



A Tale of Two Villages and One City

And Their Journey to Long Term Water Supply

IEPA #19714



Caminer Law, LLC
*Woman-owned and certified firm
Bridging the business and Law of Infrastructure*



JEOPARDY!

**Long Term
Water Supply**

**Regional
Solutions**

**Community
Consideration**

**Legal
Logistics**

**Planning for
2050**

100

100

100

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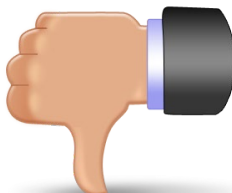
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**THIS AQUIFER SUPPLIES ALL
OSWEGO, MONTGOMERY, AND
YORKVILLE WITH THEIR
GROUNDWATER**



WHAT IS THE IRONTON-GALESVILLE AQUIFER?



- ▶ Naturally Occurring Radium 226 and Radium 228
- ▶ Illinois State Water Survey Projects the Aquifer is pumped beyond its sustainable yield and water levels are dropping
- ▶ City of Joliet has decided to abandon the use of the Ironton-Galesville Aquifer for Lake Michigan Water

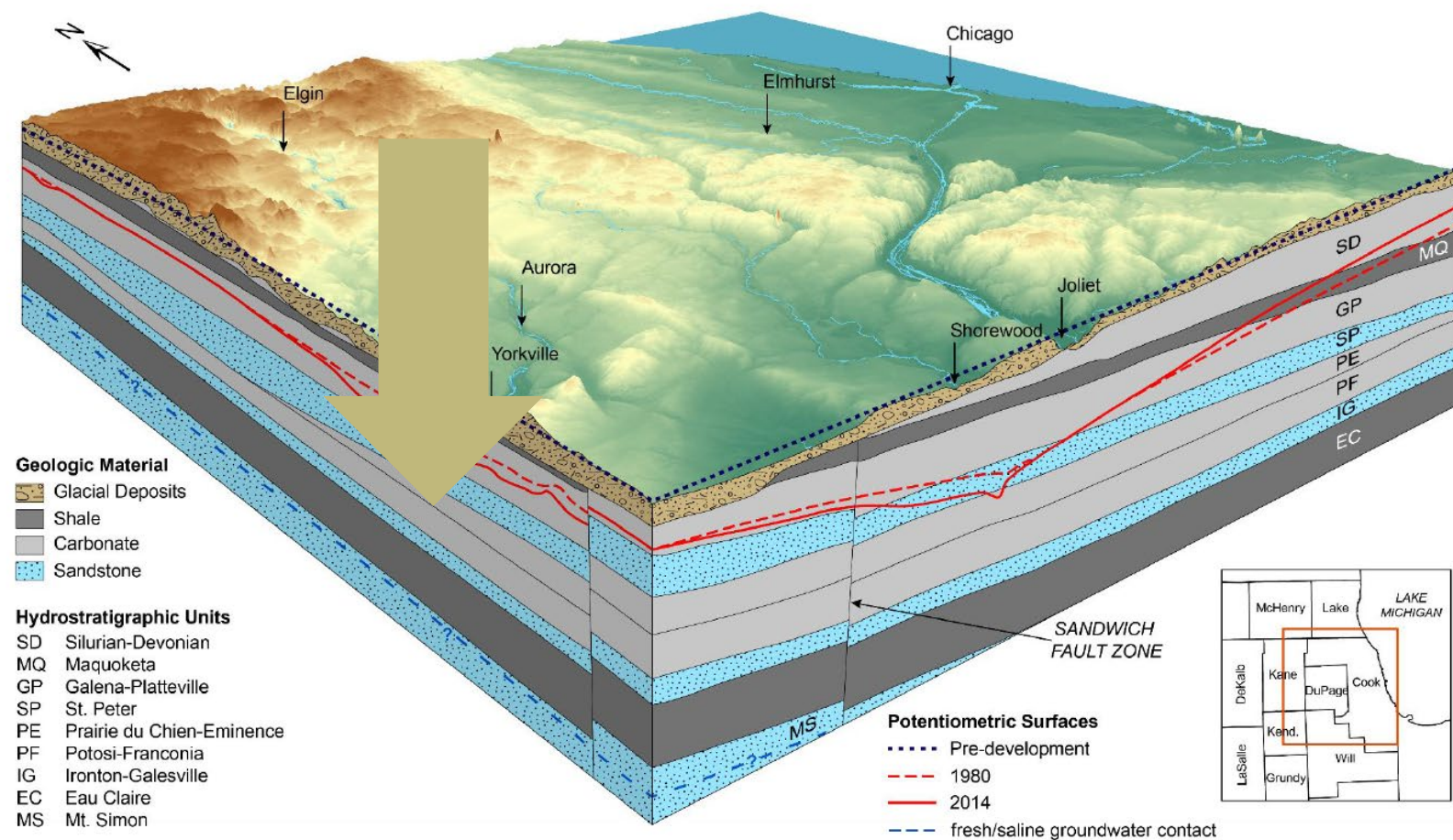
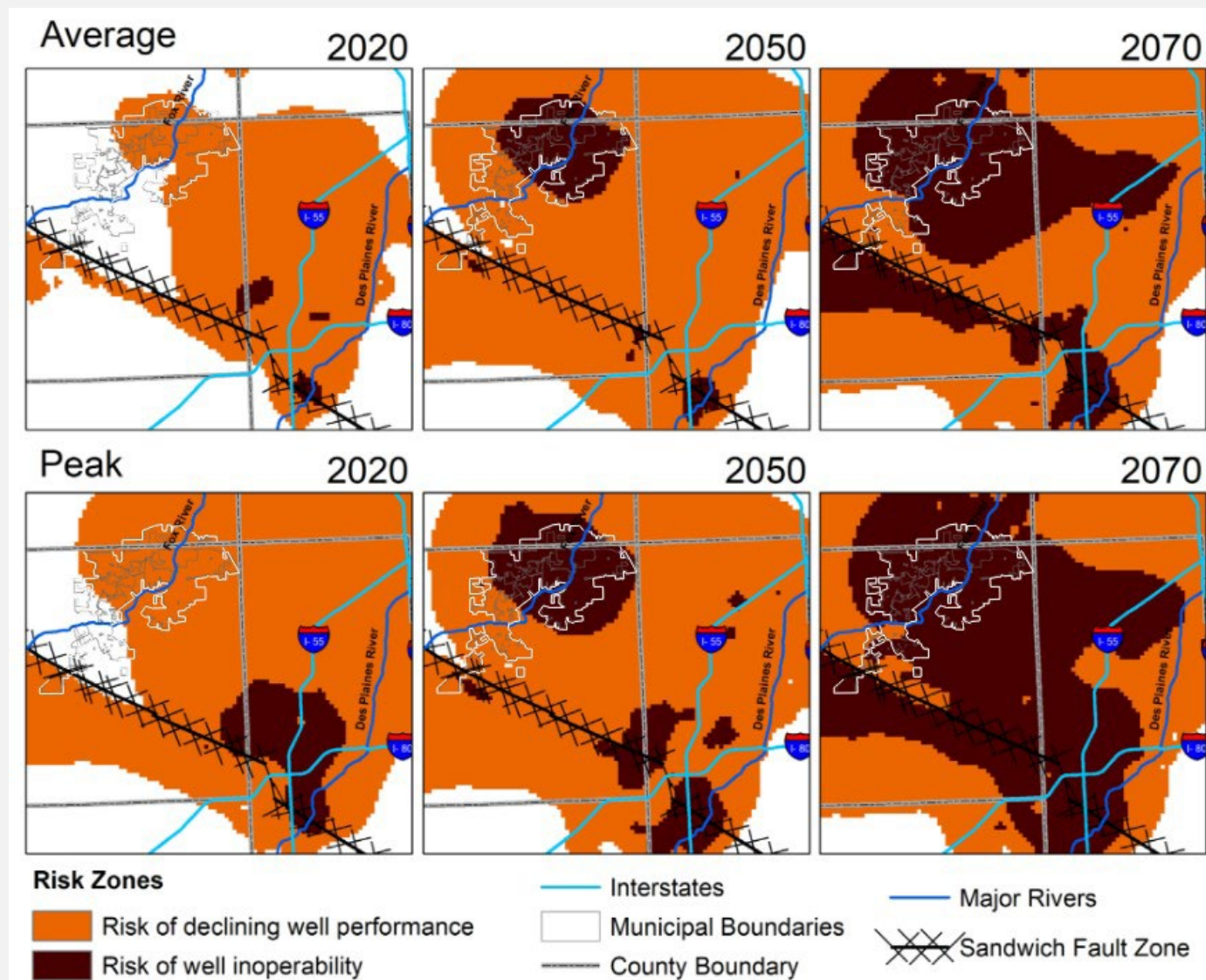


