



# Water Delivery System Improvements



**Orland Park**  
**Tinley Park**  
**New Lenox**  
**Mokena**  
**Oak Forest**



# How Water Delivery Works



The City of Chicago draws water from Lake Michigan, treats it and then delivers it to a number of suburban communities, including Oak Lawn, which in turn delivers the water to Tinley Park, Oak Forest, Orland Park, New Lenox and Mokena.

Rates for customers in these communities are made up of three components:

- A rate charged by the City of Chicago for the treatment and delivery of the commodity to Oak Lawn
- A rate charged by Oak Lawn for delivering the water to Tinley Park, Orland Park, Oak Forest, New Lenox and Mokena
- A rate charged by those aforementioned communities to deliver water to their customers.

# The Water Supply Agreement

The current water supply agreements between Oak Lawn and its five customer communities – Orland Park, Tinley Park, Mokena, New Lenox and Oak Forest – have expired. Those communities are in the process of negotiating a new agreement that will ensure a long-term supply of water to each community for generations to come. Over the years since the expired agreements were entered into, most of the communities have grown substantially and are beginning to expand beyond the capacity limits of the old water system.





# The 'Customer Communities'

The five customer communities (Oak Forest, Orland Park, Tinley Park, Mokena and New Lenox) recognized that, as nearly 80% of Oak Lawn's customer base, they had more leverage collectively than each would have individually.

This has allowed Oak Lawn and the customer communities to negotiate and develop a model agreement that will be used for future customer agreements into which Oak Lawn may enter.

# The Need for a Larger System

The water system infrastructure currently in place was assembled in a patchwork fashion in the 1970s when demands for water were significantly lower.

In 2030, the total system peak demand is projected at 101mgd (millions of gallons per day); currently, the system only has capacity to provide 55mgd during peak periods. These future water demands will have to be met with a larger system that provides enhanced redundancy through a looped system.

The current system has a single water main feeding the highest-growth communities in the southwest suburbs. The proposed \$171-million new system is a multigenerational improvement project that will extend well beyond 2030. It will have dual, redundant feeds; more modern and efficient pump stations; and significantly larger capacity.



# The Cost of a Regional System



The water system infrastructure improvements that Oak Lawn and its engineering firm have been designing are estimated at about \$171 million and is scheduled to be completed in 2018.

Under the proposed agreement, the cost of design and construction of the extensive water system improvements would be paid for by a series of borrowings by the Village of Oak Lawn. Customer communities would help pay the debt service on these borrowings based on their proportionate demand on the system.

# Managing Water Rates

An accountability process is expected to be put in place that will require Oak Lawn to provide its suburban water customers with periodic updates on the amount of funds being collected and how they are being spent.

The water supply agreement between Oak Lawn and the customer communities addresses this issue and allows for annual reviews of Oak Lawn's budgeted and actual spending on the system.

A specific methodology has been included in the supply agreement to calculate annual water rate adjustments. This methodology treats all 12 of Oak Lawn's customers in a similar fashion, ensuring that the cost to deliver the water is shared among all customer communities in an equitable fashion.





# Consideration of Other Options

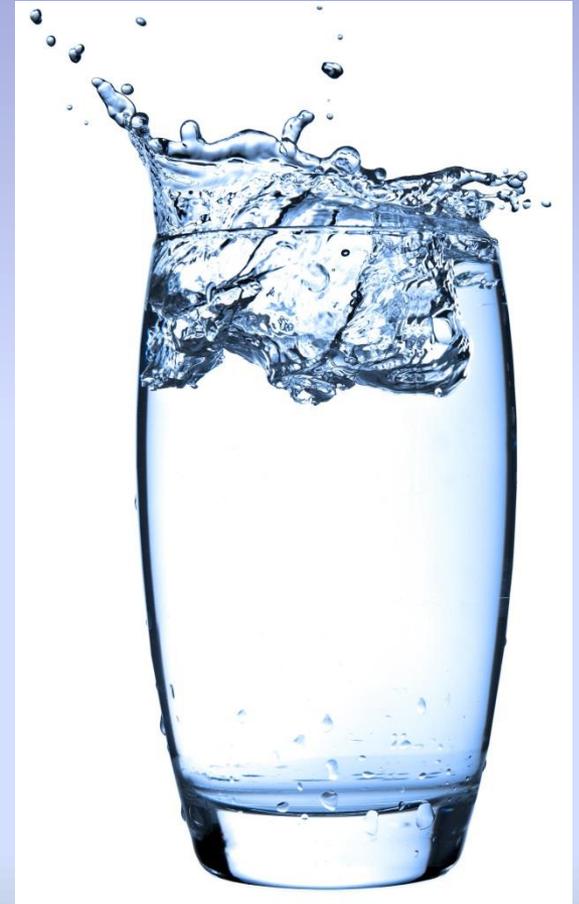
In order to obtain water from an alternate source, such as Hammond, Indiana:



