

## **City of Joliet Alternative Water Source Study – Phase II**

**Joint City Council and Environmental Commission Workshop  
July 30, 2019, 5 pm to 7:30 pm**

### **Workshop Questions and Answers**

A summary of question and answers from the small group discussions that took place during the Joliet Environmental Commission – City Council Workshop on July 30, 2019 is provided below. The small group discussions focused on each of the water source alternatives being evaluated further during the Phase II Study: Lake Michigan Supply – DuPage Water Commission (DWC), Lake Michigan Supply – Chicago Department of Water Management (CDWM), Lake Michigan Supply – Southland Water Agency (SWA)/New Indiana Intake, Kankakee River Supply and Illinois River Supply.

#### **General Questions**

**Q1. What is the existing City of Joliet water rate components, or more specifically how much of the existing rate accounts for the supply and treatment costs?**

The total City of Joliet water rate provides the revenue to cover the operation, maintenance and replacement costs of the Water Works System. The components of a Water Works System are the supply, treatment, distribution, storage and controls. The total composite current water rate for an average residential water customer is approximately \$5.15 per 1,000 gallons of water used. The rate required to cover the supply and treatment components of the Water Works System is approximately \$0.50 to \$0.70 per 1,000 gallons. The remaining portion of the rate funds the distribution, storage, controls and administrative costs of the Water Works System.

**Q2. Can we sell water from our existing wells to other communities?**

No. If Joliet commits to using Lake Michigan as its primary source of water supply, it can only maintain its existing wells for emergency or standby use. Joliet could not sell water from its existing wells to other communities. Section 3730.307(d) of the Illinois Department of Natural Resources rules regarding the Allocation of Water from Lake Michigan requires that “Within 90 days after receipt of an allocation permit, each permittee that uses any water from deep aquifer pumpage shall submit and implement a phase program designed to end this practice, other than for emergency of standby use, within five years after the receipt of Lake Michigan water.”

If Joliet uses a river source, the wells would likely be used as a back-up supply, so the City would not want to commit their capacity to other communities.

**Q3. Can artesian water (i.e. water within a quarry) be mixed with well water?**

Waters from different sources can be blended and treated to meet drinking water standards. Water quality from individual sources must be carefully reviewed to assess potential risks and identify requirements for treatment. Also, variations in water quality resulting from changes in the mix of waters being used can complicate the treatment process.

**Q4. Can well water be mixed with Lake Michigan water?**

For all of the alternatives (Lake Michigan Water and River Water), the City’s existing well water supply would be used as a back-up supply. Currently it is anticipated that the wells would serve as an offline back-up for the Lake Michigan Water alternatives. That means that if there was a

loss of supply that extended beyond the two days of water storage that is required for a Lake Michigan Water community, the back-up wells would be turned on and supplied direct to the water system, comingling with the Lake Michigan Water. This is not desired from a water quality standpoint and, therefore, would only be done in the case of an emergency.

**Q5. Can well water be mixed with river water?**

As noted in the question above, for all of the alternatives (Lake Michigan Water and River Water), the City's existing well water supply would be used as a back-up supply. Currently it is anticipated that the wells would serve as an offline back-up for the Lake Michigan Water and Illinois River alternatives. For the Kankakee River alternatives, piping would be constructed from the existing wells to the new water treatment plant so that the wells could serve as an active online back-up (and potential supplemental) supply. Since the well water would go through the same treatment as the river water there would be no problem using well water either alone or together with river water. Similar to Lake Michigan Water, if there was a loss of Illinois River water supply that extended beyond the City's water storage, the back-up wells would be turned on and supplied direct to the water system, comingling with the treated river water. This is not desired from a water quality standpoint and, therefore, would only be done in the case of an emergency.

**Q6. It would be helpful to have the water rates for the different providers included in the final report.**

Water rates from each of the water producers will be included in the Phase II report and cost analysis which will be submitted to the City of Joliet in November of 2019.

**Q7. What are the sizes of the transmission mains (pipes) for the Joliet Only and Regional options?**

Sizing of transmission mains is currently in progress as part of the Phase II evaluation. Final recommendations will be included in the report submitted to the City in November of 2019. However, based on preliminary evaluation, pipe sizes are expected to be in the range of 36 to 48 inches in diameter for the 30 million gallons per day (MGD) scenario and 54 to 72 inches in diameter for the 60 MGD scenario.

**Q8. Is there a difference in treatability of Lake Michigan water vs. river water?**

In general, the quality of Lake Michigan water is more consistent than river water, since the quality of water in rivers can vary seasonally and with changes in flow (such as flooding and droughts). However, both Lake Michigan and the river waters being considered are treatable to regulatory standards with current technologies that have been proven over time. Sampling of the Illinois and Kankakee rivers is being conducted as part of Phase II evaluation to provide accurate data for the evaluation of treatment requirements. As indicated in Phase I, treatment to achieve the equivalent of "Lake Michigan Water" is being included in the river and Lake Michigan alternatives that include treatment.

**Q9. What are the real estate and physical factors being considered in the cost estimate?**

Conceptual costs being developed for all alternatives will include an allowance for the potential acquisition of right-of-way, easements, or other real estate. These costs will be estimated based on assumptions related to the extent of land acquisition required for each option.

Physical factors that could have a significant impact on the relative cost of individual alternatives include major transmission main crossings (interstate or waterway), and limitations on the use of existing road rights-of-way.