Figure 23: Potentiometric surface of the Cambrian-Ordovician sandstone aquifers for predevelopment, 1980, and 2014 in northeastern Illinois. The left cutaway runs through southern McHenry, Kane, and Kendall Counties. The right cutaway runs through Kendall, Will, and southern Cook Counties

**MODELING BY THIS AGENCY WAS
CRITICAL IN DETERMINING LONG TERM
WATER SUPPLY AVAILABILITY**



WHAT IS THE ILLINOIS STATE WATER SURVEY (ISWS)?



ISWS Model Scenarios shows aquifer drawdown is severe throughout the Region

Illinois State Water Survey (ISWS) projects that Montgomery, Oswego, and Yorkville will be at “severe risk of being able to meet demands and becoming inoperable” by 2050.

THE RISK OF THE DECLINING AQUIFER LEVELS SHOWED THIS SIGNIFICANT OUTCOME



WHAT IS THE RISK OF WELL INOPERABILITY?



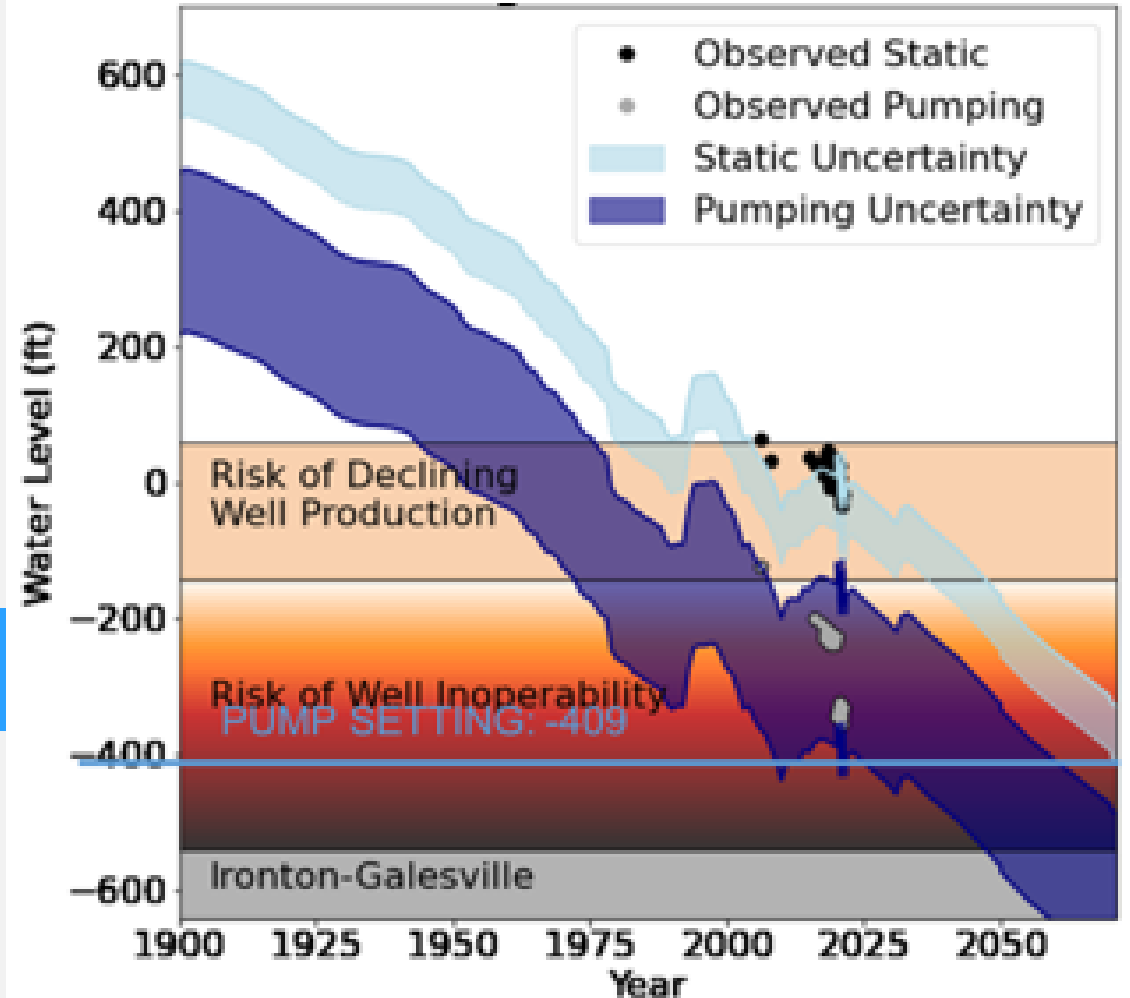
SUSTAINABILITY OF WATER SOURCE

- ✓ Reduced production capacity of the well
- ✓ Potential for caving in the deeper sandstone formation
- ✓ Limits on depths for pump settings
- ✓ Increased risk of pumping sand

