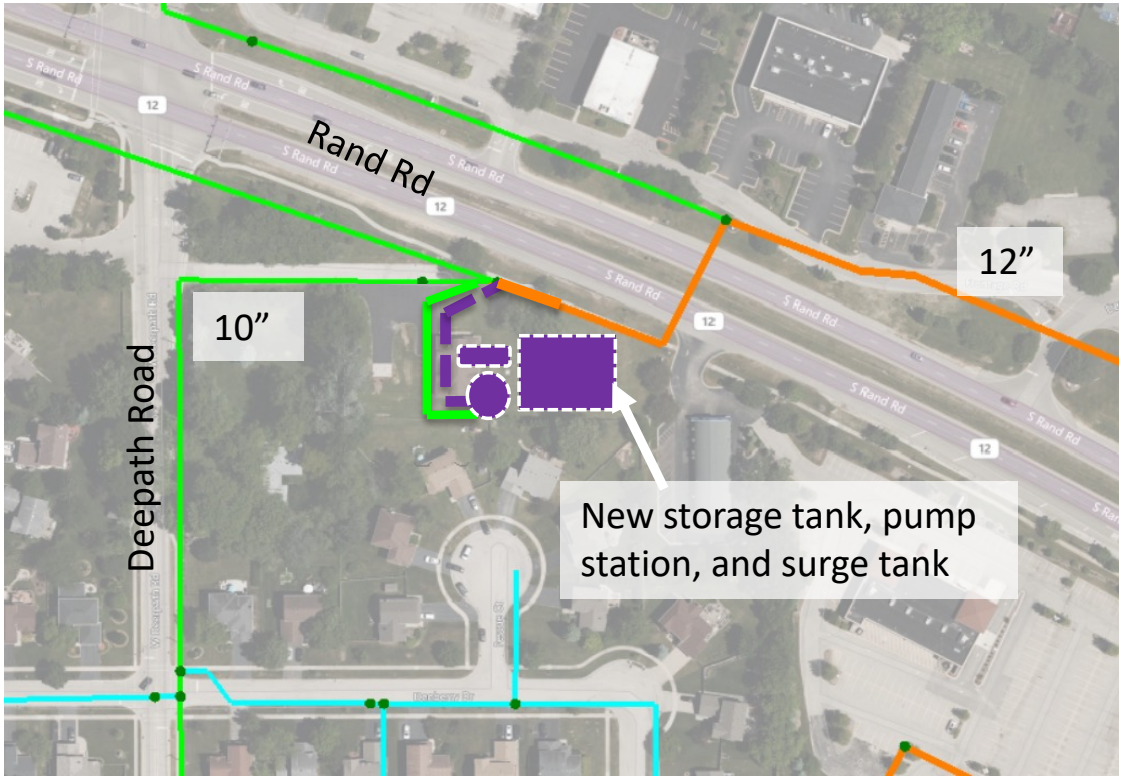


Proposed Facilities at Midlothian/Oakwood Area



Proposed Facilities at Well 9 Site
Deepath Road and Rand Road Area (Conceptual)