**Q10. What is the worst-case scenario for the various options? What outcomes are possible?**

A worst-case scenario for any of the options would occur if factors beyond Joliet's control delayed completion of the required infrastructure improvement beyond Joliet's target date of 2030. Factors that could contribute to this scenario include problems obtaining easements or property required for new water transmission main for supply facilities, or delays in the respective supply agency's completion of required capital improvements required within its own system.

**Q11. Will costs for the various options be broken out?**

Costs will be compiled and presented by the categories shown in the total cost of water presentation for all options.

**Q12. Have existing utility and drainage tile lines along the route been identified? Including depth and required setbacks?**

In this evaluation, we are identifying general pipeline routes from the source to the two water delivery points identified in the City. GIS mapping is being used as the basis of the evaluation and includes major features such as utility easements, land usage, IDOT Roadways, municipal boundaries, waterways, lakes, rivers, railroads, forest preserve and wetlands. The identification and mapping of utility lines and depths would be completed for the selected alternative as part of a routing study in preliminary design.

**Q13. Does public perception for community growth favor Lake Michigan versus River Water?**

Realtors and residential developers often tout "Lake Michigan Water" as a selling point when advertising properties or homes for sale. Buyers might not understand the water system, but they do understand that "Lake Michigan Water" means good water. However, in the case of the City of Aurora, the City grew significantly faster than the City of Naperville (it's eastern neighbor) despite not having Lake Michigan Water. It is difficult to say if having "Lake Michigan water" has a positive impact on growth. Having good water, even though it might not be "Lake Michigan Water", is important for growth.

**Q14. What factors are being used for cost estimates for establishing transmission main routes/corridors?**

In this evaluation, we are identifying general pipeline routes from the source to the two water delivery points identified in the City. GIS mapping is being used as the basis of the evaluation and includes major features such as utility easements, land usage, IDOT Roadways, municipal boundaries, waterways, lakes, rivers, railroads, forest preserve and wetlands. Factors such as open cut construction and trenchless construction are being considered as well as the complexity of the route with regards to these different construction types. For example, boring and jacking across an IDOT route versus a railroad versus a major interstate or river is being differentiated.

**Q15. What happens if new contaminants are discovered?**

As emerging contaminants are constantly being identified, all water sources are susceptible to emerging contaminants (River water as well as Lake Michigan water). Adaptive management is the key to weathering the unknowns. In the case of emerging contaminants, the City might need to add a new chemical or treatment process to address new contaminants. Flexibility will need to be included in the design of the facilities of the new water source.

**Q16. How will adaptive management be funded? Environmental Fee?**

Adaptive management is anticipated to be used to address any of the current unknowns for any of the alternatives. Since it is an unknown, the cost is unknown, and we are not able to factor it into the evaluation costs.

**Q17. Just waiting for cost comparisons**

Cost comparisons are currently being compiled by the consultant team and will be presented to the City Council and Environmental Commission in November.

**Lake Michigan Supply – DuPage Water Commission (Station #1)**

Facilitators for small group discussions related to the Lake Michigan Supply – DuPage Water Commission (DWC) Alternative:

- Jeff Freeman (EEI)
- Allison Swisher (City of Joliet)

**Q1. What are the advantages of DWC versus CDWM versus SWA/New Indiana Intake?**

- DWC will likely require the least new infrastructure of the Lake Michigan options.
- DWC is an established water supplier and there will be less risk to the schedule and future operations due to not having to permit, construct and operate a new intake and water treatment plant.
- DWC provides the option for the Commission to own, operate, and maintain transmission main infrastructure outside of Joliet city limits.

**Q2. What are the main differences of DWC versus CDWM versus SWA/New Indiana Intake?**

- DWC and CDWM both provide Joliet with access to treated Lake Michigan water without having to construct or operate an intake or treatment plant.
- As a member of the DWC, Joliet would have some say in decisions related to costs and/or governance; A supply from CDWM would be governed by Chicago's standard water supply agreement.
- An Indiana option could provide Joliet with total control over its water supply but would require construction and operation and maintenance of a lake intake and new water treatment plant.

**Q3. What are the costs of DWC versus CDWM versus SWA/New Indiana Intake?**

Costs are currently being compiled by the consultant team and will be presented to the City Council and Environmental Commission in November.

**Q4. Why are we considering this? Is anyone on the Environmental Commission or City Council considering this?**

Upon completion of the Phase I Study the Environmental Commission recommended that DWC be further studied during Phase II. It is a feasible alternative which will be presented to the Environmental Commission and City Council for consideration.

**Q5. How can we consider cost when the future increases from DWC are unknown?**

For any alternative which involves purchasing water, the terms and conditions for price increases would be incorporated into the agreement. However, with any purchased water agreement, the proposed water supplier will provide current rates and anticipated increases but would not be able to predict or guarantee future increases. This is a risk.

**Q6. Please provide an explanation of the transmission main ownership options.**

The DWC alternative was originally presented as the City of Joliet constructing the transmission main from Joliet to DWC’s Elmhurst facility and then turning over the transmission main to DWC to own, operate and maintain. Joliet would be able to use the money spent on construction of the transmission main to reduce the amount owed to buy-in to DWC’s existing facilities. For this option, the meter would be located at the Joliet City limits and Joliet would not be required to own, operate and maintain facilities outside of City limits. Also, for this option, DWC could use the transmission main to sell water to other communities around Joliet. However, this would not result in reduced availability of water to Joliet as that quantity is guaranteed contractually.