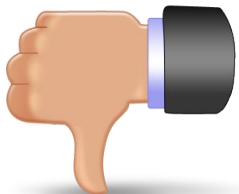
COST



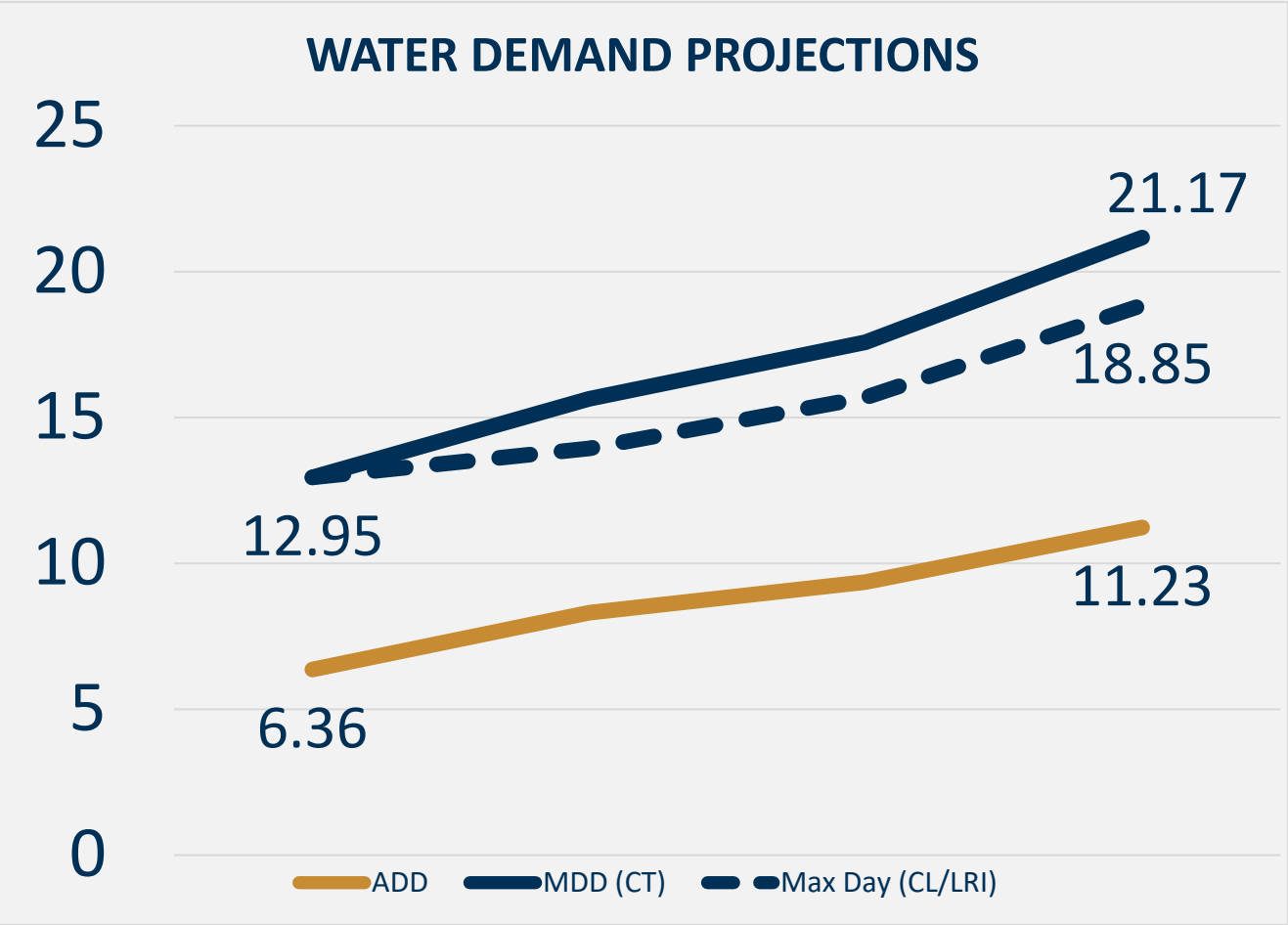
- ✓ Increased cost associated with lifting water over a greater distance
- ✓ Increased cost associated with more frequent well rehabilitation



**22 MGD IS NEEDED TO MEET THE WATERLINK
COMMUNITIES' DEMAND BY THIS YEAR**



WHAT IS THE 2050 MDD?



2050 Population Estimates

-  Montgomery → 42,000
-  Oswego → 53,853
-  Yorkville → 47,796



**SEASONAL FLUCTUATIONS ARE
MINIMIZED DURING THE SUMMER
DUE TO THESE PRACTICES**



WHAT IS WATER CONSERVATION?