1. A new treatment plant would need to be built
2. A new line connecting Chicago Heights or perhaps Hammond itself to Central Avenue would have to be built
3. Variances in water quality exist in Lake Michigan and may not be the same as our current draw source
4. There would be limited ability to influence rate increases or adjudicate an interstate contractual agreement with Hammond
5. A single draw line would continue to be a limiting factor compared to the proposed Oak Lawn system that will have a dual feed “looped” system.

# Efforts made to minimize impact on ratepayers

- **IEPA low-interest loans:** Oak Lawn has secured a minimum of \$80 million in low-interest loans to help pay for the water system improvements. The rates on these loans are expected to be approximately 2 to 3 percent lower than tax exempt revenue bond rates, saving millions of dollars in interest costs over the life on the loans.
- **Peer-reviewed value-engineering:** The communities retained Malcolm Pirnie Inc. (Arcadis U.S.), an engineering firm, to peer-review the capital improvements proposed by Oak Lawn's engineering firm, CDM Smith, to find efficiencies in capital improvements.
- **Contractual protections:** The water supply agreement includes a number of protections to ensure operating standards meet or exceed industry standards.



# Efforts made to minimize impact on ratepayers



- **Asset management plan:** Oak Lawn will implement an asset management plan to help determine future maintenance and rehabilitation costs related to the existing system.
- **Peer reviewed debt structure:** The customer communities retained Ehlers, Inc. to review the debt structuring and plan of finance proposed by Oak Lawn. The primary objective of this review was to advise the customer communities on the most efficient way to pay for the proposed improvements with the least impact on rates.
- **Formation of formalized advisory groups:** Finance, operating and management advisory committees will be formed with certain oversight rights to ensure that customer communities' interests are represented.

# The Proposed Water System and Contract

The new improvements will transform the delivery system owned by Oak Lawn by updating the pumping and control systems, and providing a fully redundant secondary transmission line which will provide the ability to deliver water in the event of a catastrophic failure of the present transmission line or other elements of the system.

In addition to meeting the 2030 peak water requirements (and well beyond), Oak Lawn must maintain water quality standards to the satisfaction of its customers or implement regional system remedies to meet quality standards if requested by customers or required by regulatory agencies.

Oak Lawn has also agreed not to extend agreement terms that are more favorable than those contained in the new agreement when or if other customers sign onto the new agreement.