After concern by Environmental Commission members that the City might not want to construct a transmission main and then turn it over to DWC, the consultant team spoke to DWC about other options. DWC indicated that Joliet could construct the transmission main and retain ownership, however, Joliet would then have to pay the entire buy-in cost. For this option, the meter for Joliet would be located at the beginning of the transmission main (in Elmhurst) so Joliet would have to pay for any leakage, unauthorized usage, etc. on that transmission main. This loss of water in the transmission main would also count against Joliet’s 10% non-revenue water goal required for Lake Michigan Water permittees. Also, since Joliet is not able to resell DWC water and the transmission main would be owned by Joliet, regional communities who want to purchase DWC water would have to build their own transmission main.

**Q7. What are existing City of Chicago and DWC water rates?**

As of 2019, the City of Chicago’s wholesale water rate is \$3.98/1000 gallons. The table below shows the history of Chicago water rate changes from 2002 through 2019.

Effective Date	Percent Increase	Water Rate per 1,000 Cubic Feet	Approximate Water Cost per 1,000 Gallons
6/1/2019	0.82%	\$29.73	\$3.98
6/1/2018	1.54%	\$29.49	\$3.95
6/1/2017	1.83%	\$29.04	\$3.88
1/1/2016	0%	\$28.52	\$3.81
1/1/2015	15%	\$28.52	\$3.81
1/1/2014	15%	\$24.80	\$3.31
1/1/2013	15%	\$21.56	\$2.88
1/1/2012	25%	\$18.75	\$2.51
1/1/2011	0%	\$15.00	\$2.01
1/1/2010	14%	\$15.00	\$2.01
1/1/2009	15%	\$13.15	\$1.76
1/1/2008	15%	\$11.44	\$1.53
1/1/2007	0%	\$9.95	\$1.33
1/1/2006	0%	\$9.95	\$1.33
1/1/2005	3%	\$9.95	\$1.33
1/1/2004	3%	\$9.66	\$1.29
1/1/2003	4%	\$9.38	\$1.25
1/1/2002	4%	\$9.02	\$1.20

As of May 1, 2019, the wholesale rate for the purchase of treated water from the DWC for its Charter Members is \$4.97/1000 gallons. (Source: DuPage Water Commission Ordinance O-2-19 adopted April 18, 2019).

**Q8. Please provide an explanation of the components of a water rate for a treated water purchase option, such as the DWC, versus an option where the City withdraws and treats the water.**

If Joliet were to purchase water from DWC, the water rate that Joliet would charge customers would include the following:

- Water Supply Costs – **Buy-in fee to pay for a share of the infrastructure already constructed by the DWC for use by its customers, minor supplier capital improvement cost and ongoing cost to purchase water from DWC**
- Capital Improvement Costs – Initial costs for water transmission/delivery infrastructure, improvements in the Joliet water distribution system and financing costs
- Operation and Maintenance Costs – Ongoing O&M costs to maintain existing infrastructure still in use and new transmission/delivery infrastructure maintained by the City, as well as annual costs to reduce non-revenue water

If Joliet were to withdraw and treat the water, such as for the SWA/New Indiana Intake Alternative, the water rate that Joliet would charge customers would include the following:

- Water Supply Costs – **Ongoing cost for access to Lake Michigan**
- Capital Improvement Costs – Initial costs for **water supply/production infrastructure**, water transmission/delivery infrastructure, improvements in the Joliet water distribution system and financing costs
- Operation and Maintenance Costs – Ongoing O&M costs to maintain existing infrastructure still in use and **new water supply/production and transmission/delivery infrastructure maintained by the City inside and outside City limits**, as well as annual costs to reduce non-revenue water

The costs components in **bold** highlight the difference between the two alternatives being compared.

**Q9. What were the Village of Bartlett's buy in costs?**

The Village of Bartlett's Capital Cost Recovery Charge (or Buy-in Cost) was \$13,030,632.00. The DWC issued a loan to Bartlett effectively allowing this cost to be paid over 30 years at 0% interest. (Source: DWC Ordinance No. O-2-17, approved January 19, 2017). The Buy-in Cost is calculated based on the average daily water demand. However, the DWC has informed the City that the final amount would be negotiated and approved by the DWC Board.

**Q10. Who are the members of the DWC?**

DuPage Water Commission currently supplies water to 23 charter customers (Addison, Bensenville, Bloomingdale, Carol Stream, Clarendon Hills, Darien, Downers Grove, Elmhurst, Glendale Heights, Glen Ellyn, Hinsdale, Itasca, Lisle, Lombard, Naperville, Oak Brook, Roselle, Villa Park, Westmont, Willowbrook, Wood Dale, and Woodridge) in DuPage County as well as 6 subsequent customers (Winfield, Illinois American Water Company, Oakbrook Terrance, Argonne National Laboratories, County of DuPage and Bartlett).