AVERAGE GALLONS OF WATER USED PER PERSON



Montgomery residents use 84 gallons of water per person

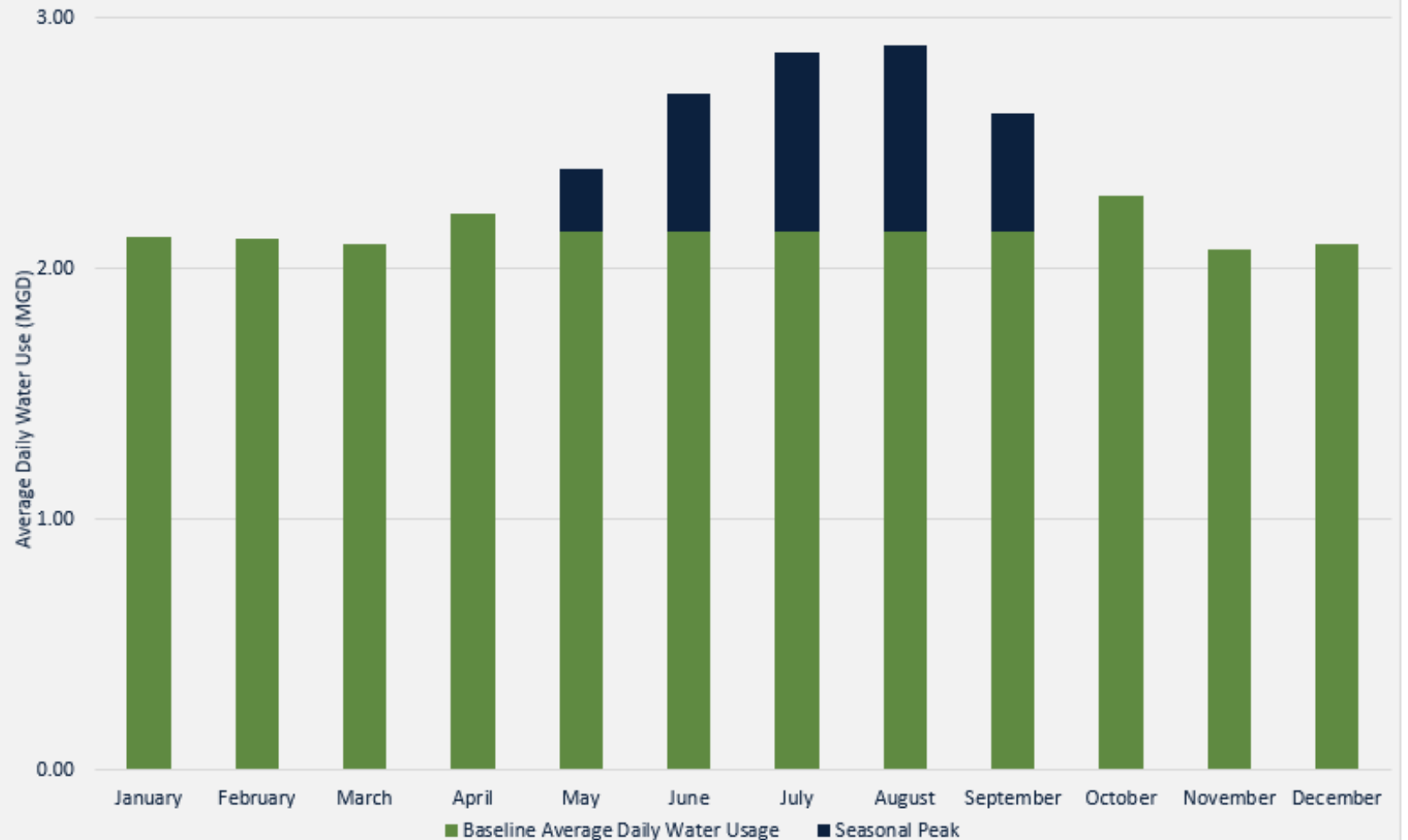


Yorkville residents use 84 gallons of water per person

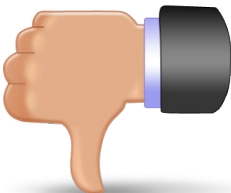


Oswego residents use 68 gallons of water per person

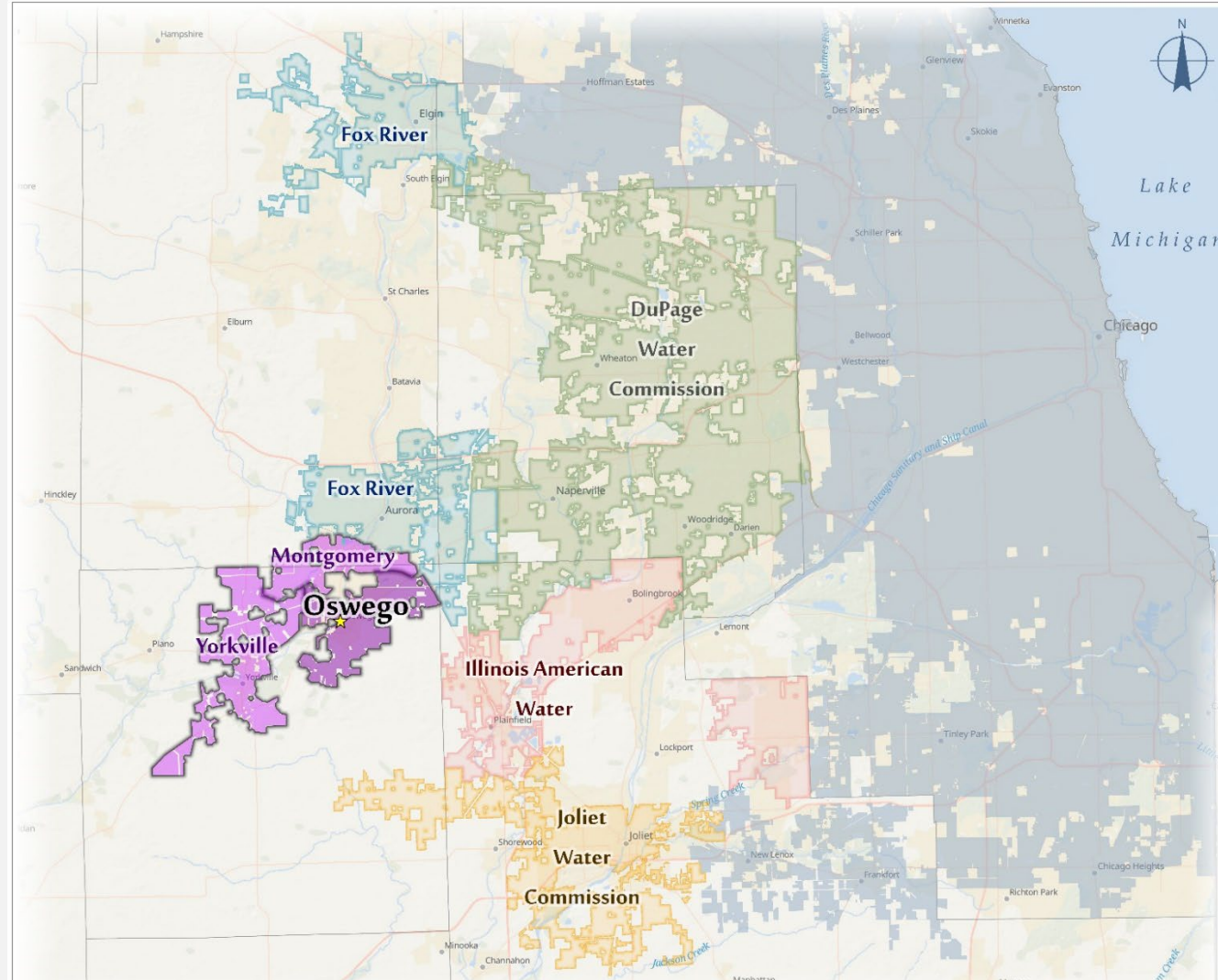
Sample Daily Water Usage - Baseline & Seasonal Peak



THESE WATER SUPPLY ALTERNATIVES PROVIDED OPTIONS FOR CONSIDERATION



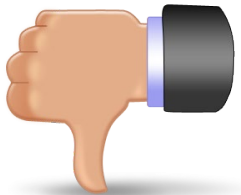
WHAT WERE THE FOX RIVER, DWC, IAW, AND GRAND PRAIRIE?



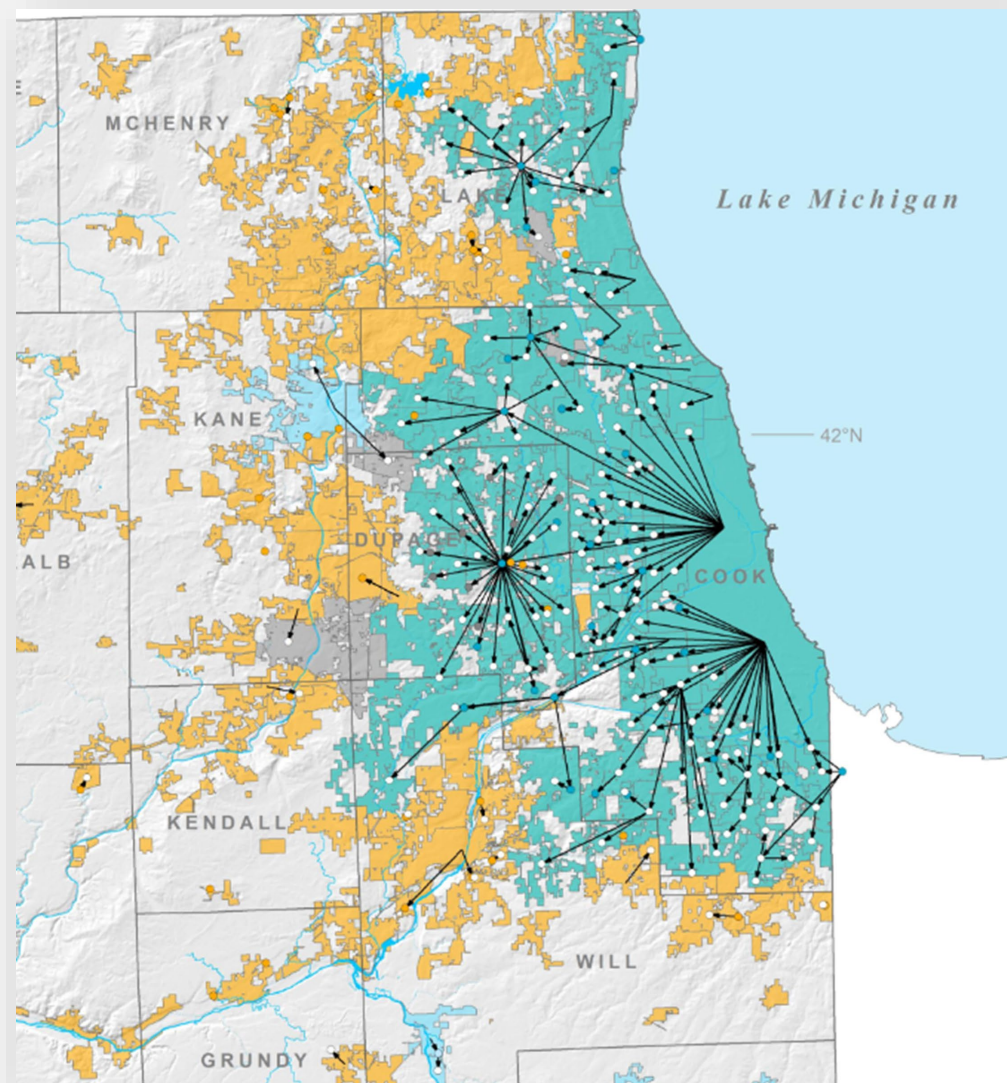
Joliet Water Commission has been officially named the Garden Prairie Water Commission