- Control valve vault
- Ground level tank, 1 MG
- Pump station



Estimated Total Program Costs

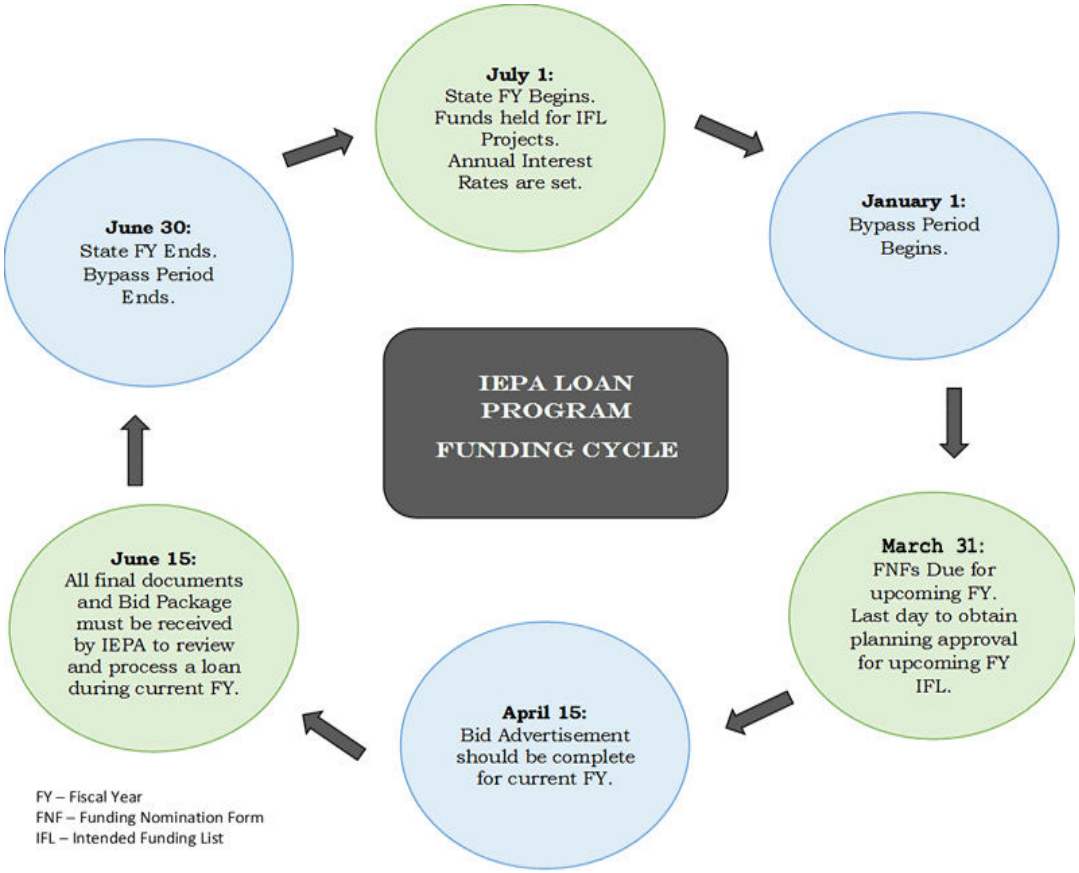
Item	Conveyance from CLCJAWA to Lake Zurich *Expected Range*	Lake Zurich Distribution System Improvements *Expected Range*
Construction costs	$38M-$44M	$18M-$22M
Contingency[1]	$9M-$11M	$5M-$6M
Change Orders[2]	$2M-$3M	$1M-$2M
Engineering[3]	$9M-$11M	$5M-$6M
Easements & Acquisitions	$0.5M	-
TOTAL EST. COST	**$59M-$69M**	**$29M-$36M**
TOTAL EST. COST IN 2027[4]	**$74M-$87M**	**$37M-$45M**
Program Costs	**$111M-$132M**	
CLCJAWA Connection Fee	$20M[6]	
TOTAL	**$131M-$152M**	

[1]Contingency:or undeveloped design details 20-30%
[2]Change orders assumed 5% of construction costs
[3]Engineering assumed 20% of construction costs including route study, field investigations, preliminary and detailed design, and construction phase services
[4]Escalated to assumed mid-point of construction at 6% per year
[5]Source water Corrosion Control Treatment study and well/facility demolition not included
[6] CLCJAWA connection fees are an estimate and have not been reviewed/approved by CLCJAWA Board