**Q11. Following connection to the DWC, does the Village of Bartlett need to seal their wells?**

A review of the Water Purchase and Sale Contract between the DWC and Bartlett did not identify any requirement that Bartlett seal (abandon) its existing wells upon connection to the DWC

system. Section 3E of the Contract specifically states that “Bartlett, in cases of emergency or when the Commission for whatever reason is unable to meet the Bartlett Unit System’s Full Water Requirements, may, subject to the terms, conditions, and limitations set forth in Subsection 9N of this Contract, serve its customers from any source; provided, however, that Bartlett shall continue to pay all amounts due to the Commission hereunder during such period as if the Bartlett Unit System were receiving its Full Water Requirements from the Commission.”

Section 4C of the Contract specifies the requirements for metering of Bartlett’s shallow wells. The last sentence in Section 4C notes that “The Commission shall have the right to place any or all of such meters under seal at any time.” This statement does not indicate that the wells would be sealed; rather it is intended to give the DWC the authority to place a seal on the meters on the wells to confirm that no adjustments are made to the meter readings.

**Q12. What would be the benefits of going with the DWC versus connecting directly to the City of Chicago?**

It is likely that less infrastructure will be required to deliver water from the DWC to Joliet than from Chicago to Joliet. This will be confirmed prior to the completion of Phase II. As a member of the DuPage Water Commission, Joliet would have some direct involvement/representation on the Board responsible for decisions regarding rates and other aspects of utility operation. As a wholesale customer of the City of Chicago, the terms of Joliet’s water supply would be governed by its negotiated water supply agreement.

**Q13. Please explain the structure of the DWC board and how the City of Joliet would be represented on it.**

Details of the structure of the DuPage Water Commission Board are included in the March 12, 2019 presentation given by the DWC to the Joliet Environmental Commission. Currently, the Board consists of:

- Six commissioners elected by the Mayors of the municipal members of the Commission
- Six commissioners appointed by the DuPage County Board Chairman with the Approval of the DuPage County Board
- A Chairman appointed by the DuPage County Board Chairman with the approval of the DuPage County Board and the Water Commission Board

Board members serve staggered terms of six years.

The exact nature of Joliet’s representation on the DuPage Water Commission Board has not been defined at this point as inclusion of a member from outside DuPage County would require modification of the organization’s rules. However, representatives from DWC have stated the Commission Board is open to doing this to allow for representation for Will County customers.

**Q14. What is the duration of DWC’s agreement with the City of Chicago and the communities’ (and Joliet’s) agreements with DWC?**

The DuPage Water Commission initially negotiated a 40-year agreement with the City of Chicago for its water supply. That agreement runs through 2024, and includes language indicating that it can be extended for a like term at that point.

The Water Commission’s agreements with all its members/customers also run through 2024. Renegotiation activities related to the member/customer agreements began in February 2019.

**Q15. Can we sell DWC water?**

No. The conditions of the DWC supply agreement would not allow Joliet to sell water to customers beyond their current wholesale water customers. There has been some discussion with DWC whether a commission could be formed to allow for a regional option for this alternative.

**Lake Michigan Supply – Chicago Department of Water Management (Station #2)**

Facilitators for small group discussions related to the Lake Michigan Supply – Chicago Department of Water Management Alternative:

- Brian Kazyak (Stantec)
- Amy Wagner (City of Joliet)

**Q1. Is the rate charged for water by the City of Chicago the same for all the users?**

Based on discussion with the Chicago Department of Water Management (CDWM) during the Phase I evaluation, the water rate (\$/1000 gallons) is the same for all customers including customers within the City of Chicago and wholesale customers located outside of Chicago.

**Q2. What is the distance of the improvements to Chicago vs. distance to the proposed new Indiana intake?**

The exact routing of the transmission piping and location of required infrastructure, tie-in points and new intake are still being evaluated. Based on a preliminary connection point to the CDWM system in the vicinity of the Southwest Pumping Station (84<sup>th</sup> Street and Kedvale Avenue), the point-to-point (“as the crow flies”) distance from Chicago to the City of Joliet connection point is approximately 22 miles. The point-to-point distance between the existing Hammond Water Filtration Plant (approximate connection point for a new Indiana intake and Joliet is 30 miles. However, these are direct distances. The actual length of pipeline required for the two alternatives will be greater than these distances based on the need to route the transmission or raw water mains around existing infrastructure (building, roads, railroads, etc.) and natural features (lakes, streams, etc.).

During our Phase I evaluation a more conservative approach was used. Approximate pipeline lengths were estimated based on the sum of the north-south and east-west distances between the proposed supply and delivery points as shown in the table below. This approach was used to provide a consistent basis for comparison and recognize the predominance of north-south and east-west public rights-of-way.

	Point-to-Point Distance	North/South and East/West Distance*
Joliet to New Indiana Intake	30 Miles	39 Miles
Joliet to CDWM Connection Point	22 Miles	30.5 Miles

*\*North/South and East/West distances were used during the Phase I evaluation to provide consistent, conservative estimates of transmission main lengths given the predominance of public rights-of-way oriented either north-south or east-west.*

**Q3. Why was a representative from Chicago not present tonight?**

City of Chicago Department of Water Management personnel were not able to make the meeting due to schedule conflicts.

**Q4. What is the age and condition of the existing facilities that would be used for the Chicago option?**

The CDWM option will utilize four main pieces of existing infrastructure to deliver water to the Joliet connection point: the Dunne intake crib, the Eugene Sawyer Water Purification Plant, existing water transmission tunnels, and the Southwest Pumping Station. While some of these facilities were originally built in the first half of the twentieth century (Dunne intake crib) and others were completed within the last 20 years (79<sup>th</sup> Street Water Tunnel), all are critical pieces of infrastructure in the CDWM system for providing water to Chicago and other areas. As such they have been maintained and upgraded over time. Additional information related to the condition and capacity of these facilities will be researched and presented as part of subsequent submittals to Joliet.