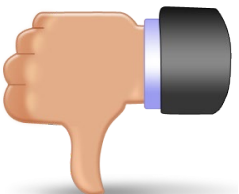
**THESE TWO WATER SUPPLY
SOURCES SUPPLY MANY
COMMUNITIES IN THE
CHICAGOLAND AREA**



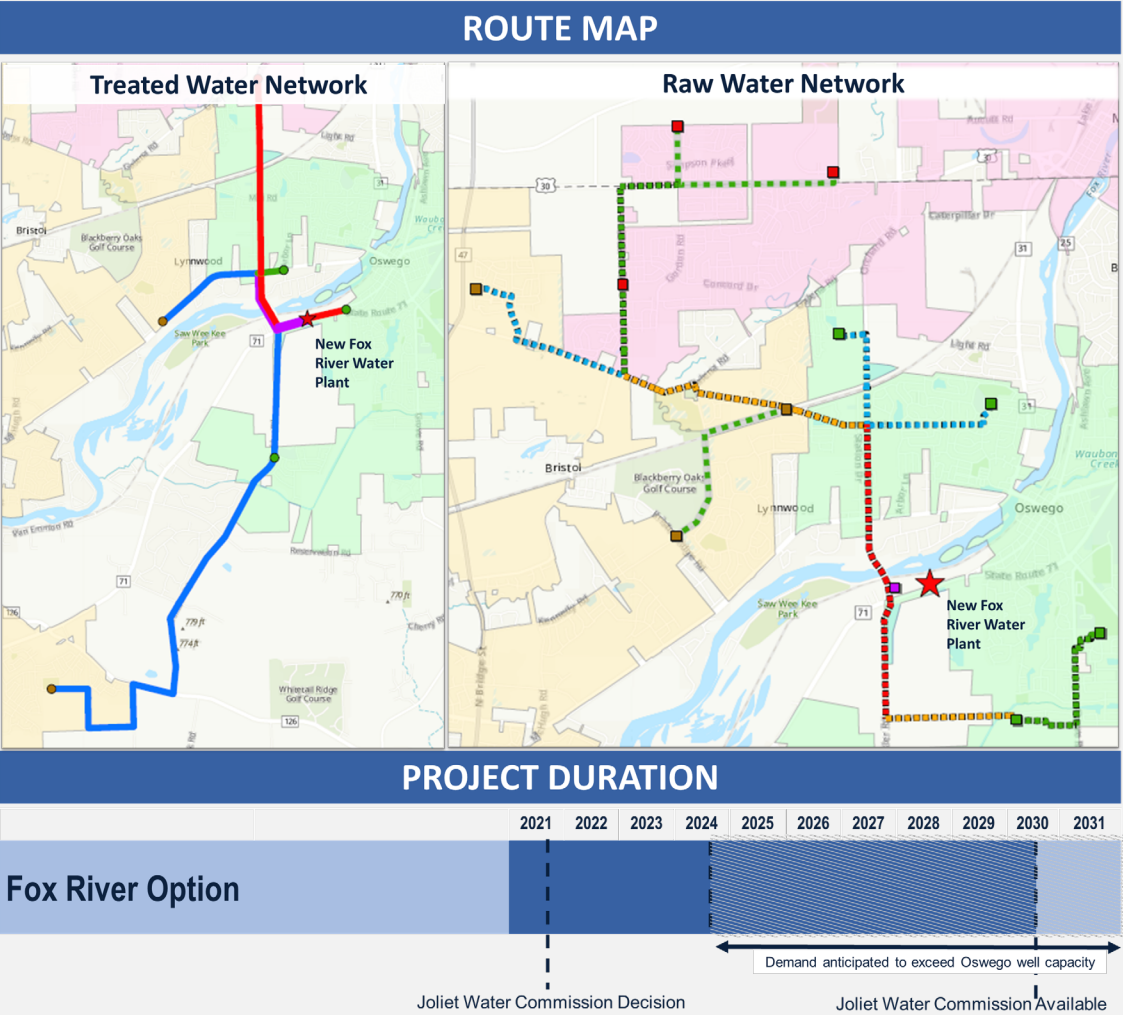
WHAT ARE THE FOX RIVER AND LAKE MICHIGAN?



THIS SOURCE OF WATER SUPPLY REQUIRED A NEW REGIONAL WATER PLANT



WHAT IS THE FOX RIVER?



SUSTAINABILITY OF WATER SOURCE

- Fox River Water
- Low Flow/Seasonal Water quality restriction
- Network wells required for backup

GOVERNANCE & OPERATIONAL RESPONSIBILITY

- Intergovernmental agreement needed between Montgomery, Oswego, and Yorkville
- Shared ownership and control of source, treatment, and distribution

WATER QUALITY & PERMITTING

- Lime Softening Water Plant with Ultrafiltration (Class A)
- Seasonal changes in water quality
- 3 miles downstream of Fox Metro Water Reclamation Facility