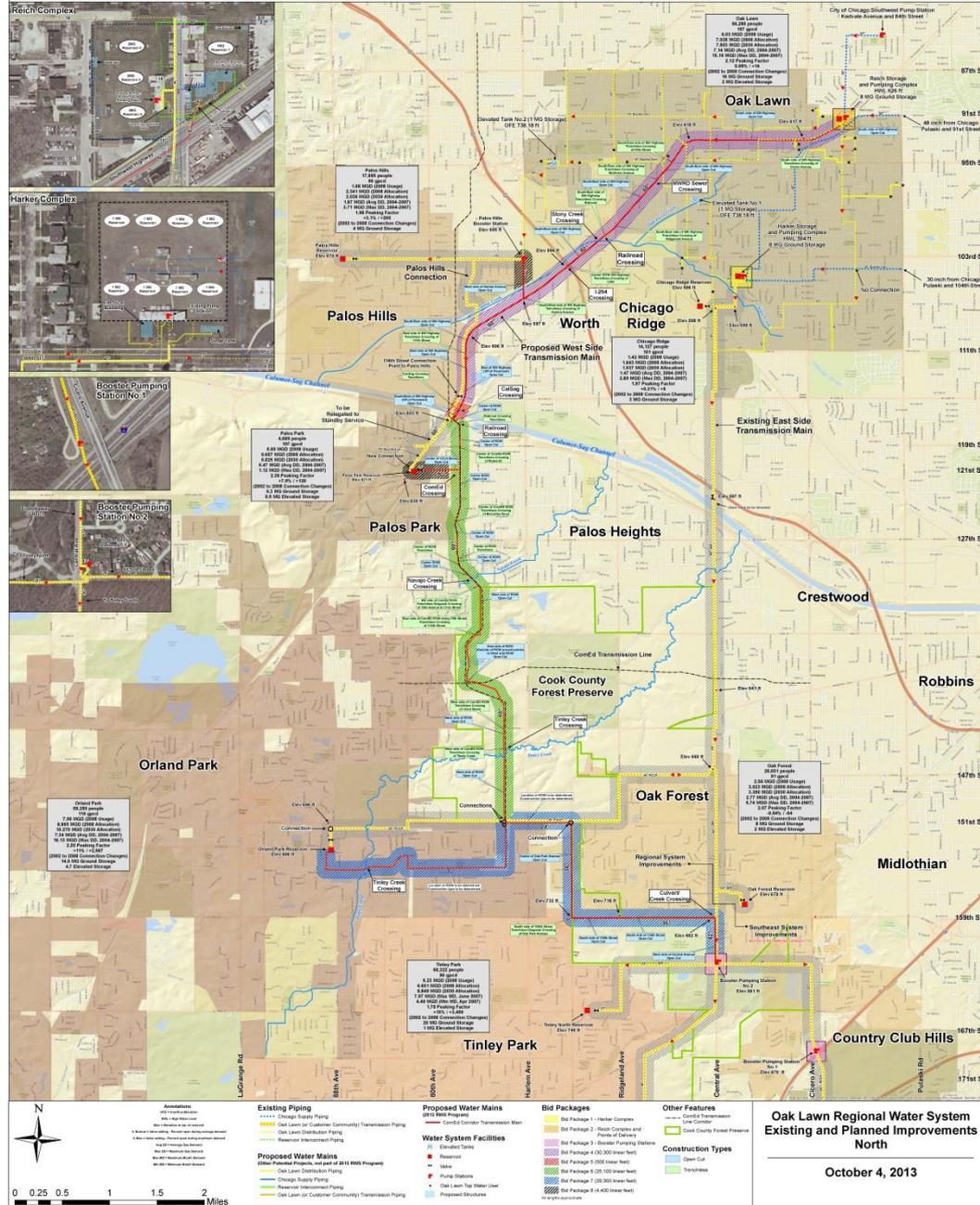


# The Proposed Water System and Contract (cont.)

Oak Lawn has also pledged to operate the system advantageously and efficiently, meeting contemporary operating practices. Oak Lawn will prepare and maintain an Asset Management Plan with a capital funding mechanism built into the agreement to ensure that the system is properly maintained over the 40-year period.

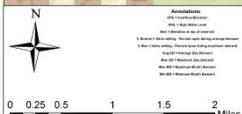


Such a plan has not existed under the current terms with Oak Lawn. This is a significant improvement and ensures water customers that the system is operating and being maintained in accordance with best practices in the industry.