**Q5. How often does the City of Chicago evaluate water rates?**

Chicago's water rates are evaluated on an annual basis as part of the City's budget process. Rates may or may not change each year.

**Q6. Is there a known rate increase coming from Chicago in the near future?**

We are not aware of any City of Chicago plans for major water rate increases in the near future at this time. Chicago typically evaluates its rates and the need for adjustment on an annual basis. Rate changes are established by ordinance and must be approved by the Chicago City Council.

**Q7. Will Joliet be able to negotiate more favorable terms with Chicago?**

Joliet can certainly attempt to negotiate more favorable terms with Chicago than those currently in place for other wholesale purchasers of water. However, historically Chicago has maintained a policy of charging the same rate to all its customers.

**Q8. Is there a limitation to the allotment that Joliet can get from City of Chicago?**

The amount of water that Chicago can supply to Joliet is limited in two ways. First, Joliet will have to obtain a Lake Michigan Water Allocation Permit from the Illinois Department of Natural Resources to be able to use Lake Michigan water. The allocation permit will define the amount of Lake Michigan water that Joliet can use on an annual basis. Secondly, the physical amount of water that Chicago can supply to Joliet depends on the available capacity of Chicago's existing water supply infrastructure. Available data suggests that the City currently has more than adequate intake and treatment plant capacity to supply either Joliet's 30 million gallons per day (MGD) or 60 MGD supply scenarios. Based on discussions with Chicago, it also appears that the existing transmission tunnel and pumping station infrastructure is adequate to supply Joliet's 30 MGD maximum day demand scenario with minimal need for improvements. Significant capital improvements may be required within the Chicago system to provide the 60 MGD maximum day demand.

Additional details related to the available capacity and/or required improvements in the Chicago system will be provided in Chicago's response to Joliet's recent request for information (RFI). The cost for these modifications would likely be paid for by the City of Joliet as part of the establishment of a new water supply agreement.

**Q9. Would infrastructure built within Chicago City limits be maintained by the City of Joliet?**

Under the City of Chicago alternative, a water storage reservoir and structure for housing a flowmeter, isolation valve, and pumping equipment will need to be constructed relatively close to the tie-in point with Chicago. This infrastructure will need to be maintained by the City of Joliet.

**Q10. Can Joliet resell water to other communities under the CDWM option?**

Yes. Chicago's current water supply agreement terms do not preclude wholesale customers from selling water to other wholesale customers.

**Q11. Are there 2 water storage facilities with this option? Does the 2-day storage requirement apply to all options?**

The Chicago Department of Water Management option and all other Lake Michigan supply options will require the construction of at least two new water storage facilities. One storage facility will need to be constructed near the initial point of supply to the Joliet water transmission main to provide reserve storage and operational flexibility for the water transmission system pumping station. A second water storage facility will be needed at the point of delivery from the new water transmission system to the City of Joliet water distribution network. Additional storage will need to be constructed to meet the 2-day storage requirement.

The City of Chicago's current water supply agreement with all its wholesale customers (including the DuPage Water Commission) requires that the customers have storage capacity in their systems equal to at least two times their average day water demand. The intent of this requirement is to make sure that wholesale customers have a reserve supply upon which they can draw in the event of a short-term outage in the Chicago system.

The two-times average day storage requirement is specific to options that involve a supply from the City of Chicago (Chicago or DuPage Water Commission). The total volume of storage required for other options will be defined based on Joliet and other supplier expectations for reserve capacity.

**Q12. What will the costs be to assemble a continuous ownership or easement interest within the transmission main corridor for the Chicago supply to Joliet?**

Conceptual costs being developed for all alternatives will include an allowance for the potential acquisition of right-of-way, easements, or other real estate. These costs will be estimated based on assumptions related to the extent of land acquisition required for each option.

**Lake Michigan Supply – Southland Water Agency/New Indiana Intake (Station #3)**

Facilitators for small group discussions related to the Lake Michigan Supply – Southland Water Agency/New Indiana Intake alternative included:

- Joe Johnson (Stantec)
- Aaron Fundich (Robinson Engineering representing Southland Water Agency)
- J Wynsma (Village Administrator, Village of South Holland)

**Q1. How will the Southland Water Agency option insulate Joliet from the risk of rate increases by the City of Chicago?**

The Southland Water Agency (SWA) will be an independent water utility with its own intake facility on Lake Michigan. The City of Chicago will not be a member of or supplier to the SWA and will not be involved in the setting of water rates for SWA customers.

**Q2. Does Hammond have capacity to provide the water needed by Joliet?**

The SWA water system will be independent from the City of Hammond's existing water system. Hammond currently supplies several Illinois municipalities with Lake Michigan water through its existing water system infrastructure. The existing Hammond system does not have the excess capacity available to also serve Joliet. The SWA will secure land and right-of-way access through Hammond to construct a new water system (Lake Michigan intake, raw water pumping station, and transmission main) to bring Lake Michigan water into Illinois and provide it to Illinois customers. As the SWA system is still in development, it can be designed to provide adequate capacity for potential customers including Joliet.