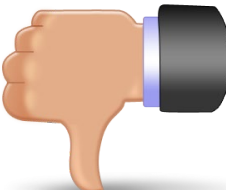
INTERNAL SYSTEM IMPROVEMENTS

- Transmission mains
- New wells
- New storage
- New Oswego well likely needed

TIMELINE

- Estimated 9-11 years

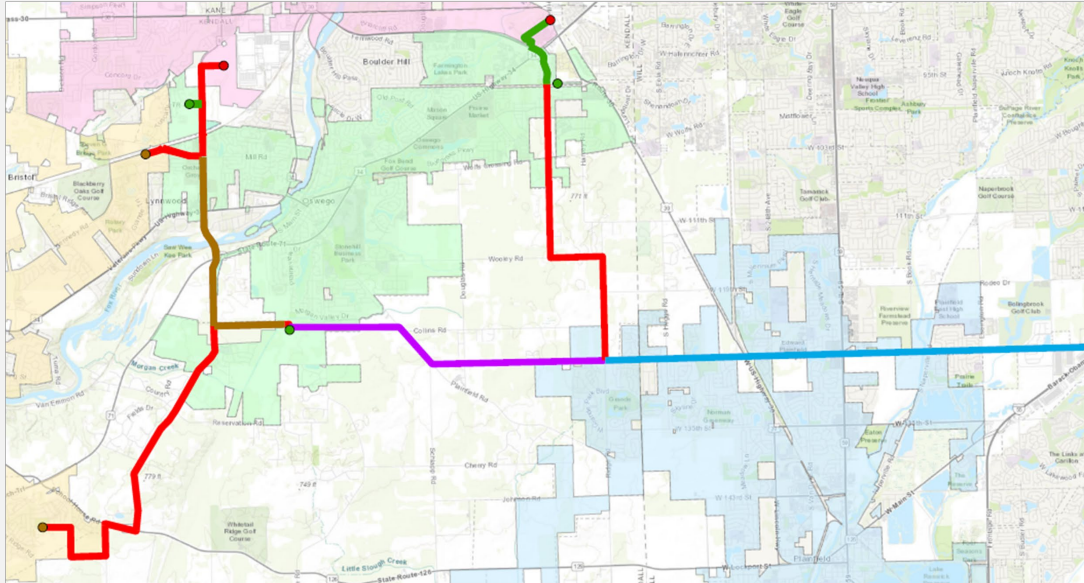
**THIS SOURCE OF WATER
SUPPLY REQUIRED TEAMING
WITH A NEWLY FORMED
WATER COMMISSION**



WHAT IS THE GRAND PRAIRIE WATER COMMISSION?



ROUTE MAP



**Transmission main route is not final*

PROJECT DURATION



SUSTAINABILITY OF WATER SOURCE

- Lake Michigan water
- No seasonal restrictions/ MDD:ADD 1.7
- Wells kept for emergency
- Single supply/not looped main



WATER QUALITY & PERMITTING

- Chicago treats water
- Chlorine disinfection of treated water (Class C)
- Seasonally consistent water quality



GOVERNANCE & OPERATIONAL RESPONSIBILITY

- Joliet Water Commission still being formed
- No direct ownership or control of source water
- Indirect control of transmission infrastructure



INTERNAL SYSTEM IMPROVEMENTS

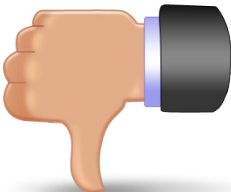
- Transmission mains
- New storage
- Receiving station/pumping stations
- New Oswego well likely needed



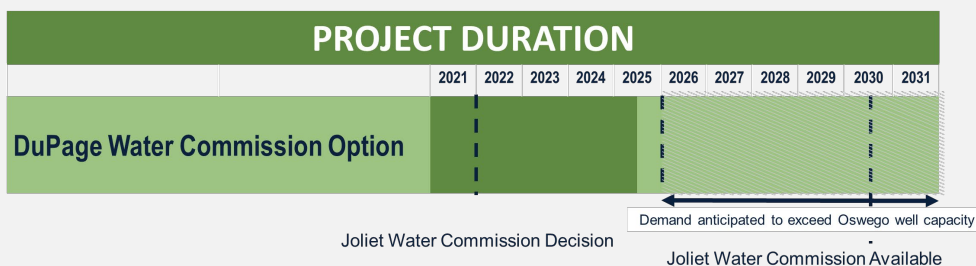
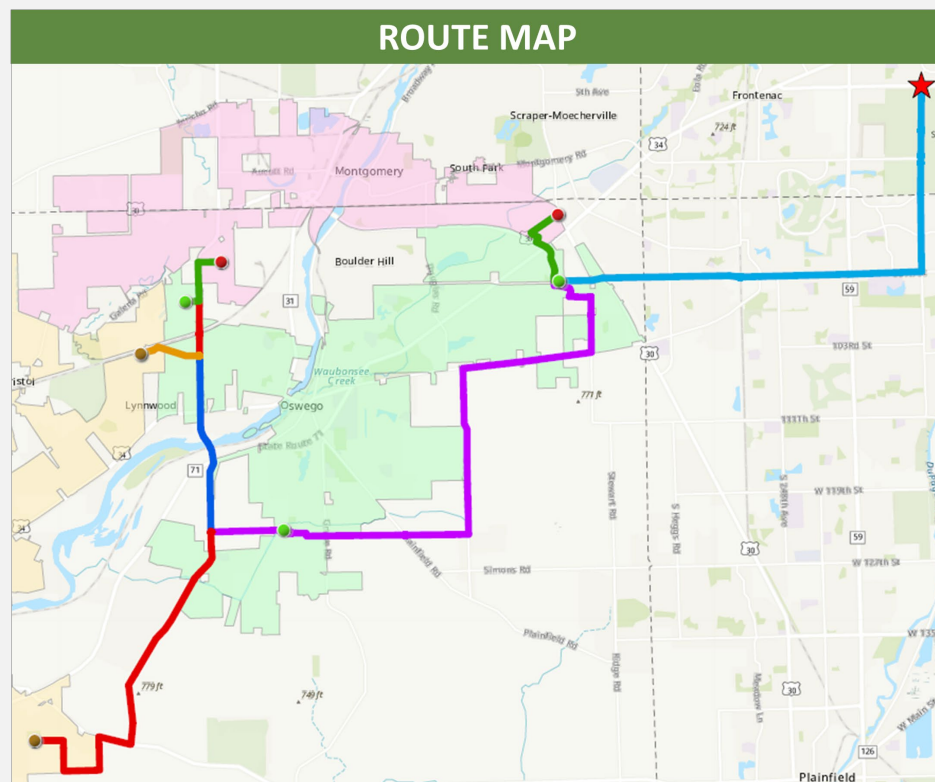
TIMELINE

- No earlier than 2030

THIS SOURCE OF WATER SUPPLY REQUIRED TEAMING WITH AN EXISTING WATER COMMISSION



WHAT IS THE DUPAGE WATER COMMISSION?



SUSTAINABILITY OF WATER SOURCE

- Lake Michigan water
- No seasonal restrictions/ MDD:ADD 1.7
- Wells kept for emergency
- Looped water mains in DWC



GOVERNANCE & OPERATIONAL RESPONSIBILITY

- No direct ownership or control of source water
- Indirect control of the transmission infrastructure



WATER QUALITY & PERMITTING

- Chicago treats water
- Chlorine disinfection of treated water (Class C)
- Seasonally consistent water quality



INTERNAL SYSTEM IMPROVEMENTS

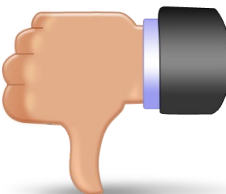
- Transmission mains
- New storage
- Receiving station/pumping stations



TIMELINE

- Estimated 4-5 years

**THESE SIX CRITERIA WERE
USED TO EVALUATE ALL
WATER SUPPLY OPTIONS**



WHAT ARE THE KEY CONSIDERATIONS?



SUSTAINABILITY OF WATER SOURCE

The ability of the water option to have sufficient water quantity to meet demand projections in 2050 and beyond



WATER QUALITY & PERMITTING

The quality and variability of the raw water source



GOVERNANCE & OPERATIONAL RESPONSIBILITY

The ability to maintain complete control of the water source, including operations and maintenance of infrastructure



INTERNAL SYSTEM IMPROVEMENTS

The improvements required to each community including new water main, water storage, and pumping facilities



TIMELINE

The total project schedule, including design, permitting, easement acquisition, contract negotiations, and construction

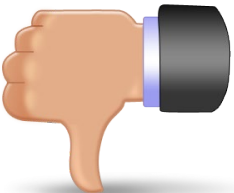


COST

Cost information anticipated in September 2021



**THESE SCHEDULES WERE A
KEY CONSIDERATION**



WHAT ARE THE OPTION'S WATER SUPPLY TIMELINES?