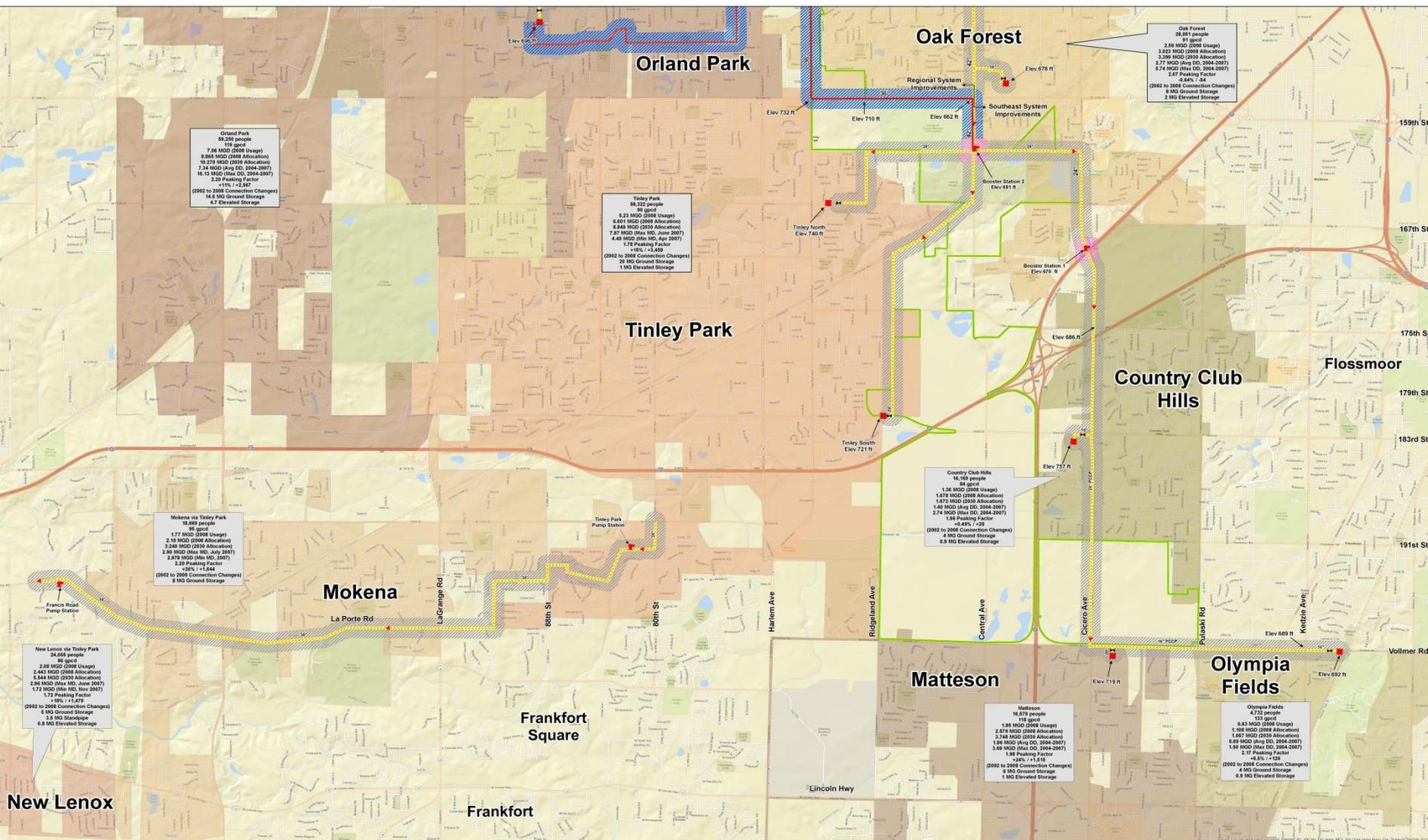


**Oak Lawn Regional Water System  
Existing and Planned Improvements  
North**

October 4, 2013



# Village of Oak Lawn, IL 2013 Regional Water System Improvements



**Orland Park**  
86,289 people  
119 gpcd  
8,848 MGD (2008 Usage)  
10,270 MGD (2016 Allocation)  
7.34 MGD (Avg. DD, 2004-2007)  
16.15 MGD (Max. DD, 2004-2007)  
2.30 Peaking Factor  
+15% / +2,587  
(2002 to 2008 Connection Changes)  
14.8 MG Ground Storage  
4.7 Elevated Storage

**Tinley Park**  
88,222 people  
99 gpcd  
6,233 MGD (2008 Usage)  
6,601 MGD (2008 Allocation)  
8,848 MGD (2008 Allocation)  
7.87 MGD (Avg. DD, June 2007)  
4.48 MGD (Max. DD, Apr. 2007)  
1.78 Peaking Factor  
+15% / +3,489  
(2002 to 2008 Connection Changes)  
20 MG Ground Storage  
1 MG Elevated Storage