**Q3. What is the status of the Southland Water Agency's water system? What are the actions required for the Agency to move forward with development of its infrastructure?**

The Southland Water Agency was formally created in May of this year (2019) under Illinois law governing the formation of multi-municipality water systems. Major agency activities currently include:

- Pursuit of new agency members – SWA estimates that it needs to have a total water demand of about 20 million gallons per day (MGD) to be able to achieve its goal of providing an economical alternative for water supply to communities in the southern suburbs of Chicago. While the agency currently has three members, representatives have had discussions with approximately 20 other communities that might consider joining the organization.
- Negotiations with Indiana municipalities for access to Lake Michigan – SWA is continuing efforts to complete an agreement with the City of Hammond for access through Hammond to a potential intake site on Lake Michigan. In the past 60 days, SWA has also initiated discussions with another northwestern Indiana community that could provide a corridor for the transmission main, pumping station, and intake site required to access Lake Michigan water.

**Q4. What communities are members of the Southland Water Agency?**

Current members of the SWA include: South Holland, East Hazel Crest, and Thornton

**Q5. When does the Southland Water Agency expect to be able to deliver water to its customers?**

Aaron Fundich of Robinson Engineering indicated that under the best-case scenario, SWA could begin to supply water to customers in 2027. However, that schedule assumes that additional members make a commitment by early next year so that design, financing, and development activities can begin. Aaron indicated that a more likely delivery date for water would be after 2027 but definitely before 2030.

**Q6. If Joliet were to work to develop its own Lake Michigan supply, how would the proposed facilities differ from the facilities being developed by the Southland Water Agency?**

To develop its own Lake Michigan supply in Indiana, Joliet would need to obtain a site/right-of-way for a new Lake Michigan intake, raw water pumping station and raw water transmission main similar to those being considered by SWA. Joliet would need to negotiate an agreement with a municipality to provide the required right-of-way and access to Lake Michigan. The site and right-of-way for a Joliet system could be in Hammond (if the SWA project were not to proceed), or at a different location (likely required if the SWA project does proceed).

If the project including a new intake, raw water pumping station, and water treatment plant were developed, constructed, and owned by Joliet, Joliet would have total control over the operation of the system and the cost to provide Lake Michigan water to its customers.

**Q7. What level of involvement would Joliet have in decisions related to water rates from the Southland Water Agency?**

The role of future members/customers of the SWA in decision-making on issues including future water rates is not yet established. An initial charter and bylaws for the organization were filed as part of the original application for its creation. Details related to final governance and control remain somewhat negotiable.

**Q8. A risk of legal action to block an Indiana water supply for Joliet has been mentioned as a potential issue. What risk does this refer to? How likely is legal action that could delay the project?**

Indiana Department of Natural Resources and the Illinois Department of Natural Resources have both indicated to SWA and Joliet that the development of a new water supply in Indiana for the purpose of supply water to municipalities in Illinois is consistent with the rules that govern Illinois' diversion of Lake Michigan water and the Great Lakes Compact. Once Joliet obtains a Lake Michigan Allocation Permit from the Illinois DNR it will have authorization to begin using Lake Michigan as its source of water supply regardless of whether the intake facility on Lake Michigan is in Indiana or Illinois. However, no new diversions are allowed for Great Lakes Compact States and provinces per the Great Lakes Compact. If Great Lakes Compact states or provinces, other than Illinois or Indiana, have a different opinion, they could legally challenge Joliet's diversion.

The bullet point listing a risk of legal action regarding the new water supply was a product of brainstorming of potential issues and was included in the analysis because the diversion of Lake Michigan water is a sensitive issue. While current laws and regulations establish a clear framework for the development of the project, there is a risk that some third party could file a lawsuit to try and prevent the project from moving forward. The likelihood of such an action is believed at present to be low.

**Q9. What is the sequence of agreements/permits that would be required to implement an Indiana Lake Michigan water supply for Joliet? Are the agreements/permits perpetual? When will the sequence of agreements be in place?**

Joliet must obtain a Lake Michigan Allocation Permit from the Illinois Department of Natural Resource (IDNR) in order to secure the right to use Lake Michigan water as its source of supply. This permit is required since Joliet will be using water from the Great Lakes basin (Lake Michigan), but discharging it (as treated wastewater) to the Mississippi River basin. Joliet would need to either negotiate a water supply agreement with an existing/proposed Lake Michigan water supplier (Chicago, DuPage Water Commission, Southland Water Agency), or secure a permit from the U.S. Army Corps of Engineers for the construction of its own intake pipeline extending out into Lake Michigan.

Joliet would need to purchase/secure rights to land and/or public right-of-way for the construction of the new Lake Michigan intake, shore facilities, raw water pumping station, and water transmission main needed to obtain water from the Lake and deliver it to a point of supply in Illinois.

Joliet would need to obtain construction permits from the Indiana Department of Environmental Management (IDEM) for the new intake, shore facilities, raw water pumping station, and water transmission main infrastructure required to collect and convey water from the Lake to a point in Illinois.

Joliet would need to obtain site-specific permits for other construction activities impacting major roadway, railroad, or waterway crossings; requiring crossings of wetlands or sensitive natural areas, and activities requiring construction with floodplain areas. Localized building and zoning

permits, as well as utility construction permits, and other site-specific permits are likely to be required for portions of the overall project.

The agreements and permits required will vary in form and details. Most will likely have a defined period for which they are valid and then require renewal or renegotiation.