2021 2022 2023 2024 2025 2026 2027 2028 2029 2030 2031



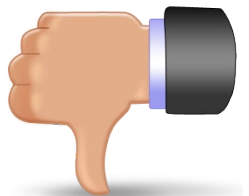
Joliet Water
Commission Decision

← Demand anticipated to exceed existing Oswego well capacity →

Grand Prairie Water
Commission Available



ORDINANCES, CONSERVATION PRACTICES AND NON-REVENUE WATER ARE ALL REQUIREMENTS OF THIS AGENCY



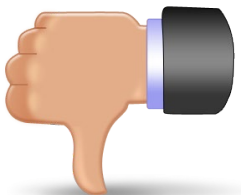
WHAT ARE THE IDNR REQUIREMENTS FOR WATER CONSERVATION?



Water Conservation Requirements	Oswego	Montgomery	Yorkville
Current Ordinance	✓ Even/Odd and Time of Day lawn watering restrictions; ✓ No New seed/sod in July /August	✓ Even/Odd and Time of Day lawn watering restrictions ✓ No New seed/sod in July /August	✓ Even/Odd and Time of Day lawn watering restrictions ✓ No New seed/sod in July /August
Current Conservation Practices	✓ Leak Detection ✓ Swimming Pool Guidelines ✓ Rain Barrel Program	✓ Leak Detection ✓ All Requirements In Part 3730 (e.g. WaterSense Labeled New & Replacement Fixtures, Car Washes With Recycling Systems, Etc.)	✓ Leak Detection ✓ Wyland National Mayor's Challenge For Water Conservation ✓ All Requirements In Part 3730
Non-Revenue Water <10%	8%	30.7% Water System Improvement Plan to Achieve <10%	12.7% Water System Improvement Plan to Achieve <10%



**THIS \$272M NUMBER WAS
COMPRISED OF TRANSMISSOIN
MAINS, BUY-IN FEES, AND INTERNAL
SYSTEM IMPROVEMENTS**



WHAT IS THE 2021 COST ESTIMATE?



Alternative Water Supply 2021 Cost Estimates

Montgomery

Oswego

Yorkville

Transmission Main Costs

Buy-in Costs

Internal System Improvement Costs

Total

**COSTS HAVE INCREASED SINCE
2021**

Funding Mechanisms include

- ✓ **WIFIA**
- ✓ **IEPA Loan**
- ✓ **Rates Increases**

Rate Increases Approximately...

- ✓ **Oswego - Double**
- ✓ **Montgomery - Double**
- ✓ **Yorkville - Double**



**OPEN HOUSES, SOCIAL MEDIA, AND
BOARD MEETINGS WERE UTILIZED
FOR THIS PURPOSE**



WHAT IS RESIDENT ENGAGEMENT?

Montgomery, Oswego and Yorkville Community Open Houses



AN UPDATE FROM WATERLINK - DECEMBER 6, 2021

Officials from Montgomery, Oswego, and Yorkville Formally Select Lake Michigan as the Best Sustainable Option for Drinking water.



Posted on: October 5, 2021

[ARCHIVED] New Water Source Open House, October 19th, 5pm – 6pm, Yorkville City Hall

Today, the residents of Yorkville, Oswego and Montgomery can turn on the faucet and expect clean, safe drinking water to pour out. But what happens when the tap runs dry?

The underground pool of fresh water, called an aquifer, that supplies the drinking water for our communities and several others in the Chicagoland region, is slowly drying up. That's why Montgomery, Oswego and Yorkville are partnering up to explore our options and create a plan to access a safe, reliable water source for generations.

Our communities are considering sourcing our water from either Lake Michigan or the Fox River. Both options will be costly, and other considerations – such as reliability, taste, and local control – are important, too.

Come learn about both options and help shape the future of our communities at an open house from 5 to 6 p.m. on Tuesday, October 19th, at Yorkville City Hall, 800 Game Farm Road, Yorkville, Illinois. Engineers and community officials will be on hand to walk you through exhibits and answer your questions about the future of our water.



Find Out More About Water Initiatives



Village of Oswego, Illinois
September 28, 2023

The Village's goal to connect to Lake Michigan water through the DuPage Water Commission is on track for 2027. On August 22, the Village Board heard the first of several presentations on funding the project, including the impacts on water rates. The Village continues to find ways to offset the expense of the project to our residents which is expected to cost more than \$75 million. Federal grants and low-interest loans will help reduce the total cost, as well as revenue from the Village's real estate transfer tax that was approved by referendum in 2022.

The next water rate presentation will take place at the October 17 Committee of the Whole meeting at 6 p.m. in Village Hall. As always, the public is invited to attend and share feedback at all Village Board meetings. All Committee of the Whole and Village Board meetings are live streamed and the video is available to watch afterward.

Learn more about the project and view the August 22 water rate presentation and watch the meeting: www.oswegoil.org/water.



22

7 comments 5 shares

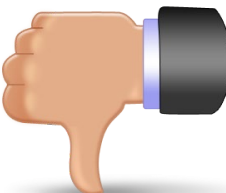
**THE STATES OF WISCONSIN,
MINNESOTA, MICHIGAN, OHIO,
PENNSYLVANIA, NEW YORK, MISSOURI,
KENTUCKY, TENNESSEE, AND LOUISIANA
ALL COLLABORATED ON THIS 1880s
INITIATIVE**



WHAT IS THE LAWSUIT AGAINST ILLINOIS FOR DIVERTING WATER FROM LAKE MICHIGAN?



**THIS 3,200 CUBIC FEET PER
SECOND FLOW RATE IS USED TO
MANAGE THE LEVEL OF LAKE
MICHIGAN**



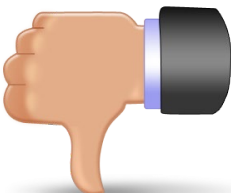
WHAT IS THE ILLINOIS LAKE MICHIGAN DIVERSION LIMIT?



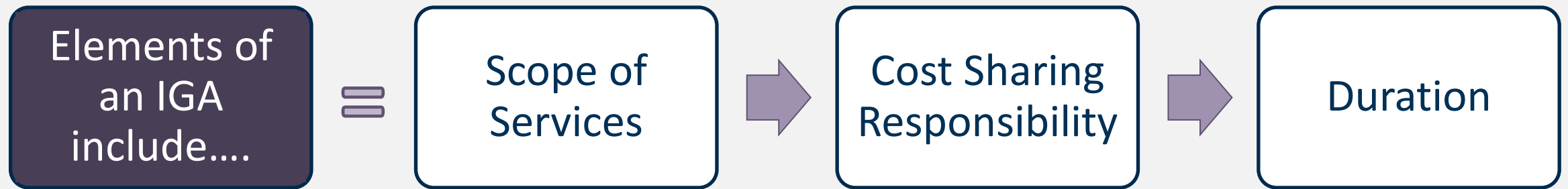
- ✓ **The Illinois Lake Michigan Water Allocation Program (Program) was developed to manage Illinois' diversion of water from Lake Michigan in response to a 1967 Supreme Court Decree amended in 1980.**
- ✓ **This Decree limits Illinois' diversion to 3,200 cfs based on a 40-year running average.**



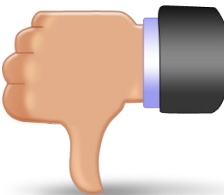
THE STUDY AND EXPLORATION OF CONSTRUCTION TO OFFSET THE INVESTMENT OF A NEW WATER SUPPLY



WHAT ARE THE BENEFITS OF 3 COMMUNITIES ENTERING INTO AN IGA?