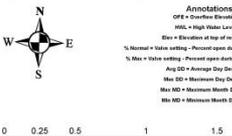
**Oak Forest**  
28,051 people  
81 gpcd  
2,546 MGD (2008 Usage)  
3,022 MGD (2008 Allocation)  
3,386 MGD (2008 Allocation)  
2.77 MGD (Avg. DD, 2004-2007)  
5.74 MGD (Max. DD, 2004-2007)  
2.07 Peaking Factor  
+5% / 0  
(2002 to 2008 Connection Changes)  
8 MG Ground Storage  
2 MG Elevated Storage

**Country Club Hills**  
16,169 people  
84 gpcd  
1.38 MGD (2008 Usage)  
1,878 MGD (2008 Allocation)  
1,872 MGD (2008 Allocation)  
1.48 MGD (Avg. DD, 2004-2007)  
2.74 MGD (Max. DD, 2004-2007)  
1.98 Peaking Factor  
+0.49% / +28  
(2002 to 2008 Connection Changes)  
4 MG Ground Storage  
0 MG Elevated Storage

**New Lenox via Tinley Park**  
24,883 people  
88 gpcd  
2,842 MGD (2008 Usage)  
2,442 MGD (2008 Allocation)  
2,844 MGD (2008 Allocation)  
2.86 MGD (Avg. DD, June 2007)  
1.72 MGD (Max. DD, June 2007)  
1.72 Peaking Factor  
+15% / +1,478  
(2002 to 2008 Connection Changes)  
6 MG Ground Storage  
3.5 MG Standpipe  
0.8 MG Elevated Storage

**Matteson**  
16,579 people  
118 gpcd  
1.88 MGD (2008 Usage)  
2,578 MGD (2008 Allocation)  
2,748 MGD (2008 Allocation)  
1.88 MGD (Avg. DD, 2004-2007)  
2.89 MGD (Max. DD, 2004-2007)  
1.98 Peaking Factor  
+4.8% / +1,838  
(2002 to 2008 Connection Changes)  
4 MG Ground Storage  
1 MG Elevated Storage

**Olympia Fields**  
6,772 people  
123 gpcd  
0.63 MGD (2008 Usage)  
1,108 MGD (2008 Allocation)  
1,687 MGD (2008 Allocation)  
0.88 MGD (Avg. DD, 2004-2007)  
1.88 MGD (Max. DD, 2004-2007)  
2.17 Peaking Factor  
+4.8% / +1,128  
(2002 to 2008 Connection Changes)  
4 MG Ground Storage  
0.9 MG Elevated Storage



**Annotations**  
- - - - - ComEd Corridor  
--- High Water Level  
Elev = Elevation at top of reservoir  
\* Maximum = Value setting - Potential open during maximum demand  
% Max = Value setting - Potential open during maximum demand  
Avg. DD = Average Day Demand  
Max. DD = Maximum Day Demand  
Max. MD = Maximum Month Demand  
Min. MD = Minimum Month Demand

**Existing Piping**  
--- Chicago Supply Piping  
--- Oak Lawn (or Customer Community) Transmission Piping  
--- Oak Lawn Distribution Piping  
--- Reservoir Interconnect Piping

**Proposed Water Mains (Other Potential Projects, not part of 2013 RWS Program)**  
--- Oak Lawn Distribution Piping  
--- Chicago Supply Piping  
--- Reservoir Interconnect Piping  
--- Oak Lawn (or Customer Community) Transmission Piping

**Proposed Water Mains (2013 RWS Program)**  
--- ComEd Corridor Transmission Main

**Water System Facilities**  
■ Elevated Tanks  
■ Reservoir  
■ Valve  
■ Pump Station  
■ Oak Lawn Top Water User  
■ Proposed Structures

**Bid Packages**  
■ Bid Package 1 - Harker Complex  
■ Bid Package 2 - Reich Complex and Points of Delivery  
■ Bid Package 3 - Booster Pumping Stations  
■ Bid Package 4 (30,300 linear feet)  
■ Bid Package 5 (500 linear feet)  
■ Bid Package 6 (25,100 linear feet)  
■ Bid Package 7 (29,300 linear feet)  
■ Bid Package 8 (4,400 linear feet)  
All lengths approximate

**Other Features**  
--- ComEd Transmission Line Corridor  
--- Cook County Forest Preserve

**Construction Types**  
■ Open Cut  
■ Trenchless