Once the City has selected its alternative for the new water supply, a comprehensive implementation schedule laying out the required timing for securing the necessary agreements and permits can be established.

**Q10. What would Hammond’s role be in the Southland Water Agency? Why is Hammond interested in being involved?**

Under the current SWA plan the City of Hammond will not be a member of the SWA and will not have any role in rate-setting or policy decisions addressed by the SWA. Hammond is involved because one route for accessing Lake Michigan for a new public water supply passes through Hammond and will require the construction of significant infrastructure within Hammond roadway rights-of-way.

Hammond has indicated a willingness to work with the SWA to identify an appropriate route through the community and support/facilitate efforts to secure property for the required pump station and intake shore facilities in return for annual payments for the access. There has also been some discussion of a potential emergency interconnect between the proposed new intake and Hammond’s existing intake. At present, charges being considered by Hammond include an annual right-of-way fee and a water transfer fee. The right-of-way fee would likely be based on the land area required for the development of the water supply infrastructure. The current proposal calls for the water transfer fee to be an annual payment to Hammond based on the volume of water withdrawn from Lake Michigan.

**Q11. What will be the cost of water supplied to Joliet by the Southland Water Agency?**

SWA has not yet established final rates for its water. The final rates will depend on a number of factors including the total water demand of the entities that decide to become members or customers of SWA. However, SWA representatives confirmed that a primary metric for the new system is to be able to provide Lake Michigan water to its customers at a rate lower than the current City of Chicago water rate on “Day One” of operation of the new system.

**Q12. Why is “urban construction” a concern for the Indiana option? What about the public easement along I-80?**

The reference to urban transmission main construction is based on the fact that the area between Hammond and Joliet is heavily developed. Extensive coordination with multiple entities responsible for various jurisdictions is likely to be required. In developing a conceptual alignment for the purpose of estimating infrastructure costs, the consultant team has prioritized long, single-owner utility corridors and public easements as options to reduce coordination needs and construction permitting requirements.

**Q13. Would the withdrawal be counted as Indiana’s water usage?**

The primary regulatory control on Joliet’s use of Lake Michigan water would be through a Lake Michigan Water Allocation Permit that Joliet will need to obtain from the Illinois Department of Natural Resources (IDNR). Under the allocation permit, Joliet will be required to report its usage of Lake Michigan water to the IDNR on an annual basis. The owner of the intake on Lake Michigan in Indiana (Joliet or SWA) would also have to report the volume of water withdrawn to the Indiana Department of Natural Resources. However, neither state regulations in Indiana nor requirements of the Great Lakes Compact would impose constraints on Joliet’s use of Lake Michigan water under its allocation permit.

**Q14. Can Joliet resell water to other communities under this option?**

Yes. Whether it is purchasing water from SWA or partnering with SWA or Joliet proceeding on its own, Joliet would be able to sell water to other wholesale customers. However, in the Joliet alone alternative, the water treatment plant would be located closer to Joliet, so selling treated water to other communities would require finished water piping from the water treatment plant (near Joliet) to the wholesale customers.

**Q15. Is use of I-80 right-of-way being considered for routing of water transmission main for the New Indiana Intake option?**

A variety of routes are being evaluated as part of the Phase II evaluation, including the I-80 right-of-way, existing utility corridors, and various public rights-of-way. However, use of IDOT rights-of-way, such as the corridor along I-80, can be challenging due to IDOT restrictions and occupancy of the right-of-way by other utilities. These constraints and those that apply to other routes are being considered in our current analysis.

**Kankakee River Supply (Station #4)**

Facilitators for small group discussions related to the Kankakee River Supply Alternative:

- Ty Besalke (CMT)
- Jim Bilotta (Aqua Illinois)
- Ben Benson (City of Lockport, Representing the Public Water Commission)

**Q1. Purchase from Aqua – why are we considering this? Is anyone on the Council or Environmental Commission considering this?**

This is being considered as an option because Aqua Illinois' IDNR withdrawal permit is grandfathered in and does not have low flow restrictions. New IDNR withdrawal permit include low flow restrictions. It is a feasible alternative which will be presented to the Environmental Commission and City Council for consideration.

**Q2. How can we resell water if we know there will be low flow days?**

The modeling performed by the Illinois State Water Survey takes into account existing permitted withdrawals as well as proposed water usage for the different water demand scenarios. IDNR does not try to control withdrawal flow through the permitting process. Rather, maintaining environmental habitats on the Kankakee River is what is controlling the permitted low flow conditions.

**Q3. How will low flow days increase as communities begin using this source?**

The modeling performed by the Illinois State Water Survey takes into account existing permitted withdrawals as well as proposed water usage for the different water demand scenarios. IDNR does not try to control withdrawal flow through the permitting process. Rather, maintaining environmental habitats on the Kankakee River is what is controlling the permitted low flow conditions.

**Q4. What happens if additional intakes (non-Joliet) are permitted in the future?**

While it is possible, there are only two that have recently requested permitting on the Kankakee River (Godley Water District and the Public Water Commission). Additional permittees, depending on flow requirements could increase the number of low flow days. However, all new

permittees have low flow restrictions and would be required to utilize a back-up supply any time the river is below 600 cfs.