Funding Options

Funding – IEPA SRF Funding

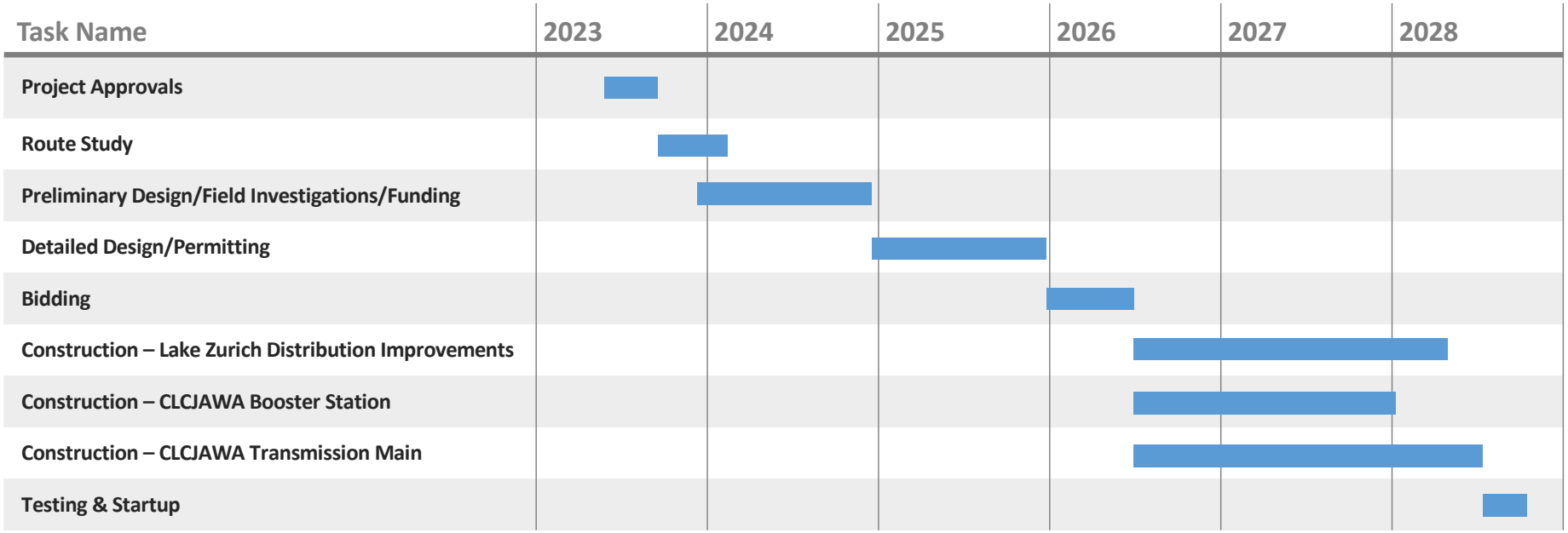
- Available for large capital water projects using Bipartisan Infrastructure Bill
- Interest rate <2% for next fiscal year
- Potential reduction in rate for Village improvements (available for communities <25,000)
- Was used for CLCJAWA North/West Group Expansion
- Starts with Project Planning Approval



CLCJAWA Capital Buy-in Fee Financing

Schedule and Next Steps

Preliminary Program Schedule



Key Steps for Lake Michigan Water Delivery

1.	Secure Lake Michigan water allocation from the IDNR	Complete
2.	Install new water meters to reduce water loss	Complete
3.	Evaluate alternatives and select new water supply option	Complete
4.	Address CLCJAWA Board and present Letter of Intent.	Complete
5.	Evaluate required Lake Zurich and CLCJAWA improvements and obtain engineer's estimate of probable construction cost	Draft
6.	Establish governance, financial and capital buy-in fee principals document	
7.	Mutually adopt a resolution expressing the intent of Lake Zurich and CLCJAWA to work together on Lake Michigan project	
8.	Begin IEPA State Revolving Fund loan (or similar) application process	
9.	Begin Route Study	
10.	Establish project funding approach	
11.	Lake Zurich adopts and approves an ordinance determining that they will join and become a member of CLCJAWA under the terms of an admissions agreement	
12.	CLCJAWA Board and each CLCJAWA member community adopts and approves an ordinance admitting Lake Zurich as a member	
	Lake Zurich becomes a non-voting "Participant" on the CLCJAWA Board	
13.	Form a Lake Zurich / CLCJAWA staff Technical Committee	
	Begin preliminary engineering	
	Begin source water change study	
14.	Conduct stakeholder public outreach open house	
15.	Detailed design engineering begins	
16.	Adopt resolution authorizing IEPA loan agreement	
17.	Begin release of bid packages for bidding	
	With CLCJAWA board approval and award of $5 million in construction costs, Lake Zurich became a voting Board member.	
18.	Initiate construction	
	Start-up and testing	
19.	Lake Zurich Water Delivery	

3/23/2023 -WJS

Discussion/Questions