**4 COPIES, 1 COURT REPORTER, 3
EXPERTS, 2 OR MORE PARTIES
AND 18 MONTHS (+/-) WERE
NECESSARY FOR THIS
REQUIREMENT**



WHAT ARE THE PREREQUISITES FOR AN IDNR HEARING?



Illinois Department of Natural Resources

One Natural Resources Way Springfield, Illinois 62702-1271
www.dnr.illinois.gov

JB Pritzker, Governor
Colleen Callahan, Director

LAKE MICHIGAN WATER ALLOCATION: APPLICATION-FOR-PERMIT

Office of Water Resources, Michael A. Bilandic Building, 160 N. La Salle Street, Suite S-703, Chicago, IL 60601
Office: (312) 793-0990 Fax: (312) 793-5968

Completing this Application-for-Permit for a Lake Michigan water allocation is required under Illinois statute [615 ILCS 50/5] and is the first step in the Lake Michigan water allocation process. All water use amounts must be provided in units of million gallons per day (mgd), except where otherwise noted, for the period defined by the water year which runs from October 1, 20XX-1 through September 30, 20XX, where 20XX is the water year (e.g., water year 2020 runs from 10/1/2019 through 9/30/2020). In addition, all water use amounts should be rounded and entered to three decimal places (thousandths place). Do not include water which is exported (sold or transferred) to any other water distribution system unless expressly indicated otherwise in this application. Please complete all of the sections within this application (see section tabs I, II, IIIA, IIIB, IVA, IVB, V&VI, and VII) and answer all of the questions in this application form. Submit the completed application to the Illinois Department of Natural Resources, Office of Water Resources, 160 N. La Salle Street, Suite S-703, Chicago, IL 60601.

SECTION I - General Information

Permittee:

IDNR Application Required for a 1B Lake Michigan Water Allocation Permit for each community includes:

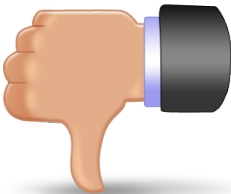
1. Application
2. Report in Support of Application
3. Written Testimonies
4. Water Improvement Plan

Burden of proof for a 1B Lake Michigan Permit:

1. There is no adequate alternative supply
2. The economics of alternative water supplies are not feasible
3. The priority is for domestic purposes
4. Granting a 1B Lake Michigan Allocation will reduce the withdrawal from the Cambrian Ordovician Aquifer



THE THREE COMMUNITIES APPEARED BEFORE THESE SEVEN LEGISLATIVE BODIES TO PROVIDE A LONG-TERM WATER SOLUTION



WHAT ARE THE ILLINOIS, IDNR, CHICAGO, DWC, MONTGOMERY, OSWEGO, AND YORKVILLE?



State of Illinois: add 7th District in Commission to expand DWC

Illinois Department of Natural Resources: Lake Michigan Allocation

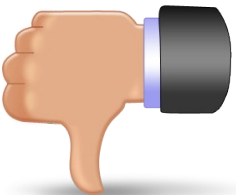
Chicago and DWC: approval of new DWC direct water supply agreement (17 years)

DWC: Formation of 7th District

Montgomery, Oswego, Yorkville: IGA, Conservation Ordinances, Authority to move forward with Lake Michigan IDNR application, Escrow Agreements, Construction Agreements, Funding, Water Supply Agreements



**THESE PLANS ARE REQUIRED TO
CONSERVE LAKE MICHIGAN
WATER**



WHAT ARE WATER SYSTEM IMPROVEMENT PLANS?



OSWEGO

Total Water Main Length
172 miles

Average Distribution
System Age
1992

Non-Revenue Water
8%

**Action Plan - Replace
aging main**



MONTGOMERY

Total Water Main Length
137 miles

Average Distribution
System Age
1981

Non-Revenue Water
30.7%

**Action Plan - Replace aging
main; Water Billing Process
Audit; Annual Master Meter
Testing; Better Tracking of
Unmetered Water; District
Meter Area**



YORKVILLE

Total Water Main Length
150 miles

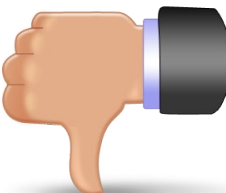
Average Distribution
System Age
2000

Non-Revenue Water
12.7%

**Action Plan – Replace
aging main; Convert fully to
AMI; Annual Master Meter
Testing; Better Tracking of
Unmetered Water**



ROUTE EVALUATIONS AND COST UPDATES ARE NEXT THIS YEAR



WHAT ARE THE DWC'S NEXT STEPS IN 2024?



DWC Engineers Next Steps

- ✓ Evaluating new route options
- ✓ Modeling demand scenarios
- ✓ Trying to minimize cost and easement acquisition
- ✓ Updating preliminary design costs
- ✓ Collaborating with Corrosion Control Project



HARVESTING SERVICE PIPES AND TESTING WATER QUALITY IS PART OF THIS REQUIREMENT



WHAT IS A CORROSION CONTROL STUDY?

Regional Collaboration Includes Corrosion Control Study

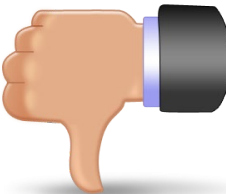
- ✓ All three communities sharing a grant for funding
- ✓ Hiring a company to conduct required corrosion control study with Lake Michigan water from DWC



Sample pipe loop rig



**A VARIETY OF THESE
OPTIONS ARE UNDER
EVALUATION TO HELP WITH
COSTS**



WHAT ARE FUNDING MECHANISMS?



WIFIA

DuPage
Water
Commission

IEPA State
Revolving
Loan Fund

Municipal
Savings

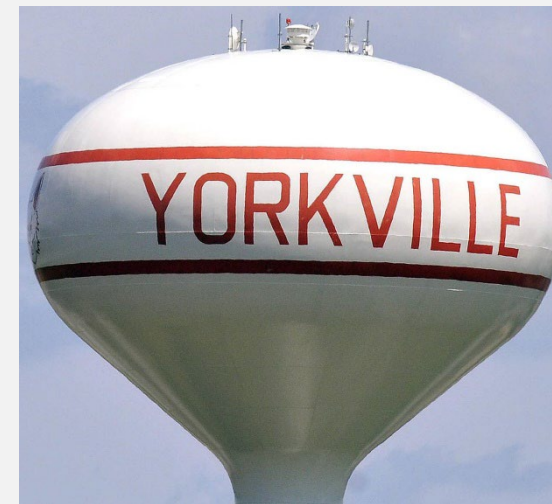
Residents
Rates



THESE INFRASTRUCTURE COMPONENTS HELP EACH COMMUNITY GET LAKE MICHIGAN WATER



WHAT ARE METERING AND RECEIVING STATIONS?



All three communities are evaluating where to receive Lake Michigan Water and how it will supply their distribution systems.

Receiving stations include metering, pumping, and storage, based on interconnect hydraulics.