**Q5. Without active management, water quality will deteriorate over time. Are you considering environmental fees to be used to protect this resource?**

According to IDNR, the quality of the Kankakee River is excellent. That is part of the reason why IDNR has most recently permitted withdrawals at 600 cfs (above the 7Q10 flow). At this higher water level, the aquatic environment is protected. Since the Kankakee River does not run through the City, it would be difficult for Joliet to initiate programs to protect the river. However, the Illinois Bureau of Water is committed to ensuring that Illinois' rivers, streams and lakes will support all uses for which they are designated including protection of aquatic life, recreation, drinking water supply and fish consumption. (<https://www2.illinois.gov/epa/topics/water-quality/Pages/default.aspx>) In addition, there are several environmental groups and the Kankakee River Awareness Program ([www.gokankakeeriver.org](http://www.gokankakeeriver.org)) aimed towards preserving the Kankakee River.

**Illinois River Supply (Station #5)**

Facilitators for small group discussions related to the Illinois River Supply Alternative:

- Theresa O'Grady (CMT)
- Nick Gornick (City of Joliet)

**Q1. Why did communities geographically closer to Illinois River (such as Shorewood) not use Illinois River as a water source?**

We do not know if other communities closer to the Illinois River have considered it as a water source. The cost of improvements required for a new river water source is likely not cost-effective for a small community, even if it is closer.

**Q2. Could the quality of water get better if a reservoir was utilized prior to treatment? And if a reservoir was utilized, would the worry about a lack of water be diminished?**

A reservoir could possibly be used to improve water quality and be a back-up water source. A reservoir is not being considered at this time because we are awaiting the determination from IEPA whether the water quality is sufficient without requiring advanced treatment and the City's wells appear to be sufficient as a back-up supply. If it is determined that improved water quality or additional back-up supply is required, this could be considered in the future.

**Q3. Are you considering an environmental fee to be used to protect the river water quality?**

Similar to the Kankakee River, since the Illinois River does not run through the City, it would be difficult for Joliet to initiate programs to protect the river. However, the Illinois Bureau of Water is committed to ensuring that Illinois' rivers, streams and lakes will support all uses for which they are designated including protection of aquatic life, recreation, drinking water supply and fish consumption. (<https://www2.illinois.gov/epa/topics/water-quality/Pages/default.aspx>)

**Q4. How is this different than the Des Plaines River? That was already eliminated as an option.**

Preliminary discussions with IEPA during the Phase I study indicated that the Des Plaines River was the only unknown water source which would require significant testing and verification. That is why it was eliminated from further consideration. The Illinois River is different than the Des Plaines River in both water quality and water quantity (the two major factors evaluated in Phase

l). While the Des Plaines River does flow into the Illinois River, so does the Kankakee River, the DuPage River, the Mazon River, Aux Sable Creek, and several smaller creeks.

Based on historical IDNR streamflow data, during average river flows, the Kankakee River makes up ~43% of the Illinois River and the Des Plaines River makes up ~37% of the Illinois River. During low river flows, the Kankakee River makes up ~22% of the Illinois River and the Des Plaines River makes up ~51% of the Illinois River. During high river flows, the Kankakee River makes up ~54% of the Illinois River and the Des Plaines River makes up ~28% of the Illinois River.

**Q5. Have you considered Hiedecke Lake?**

Hiedecke Lake is located adjacent to the Illinois River and Goose Lake Prairie State Park, upstream of Morris, Illinois. Hiedecke Lake has not been considered at this point. It could be considered in the future if the City selects this water source alternative, and if could improve water quality or provide a back-up water source (similar to Q2)

**Q6. Why is river sampling being done when USGS has testing data available? Why is river sampling being done on the Illinois River if it is known source?**

Preliminary discussions with IEPA during the Phase I study indicated that the Des Plaines River was the only unknown water source which would require significant testing and verification. That is why it was eliminated from further consideration. IEPA indicated that even though the City of Peoria uses the Illinois River as their water source, water quality information would have to be provided to correlate the water quality at Dresden Pool and Marseilles Pool with the water quality in Peoria. The consultant team compiled the USGS data available for the Illinois River between the Dresden Pool and the Marseilles Pool and compared it to information provided by Illinois American for Peoria. This information was provided to IEPA for their review. IEPA determined that additional testing would be required because the USGS testing did not include the water quality parameters that they wanted to review. As a result, the river water sampling plan was compiled and approved by IEPA. The City decided to also sample the Des Plaines River and the Kankakee River in order to compare water quality between all three rivers (Kankakee River and Des Plaines River join to form the Illinois River).

**Q7. The IEPA tests the Des Plaines River every two years. Why are we testing?**

See response above (Q6).

**Q8. What is the water quality coming out of the Dresden Pool?**

Based on the two months of river water sampling that has been completed (March and June 2019), the water quality of the Illinois River at the Dresden Pool is similar to the Marseilles Pool. In general, water quality parameters for the Des Plaines River have been the worst, the Kankakee River has been the best and the Illinois River has been closer to the Kankakee River. River water testing results will be included in the Draft and Final Phase II Reports.

**Q9. What happens to the Illinois River water source if there is a meltdown at the Dresden Nuclear Power Plant?**

It is difficult to speculate what would happen to the Illinois River and the City of Joliet, if there would be a meltdown at the Dresden Nuclear Power Plant. The City participates in annual training exercises associated with potential issues at the surrounding nuclear power plants in order to be prepared to maintain critical infrastructure during a crisis.